ABSTRACT BOOK

Oral · Poster / E-Poster Presentations

XXIII. WORLD CONGRESS OF

OTORHINOLARYNGOLOGY HEAD AND NECK SURGERY

9 – 13 September 2026

Istanbul Congress Center · Istanbul, Türkiye

Innovation, Artificial Intelligence,
Global Diversity, and Education-Training

International Federation of Oto-Rhino-Laryngological Societies

XXIII. World Congress of Otorhinolaryngology Head and Neck Surgery

IFOSTANBUL 2026

September 9–13, 2026 · Istanbul Congress Center (ICC) · Istanbul, Türkiye

Main theme: Innovation, Artificial Intelligence, Global Diversity, and Education-Training

ABSTRACT BOOK

1433 oral · 767 poster / e-poster · 2200 abstracts

Editors

Prof. Özgür Yiğit — Congress President

Prof. Metin Önerci — Congress General Secretary and Scientific Committee Chair

Prof. Fazıl Necdet Ardıç — Scientific Committee Coordinator

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EDITORIAL

The XXIII. World Congress of Otorhinolaryngology Head and Neck Surgery — IFOS 2026 Istanbul — is now behind us, and it was a great success. Colleagues from 131 countries came together in Istanbul for five days of lectures, round tables, symposia, instructional courses, free paper and poster sessions. We are grateful to everyone who made this possible: to the delegates who filled the halls and kept the discussion going, to the faculty who shared their experience so generously, and to everyone who worked behind the scenes to hold it all together.

This volume brings together the scientific work presented at the congress.

Every abstract printed here has travelled the same road: submitted by its authors, read and evaluated by the members of our scientific groups, and placed in the programme on the strength of that review. They come from every continent and from departments of very different size and resource, which is exactly what a world congress should look like. Some report large multicenter series; others describe a single instructive case, a first experience with a new technique, or a question that has not yet found its answer. All of them are part of how our specialty moves forward.

The abstracts appear in two parts, oral presentations first and poster presentations second, each grouped under the scientific track to which it was assigned. Within the book every abstract carries its own number — OP for oral, PP for poster — and these numbers are the ones used throughout the congress, so that a presentation can be found quickly from the scientific programme and referred to unambiguously afterwards. The scientific programme itself precedes the abstracts, arranged hall by hall across the five days of the congress.

Abstracts are published as submitted by their authors. Beyond formatting and the correction of obvious typographical errors, the scientific content, the wording, the terminology and the author information have been left untouched, and the responsibility for them remains with the authors.

We would like to thank the chairs, co-chairs, secretaries and members of our scientific committees, who read and evaluated thousands of submissions within a demanding timetable, and the congress secretariat, whose work turned all of this into a programme. Above all, we thank the authors. Without the work collected in these pages there would be no congress.

We would also like to thank our Treasurer, the members of the Local Organizing Committee, all members of the Scientific Committees, for their trust and support during three long and demanding years.

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Delegates came to IFOS 2026 Istanbul from 131 countries

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Argentina
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Australia
Austria
Azerbaijan
Bahrain
Bangladesh
Belarus
Belgium
Belize
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Bosnia and Herzegovina
Brazil
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Canada
Chile
China
Colombia
Costa Rica
Croatia
Czechia
Denmark
Dominican Republic
Dutch Antilles
Ecuador
Egypt
El Salvador
Equatorial Guinea
Estonia
Ethiopia
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Honduras
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Hungary
Iceland
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Iran
Iraq
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United Arab Emirates
United Kingdom
United States
Uruguay
Uzbekistan
Venezuela
Vietnam
Yemen
Zimbabwe

Participating countries shown in blue. Some small states are not visible at this scale.

SCIENTIFIC PROGRAMME

September 9–13, 2026 · Istanbul Congress Center

TRACK COLOURS

- Cochlear Implants and implantable devices
- Hearing Aids
- Rhinology
- Allergy
- Facial Plastic Surgery
- Sleep Medicine
- Head and Neck Oncology
- Laryngology
- Phoniatrics
- Swallowing
- Pediatric Otolaryngology
- Yo-IFOS (Young IFOS)
- Global Outreach (Regional or ENT related Organizations Symposia)
- Transverse activities (Innovation, Basic Research, Education)
- Sialendoscopy
- Equilibrium
- Otology/Neurotology
- Ceremony
- Industrial
- Notable Abstracts
- Audiology

HALLS

56 halls · 2062 sessions · 9–13 September 2026

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3D COURSE // 3B - 30

Istanbul Congress Center

Saturday, 12 September 2026

09:00–11:50 **3D Biomodeling and Temporal Bone Dissection Workshop**

Transverse activities (Innovation, Basic Research, Education) · Dissection *Ayşegül Batıoğlu Karaaltın; Özlem Saatci*

AUDIOLOGY 1

ICC - B3 Floor - 3B/68

Wednesday, 9 September 2026

14:00–14:40 **Syndromic Hearing Losses And Treatment Options**

Audiology · Panel Presentation *Isabelle Mosnier; Yesim Oruc; Züleyha Dilek Gülmez*

14:40–15:00 **Audiology In Differential Diagnosis**

Audiology · Panel Presentation *Erva Değirmenci Uzun; Belde ÇULHAOĞLU*

15:00–16:00 **How To Manage Tinnitus Patients: A Practical Guide For Clinicians**

Audiology · Instructional Course *Mevlude ISIK; Gözde Bayramoğlu Çabuk; Ayberk Aydın Tunç; Aysun Parlak Kocabay*

16:30–17:30 **“Dual Deficits In Inner Ear Malformations: Auditory And Vestibular Perspectives”**

Audiology · International Symposia *Nadia kamal; Nagwa Hazzaa; Hesham Taha; Shehata-Dieler, Wafaa; Nithreen Said;; Soumit Dasgupta*

17:30–18:00 **Single Side Deafness-Biomarkers And Treatment-Rehabilitation Options For Unilateral Hearing Loss.**

Audiology · Keynote Lecture *Artur Lorens; Vincent Van Rompaey*

Thursday, 10 September 2026

07:30–07:45 **Vestibular Implantation Of The Saccule: Impact On Residual Hearing**

Audiology · Remarkable Presentation *Andy Beynon; Burak Kabiş*

07:45–08:00 **Auditory And Speech Rehabilitation Of Children After Cochlear Implantation**

Audiology · Remarkable Presentation *Mukhlisa Abdukamilova; Halide Çetin Kara*

08:00–09:00 **The Importance Of Hearing In Developing Countries, Overcoming Resistance To Hearing Aids, And Normalizing The Use Of Hearing Aids**

Audiology · Round Table *Carolina Der; Amarilis Menendez; Meral Didem Türkyılmaz; Aderinola Olopade;; Mark Laureyns*

09:00–10:00 **Global Outcomes In Newborn Hearing Screening**

Audiology · Panel Presentation *Ahmet Atas; Katrin Neumann; Carolina Der*

10:45–11:15 **Assessment Of Suprathreshold Auditory Processing In Clinical Audiology**

Audiology · Instructional Course *Mustafa Yüksel; Atılım ATILGAN*

11:15–11:45 **Audiological And Otologic Evaluation In First Year Of Life**

Audiology · Panel Presentation *Okan Öz; Züleyha Dilek Gülmez; Yesim Oruc*

11:45–12:45 **Auditory Electrophysiological Approaches To Hearing Loss**

Audiology · Panel Presentation *Rışvan Deniz; Nazlı Akkaya Kurt; Piotr Henryk Skarzynski; Sıdıka Cesur Çoskun*

14:00–15:00 **Puretone Tests And Beyond In Audiological Evaluations Of Middle Ear Pathologies-Points To Consider In Audiological Evaluations For Middle Ear Pathologies**

Audiology · Panel Presentation *Nadir Yıldırım; SUELA SALLAVACI; dugagjin spanca; Bilgehan Böke; Yağmur Ünal*

15:00–16:00 **Listening Effort- Psychophysiological Measures In Listening Effort Research**

Audiology · Panel Presentation *Samet Kılıç; Oğulcan Gündoğdu*

16:30–18:00 **Audiology Education; What Does General Audiologist Mean?**

Audiology · Continental or International Societies Sessions *Ahmet Atas; Norbert Dillier; Piotr Henryk Skarzynski*

Friday, 11 September 2026

07:00–07:15 **PATHOPHYSIOLOGICAL MECHANISMS OF TINNITUS: AN UPDATE AND HOW TO OBTAIN THE GOLD STANDARD TREATMENT?**

Audiology · Remarkable Presentation *Pelin Pıştav AKMEŞE*

07:15–07:45 **The Role Of Wideband Tympanometry In Predicting The Degree Of Hearing Loss In Children With Otitis Media With Effusions**

Audiology · Instructional Course *Pelin Pıştav AKMEŞE; Leigh Martin*

07:45–08:15 **From Resistance To Redirection: Review Of Artificial Intelligence In Audiology; A Judo-Inspired Strategy**

Audiology · Keynote Lecture *Reham Elrashidy; Pelin Pıştav AKMEŞE*

08:15–09:00 **What Can We Learn By Applying Workers’ Hearing Screening To The Elderly?**

Audiology · Panel Presentation *Yasue Uchida; Bulent Şerbetçioğlu; Günay KIRKIM*

09:00–09:30 **Rethinking Hearing Aid Prescription: Artificial Intelligence Application In Next-Generation NAL-NL3 Fitting System**

Audiology · Keynote Lecture *Paola Incerti; Eyyup KARA*

09:30–10:00 **Audiology Notable Abstract Session**

Notable Abstracts · Notable Abstract *Vincent Van Rompaey*

10:45–11:45 **Status And Development Of Equipment (Innovation And AI) For Auditory Implants; Software And Connectivity Equipment**

Audiology · Panel Presentation *Artur Lorens; Ahmet Atas; Angel Ramos de Miguel*

11:45–12:45 **Electrophysiology & Auditory Evoked Potentials**

Audiology · Panel Presentation *Michael Soganov; Ahmet Atas; Mehmet YARALI*

14:00–15:00 **Listening With The Brain: Neuroplasticity-Based Approaches In Auditory Rehabilitation**

Audiology · Panel Presentation *Doris-Eva Bamiou; Esra YÜCEL; Halide Çetin Kara; Özlem İçöz*

16:30–17:00 **Patient And Family-Centered Speech-Language Pathology And Audiology**

Audiology · Keynote Lecture *Ahmet Atas; Esra Özcebe*

17:00–18:00 **Sister Disorders Of The Inner Ear:A Unified Clinical Approach To Hearing And Balance**

Audiology · International Symposia *Hesham Kozou; Büşra Altın*

Saturday, 12 September 2026

07:30–08:30 **Assessment Of Central Auditory Processing And Audiotory Cognitive Training**

Audiology · Panel Presentation *Büşra Nur Eser; Bulent Şerbetçioğlu; Mazen El-Banna*

08:30–09:00 **The Effect Of Personality Chracateristics On The Effectiveness Of Group Cognitive Psychotherapy Treatment For Tinnitus**

Audiology · Keynote Lecture *Beáta Bencsik; Bülent Gündüz*

09:00–09:30 **Hearing System: Hearing Aid System And Connectivity Equipment related to success at work**

Audiology · Keynote Lecture *Mark Laureyns; Meral Didem Türkyılmaz*

09:30–10:00 **Big Data In Audiology**

Audiology · Keynote Lecture *Hung THAI-VAN; Ahmet Atas*

10:45–11:45 **Hearing Health Equity: Global Perspectives On Access To Auditory Rehabilitation**

Audiology · Panel Presentation *Esra YÜCEL; Sadie Hardison*

11:45–12:15 **Electrophysiological Measures In Cochlear Implantation**

Audiology · Keynote Lecture *George Tavartkiladze; Ahmet Atas*

12:15–12:45 **User-Operated Audible Contrast Threshold (U-ACT): An Automated Approach To Assessing Aided Speech-In-Noise Performance**

Audiology · Instructional Course *Leigh Martin; Eyyup KARA*

14:00–15:00 **Lifelong Balance Disorders And Approach**

Audiology · Panel Presentation *Gulce Kirazli; Burak Kabiş; Tuğba Yılmaz; Sanem Can Sarıoğlu*

15:00–16:00 **Multimodal Plasticity To Tinnitus And Hyperacousis**

Audiology · Panel Presentation *Shi Nae Park; Ayça Çiprut; Ayberk Aydın Tunç*

16:30–17:15 **Audiotory Perception In Individuals With Listening Difficulties**

Audiology · Panel Presentation *Hatice Merve Yücel; Meral Didem Türkyılmaz*

AUDIOLOGY 2

ICC - B3 Floor - 3B/61

Wednesday, 9 September 2026

14:00–14:30 **Speech Auditory Brainstem Response (Sabr): A Valuable Tool For Predicting Auditory Rehabilitation Training In Cochlear Implant Recipients**
Audiology · Instructional Course *Meral Didem Türkyılmaz*

14:30–15:00 **Effective Implementation Of Wideband Tympanometry (WBT)**
Audiology · Instructional Course *Meral Didem Türkyılmaz; Laura Prigge*

15:00–16:00 **Chemical Exposure And Auditory Dysfunction: Evidence, Challenges, And Prevention Strategies**
Audiology · Round Table *Adrian Fuente; Thais C. Morata; Benoit Pouyatos*

16:30–17:30 **Advanced Electrophysological Studies In Audiology (Fnirs- Pupilometry, EEG Testing)**
Audiology · Instructional Course *Meral Didem Türkyılmaz; Oğulcan Gündoğdu; Samet Kılıç*

17:30–17:45 **Machine-Learning–Driven AI For Rapid Brain-Response-Based Hearing Assessment In Hard To Test Populations**
Audiology · Remarkable Presentation *Meral Didem Türkyılmaz; Timothee Guyonnet Hencke*

17:45–18:00 **Cochlear Implants In Developing Countries: Challenges And Innovations**
Audiology · Remarkable Presentation *Meral Didem Türkyılmaz*

Thursday, 10 September 2026

08:00–09:00 **Cochlear Implants Are Not Enough: What Makes A Rehabilitation Program Truly Successful?**
Audiology · Panel Presentation *Mukhlisa Abdukamilova; Merve Torun Topçu; Nedim TURGUT; Aysun Parlak; Kocabay; Yağmur Ünal*

09:00–10:00 **Audiological Management Of Congenital CMV Infection: Current Trends And Future Perspectives**
Audiology · Round Table *Belde ÇULHAOĞLU; Çağıl Gökdoğan; Ayça Çiprut*

10:45–11:45 **Audiological Aspects Of Auditory Implants: Current Status And Developments**
Audiology · Panel Presentation *Martin Kompis; Norbert Dillier; Adrien A. Eshraghi; Tayyar Kalcıoğlu*

11:45–12:15 **Comprehensive Audiometric Assessment And The Relationship Between Specific Auditory Parameters**
Audiology · Keynote Lecture *Oliver Profant*

12:15–12:45 **Restoring Hearing In Pediatric Audiology**
Audiology · Instructional Course *Yesim Oruc; Ergin Eroğlu*

14:00–15:00 **Newborn Hearing Screening Programs Worldwide**
Audiology · Panel Presentation *Michael Tong; Birkena Qirjazi; Yusuf Kemal Kemaloğlu*

15:00–15:30 **Understanding Oto-Acoustic Emissions – An Easy And Intuitive Introduction**
Audiology · Instructional Course *Martin Kompis; Ahmet Atas*

15:30–16:00 **The Outcomes Of Cochlear Implantation In Children And Adults With Single-Sided Deafness (SSD)**
Audiology · Keynote Lecture *Bülent Gündüz; Artur Lorens*

16:30–17:30 **Hearing, Cognition And Auditory Processing**
Audiology · Round Table *Doris-Eva Bamiou; Büşra Nur Eser; Esra Özcebe; Nicholas Reed; Birgul Gumus*

17:30–17:45 **Current Approaches To Presbyacusis. Mini-Study Regarding Hearing Aid Compliance And Usage Rates Among Patients With Presbycusis**
Audiology · Remarkable Presentation *Meltem Demirdağ Çevikkan; Talha Çögen*

17:45–18:00 **Hidden Hearing Loss**
Audiology · Remarkable Presentation *Nilüfer Bal; Merve Ozbal Batuk*

Friday, 11 September 2026

07:15–07:30 **Early Outcomes Of The CI Program In Albania**
Audiology · Remarkable Presentation *Birkena Qirjazi; Bülent Gündüz*

07:30–08:00 **The Development And Clinical Implementation Of The Manu-IRU Stimuli For Measurement Of Aided Cortical Responses**
Audiology · Instructional Course *Michael East; Eyyup KARA*

08:00–09:00 **E-Health, Tele-Audiology**
Audiology · Panel Presentation *De Wet Swanepoel; Duygu Hayır Şenkaya*

09:00–10:00 **World Health Organization-Make Listening Safe**
Audiology · International Symposia *Angel Ramos de Macias; Amarilis Menendez; Carolina Der; Mark Laureyns;; Aderinola Olopade*

10:45–11:45 **Contemporary Issues In Assessment Of Spatial Listening**
Audiology · Round Table *Wafaa El Kholy; Dalia Hassan; Somia Tawfik; Sevgi Kadihanoglu*

11:45–12:45 **Artificial Intelligence Technologies For Clinical Decision In Hearing Health**
Audiology · Panel Presentation *Piotr Henryk Skarzynski; Talha Çögen; Berna Özge MUTLU*

14:00–15:00 **Noise Exposure And Hearing Protection Programs**
Audiology · Panel Presentation *Thais C. Morata; Sefa Dereköy; Adrian Fuente; Carolina Der*

15:00–15:30 **Beyond the Clinic: Transforming Hearing Aid Provision in Underserved Populations**
Audiology · Keynote Lecture *De Wet Swanepoel; Meral Didem Türkyılmaz*

15:30–16:00 **Childhood Screening**
Audiology · Keynote Lecture *Eyyup KARA; Ecem Savaş*

16:30–17:00 **The Interactions Of Hearing Sensitivity And Auditory Processing Skills With Cognition**
Audiology · Keynote Lecture *Doris-Eva Bamiou; Martin Kompis*

17:00–18:00 **Hearing Attention In Children With Unilateral Hearing Loss With And Without Hearing Aids**
Audiology · Panel Presentation *Francesca Yoshie Russo; Günay KIRKIM; Betül Çiçek Çınar*

Saturday, 12 September 2026

07:00–08:00 **Ifastsrt50 - A New National Multicenter Proposal Of Audiologic Pre- Surgical Evaluation**
Audiology · Panel Presentation *Italo Cantore; Samet Kılıç; Mehmet YARALI*

08:00–09:00 **Hidden Contributors To Cognition: The Overlooked Role Of Vestibular And Auditory Dysfunction**
Audiology · Panel Presentation *Nizamettin Burak Avcı; Hung THAI-VAN; Melda Acar*

09:00–10:00 **Meniere's disease**
Audiology · Round Table *Enis Alpin Güneri; Onur Çelik; Nizamettin Burak Avcı*

10:45–11:45 **Central Auditory Encoding In Cochlear Implant Users**
Audiology · Panel Presentation *Mehmet YARALI; Samet Kılıç; Norbert Dillier; Elçin Orçan*

11:45–12:45 **Contemporary Management Of Tinnitus**
Audiology · Panel Presentation *Mariko Takahashi; Ana Carolina Binetti; Hatice Merve Yücel; Erdogan Bulut*

14:00–14:40 **Current Approaches In Behavioral Hearing Threshold Estimation Methods**
Audiology · Keynote Lecture *Seval Ceylan*

15:00–15:30 **Barriers And Enablers To Referral Of Older Adults To Hearing Care**
Audiology · Panel Presentation *Sadie Hardison; Halide Çetin Kara; Gonca Sennaroğlu*

16:30–17:00 **Auditory Threshold Estimation In Children: Advanced Physiologic Strategies And Clinical Considerations**
Audiology · Instructional Course *Yesim Oruc; Züleyha Dilek Gülmez*

17:00–17:30 **The Potential Biomarker In Assessing Cochlear Synaptopathy: Evidence From Animal And Human Studies**
Audiology · Instructional Course *Pelin Kocdor; Nilüfer Bal*

B2 FLOOR // ICC

Istanbul Congress Center

Thursday, 10 September 2026

07:30–07:40 **A Science & Art Exhibiton**

Cochlear Implants and implantable devices · Panel Presentation *Yusuf Kemal Kemaloğlu*

Saturday, 12 September 2026

07:00–10:00 **Phoneme Sculptures Three-Dimensional Models of Turkish Phonemes & A History of Visualizing Sound . Voice . Speech**

Audiology · Continental or International Societies Sessions

10:45–12:45 **Phoneme Sculptures Three-Dimensional Models of Turkish Phonemes & A History of Visualizing Sound . Voice . Speech**

Audiology · Continental or International Societies Sessions

14:00–16:00 **Phoneme Sculptures Three-Dimensional Models of Turkish Phonemes & A History of Visualizing Sound . Voice . Speech**

Audiology · Continental or International Societies Sessions

16:30–18:00 **Phoneme Sculptures Three-Dimensional Models of Turkish Phonemes & A History of Visualizing Sound . Voice . Speech**

Audiology · Continental or International Societies Sessions

DISSECTION HALL

ICC - B2 Floor - Maçka

Wednesday, 9 September 2026

13:30–13:40 **Tuesday 08:30-13:00 Head Neck UltrasonographyCourse**
Sialendoscopy · Dissection *Suleyman Ozdemir*

13:40–13:50 **Tuesday 14:00-18:00 Sialendoscopy Course Part 1**
Sialendoscopy · Dissection *Suleyman Ozdemir*

13:50–14:00 **Wednesday 8:00-12:00 Sialendoscopy Course Part 2**
Sialendoscopy · Dissection *Suleyman Ozdemir*

14:00–14:30 **Opening Remarks, General Information About Sialendoscopy, And A Salutation To The Founders Of Sialendoscopy**
Sialendoscopy · Keynote Lecture *Suleyman Ozdemir; Emad Magdy*

14:30–15:00 **Evolution And Current Scope Of Diagnostic And Interventional Sialendoscopy/Ethical Principles**
Sialendoscopy · Keynote Lecture *MICHAEL KOCH; Emad Magdy*

15:00–16:00 **An Introduction To Sialendoscopy**
Sialendoscopy · Round Table *Gabriela Robaskewicz Pascoto; Gokhan Altin; Bini Faizal; Carlos Chiesa-Estomba;; Rashid Al Abri*

16:30–17:00 **Ductal Anatomy**
Sialendoscopy · Instructional Course *Ozlem Onerci Celebi; Salma Alsheibani; Rashid Al Abri*

17:00–17:30 **Imaging Of The Salivary Glands And Ducts: A Practical Overview**
Sialendoscopy · Instructional Course *Hesham Zoheir; Rashid Al Abri*

17:30–18:00 **Medical Aspects Of Sialendoscopy**
Sialendoscopy · Controversies *Cengiz Ozcan; Carlos Chiesa-Estomba; Giulianno Molina de Melo*

Thursday, 10 September 2026

08:30–10:00 **Endoscopic Sinus Surgery: Essential Corridors & Surgical Landmarks**
Rhinology · Dissection *Metin Onerci; Meryem Nesil Keles Türel*

10:45–11:45 **Approaches to the Frontal Sinus**
Rhinology · Dissection *Davide Mattavelli; Uygar DEMIR*

11:45–12:45 **Endoscopic Anterior Skull Base: Transcribriform Approach**
Rhinology · Dissection *Shazada Ahmed; lütfi barlas aydoğan*

14:00–15:00 **Beyond the Maxillary Sinus: Pterygopalatine & Infratemporal Corridors**
Rhinology · Dissection *Marco Ferrari; Alperen Vural*

15:15–16:00 **Skull Base Reconstruction & Skull Base Corridors**
Rhinology · Dissection *Benjamin Verillaud; Suha Beton*

Friday, 11 September 2026

08:30–10:00 **TEMPORAL BONE DISSECTION: 1. Endoscopic Middle Ear Anatomy (BM)- 2. Endoscopic Ossiculoplasty (AÖ)- 3. Endoscopic Atticotomy (EY)**
Cochlear Implants and implantable devices · Dissection *Suat TURGUT; Mohamed Badr-El-Dine; Ediz Yorgancılar; Ali Özdek; Tayfun Kirazlı;; Emine Deniz Gözen*

10:45–12:45 **TEMPORAL BONE DISSECTION: 1. Mastoidectomy (EAG)- 2. Endolymphatic Suc Surgery (JK)- Posterior Tympanotomy and CI (CCW)- Facial Nerve Decompression (KSO)**
Cochlear Implants and implantable devices · Dissection *Kadir Serkan Orhan; Enis Alpin Güneri; Ja-Won Koo; Chen-Chi Wu; OSMAN NURİ; ÖZGİRGİN; Emre Ocak; Doğan Çakan*

14:00–16:30 **TEMPORAL BONE DISSECTION: 1. Middle Fossa Approach (SA)- 2. Labrynthectomy (CD) 3. Translab and Transcochlear Approach**
Cochlear Implants and implantable devices · Dissection *Chunfu Dai; Yıldırım Bayazıt; Hakan Tutar; Simon I Angeli; Said Sönmez*

Saturday, 12 September 2026

08:30–10:00 **Master cadaver dissection for rhinoplasty**
Facial Plastic Surgery · Dissection *Sam Most; Fazıl Apaydın*

10:45–12:45 **Master cadaver dissection for aging face**
Facial Plastic Surgery · Dissection *Özcan Çakmak; Kerem Sami Kaya*

14:00–16:00 **Master cadaver dissection for local flaps**

Facial Plastic Surgery · Dissection *Sam Most; Fazıl Apaydın*

EQUILIBIRIUM 3

ICC - B3 Floor - 3B/16

Wednesday, 9 September 2026

16:30–16:45 **Virtual Reality-Based Vestibular Rehabilitation In Patients With Peripheral Vestibular Hypofunction**
Equilibrium · Remarkable Presentation *Yuşa Başoğlu; Murat Haluk Özkul*

16:45–17:00 **Benign Positional Vertigo**
Equilibrium · Remarkable Presentation *Mehmet Birol Uğur; Murat Haluk Özkul*

17:00–17:15 **Benign Paroxysmal Positional Vertigo (BPPV) Management**
Equilibrium · Remarkable Presentation *Murat Haluk Özkul*

17:15–17:30 **The Efficacy Of Automated Repositioning Chair In Refractory Benign Paroxysmal Positional Vertigo-A Pilot Study**
Equilibrium · Remarkable Presentation *Murat Haluk Özkul*

17:30–17:45 **Endoscopic Underwater Superior Semicircular Canal Occlusion: A Minimally Invasive Approach For Superior Canal Dehiscence Syndrome**
Equilibrium · Remarkable Presentation *Murat Haluk Özkul; hasan demırhan*

17:45–18:00 **Clinical Relevance Of Saccadometry In Vestibular Balance And Central Compensation**
Equilibrium · Remarkable Presentation *Murat Haluk Özkul; Gokce SAYGI UYSAL*

Thursday, 10 September 2026

07:00–07:30 **Vestibular Problems In Pediatric Otological Surgery**
Equilibrium · Instructional Course *Antonio Della Volpe; Ceren Karaçaylı*

07:30–08:00 **Management Of Chronic , Recurrent Small Particle BPPV**
Equilibrium · Instructional Course *Ahmad Alamadi; Ali Özdek*

08:00–08:30 **Central Eye Movement Disorders**
Equilibrium · Instructional Course *Soumit Dasgupta; Ali Özdek*

08:30–09:00 **BPPV Challenging Cases**
Equilibrium · Instructional Course *Ali Özdek*

09:00–09:30 **Horizontal Canal BPPV Revisited**
Equilibrium · Keynote Lecture *Enis Alpin Güneri; Armağan İncesulu*

10:45–11:15 **Emerging Role Of CGRP Antagonists In Vestibular Migraine**
Equilibrium · Instructional Course *Vishal Pawar; Nesibe Gül Yüksel Aslıer*

11:15–11:45 **Bedside Examination In Patients With Vestibular Symptoms**
Equilibrium · Instructional Course *Onur Çelik; Nesibe Gül Yüksel Aslıer*

11:45–12:15 **VIRTUAL REALITY : A Major Innovation For Vestibular Rehabilitation**
Equilibrium · Instructional Course *Franck Assaban; Nesibe Gül Yüksel Aslıer*

12:15–12:45 **Suppression Head Impulse Test In Children-Experiences In A Tertiary Paediatric Vestibular Centre**
Equilibrium · Keynote Lecture *Sudhira Ratnayake; Nesibe Gül Yüksel Aslıer*

14:00–14:30 **The Otolith Tests And Their Functional Relevance**
Equilibrium · Instructional Course *Michel Lacour; Kemal Görür*

14:30–15:00 **Gaze-Dependent Modulation Of Vertical And Torsional Nystagmus: A Video-Based Clinical Observation**
Equilibrium · Keynote Lecture *Kemal Görür; Halil Erdem Özel*

15:00–15:30 **The Dizzy Patient In The ER**
Equilibrium · Instructional Course *Badr Eldin Mostafa; Kemal Görür*

15:30–16:00 **Proposed Diagnostic Criteria For Definite Isolated Otolith Dysfunction**
Equilibrium · Keynote Lecture *Myung-Whan Suh; Kemal Görür*

16:30–17:00 **Clinical Application Of Hydrops MRI**
Equilibrium · Keynote Lecture *Yi-Ho Young; Alper Özdilek*

17:00–17:30 **Vestibular Imaging Updates “Indications, Interpretation And Cost- Effectiveness Analysis”**
Equilibrium · Instructional Course *Mahmoud Mandour; Alper Özdilek*

17:30–18:00 **A New Type Of Third Window Lesion: Vestibular Aqueduct Dehiscence With Hyperpneumatized Air Cells**
Equilibrium · Instructional Course *Sawsan Abuzaid; Alper Özdilek*

Friday, 11 September 2026

07:00–07:30 **Augmented Reality In Vestibular Rehabilitation, 10 Years Experience**
Equilibrium · Keynote Lecture *Dimitris Kikidis; Gülin Gökçen Kesici*

07:30–08:00 **Vestibular Testing And Therapy In The Pediatric Population: Virtual Reality, Gene Therapy, And Vestibular Implantation**
Equilibrium · Keynote Lecture *Jacob Brodsky; Gülin Gökçen Kesici*

08:00–08:30 **HINTS Protocol For Daily And Quick Use In General ENT**
Equilibrium · Keynote Lecture *Gülin Gökçen Kesici; Anis Bouazzaoui*

08:30–09:00 **Positional Vestibular Migraine: A Distinct Clinical Entity**
Equilibrium · Instructional Course *Vishal Pawar; Alain Thiry; Gülin Gökçen Kesici*

09:00–09:30 **Galvanic Vestibular Stimulation**
Equilibrium · Instructional Course *Anna Paula Batista de Ávila Pires; Gülin Gökçen Kesici*

09:30–10:00 **Vestibular Migraine: Clinical Challenges And Opportunities For Multidisciplinarity -**
Equilibrium · Keynote Lecture *Leonel Luis; Gülin Gökçen Kesici*

10:45–11:45 **IAOHNS Session: Decision Making In The Grey Zone: When There Is No Single Right Answer**
Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *P. Vijaya Krishnan; Mohan Kameswaran; Gautam Khaund; Sandeep Bansal; Paresh; Pramod Naik*

11:45–12:15 **Provocative Tests In Videonystagmography**
Equilibrium · Instructional Course *Alfarghal Mohamad; Bahar çolpan*

12:15–12:45 **Vestibular Neuritis And Multifrequency Tests**
Equilibrium · Instructional Course *Enrico Armato; Bahar çolpan*

14:00–16:00 **Equilibrium Free Papers 2**
Equilibrium · Free Paper Session *Gözde Günay*

16:30–17:00 **Eye Movements For Vestibular Physicians**
Equilibrium · Instructional Course *Pradeep Vundavalli; Bahar çolpan*

17:00–17:30 **Vestibular Dysfunction In Athletes: The Hidden Impact On Performance, Balance And Return To Sport**
Equilibrium · Keynote Lecture *Bahar çolpan; Pierre Merheb*

17:30–18:00 **Radiation Therapy For The Treatment Of Vestibular Schwannoma: A Critical Evaluation**
Equilibrium · Keynote Lecture *Marc Bassim; Armağan İncesulu*

Saturday, 12 September 2026

07:00–07:30 **An Obliterated Semicircular Canal And Still Functioning Vestibular Perception. A Comprehensive Explanation Of The Phenomenon.**
Equilibrium · Keynote Lecture *Georgi Kukushev; Burak Ömür Çakır*

07:30–08:00 **Diagnosis Of Vestibular Migraine Beyond The Published Diagnostic Criteria**
Equilibrium · Keynote Lecture *Alfarghal Mohamad; Burak Ömür Çakır*

08:00–08:30 **Essential Differences In Vestibular Rehabilitation Strategies Imposed By Various Types Of Bilateral Areflexia And Hyporeflexia (Cogan, CANVAS, Ototoxicity, Etc.)"**
Equilibrium · Instructional Course *Voda Ioana Alexandra; Burak Ömür Çakır*

08:30–09:00 **Vestibular Rehabilitation: Expectations And Fulfillment**
Equilibrium · Keynote Lecture *Zdeněk Čada; Burak Ömür Çakır*

09:00–09:15 **The VCD Score: A Biomarker-Based Tool For BPPV Risk Stratification And Seasonal Variation In The Gulf Region: A Case-Control Study**
Equilibrium · Remarkable Presentation *Burak Ömür Çakır; Iman Ibrahim*

09:15–09:30 **Anterior Canal BPPV**
Equilibrium · Remarkable Presentation *Burak Ömür Çakır*

09:30–09:45 **Positional Nomenclature Using Repositioning Chair**
Equilibrium · Remarkable Presentation *Burak Ömür Çakır; Haider W. Alsarhan*

10:45–11:15 **Hyperventilation Induced Nystagmus In The Early Stage Of Acute Unilateral Vestibulopathy**
Equilibrium · Instructional Course *Luigi Califano; Nadir Yıldırım*

11:15–11:45 **Horizontal Canal BPPV - Tips And Tricks**
Equilibrium · Instructional Course *Haider W. Alsarhan; Nadir Yıldırım*

12:15–12:45 **Acute Vestibular Syndrom**
Equilibrium · Keynote Lecture *Athanasia Korda; Nadir Yıldırım*

14:00–14:30 **Vestibular Assessment As A Key Component Of Follow-Up In Children With Congenital CMV Infection**

Equilibrium · Keynote Lecture *Salma Jbyeh, MD; Wiener Vacher sylvette R.*

14:30–15:00 **Integrating Vestibular Testing Into Comprehensive Fall Assessment**

Equilibrium · Keynote Lecture *Gokce SAYGI UYSAL; Anita Bhandari*

15:00–15:30 **Controversies In The Diagnosis And Management Of Non-Tuberculous Mycobacterial Adenitis In Children**

Pediatric Otolaryngology · Keynote Lecture *Jeffrey Yeung; Seçil Bahar Dal*

15:30–16:00 **Newborn Hearing Screening Program**

Pediatric Otolaryngology · Keynote Lecture *Yusuf Kemal Kemaloğlu; Seçil Bahar Dal*

16:30–17:00 **Open Airway Surgery ' Hacettepe Experience'**

Pediatric Otolaryngology · Keynote Lecture *Oğuzhan Katar; R. Önder Günaydın*

17:00–17:30 **Indications For Adenoid And Tonsil Surgery: The Northern Ghana Experience**

Pediatric Otolaryngology · Keynote Lecture *Theophilus Justus Kofi Adjeso; Oğuzhan Katar*

17:30–18:00 **Surgical Management For Congenital Subglottic Stenosis**

Pediatric Otolaryngology · Remarkable Presentation *Talal Al-khatib; Oğuzhan Katar*

EQUILIBRIUM 2

ICC - B2 Floor - Hamidiye

Wednesday, 9 September 2026

14:00–14:30 **Eye Movements; What A Vestibular Specialist Needs To Know**
Equilibrium · Instructional Course *Nigar Muradova; Bülent Satar*

14:30–15:00 **Video Head Impulse Test: The Guiding Light In Peripheral And Central Vestibular Disorders**
Equilibrium · Keynote Lecture *Enrico Armato; Bülent Satar*

15:00–15:30 **Isolated Otolith Dysfunction**
Equilibrium · Keynote Lecture *Bülent Satar; Simon I Angeli*

15:30–16:00 **VEMPs**
Equilibrium · Instructional Course *Leonardo Manzari; Bülent Satar*

16:30–17:00 **Vestibular Evoked Myogenic Potentials In Patients With BPPV**
Equilibrium · Keynote Lecture *Ozan Gökdoğan*

17:00–17:30 **Virtual Reality In Vestibular Rehabilitation: Hype Or Hope?**
Equilibrium · Keynote Lecture *Ozan Gökdoğan; Salma Jbyeh, MD*

17:30–18:00 **Vertigo In Amazonia: Past, Present And Futurei**
Equilibrium · Keynote Lecture *Ozan Gökdoğan; Silvana maziviero*

Thursday, 10 September 2026

07:00–07:30 **AI Applications In Otology & Neurotology: A New Dimension In A Novel Horizon.**
Transverse activities (Innovation, Basic Research, Education) · Instructional Course *Waleed Moneir; Emel Tahir*

07:30–08:00 **Vestibular Health Across Hormonal Milestones: Menarche, Pregnancy, And Menopause**
Equilibrium · Keynote Lecture *Melissa Castillo-Bustamante; Emel Tahir*

08:00–08:30 **Diagnosis And Treatment Of Vestibular Migraine**
Equilibrium · Expert Discussion *Chisato Fujimoto; Fumiyuki Goto; Emel Tahir; Pelin Kocdor*

08:30–09:00 **How Do You Optimize Your Video Head Impulse Test?**
Equilibrium · Instructional Course *Dan Dupont Hougaard; Ceren Karaçaylı*

09:00–09:30 **Impact Of Cerebellum On Vestibular System**
Equilibrium · Instructional Course *Ceren Karaçaylı*

09:30–10:00 **A Novel Test For Endolymphatic Hydrops — Furosemide-Loading VEMP**
Equilibrium · Instructional Course *Ceren Karaçaylı; TORU SEO*

10:45–11:45 **Vestibular Disorders In Children**
Equilibrium · Round Table *Josine Widdershoven; Leen Maes; Soumit Dasgupta; Nina Bozanic Urbancic;; Georgios Korres*

11:45–12:45 **International Pediatric Balance Network (IPBN) Session Vestibular Testing In The Pediatric Population: New Indications And Approaches**
Equilibrium · International Symposia *Jacob Brodsky; François Simon; Jeyasakthy Saniasiaya; Leen Maes; Wiener Vacher; sylvette R.*

14:00–15:00 **Prognosis of asymptomatic endolymphatic hydrops in healthy volunteers: A five-year cohort study**
Equilibrium · International Symposia *Ja-Won Koo; Tadashi Kitahara; Kyu Sung Kim; Wenyan Li*

15:00–16:00 **Updates In Meniere's Disease And Vestibular Migraine**
Equilibrium · Round Table *Michael Hoa; Michael Hoffer; Elizabeth H. Toh*

16:30–18:00 **LATAM Panel: Vestibular Health In Latin America: From Inequities To Innovation**
Equilibrium · International Symposia *Melissa Castillo-Bustamante; Claudia del Cid; Alejandra Gutiérrez; Henrique Furlan; Pauna*

Friday, 11 September 2026

07:00–07:30 **Diagnostics And Treatments With Mechanical Rotation Chairs - What Have We Learned After More Than Ten Years Of Use?**
Equilibrium · Keynote Lecture *Dan Dupont Hougaard; Ceren Karaçaylı*

07:30–08:00 **Meniere's Disease Past Present And Future**
Equilibrium · Keynote Lecture *isa dagli; Ilka Naumann*

08:00–09:00 **Chez ENT Society: Comprehensive Approaches To Diagnosis And Rehabilitation In Peripheral Vestibular Lesion**
Equilibrium · International Symposia *Zdeněk Čada; Markéta Bonaventurová; Zuzana.Balatkova*

09:00–10:00 **Italian Vestibular Society Session. Acute Unilateral Vestibulopathy: Diagnosis And Treatment**
Equilibrium · International Symposia *Leonardo Manzari; Luigi Califano; Augusto Pietro Casani; Marco Mandala*

10:45–11:45 **Central Vestibular Disorders**
Equilibrium · Round Table *Alexandra Guseva; Amy Lennox-Bowley*

11:45–12:15 **Skull Vibration Induced Afternystagmus - A New Clinical Indicator Of Superior Canal Dehiscence**
Equilibrium · Instructional Course *Georges Dumas; SCHMERBER Sébastien*

12:15–12:45 **Is There Progression Of Endolymphatic Hydrops In Ménière's Disease?**
Equilibrium · Keynote Lecture *Leonel Luis; Ceren Karaçaylı*

14:00–15:00 **Korean Vestibular Rehabilitation Session**
Equilibrium · International Symposia *Jae Sang Han; Eun-Ju Jeon; Ja-Won Koo; Sung Kwang Hong*

15:00–15:30 **Estimated Vestibulogram (EVEST) For Effective Vestibular Assessment**
Equilibrium · Keynote Lecture *Oliver Profant; Armağan İncesulu*

15:30–16:00 **Bilateral Gravitational Palsy**
Equilibrium · Keynote Lecture *Ana Carolina Binetti; Armağan İncesulu*

16:30–17:00 **Vestibulotoxicity**
Equilibrium · Keynote Lecture *Soumit Dasgupta; Emel Tahir*

17:00–17:30 **Skull Vibration-Induced Nystagmus (SVIN)-An Update**
Equilibrium · Keynote Lecture *Georges Dumas; Emel Tahir*

17:30–18:00 **Residual Dizziness Or Something More? Overlapping Diagnoses After BPPV Treatment**
Equilibrium · Instructional Course *Emel Tahir*

Saturday, 12 September 2026

07:00–07:30 **Advances In The Diagnosis And Management Of Chronic Dizziness**
Equilibrium · Instructional Course *Hiroaki Fushiki; Levent Naci Özlüoğlu*

07:30–08:00 **Frontiers In Vestibular Research**
Equilibrium · Keynote Lecture *Takao Imai; Levent Naci Özlüoğlu*

08:00–08:30 **Mal De Debarquement Syndrome**
Equilibrium · Keynote Lecture *Floris Wuyts; Levent Naci Özlüoğlu*

08:30–09:00 **Benign Paroxysmal Positional Vertigo: Clinical News And Controversies**
Equilibrium · Instructional Course *Augusto Pietro Casani; Levent Naci Özlüoğlu*

09:00–10:00 **FINO (Fundacion Iberamericano Neurotologia) Session: Acute Vestibular Syndrome (AVS)**
Equilibrium · International Symposia *Rosmaninho Seabra; Rosa María Castillo Ramos; Fabricio Martínez; Romina; Weinschelbaum*

10:45–11:45 **Vestibular Schwannoma: Contemporary Approach**
Equilibrium · Round Table *Daniele BERNARDESCHI; Italo Cantore; Andy Beynon; Franco Trabalzini*

11:45–12:45 **Diagnostic Challenges And Pitfalls In Neurotology: A Clinical Case- Based Approach**
Equilibrium · Panel Presentation *Nesibe Gül Yüksel Aslıer; Asuman Feda Bayrak; Diana Mihai Coman; Frederik; Kragerud Goplen*

14:00–14:30 **The Vestibulo-Cochlear Implant: Update By The Geneva-Maastricht Team**
Equilibrium · Keynote Lecture *Stan van Boxel; Levent Naci Özlüoğlu*

14:30–15:00 **Vestibular Migraine**
Equilibrium · Instructional Course *Levent Naci Özlüoğlu*

15:00–16:00 **Video Head Impulse Test**
Equilibrium · Panel Presentation *Gulce Kirazli; Anna Paula Batista de Ávila Pires; Marco Mandala; Gokce SAYGI; UYSAL; Gözde Bayramoğlu Çabuk*

16:30–17:00 **Light Cupula**
Equilibrium · Keynote Lecture *Chang-Hee Kim; Mario Milkov*

17:00–18:00 **Novel Approaches To Vestibular Disorders**
Equilibrium · Panel Presentation *Takao Imai; Diana Mihai Coman; Mario Milkov*

EQULIBIRIUM 1

ICC - B2 Floor - Üsküdar 1

Wednesday, 9 September 2026

14:00–14:30 **Applicability Of Vestibular Tests Other Than Positional Maneuvers In Patients With BPPV**
Equilibrium · Keynote Lecture *Sertaç Yetişer*

14:30–15:00 **Re-Visiting Rotation Chair Tests**
Equilibrium · Keynote Lecture *Sertaç Yetişer*

15:00–15:30 **Chirp Stimuli In VEMP Testing: A True Alternative To Traditional Tone- Burst?**
Equilibrium · Expert Discussion *Gülin Gökçen Kesici; Seval Ceylan; Sertaç Yetişer*

15:30–16:00 **Vestibular Migraine: Diagnosis And Treatment**
Equilibrium · Keynote Lecture *Augusto Pietro Casani; Sertaç Yetişer*

16:30–17:00 **Pharmacological Interventions For Persistent Postural-Perceptual Dizziness (PPPD**
Equilibrium · Keynote Lecture *Owen Judd; Sertaç Yetişer*

17:00–17:30 **Motion Sickness: What Approach To Take.**
Equilibrium · Keynote Lecture *Alain Thiry; Bülent Satar*

Thursday, 10 September 2026

07:00–07:30 **Treatment For Vestibular Disorders From The Cochrane Perspective**
Equilibrium · Keynote Lecture *Owen Judd; Pelin Kocdor*

07:30–08:30 **Barany Society Session I - Acute Unilateral Vesibulopathy - Vestibular Neuritis: Diagnosis & Treatment"**
Equilibrium · International Symposia *Mikael Karlberg; Julia Sjögren; Herman Kingma*

08:30–09:30 **Vestibular Migraine & Comorbidities**
Equilibrium · Panel Presentation *Fumiyuki Goto; Ozan Gökdoğan; Vishal Pawar; Pelin Kocdor; Pınar Yalınay Dikmen*

09:30–10:00 **Meniere's Disease - Diagnostic And Therapeutic Challenges**
Equilibrium · Keynote Lecture *Raquel Manrique Huarte; Bülent Satar*

11:15–12:45 **IVS Panel: Bilateral Vestibular Disease & Compensation**
Equilibrium · International Symposia *Herman Kingma; Angel Ramos de Macias; Badr Eldin Mostafa; Michel Lacour;; OSMAN NURİ ÖZGİRGİN*

13:00–14:00 **Industry Sponsored Session**
Industrial · Satellitte Symposium *Herman Kingma; Leonardo Manzari; Michel Lacour; OSMAN NURİ ÖZGİRGİN*

14:00–14:30 **Vestibular Implants New Aspects And Results**
Equilibrium · Keynote Lecture *Angel Ramos de Macias; Fazıl Necdet Ardıç*

14:30–15:00 **Scientific And Clinical Insights From Vestibular Implant Clinical Studies**
Equilibrium · Keynote Lecture *Angelica Perez Fornos; Fazıl Necdet Ardıç*

15:00–16:00 **New Aspects In Vestiblar Implants Technologies**
Equilibrium · Panel Presentation *Morgana Sluydts; Raquel Manrique Huarte; Angel Ramos de Miguel; Raymond van; de Berg; Nils Guinand*

16:30–17:30 **Innovations And Technology In Diagnosis And Management Of Vestibular Disorders**
Equilibrium · Panel Presentation *Fazıl Necdet Ardıç; Hiroaki Fushiki; Meichan Zhu; Ali Melliti; Georgi Kukushev*

17:30–18:00 **Chronic Unilateral Vestibular Hypofunction (UVH): From Symptoms To A Patient-Oriented Measure**
Equilibrium · Keynote Lecture *Mustafa Karabulut; Fazıl Necdet Ardıç*

Friday, 11 September 2026

07:00–07:30 **The Developmental And Aging Mechanisms Of The Vestibular System**
Equilibrium · Keynote Lecture *Wenyan Li; Mete İşeri*

07:30–08:00 **Intratympanic Gentamicin For Long-Term Vertigo After Cochlear Implantation**
Equilibrium · Keynote Lecture *Nicola Quaranta; Mete İşeri*

08:00–08:30 **Micro CT And Inner Ear**
Equilibrium · Keynote Lecture *Mete İşeri; Meichan Zhu*

08:30–09:00 **Vibration Stimulation Of The Vestibular Labyrinth**
Equilibrium · Keynote Lecture *Mete İşeri; Leonardo Manzari*

09:00–10:00 **The Bárány Society Session II - Who Was Robert Bárány And What Did He Do? What Is The Barany Society?**

Equilibrium · International Symposia *Mikael Karlberg; Raymond van de Berg; Melissa Castillo-Bustamante*

10:45–11:15 **An Update On Recent Vestibular Physiotherapy Treatment And Outcomes**

Equilibrium · Keynote Lecture *Regan Harrell*

11:15–12:45 **Vestibular Rehabilitation: Expectations And Fulfillment**

Equilibrium · Panel Presentation *Karimova Nargiza Abdullayevna; Nour salman; Doris-Eva Bamiou; Madalina; Georgescu; Regan Harrell*

14:00–15:20 **BPPV- Residual Dizziness**

Equilibrium · Round Table *Herman Kingma; Ceren Karaçaylı; Peixia Wu; Anita Bhandari; Domuta Eugenia; Maria; Michel Lacour*

15:20–16:00 **Equilibirium Notable Abstracts**

Notable Abstracts · Notable Abstract *Fazıl Necdet Ardıç*

16:30–17:00 **Inner Ear Therapy By Local Drug Delivery**

Equilibrium · Keynote Lecture *Stefan K. Plontke; Levent Naci Özlüoğlu*

17:00–18:00 **Acute Vestibular Disorders**

Equilibrium · Expert Discussion *Bjarki Djurhuus; Alain Thiry; Levent Naci Özlüoğlu; Fatma Ceyda Akın Öçal*

Saturday, 12 September 2026

07:00–07:30 **Quantifying Function: A Data-Driven Framework For Functional VOR Assessment And Training**

Equilibrium · Instructional Course *Michael East; Yüksel Olgun*

07:30–08:00 **Surgical Treatment Of Meniere's Disease**

Equilibrium · Keynote Lecture *Ambrose Lee; Fazıl Necdet Ardıç*

08:00–09:30 **BPPV - Is Completely Clarified?**

Equilibrium · Panel Presentation *Anita Bhandari; Konrad P. Weber; Anis Bouazzaoui; Mayada El Sherif; Chang-Hee; Kim*

09:30–10:00 **Clinical Pearls For Optimizing Diagnosis And Treatment Of Persistent Postural-Perceptual Dizziness (PPPD)**

Equilibrium · Instructional Course *Jeffrey P Staab; Anita Bhandari*

10:45–11:45 **Paraclinical Assessment Of Dizziness In Otolaryngology: Tools, Trends, And Integration**

Equilibrium · International Symposia *Frederik Kragerud Goplen; Bjarki Djurhuus; Louise Devantier; Mikael Karlberg*

11:45–12:45 **Surgical Treatment Of Vestibular Disorders**

Equilibrium · Round Table *Andrzej Zarowski; Miguel Arístegui; Ja-Won Koo; Alper Özdilek*

14:00–15:00 **Third Window**

Equilibrium · Round Table *Kemal Görür; Stefan K. Plontke; Eugen Constant Ionescu; Holger Sudhoff*

15:00–16:00 **Rare Conditions In Vestibular Medicine**

Equilibrium · Panel Presentation *Voda Ioana Alexandra; Emre Ocak; Büşra Altın*

16:30–17:00 **The Elusive Primary Vestibular Cortex – What Do We Really Know?**

Equilibrium · Keynote Lecture *Louise Devantier; Burak Ömür Çakır*

17:00–18:00 **Otolith Complexity And Vestibular Precision: From Normal Function To Clinical Disorders**

Equilibrium · Panel Presentation *Nagwa Hazzaa; Alfarghal Mohamad; Sawsan Abuzaid; Rasha El Kabarity; Burak; Ömür Çakır*

FACIAL PLASTIC 1

ICC - B2 Floor - Çamlıca

Wednesday, 9 September 2026

14:00–14:10 **Nose Enlargement: Problems And Management**
Facial Plastic Surgery · Master of Surgery Video Presentation *Erkan Soylu; Ozan Altuntaş; H. Baki Yilmaz*

14:10–14:20 **Managing Costal Cartilage Harvest Complications In Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Ihsan Ceceli; Ozan Altuntaş; H. Baki Yilmaz*

14:20–14:27 **The L-Shaped Septocolumellar Extension Graft: A Multi-Point Fixation Technique For Nasal Tip Stabilization**
Facial Plastic Surgery · Master of Surgery Video Presentation *Alper Yenigun; Ozan Altuntaş; H. Baki Yilmaz*

14:27–14:34 **Membranous Tongue-In-Groove Technique In Tip Surgery**
Facial Plastic Surgery · Master of Surgery Video Presentation *Ozan Altuntaş; H. Baki Yilmaz*

14:34–14:41 **Rhinoplasty Dead Space Reducing With Intranasal Electrical Drainage**
Facial Plastic Surgery · Master of Surgery Video Presentation *Yuri Rusetskiy; Ozan Altuntaş; H. Baki Yilmaz*

14:41–14:48 **Internal Suspension Sutures In Tip Rhinoplasty**
Facial Plastic Surgery · Master of Surgery Video Presentation *Andrés Alvo; H. Baki Yilmaz; Ozan Altuntaş*

14:48–14:55 **Approach To The Crooked Nose With Closed Rhinoplasty**
Facial Plastic Surgery · Master of Surgery Video Presentation *Zülküf Burak ERDUR; H. Baki Yilmaz; Ozan Altuntaş*

14:55–15:02 **Semi-Dried PRP-Stabilized Diced Cartilage: A Novel Technique For Stable And Moldable Dorsal Nasal Augmentation In Rhinoplasty**
Facial Plastic Surgery · Master of Surgery Video Presentation *Alper Yenigun; H. Baki Yilmaz; Ozan Altuntaş*

15:02–15:09 **Comparison Of Lateral Crural Repositioning And Lateral Crural Z-Flap In Alar Retraction Correction**
Facial Plastic Surgery · Master of Surgery Video Presentation *Mehmet Ali Karsavul; H. Baki Yilmaz; Ozan Altuntaş*

15:09–15:16 **NASAL DORSUM PRESERVATION**
Facial Plastic Surgery · Master of Surgery Video Presentation *H. Baki Yilmaz; Ozan Altuntaş*

15:16–15:26 **NOVA Spare Roof Technique And The Sail Maneuver- Step-To-Step For Optimal Results**
Facial Plastic Surgery · Master of Surgery Video Presentation *Joana Dias; H. Baki Yilmaz; Ozan Altuntaş*

15:26–15:41 **Cadaveric Anatomy Of The Alar Base And Nasal Sill**
Facial Plastic Surgery · Remarkable Presentation *Tural Fatullayev; H. Baki Yilmaz; Ozan Altuntaş*

15:41–15:56 **The Use Of Cylindrical Burr In Closed Rhinoplasty: Why, When, And How?**
Facial Plastic Surgery · Remarkable Presentation *Zülküf Burak ERDUR; H. Baki Yilmaz; Ozan Altuntaş*

16:30–16:45 **Spreader Grafts And Flaps, My Own Technique And Review**
Facial Plastic Surgery · Remarkable Presentation *Zülküf Burak ERDUR*

16:45–17:00 **Thick Skin Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Zülküf Burak ERDUR*

17:00–17:15 **Muscular Nose As A Clinical Concept Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Hesam Jahandideh; Zülküf Burak ERDUR*

17:15–17:30 **Short Nose**
Facial Plastic Surgery · Remarkable Presentation *Shahin Bastaninejad; Zülküf Burak ERDUR*

17:30–17:45 **Potential Aesthetic Effect Of Septoplasty With Barbed Suture On The Cartilaginous Dorsum**
Facial Plastic Surgery · Remarkable Presentation *Hyo Yeol Kim; Zülküf Burak ERDUR*

Thursday, 10 September 2026

08:00–08:30 **Is Extending Beyond Pitanguy Always Better?**
Facial Plastic Surgery · Keynote Lecture *capi wever; Zeliha Kapusuz Gencer*

08:30–08:45 **Endoscopic Cheek Lift**
Facial Plastic Surgery · Instructional Course *Zeliha Kapusuz Gencer*

08:45–09:15 **Non - Delaminating Deep Plane Face Lift - Enhancing Recovery**
Facial Plastic Surgery · Keynote Lecture *Holger Gasner; Zeliha Kapusuz Gencer*

09:15–09:30 **Face Lift/Temporal Lift**
Facial Plastic Surgery · Remarkable Presentation *Zeliha Kapusuz Gencer*

09:30–10:00 **Management Of Facial Paralysis – Getting To Optimal Outcomes**
Facial Plastic Surgery · Keynote Lecture *Samuel Oyer; Zeliha Kapusuz Gencer*

10:45–11:45 **Neck Lift**

Facial Plastic Surgery · Round Table *Özcan Çakmak; Holger Gasner; Ullas Raghavan; capi wever; Isa Kaya; TEVFIK; SOZEN; Ghazal S. Daher*

11:45–12:00 **Facial Implants And The Importance Of Achieving Facial Harmony**

Facial Plastic Surgery · Remarkable Presentation *Gurkan Kayabasoglu; Ghazal S. Daher; Isa Kaya*

12:00–12:15 **Rejuvenation Techniques In Reconstruction**

Facial Plastic Surgery · Remarkable Presentation *Ullas Raghavan; Ghazal S. Daher; Isa Kaya*

12:15–12:30 **Mastering The Chin Profile: My Surgical Philosophy In Reduction Genioplasty**

Facial Plastic Surgery · Master of Surgery Video Presentation *AKIN ŞAHİN; Isa Kaya*

12:30–12:45 **Hidden Incision:Why I Prefer The Transconjunctival Approach**

Facial Plastic Surgery · Panel Presentation *ahmet caymaz; Isa Kaya*

14:00–14:15 **Deep Neck Contouring: When And How**

Facial Plastic Surgery · Remarkable Presentation *Özcan Çakmak; KÜBRA TOPAL*

14:15–14:30 **Deep Plane Facelift And Endoscopic Browlift**

Facial Plastic Surgery · Remarkable Presentation *Kerem Sami Kaya; KÜBRA TOPAL*

14:30–14:45 **Profiloplasti With Fat Injection**

Facial Plastic Surgery · Remarkable Presentation *ilker yiğit; KÜBRA TOPAL*

14:45–15:00 **TEMPORAL AREA VOLUMIZATION TECHNIQUES**

Facial Plastic Surgery · Remarkable Presentation *KÜBRA TOPAL*

15:00–15:15 **Soft Tissue Facial Changes Following Massive Weight Loss Secondary To Medical And Surgical Bariatric Interventions: A Systematic Review**

Facial Plastic Surgery · Remarkable Presentation *Ali Jafar; KÜBRA TOPAL*

15:15–15:30 **Fat Grafting And My Appoach In Fat Grafting**

Facial Plastic Surgery · Remarkable Presentation *Eric Dobratz; KÜBRA TOPAL*

15:30–15:45 **When Is It Truly Deep Plane ? Defining The Anatomy Behind The Technique**

Facial Plastic Surgery · Remarkable Presentation *ahmet caymaz; KÜBRA TOPAL*

15:45–16:00 **Aging Face Surgery Which Is In Case Primary Cases And Revision Cases**

Facial Plastic Surgery · Remarkable Presentation *TEVFIK SOZEN; KÜBRA TOPAL*

16:30–16:45 **Diagnosis And Management Of Nasal Septal Perforation**

Facial Plastic Surgery · Remarkable Presentation *Yu Hosokawa; KÜBRA TOPAL; Uzdan Uz*

16:45–17:00 **Assessment Of Rib Cartilage Calcification By Plain Radiography: Implications For Graft Planning In Rhinoplasty**

Facial Plastic Surgery · Remarkable Presentation *Shin Hyuk Yoo; Uzdan Uz; KÜBRA TOPAL*

17:00–17:15 **Balancing The Bony Sidewalls: New Technique To Manage The Bony Vault Deviation**

Facial Plastic Surgery · Remarkable Presentation *Hyo Yeol Kim; Uzdan Uz; KÜBRA TOPAL*

17:15–17:30 **The Impact Of Rhinoplasty On Smile**

Facial Plastic Surgery · Remarkable Presentation *Babak Saedi; Uzdan Uz; KÜBRA TOPAL*

17:30–17:45 **The Role Of Footplates In Advanced Nasal Tip Correction And Nostril Shape Optimization**

Facial Plastic Surgery · Remarkable Presentation *Uzdan Uz; KÜBRA TOPAL*

17:45–18:00 **Rhinoplasty And Facial Rejuvenation Effect**

Facial Plastic Surgery · Remarkable Presentation *Uzdan Uz; KÜBRA TOPAL*

Friday, 11 September 2026

07:30–08:00 **Step-By-Step Upper Blepharoplasty Course**

Facial Plastic Surgery · Instructional Course *Gökçe Özel*

08:00–08:15 **“Gender Affirming Surgery: The Latest Thoughts And Techniques”**

Facial Plastic Surgery · Remarkable Presentation *Danial Knott; Gökçe Özel*

08:15–08:45 **Facial Autologous Fat Grafting**

Facial Plastic Surgery · Keynote Lecture *Gökçe Özel*

08:45–09:00 **Chin İmplant In Difficult And Severe Chin Deformitied**

Facial Plastic Surgery · Remarkable Presentation *Gökçe Özel*

09:00–09:15 **Modified Scalp Preserving Coronal Forehead Lift**

Facial Plastic Surgery · Instructional Course *Akbar Bayat; Gökçe Özel*

09:15–09:45 **Extended Deep Plane Face Lift**
Facial Plastic Surgery · Instructional Course *Saeed Golparvaran; Gökçe Özel*

09:45–10:00 **Direct Brow Lift; Has It A Role In Rejuvenation Surgery**
Facial Plastic Surgery · Remarkable Presentation *Ullas Raghavan; Ismet Emrah Emre*

10:45–11:45 **Facelift Techniques**
Facial Plastic Surgery · Round Table *Holger Gasner; capi wever; Ullas Raghavan; Ismet Emrah Emre; Kerem Sami Kaya*

11:45–12:00 **Scalp Reshaping**
Facial Plastic Surgery · Remarkable Presentation *Saleh Mohebbi; Ismet Emrah Emre*

12:00–12:15 **Anatomic Basis For Facelift Surgery: What Is New And What Is Old?**
Facial Plastic Surgery · Panel Presentation *Sam Most; Saleh Mohebbi; Ismet Emrah Emre*

12:15–12:30 **Midface Lift-When Is It Most Effective As A Sole Procedure**
Facial Plastic Surgery · Remarkable Presentation *Ismet Emrah Emre; Saleh Mohebbi*

12:30–12:45 **Reconstruction Of Nasal Cutaneous Defects After Mohs Microscopic Surgery**
Facial Plastic Surgery · Remarkable Presentation *Burçay Tellioğlu; Saleh Mohebbi; Ismet Emrah Emre*

14:00–15:00 **Facial Reconstruction**
Facial Plastic Surgery · Round Table *stephen park; Eric Dobratz; Peter C. Revenaugh; Sam Most*

15:00–15:15 **Internal Lining Tips For Paramedian Forehead Flaps**
Facial Plastic Surgery · Remarkable Presentation *Krıshna Patel; Kritsada Kowitwibool; Özcan Çakmak*

15:15–15:30 **My Journey As A Facelift Surgeon**
Facial Plastic Surgery · Remarkable Presentation *Ullas Raghavan; Özcan Çakmak; Kritsada Kowitwibool*

15:30–15:45 **My Surgical Experince With Vaser-Assisted Double Chin Liposuction**
Facial Plastic Surgery · Master of Surgery Video Presentation *Kritsada Kowitwibool; AKIN ŞAHİN; Özcan Çakmak*

15:45–16:00 **Asian Short Incision Blepharoplasty**
Facial Plastic Surgery · Remarkable Presentation *Kritsada Kowitwibool; Özcan Çakmak*

16:30–17:00 **Essentials Of Eyelid Surgery**
Facial Plastic Surgery · Instructional Course *Gurkan Kayabasoglu; Mazahir Guliyev; Teoman Dal*

17:00–17:30 **Decision-Making In Dorsal Preservation Rhinoplasty**
Facial Plastic Surgery · Keynote Lecture *Teoman Dal; Sam Most; Mazahir Guliyev*

17:30–17:45 **Innovative Approaches In Revision Rhinoplasty:Our Clincal Experience**
Facial Plastic Surgery · Remarkable Presentation *Mazahir Guliyev; Teoman Dal*

17:45–18:00 **Primary Septal Reconstruction In Severe Septal Deviations**
Facial Plastic Surgery · Master of Surgery Video Presentation *Teoman Dal; Mazahir Guliyev*

Saturday, 12 September 2026

07:30–08:00 **Extreme Revisions**
Facial Plastic Surgery · Instructional Course *Erkan Soylu; Özcan Çakmak; Ismet Emrah Emre*

08:00–08:30 **Facelift Surgery-Things I Have Learned**
Facial Plastic Surgery · Keynote Lecture *Ismet Emrah Emre; Özcan Çakmak*

08:30–09:00 **Trans Temporal Extended Deep Plane Face Lift**
Facial Plastic Surgery · Instructional Course *Ismet Emrah Emre; Özcan Çakmak*

09:00–09:30 **Modified Composite Plane Facelift With Extended Neck Dissection**
Facial Plastic Surgery · Keynote Lecture *Özcan Çakmak; Ismet Emrah Emre*

09:30–09:50 **Anatomy For Face And Neck Lift**
Facial Plastic Surgery · Instructional Course *Holger Gasner; Özcan Çakmak; Ismet Emrah Emre*

09:50–10:00 **Lateral Wall Collapse**
Facial Plastic Surgery · Panel Presentation *Helena Silveira; Özcan Çakmak; Ismet Emrah Emre*

10:45–12:15 **Lower Eyelid Blepharoplasty**
Facial Plastic Surgery · Panel Presentation *Holger Gasner; Mehtap Ozkahraman Kirik; Sam Most; Gurkan Kayabasoglu*

12:15–12:30 **Advances In Forehead Flap Reconstruction**
Facial Plastic Surgery · Remarkable Presentation *Sam Most; Eric Dobratz; Gurkan Kayabasoglu*

12:30–12:45 **Lower Blepharoplasty-Tips And Pearls**
Facial Plastic Surgery · Keynote Lecture *Ismet Emrah Emre; Gurkan Kayabasoglu; Eric Dobratz*

14:00–14:10 **Surgical Nuances In My Blepharoplasty Cases**

Facial Plastic Surgery · Master of Surgery Video Presentation *AKIN ŞAHİN; Eric Dobratz; Gurkan Kayabasoglu*

14:10–14:25 **Perichondrial Cutaneous Composite Grafts For Nasal Defects**

Facial Plastic Surgery · Remarkable Presentation *Eric Dobratz; Gurkan Kayabasoglu*

14:25–14:55 **20 Years Of Facelift Evolution, From The Perspective Of Patients And Surgeons**

Facial Plastic Surgery · Keynote Lecture *Gurkan Kayabasoglu; Eric Dobratz*

14:55–15:05 **Botox And The Science Behind It**

Facial Plastic Surgery · Remarkable Presentation *Ismet Emrah Emre; AKIN ŞAHİN*

15:05–15:15 **Predictable Algorithm To Manage Nasal Tip Projection And Rotation To Improve Nasal Aesthetics And Function.**

Facial Plastic Surgery · Master of Surgery Video Presentation *Marcin Jadczak; Ender İnci; AKIN ŞAHİN*

15:15–15:25 **Skin, Muscle And Fat Management In Lower Blepharoplasty**

Facial Plastic Surgery · Master of Surgery Video Presentation *Yusufhan suoglu; AKIN ŞAHİN*

15:25–15:35 **My Surgical Strategy For Aesthetic Bichectomy.**

Facial Plastic Surgery · Master of Surgery Video Presentation *AKIN ŞAHİN*

15:35–16:00 **Surgical Treatment Of Blepharoptosis**

Facial Plastic Surgery · Instructional Course *Mehtap Ozkahraman Kirik; Ullas Raghavan*

16:30–16:40 **Lower Lid Blepharoplasty**

Facial Plastic Surgery · Master of Surgery Video Presentation *Mehtap Ozkahraman Kirik; Ullas Raghavan*

16:40–17:00 **Multi-Ethnic Facial Beautification And Rejuvenation: White, Afro- Descendant, Indigenous, And Mestizo**

Facial Plastic Surgery · Keynote Lecture *Mehtap Ozkahraman Kirik; Ullas Raghavan*

17:00–17:15 **Dorsal Augmentation In Revision Rhinoplasty**

Facial Plastic Surgery · Remarkable Presentation *Tural Fatullayev; Mehtap Ozkahraman Kirik*

17:15–17:30 **Surgical Management Of Nasal Vestibular Stenosis**

Facial Plastic Surgery · Remarkable Presentation *Tural Fatullayev; Mehtap Ozkahraman Kirik*

17:30–17:45 **Subciliary Lower Eyelid Blepharoplasty: How To Avoid Complications**

Facial Plastic Surgery · Remarkable Presentation *Özcan Çakmak; Mehtap Ozkahraman Kirik; Ullas Raghavan*

17:45–18:00 **Septal Extension Grafts In Rhinoplasty: Classification, Techniques, And Clinical Applications**

Facial Plastic Surgery · Remarkable Presentation *Burak Ulkumen; Erkan Soylu*

FACIAL PLASTIC 2

ICC - B3 Floor - 3B/01

Wednesday, 9 September 2026

14:00–14:15 **Single-Stage Alar Nostril Ring Correction Using Auricular Composite Grafts İn Reconstructive Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Suzuki Masanobu; Pamela Pol*

14:15–14:30 **Cleft Nose Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Pamela Pol; Suzuki Masanobu*

14:30–14:45 **Surgical Techniques For Caudal Septoplasty**
Facial Plastic Surgery · Remarkable Presentation *Yu Hosokawa; Pamela Pol*

14:45–15:45 **TIP SURGERY 1**
Facial Plastic Surgery · Panel Presentation *Burak Ulkumen; Rui Xavier; Pamela Pol; Suzuki Masanobu; Saif Ali*

15:45–16:00 **Dorsal Augmentation Using High Spreader Graft**
Facial Plastic Surgery · Remarkable Presentation *Saif Ali; Uzdan Uz*

16:30–16:40 **Functional Septorhinoplasty**
Facial Plastic Surgery · Master of Surgery Video Presentation *lütfi barlas aydoğan; Yu Hosokawa*

16:40–16:50 **Pediatric Septoplasty**
Facial Plastic Surgery · Remarkable Presentation *Sara Rahavi; lütfi barlas aydoğan; Yu Hosokawa*

16:50–17:00 **Septal Extension Grafts**
Facial Plastic Surgery · Master of Surgery Video Presentation *Burak Ulkumen; Yu Hosokawa*

17:00–17:30 **Master Of Surgery Video Presentation 2**
Facial Plastic Surgery · Master of Surgery Video Presentation *TARIK ŞAPÇI; lütfi barlas aydoğan; Fikret Kasapoglu; Erkan Soylu; Yu Hosokawa*

17:30–17:40 **Cartilage saving proceduresin tipplasty for crooked noses**
Facial Plastic Surgery · Panel Presentation *Tülay Erden Habeşoğlu*

Thursday, 10 September 2026

08:45–09:00 **Facial Reanimation Techniques In Long-Term Lower Lip Asymmetry**
Facial Plastic Surgery · Master of Surgery Video Presentation *Köksal YUCA; Ender İnci*

09:00–09:15 **Safe, Precise And Practical Decision-Making During Modified Selective Neurectomy Surgery**
Facial Plastic Surgery · Master of Surgery Video Presentation *Köksal YUCA; Ender İnci*

09:15–09:30 **Orbicularis Oculi Selective Myectomy For Treatment Of Periocular Synkinesis.**
Facial Plastic Surgery · Remarkable Presentation *Alireza Mesbahi; Ghazal S. Daher; Köksal YUCA*

09:30–09:45 **Key Points For Projection, Rotation And Definition In Tip Plasty Using Just Suture Technique Without Any Cartilage Extension Graft**
Facial Plastic Surgery · Master of Surgery Video Presentation *Ender İnci; Uzdan Uz*

10:45–11:45 **Managing Patients With Synkinesis: How To Decide On Treatments For This Complex Patient Population**
Facial Plastic Surgery · Round Table *Matthew Q. Miller; Catherine Meller; Samuel Oyer*

11:45–12:00 **Facial Nerve Grafting With Temporalis Transfer - A New Frontier**
Facial Plastic Surgery · Instructional Course *Vijayendra Honnurappa; Köksal YUCA; Zeliha Kapusuz Gencer*

12:00–12:10 **Case By Case Facial Paralysis**
Facial Plastic Surgery · Master of Surgery Video Presentation *Köksal YUCA; Zeliha Kapusuz Gencer*

12:10–12:25 **Facial Nerve 5-7 Transfer Techniques**
Facial Plastic Surgery · Remarkable Presentation *Zeliha Kapusuz Gencer; Köksal YUCA*

14:00–15:00 **Facial Reanimation: Proven Contemporary Techniques**
Facial Plastic Surgery · Round Table *Samuel Oyer; Alireza Mesbahi; Isa Kaya*

15:00–15:30 **Getting Everyone On The Same Page: Standardization Of Facial Reanimation Surgical Outcomes**
Facial Plastic Surgery · Keynote Lecture *Matthew Q. Miller; Yusufhan suoglu; Köksal YUCA*

16:30–16:45 **Importance Of SEG (Septal Extension Graft) In Asian Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Soo-Whan Kim; Oguzhan Oguz*

17:00–17:15 **Novel Anguloplasty Technique In Static Facial Reanimation To Improve Lip Excursion**
Facial Plastic Surgery · Remarkable Presentation *Ali Jafar; Soo-Whan Kim; Oguzhan Oguz*

17:15–17:30 **Pediatric Combat Trauma - Frontline Lessons From Ukraine**
Facial Plastic Surgery · Panel Presentation *Igor Berezniuk; Oguzhan Oguz; Soo-Whan Kim*

17:30–17:45 **General Approaches And Surgical Management In Maxillofacial Trauma**
Facial Plastic Surgery · Remarkable Presentation *Vedat Oruk; Oguzhan Oguz; Soo-Whan Kim*

17:45–18:00 **Botulinum Neurotoxin Applications In Facial Aesthetics**
Facial Plastic Surgery · Panel Presentation *Vedat Oruk; Oguzhan Oguz; Soo-Whan Kim*

Friday, 11 September 2026

07:30–08:00 **Tip Plasty Just Whit Suture Technique**
Facial Plastic Surgery · Instructional Course *Ender İnci*

08:00–08:15 **Rhinoplasty Nasal Tip Surgery With Modified Septal Extension Graft**
Facial Plastic Surgery · Master of Surgery Video Presentation *Köksal YUCA; Shin Hyuk Yoo*

08:15–08:30 **Male Rhinoplasty. Beyond Facial Definition**
Facial Plastic Surgery · Remarkable Presentation *Elvigia Adams; Köksal YUCA; Ahmed Mansour*

08:30–09:00 **Mastering In Rhinoplasty**
Facial Plastic Surgery · Panel Presentation *Gurkan Kayabasoglu; Köksal YUCA*

09:00–09:15 **Molded Diced Cartilage Grafting For Dorsal Augmentation: Early Experience With Jang's Mold**
Facial Plastic Surgery · Panel Presentation *Shin Hyuk Yoo; Köksal YUCA*

09:15–09:30 **Management of Deviated Nasal Septum: Surgical Strategies & Structural Support**
Facial Plastic Surgery · Remarkable Presentation *Köksal YUCA; Ahmed Mansour*

09:30–10:00 **Surgical Management Of The Nasal Tip**
Facial Plastic Surgery · Keynote Lecture *FRANCISCO JAVIER SALAVERRY RAMOS; Habiba Sultan Almaskari*

10:45–11:00 **Condylar Hyperplasia And Facial Asymmetry: From Diagnosis To Surgical Management”**
Facial Plastic Surgery · Remarkable Presentation *Nagihan Bilal*

11:15–11:30 **Dorsal Augmentation Using Glued Diced Costall Cartilage Shaped With Mold**
Facial Plastic Surgery · Remarkable Presentation *Yong Ju Jang; Habiba Sultan Almaskari*

11:30–11:45 **The Tri-Functional T-Graft Tip Plasty**
Facial Plastic Surgery · Panel Presentation *Amin Amali; Habiba Sultan Almaskari*

11:45–12:15 **Southeast Asian Rhinoplasty: Structure, Softness And Function**
Facial Plastic Surgery · Keynote Lecture *James Wai Leong Kok; Habiba Sultan Almaskari*

12:15–12:30 **Early Vs Delayed Rhinoplasty Post Nasal Trauma; Timeline,Tips & What To Expect.**
Facial Plastic Surgery · Remarkable Presentation *Habiba Sultan Almaskari*

12:30–12:45 **Short Nose Correction**
Facial Plastic Surgery · Master of Surgery Video Presentation *Alireza Mohebbi; Habiba Sultan Almaskari*

14:00–14:15 **Surgical Options For Dealing With Alar Retraction**
Facial Plastic Surgery · Remarkable Presentation *Rui Xavier; Talal Abdulla*

14:15–14:25 **Nasal Tip Surgery In Rhinoplasty**
Facial Plastic Surgery · Panel Presentation *Iütfi barlas aydoğan; Melih Güven Güvenç*

14:25–14:35 **Nasal Tip Surgery-My Way**
Facial Plastic Surgery · Master of Surgery Video Presentation *Fikret Kasapoglu; Melih Güven Güvenç*

14:35–14:50 **Male Nose: Pitfalls And Pearls**
Facial Plastic Surgery · Keynote Lecture *Melih Güven Güvenç*

14:50–15:05 **Present-Day Indications For Using Spreader Grafts**
Facial Plastic Surgery · Remarkable Presentation *Rui Xavier; Melih Güven Güvenç*

15:05–15:20 **40+ Rhinoplasty(Rhinoplast over 40 years old)**
Facial Plastic Surgery · Remarkable Presentation *Ethem Şahin; Melih Güven Güvenç*

15:20–15:35 **Low Strip Dorsal Preservation- A Technique That All Otolaryngologists Should Know.**
Facial Plastic Surgery · Remarkable Presentation *Peter C. Revenaugh; Talal Abdulla; Melih Güven Güvenç*

15:35–16:00 **Rhinopreservation By Foundation Techniques In Caucasian Noses. Expanding Its Indications**
Facial Plastic Surgery · Master of Surgery Video Presentation *Jaime Farfan; Shin Hyuk Yoo; Köksal YUCA*

16:30–16:45 **My Osteotomy Technique**
Facial Plastic Surgery · Remarkable Presentation *ignazio tasca; Melih Güven Güvenç*

16:45–17:00 **Management Of Nasal Valve Collapse Following Rhinoplastic Surgery**
Facial Plastic Surgery · Remarkable Presentation *Orhan Ozturan; Melih Güven Güvenç*

17:00–17:15 **Red Flags In Rhinoplasty**
Facial Plastic Surgery · Keynote Lecture *Talal Abdulla; Melih Güven Güvenç*

17:15–17:30 **Alar Base And Nasal Sill: Key Surgical Maneuvers**
Facial Plastic Surgery · Remarkable Presentation *Tural Fatullayev; Talal Abdulla*

17:30–17:45 **Modern Concepts Of The Complex Anatomy Of The Nose And Its Significance In Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Denizhan Dizdar; Arzu-Almaz Mashurov; Melih Güven Güvenç*

17:45–18:00 **Facial Assymmety And Its Impact On Rhinoplasty Results**
Facial Plastic Surgery · Remarkable Presentation *Denizhan Dizdar; Melih Güven Güvenç*

Saturday, 12 September 2026

07:30–08:00 **Surgical Reconstruction After Resection Of Skin Cancers In Head And Neck**
Facial Plastic Surgery · Instructional Course *Mehmet Düzlü; AKIN ŞAHİN; Rinor Ajeti*

08:00–08:30 **Comprehensive Management Of Congenital Ear Malformations: From Aesthetic Correction To Functional Reconstruction**
Facial Plastic Surgery · Keynote Lecture *Chen-Long Li; AKIN ŞAHİN; Rinor Ajeti*

08:30–09:00 **Otoplasty ,Indication, Technique And It's Complications**
Facial Plastic Surgery · Keynote Lecture *AKIN ŞAHİN; Rinor Ajeti*

09:00–09:15 **How To Prevent Protruding Ears**
Facial Plastic Surgery · Remarkable Presentation *hermann raunig; AKIN ŞAHİN; Rinor Ajeti*

09:15–09:30 **Otoplasty: My Surgical Approach – Insights From 300 Successful Cases**
Facial Plastic Surgery · Master of Surgery Video Presentation *Rinor Ajeti; AKIN ŞAHİN*

09:30–09:45 **Macrotia Surgery, How I Do It: A Step-By-Step Video Guide To Ear Reduction**
Facial Plastic Surgery · Master of Surgery Video Presentation *AKIN ŞAHİN; Rinor Ajeti*

09:45–10:00 **Global Perspectives On Auricular Reconstruction: Surgical Strategies, Functional Outcomes, And Emerging Technologies**
Facial Plastic Surgery · Keynote Lecture *Chen-Long Li; AKIN ŞAHİN; Rinor Ajeti*

10:45–11:15 **Surgical Otoplasty-Long Term Results**
Facial Plastic Surgery · Keynote Lecture *hermann raunig; KÜBRA TOPAL; Denizhan Dizdar*

11:15–11:25 **Otoplasty For Beginners**
Facial Plastic Surgery · Master of Surgery Video Presentation *Denizhan Dizdar; KÜBRA TOPAL*

11:25–11:40 **Advances In Otoplasty: Techniques, Outcomes, And Future Directions**
Facial Plastic Surgery · Remarkable Presentation *Mehmet Murat Günay; KÜBRA TOPAL; Denizhan Dizdar*

11:40–11:50 **My Evolving Techniques In Aesthetic Otoplasty**
Facial Plastic Surgery · Master of Surgery Video Presentation *AKIN ŞAHİN; KÜBRA TOPAL; Denizhan Dizdar*

11:50–12:00 **Submental Endolaser Lifting**
Facial Plastic Surgery · Remarkable Presentation *BETUL SAHİN; Denizhan Dizdar; KÜBRA TOPAL*

12:00–12:10 **Indirect Lip Lift Surgery Video**
Facial Plastic Surgery · Master of Surgery Video Presentation *Denizhan Dizdar; KÜBRA TOPAL*

12:10–12:25 **Facial Anti-Aging Treatment**
Facial Plastic Surgery · Remarkable Presentation *KÜBRA TOPAL; Zeliha Kapusuz Gencer; Başak Çaypınar*

12:25–12:45 **Upper Facial Neurotoxin Enjection Techniques**
Facial Plastic Surgery · Remarkable Presentation *KÜBRA TOPAL; Denizhan Dizdar*

14:00–14:15 **Uppereyelid Filler Injections**
Facial Plastic Surgery · Remarkable Presentation *BETUL SAHİN; Gökçe Özel*

14:15–14:30 **The Digital Renaissance: Integrating Artificial Intelligence In Our Facial Rejuvenation Practice**
Facial Plastic Surgery · Instructional Course *Roberto Quijano; Gökçe Özel; BETUL SAHİN*

14:30–15:00 **Endolifting Laser:Laser Facelift**
Facial Plastic Surgery · Keynote Lecture *Gökçe Özel; BETUL SAHİN*

15:00–15:15 **Midface Shaping With Hyalouronic Acid Fillers**
Facial Plastic Surgery · Remarkable Presentation *BETUL SAHİN; Gökçe Özel*

15:15–15:45 **Complications In Revision Rhinoplasty And Their Management**
Facial Plastic Surgery · Instructional Course *Ahmet Alp; BETUL SAHİN; Gökçe Özel*

15:45–16:00 **Grafts is Rhinoplasty, When and How?**
Facial Plastic Surgery · Instructional Course *Ayman Jaber*

16:30–17:30 **Filler Complications**

Facial Plastic Surgery · Round Table *BETUL SAHİN; Özcan Çakmak; KÜBRA TOPAL; Gökçe Özel; Zeliha Kapusuz Gencer;; Tülay Erden Habeşoğlu*

17:30–18:00 **Radix Augmentation By The Nasal Fibro-Fat Graft**

Facial Plastic Surgery · Keynote Lecture *Mohsen Naraghi; BETUL SAHİN*

FACIAL PLASTIC 3

Hilton - Ambassador Hall

Wednesday, 9 September 2026

14:00–14:15 **Ethnic Rhinoplasty With Cases**
Facial Plastic Surgery · Panel Presentation *şaban çelebi; Özgür Kemal*

14:15–14:30 **Bony Suturing In Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Yuri Rusetskiy; Özgür Kemal; Erkan Soylu*

14:30–14:45 **Endonasal Treatment Of Difficult Caudal Septal Deviations**
Facial Plastic Surgery · Remarkable Presentation *Eric Dobratz; Özgür Kemal; Erkan Soylu*

14:45–15:00 **Presentation Rhinoplasty Vs Structure Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Özgür Kemal; Erkan Soylu*

15:00–15:15 **My Approach To Saddle Nose Deformity**
Facial Plastic Surgery · Remarkable Presentation *Yeganeh Teimouri; Özgür Kemal; Erkan Soylu*

15:15–15:30 **Rhinoplasty With A Crushed Septum FPS**
Facial Plastic Surgery · Remarkable Presentation *Yuri Rusetskiy; Özgür Kemal; Erkan Soylu*

15:30–15:45 **Advanced Septal Reconstruction**
Facial Plastic Surgery · Remarkable Presentation *Sam Most; Özgür Kemal; Erkan Soylu*

16:30–17:00 **Challenges And Solutions In Thick Skin Rhinoplasty**
Facial Plastic Surgery · Keynote Lecture *JOSÉ STURLA PELLERANO; Kivanc Gunhan; Nigar Ahmedli*

17:00–17:15 **An Algorithmic Model For Decision- Making In Dorsal Preservation Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Mohammadreza Nazari; Kivanc Gunhan; Nigar Ahmedli*

17:15–17:30 **Insidious Enemy In Revision Rhinoplasty: Non-Floral Colonization**
Facial Plastic Surgery · Remarkable Presentation *Kivanc Gunhan; Nigar Ahmedli*

17:30–17:45 **Subtleties Of The Infratip Lobule In Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Nigar Ahmedli; Kivanc Gunhan*

Thursday, 10 September 2026

08:45–09:00 **Endoscopic Septoplasty In Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Marcel Sauvalle Ceballos; Vedat Oruk*

09:00–09:30 **Precision Rhinoplasty Dorsal Sidewall And Tip Engineering**
Facial Plastic Surgery · Keynote Lecture *a. emre ilhan; Vedat Oruk*

09:30–10:00 **Step By Step Rhinoplasty**
Facial Plastic Surgery · Keynote Lecture *Zaur Nagiyev; Vedat Oruk; Yaşar Çokkeser*

10:45–11:15 **Personal Tips For Difficult Revision**
Facial Plastic Surgery · Keynote Lecture *Yong Ju Jang; Burak Ulkumen*

11:15–11:45 **Aproach For Nasal Dorsum In Rhinoplasty**
Facial Plastic Surgery · Expert Discussion *Yusufhan suoglu; Alireza Mesbahi; Burak Ulkumen*

11:45–12:15 **Contemporary Approaches To Nasal Valve Evaluation And Management**
Facial Plastic Surgery · Instructional Course *Edward Zhang; Burak Ulkumen*

12:15–12:30 **Blocking Points In Preservation Rhinoplasty**
Facial Plastic Surgery · Keynote Lecture *Abdülkadir göksel; Burak Ulkumen*

12:30–12:45 **Dorsal Augmentation With Diced Cartilage In Glue-Its Predictability And Difficulties**
Facial Plastic Surgery · Panel Presentation *keng lu; Burak Ulkumen*

14:00–15:00 **APPROACH TO THE TİP IN RHINOPLASTY**
Facial Plastic Surgery · Round Table *Erkan Soylu; Kritsada Kowitwibool; Sam Most*

15:00–15:15 **Advanced Flap And Graft Thecniques In Complex Revision Cases And Cleft Noses**
Facial Plastic Surgery · Master of Surgery Video Presentation *Oguzhan Oguz; taşkın yücel*

15:15–15:45 **Controversies; Structural Versus Preservation**
Facial Plastic Surgery · Controversies *Abdülkadir göksel; eren tastan; taşkın yücel*

15:45–16:00 **The Key Factors In Asian Septorhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Soo-Whan Kim; taşkın yücel*

16:30–17:00 **Pearls And Tips For A Multiethnic Rhinoplasty.**
Facial Plastic Surgery · Keynote Lecture *Nagihan Bilal*

17:00–17:15 **Piezo Structural Rhinoplasty**
Facial Plastic Surgery · Panel Presentation *Vedat Oruk; Nagihan Bilal*

17:15–17:45 **Reasons For Choosing A Septal Extension Graft**
Facial Plastic Surgery · Instructional Course *Rui Xavier; Nagihan Bilal*

Friday, 11 September 2026

08:00–08:30 **Osteotomy – New Techniques**
Facial Plastic Surgery · Instructional Course *Serkan Bariskan*

08:30–09:00 **Oblique Split ; State Of The Art In Revision Rhinoplasty**
Facial Plastic Surgery · Keynote Lecture *eren tastan; taşkın yücel*

09:00–09:30 **Good Long Term Results In Rhinoplasty:Technical Considerations**
Facial Plastic Surgery · Keynote Lecture *Alireza Mesbahi; taşkın yücel*

09:30–09:45 **Revision Rhinoplasty Strategies: Structural Reconstruction Using Conchal Cartilage**
Facial Plastic Surgery · Remarkable Presentation *taşkın yücel; Ahmed Mansour*

09:45–09:55 **Nomenclature For Lateral Wall Insufficiency: Evidence And Treatment**
Facial Plastic Surgery · Round Table *Sam Most; taşkın yücel*

10:45–11:45 **Rhinoplasty In Turkey (1) : Practial Pearls And Videopresentations From Turkish Rhinoplasty Surgeons**
Facial Plastic Surgery · Panel Presentation *taşkın yücel; Sureyya Seneldir; Ahmet Alp; tamer erdem; Abdülkadir göksel; sercan; göde*

11:45–12:45 **OSTEOTOMY IN RECENT YEARS**
Facial Plastic Surgery · Panel Presentation *lütfi barlas aydoğan; Sureyya Seneldir; ignazio tasca; TEVFIK SOZEN*

14:00–14:30 **Closed Functional Rhinoplasty:A Philosophy**
Facial Plastic Surgery · Keynote Lecture *ignazio tasca; Orhan Ozturan; taşkın yücel*

14:30–15:30 **Functional Problems In Rhinoplasty**
Facial Plastic Surgery · Panel Presentation *Orhan Ozturan; Yu Hosokawa; Hyo Yeol Kim; Sara Rahavi; taşkın yücel*

15:30–16:00 **3 Dimensional Approach To Nasal Dorsum**
Facial Plastic Surgery · Keynote Lecture *taşkın yücel; Orhan Ozturan*

16:30–17:30 **Hybrid Techniques And New Technologies In Rhinoplasty**
Facial Plastic Surgery · Panel Presentation *ignazio tasca; Tural Fatullayev; Shahryar Nazari; a. emre ilhan*

17:30–17:45 **Alar Hanging Correction**
Facial Plastic Surgery · Remarkable Presentation *Kritsada Kowitwibool; Ender İnci*

17:45–18:00 **How I Built Ideal Profile**
Facial Plastic Surgery · Master of Surgery Video Presentation *Ender İnci; Kritsada Kowitwibool*

Saturday, 12 September 2026

08:00–08:30 **Reconstruction Of Nose Framework**
Facial Plastic Surgery · Keynote Lecture *Erkan Soylu; Unnamed user; tamer erdem; Oguzhan Oguz*

08:30–08:45 **Fat Membrane , A New Era In Facial Plastic Surgery**
Facial Plastic Surgery · Keynote Lecture *Shahryar Nazari; tamer erdem; Oguzhan Oguz*

08:45–09:00 **My Osteotomy Approach**
Facial Plastic Surgery · Remarkable Presentation *Sureyya Seneldir; tamer erdem; Oguzhan Oguz*

09:00–09:15 **Management Of Columellar Necrosis And Retrocolumellar Perforation**
Facial Plastic Surgery · Remarkable Presentation *Tural Fatullayev; tamer erdem; Oguzhan Oguz*

09:15–09:45 **Revision Rhinoplasty -Extreme Cases With Skin Problems**
Facial Plastic Surgery · Keynote Lecture *sercan göde; tamer erdem; Oguzhan Oguz*

09:45–10:00 **Revision Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *tamer erdem; Oguzhan Oguz*

10:45–11:45 **NASAL DORSUM IN RHINOPLASTY**
Facial Plastic Surgery · Round Table *Yusufhan suoglu; lütfi barlas aydoğan; Fazıl Apaydın; Yong Ju Jang*

11:45–12:00 **How Do I Deal With Nasal Hump?**
Facial Plastic Surgery · Round Table *Fazıl Apaydın; tamer erdem; TARIK ŞAPÇI*

12:00–12:10 **Implementation Of 3D Simulation And Surgical Planning For Rhinoplasty**
Facial Plastic Surgery · Keynote Lecture *Uzdan Uz; tamer erdem; TARIK ŞAPÇI*

12:10–12:25 **Management Of The Caribbean And Afro-Latin Nose**

Facial Plastic Surgery · Remarkable Presentation *Pamela Pol; tamer erdem; TARIK ŞAPÇI*

12:25–12:45 **Profile Alignment In Rhinoplasty**

Facial Plastic Surgery · Instructional Course *Fazıl Apaydın; TARIK ŞAPÇI; tamer erdem*

14:00–15:00 **REVISION RHINOPLASTY**

Facial Plastic Surgery · Panel Presentation *Yong Ju Jang; Shahin Bastaninejad; Abdülkadir göksel; tamer erdem; Oguzhan; Oguz*

15:00–15:10 **My Tipplasty Technique**

Facial Plastic Surgery · Master of Surgery Video Presentation *TARIK ŞAPÇI; tamer erdem*

15:10–16:00 **Ethnic Rhinoplasty**

Facial Plastic Surgery · Panel Presentation *Habiba Sultan Almaskari; James Wai Leong Kok; Soo-Whan Kim*

16:30–17:30 **Rhinoplasty In Turkey (2) : Practial Pearls And Videopresentations From Turkish Rhinoplasty Surgeons**

Facial Plastic Surgery · Round Table *H. Baki Yilmaz; eren tastan; TEVFIK SOZEN; Köksal YUCA; Gurkan Kayabasoglu*

17:30–18:00 **Ethnic And Racial Variations In Facelift Surgery: Tailoring Principles And Techniques For Optimal Outcomes**

Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Gurkan Kayabasoglu; Halis Ünlü*

FACIAL PLASTIC 4

ICC - B3 Floor - 3B/22

Wednesday, 9 September 2026

15:00–16:00 **Medical And Surgical Treatment Of Crswnp**

Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Afruz Masimova; Ceren Gunel; Egehan Salepci; Sevinc Hepkarsi; Ceyda ÜSTE*

16:30–17:30 **The Role Of Artificial Intelligence In Diagnosis, Treatment And Academic Publishing**

Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Dan Iovanescu; Yunus Emre Topan; Mustafa Burak KARAHAN; Arda Yavuz; Banu; Erkal; Ömer Necati Develioglu*

Thursday, 10 September 2026

09:00–09:30 **Facial Plastic Surgery Notable Abstracts**

Notable Abstracts · Notable Abstract *taşkın yücel*

10:45–11:00 **A Chanllenge In Rhinoplasty: High Projected And Bulbous Tip**

Facial Plastic Surgery · Remarkable Presentation *Erkan Soylu; Rui Xavier*

11:00–11:30 **Augmentation Rhinoplasty In Middle Eastern Noses; How To Achieve An Ideal Profile Projection And Shape.**

Facial Plastic Surgery · Keynote Lecture *Habiba Sultan Almaskari; Rui Xavier; Erkan Soylu*

11:30–11:45 **The Novel Traction-Suturing Technique In Correction Of Caudal End Deviation Of The Nasal Septum**

Facial Plastic Surgery · Master of Surgery Video Presentation *Rui Xavier; Erkan Soylu*

14:00–14:15 **Evidence-Based Comparison Of Preservation And Structural Rhinoplasty For Hump Nose Surgery**

Facial Plastic Surgery · Remarkable Presentation *Ceren Gunel; Ki Il Lee; Selim Sermed Erbek*

14:15–14:30 **Nasal Tip Support**

Facial Plastic Surgery · Master of Surgery Video Presentation *Ceren Gunel; Selim Sermed Erbek*

14:30–14:45 **Preservation Extracorporeal Aesthetic Septoplastyin Pediatreic Patients**

Facial Plastic Surgery · Remarkable Presentation *Ceren Gunel; Mazahir Guliyev; Selim Sermed Erbek*

14:45–15:00 **LEGO CONCEPT: The Secret To Columellar Control**

Facial Plastic Surgery · Remarkable Presentation *Selim Sermed Erbek; Gustavo Romero; Ceren Gunel*

15:00–15:30 **Restoring Nasal Alignment In Preservation Rhinoplasty For Asian Patients**

Facial Plastic Surgery · Instructional Course *Ki Il Lee; Selim Sermed Erbek; Ceren Gunel*

15:30–15:45 **Crooked Nose Surgery**

Facial Plastic Surgery · Remarkable Presentation *Selim Sermed Erbek; Ceren Gunel*

16:30–17:30 **Turkish Rhinoplasty Rising Stars Panel: Ethnic Variations In Nasal Deformities And Contemporary Correction Techniques**

Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Gürcan Sünnetci; Cemal Cingi; Erdi Özdemir; Yunus Emre Topan; Ahmet Arslanoğlu;; Ali Değirmenci*

17:30–18:00 **WHO New Resolution On Sensory Impairment**

Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Milan Profant; Cemal Cingi*

Friday, 11 September 2026

08:15–08:30 **Preservation Vs Structural Rhinoplasty In Deviated Noses**

Facial Plastic Surgery · Instructional Course *Mohsen Naraghi; Uzdan Uz*

08:30–08:45 **Various Graft Locations On The Nose**

Facial Plastic Surgery · Remarkable Presentation *Nar Maya Thapa; Uzdan Uz*

08:45–09:15 **All About The Costal Cartilage Rhinoplasty**

Facial Plastic Surgery · Keynote Lecture *Yong Ju Jang; Uzdan Uz*

09:15–09:45 **The Ageing Nose: Anatomical, Functional, And Gender-Specific Changes Across The Lifespan**

Facial Plastic Surgery · Remarkable Presentation *Uzdan Uz*

09:45–10:00 **Bloodless Field During Septorhinoplasty**

Facial Plastic Surgery · Remarkable Presentation *Alireza Mesbahi; Uzdan Uz*

10:45–11:00 **Pediatric Rhinoplasty, Timing And Considerations**

Facial Plastic Surgery · Remarkable Presentation *Krıshna Patel; Alireza Mesbahi*

11:00–11:15 **Nasal Tip Surgery**
Facial Plastic Surgery · Remarkable Presentation *Alireza Mesbahi; Krıshna Patel*

11:15–11:30 **Medial Crura Footplate Reduction And Its Effects On Nasal Measurement**
Facial Plastic Surgery · Keynote Lecture *Mohammad Aleisa; Krıshna Patel; Alireza Mesbahi*

11:30–11:45 **Structural Rhinoplasty Vs Preservation Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *Krıshna Patel; Alireza Mesbahi*

12:00–12:30 **Master Of Surgery Rhinoplasty Video 2**
Facial Plastic Surgery · Master of Surgery Video Presentation *Ender İnci; Alireza Mohebbi; Vedat Oruk*

12:30–12:45 **Revision Rhinoplasty Tips&Trick**
Facial Plastic Surgery · Remarkable Presentation *Abdülkadir göksel; Mohsen Naraghi*

14:00–14:15 **Rhinoplasty Complications Early Management**
Facial Plastic Surgery · Remarkable Presentation *Marcel Sauvalle Ceballos; Mohsen Naraghi; Denizhan Dizdar*

14:15–14:30 **Endonasal Application Of Spreader Grafts**
Facial Plastic Surgery · Remarkable Presentation *Helena Silveira; Mohsen Naraghi; Denizhan Dizdar*

14:30–15:00 **Minimally Invasive Secondary Rhinoplasty In Over-Resected Noses Without Rib Grafts**
Facial Plastic Surgery · Keynote Lecture *Mohsen Naraghi; Denizhan Dizdar*

15:00–15:30 **Chin Augmentation By Fillers Versus Surgery**
Facial Plastic Surgery · Keynote Lecture *Mohsen Naraghi; Denizhan Dizdar*

15:30–16:00 **Management Of Nasal Septum In Crooked Nose**
Facial Plastic Surgery · Keynote Lecture *Mohsen Naraghi; Denizhan Dizdar; Fazıl Apaydın*

16:30–17:30 **Master Of Surgery Videos 1**
Facial Plastic Surgery · Master of Surgery Video Presentation *Denizhan Dizdar; Yusufhan suoglu; lütfi barlas aydoğan; Benyamin Rahmaty; Ceren; Gunel*

17:30–18:00 **Preservation Rhinoplasty For Beginners**
Facial Plastic Surgery · Instructional Course *Uzdan Uz; Ceren Gunel*

Saturday, 12 September 2026

08:00–08:30 **RHINOPLASTY IN DEVIATED NOSES**
Facial Plastic Surgery · Round Table *Mohsen Naraghi; Selim Sermed Erbek*

08:30–08:45 **Correction Of Primary Lateral Crural Concavity**
Facial Plastic Surgery · Master of Surgery Video Presentation *Mohsen Naraghi; Uzdan Uz*

08:45–09:00 **Nasal Tip Stabilization**
Facial Plastic Surgery · Remarkable Presentation *KÜBRA TOPAL; Uzdan Uz*

09:00–09:15 **Do Septocolumellar Sutures Work To Keep The Nasal Tip In Position?**
Facial Plastic Surgery · Remarkable Presentation *Meshari Saghir; Uzdan Uz*

09:15–09:30 **Which Patient Should You Reject For Rhinoplasty?**
Facial Plastic Surgery · Remarkable Presentation *Meshari Saghir; Uzdan Uz*

09:30–09:45 **Dorsal Preservation Rhinoplasty**
Facial Plastic Surgery · Remarkable Presentation *lütfi barlas aydoğan; Uzdan Uz*

09:45–10:00 **How To Refine Bulbous And Poorly- Projected Nasal Tip**
Facial Plastic Surgery · Remarkable Presentation *Yong Ju Jang; Uzdan Uz*

10:45–11:45 **Central American Perspectives In Rhinology**
Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Roberto Quijano; Jolie Anna Crespo Chanis; Roberto Calzada Lang*

11:45–12:45 **Women In Otolaryngology**
Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Doreen Naku; Leila Essakali; Zeynep Alkan; Banu Erkal*

14:00–15:00 **International Academy ORL-HNS Symposium, Advances In Otorhinolaryngology: A Global Perspective**
Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *George Tavartkiladze; Desiderio Passali; Hesham Negm; Sergey Karpishchenko;; Marco Piemonte*

15:00–16:00 **Structural Versus Preservation Rhinoplasty**
Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Oguzhan Oguz; Yong Ju Jang; Muhammed Sefa Uyar; Serkan Bariskan*

16:30–17:00 **Oral Cavity Cancer: A Global Perspective**

Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Akif Abakay; Yunus Emre Topan*

17:00–18:00 **Pan Asian Academy Of Facial Plastic & Reconstructive Surgery(PAAFPRS) Panel: Rhinoplasty Techniques Update In East & West Part Of Asia**

Global Outreach (Regional or ENT related Organizations Symposia) · Panel Presentation *Habiba Sultan Almaskari; Dr Chih-Wen Twu; Alireza Mesbahi; Yong Ju Jang*

FREE PAPER HALL 1

ICC - B3 Floor - 3B/07

Wednesday, 9 September 2026

14:00–16:00 **Audiology Free Papers 1**
Audiology · Free Paper Session

16:30–18:00 **Audiology Free Papers 3**
Audiology · Free Paper Session *Atılım ATILGAN*

Thursday, 10 September 2026

07:00–08:30 **Audiology Free Papers 5**
Audiology · Free Paper Session *Erva Değirmenci Uzun*

08:30–10:00 **Audiology Free Papers 4**
Audiology · Free Paper Session *Burak Kabiş*

10:45–11:45 **Audiology Free Papers 2**
Audiology · Free Paper Session *Adrian Fuente*

11:45–12:45 **Audiology Free Papers 9**
Audiology · Free Paper Session *Talha Çögen*

14:00–16:00 **Audiology Free Papers 7**
Audiology · Free Paper Session *Melda Acar*

16:30–18:00 **Audiology Free Papers 8**
Audiology · Free Paper Session

Friday, 11 September 2026

07:00–08:00 **Otology Free Papers 5**
Otology/Neurotology · Free Paper Session

08:00–09:00 **Otology Free Papers 4**
Otology/Neurotology · Free Paper Session *Onur Çelik*

09:00–10:00 **Otology Free Papers 27**
Otology/Neurotology · Free Paper Session *Dennis Cristobal S. Mangoba*

10:45–11:45 **Otology Free Papers 21**
Otology/Neurotology · Free Paper Session *Emine Deniz Gözen*

11:45–12:45 **Laryngology Free Papers 7**
Laryngology · Free Paper Session *Serap Şahin Önder*

14:00–16:00 **Otology Free Papers 22**
Otology/Neurotology · Free Paper Session *Fulya Özer*

16:30–18:00 **Equilibrium Free Papers 3**
Equilibrium · Free Paper Session *Mustafa Karabulut*

Saturday, 12 September 2026

07:00–08:10 **Phoniatrics Free Papers 4**
Phoniatrics · Free Paper Session *Taner Yılmaz*

08:10–09:20 **Laryngology Free Paper 4**
Laryngology · Free Paper Session *Kerem Ozturk*

10:45–12:45 **Head And Neck Oncology Free Papers 5**
Head and Neck Oncology · Free Paper Session *Murat Ozturk*

14:00–15:30 **Cochlear Implants And Implantable Devices Free Papers 16**
Cochlear Implants and implantable devices · Free Paper Session *Hakan Tutar*

FREE PAPER HALL 2

ICC - B3 Floor - 3B/08

Wednesday, 9 September 2026

14:00–16:00 **Otology Free Papers 2**
Otology/Neurotology · Free Paper Session *Ana Krizmanić Mikolčević*

16:30–18:00 **Otology Free Papers 25**
Otology/Neurotology · Free Paper Session *Oğuz Güçlü*

Thursday, 10 September 2026

07:00–08:00 **Transverse Activities Free Papers 2**
Transverse activities (Innovation, Basic Research, Education) · Free Paper Session *Mehmet Tan*

08:00–09:50 **Otology Free Papers 3**
Otology/Neurotology · Free Paper Session

10:45–11:45 **Otology Free Papers 15**
Otology/Neurotology · Free Paper Session *Orhan Ozturan*

11:45–12:45 **Otology Free Papers 17**
Otology/Neurotology · Free Paper Session *Orhan Ozturan*

14:00–15:00 **Otology Free Papers 1**
Otology/Neurotology · Free Paper Session *Gregory J. Basura*

15:00–16:00 **Otology Free Papers 33**
Otology/Neurotology · Free Paper Session *Sefa Dereköy*

16:30–18:00 **Otology Free Papers 26**
Otology/Neurotology · Free Paper Session *MEHMET AKDAG*

Friday, 11 September 2026

07:00–09:00 **Otology Free Papers 9**
Otology/Neurotology · Free Paper Session *İbrahim Erdim*

09:00–10:00 **Otology Free Papers 28**
Otology/Neurotology · Free Paper Session *Arzu TATLIPINAR*

10:45–11:45 **Otology Free Papers 30**
Otology/Neurotology · Free Paper Session *Ozan Gökdoğan*

11:45–12:45 **Cochlear Implants And Implantable Devices Free Papers 2**
Cochlear Implants and implantable devices · Free Paper Session *Celil Göcer*

14:00–15:30 **Otology Free Papers 6**
Otology/Neurotology · Free Paper Session *Mohamed Mahtar*

16:30–18:00 **Otology Free Papers 23**
Otology/Neurotology · Free Paper Session *Yilai Shu*

Saturday, 12 September 2026

07:00–08:10 **Otology Free Papers 29**
Otology/Neurotology · Free Paper Session *Resul Arjin Öksüz*

08:10–09:20 **Otology Free Papers 8**
Otology/Neurotology · Free Paper Session *Kaan IŞIKLAR*

10:45–11:55 **Cochlear Implants And Implantable Devices Free Papers 18**
Cochlear Implants and implantable devices · Free Paper Session *Omer Afsin Ozmen*

14:00–16:00 **Otology Free Papers 12**
Otology/Neurotology · Free Paper Session *Asım Aslan*

16:30–18:00 **Yo-IFOS (Young IFOS) Free Papers 1**
Yo-IFOS (Young IFOS) · Free Paper Session *Kays burak çakır; Nahla Gomaa*

FREE PAPER HALL 3

ICC - B3 Floor - 3B/67

Wednesday, 9 September 2026

14:00–16:00 **Otology Free Papers 13**
Otology/Neurotology · Free Paper Session *Oğuz Güçlü*

16:30–18:00 **Otology Free Papers 16**
Otology/Neurotology · Free Paper Session *Ibragim Nazhmudinov*

Thursday, 10 September 2026

07:00–08:30 **Otology Free Papers 14**
Otology/Neurotology · Free Paper Session *Mehmet İlhan Şahin*

08:30–10:00 **Otology Free Papers 20**
Otology/Neurotology · Free Paper Session *Mehmet İlhan Şahin*

10:45–12:45 **Cochlear Implants And Implantable Devices Free Papers 6**
Cochlear Implants and implantable devices · Free Paper Session *Secaattin Gülşen*

14:00–15:00 **Cochlear Implants And Implantable Devices Free Papers 8**
Cochlear Implants and implantable devices · Free Paper Session *Işılay Öz*

15:00–16:00 **Cochlear Implants And Implantable Devices Free Papers 3**
Cochlear Implants and implantable devices · Free Paper Session *Işılay Öz*

16:30–18:00 **Cochlear Implants And Implantable Devices Free Papers 5**
Cochlear Implants and implantable devices · Free Paper Session *Abdullah Dalgic*

Friday, 11 September 2026

07:00–08:00 **Cochlear Implants And Implantable Devices Free Papers 15**
Cochlear Implants and implantable devices · Free Paper Session *Sercan Çıkrıkcı*

08:00–09:00 **Cochlear Implants And Implantable Devices Free Papers 11**
Cochlear Implants and implantable devices · Free Paper Session *OZGUR SURMELIOGLU*

09:00–10:00 **Cochlear Implants And Implantable Devices Free Papers 7**
Cochlear Implants and implantable devices · Free Paper Session *Şemsettin Okuyucu*

10:45–12:45 **Cochlear Implants And Implantable Devices Free Papers 14**
Cochlear Implants and implantable devices · Free Paper Session *Rasim Yılmazer*

14:00–15:00 **Cochlear Implants And Implantable Devices Free Papers 17**
Cochlear Implants and implantable devices · Free Paper Session *İlker Akyıldız*

15:00–16:00 **Cochlear Implants And Implantable Devices Free Papers 4**
Cochlear Implants and implantable devices · Free Paper Session *Işılay Öz*

16:30–18:00 **Cochlear Implants And Implantable Devices Free Papers 1**
Cochlear Implants and implantable devices · Free Paper Session *Onur İsmi*

Saturday, 12 September 2026

07:00–09:00 **Cochlear Implants And Implantable Devices Free Papers 13**
Cochlear Implants and implantable devices · Free Paper Session *Sibel Alicura Tokgöz*

09:00–10:00 **Rhinology Free Papers 21**
Rhinology · Free Paper Session *Emel Çadallı Tatar*

10:45–11:45 **Otology Free Papers 11**
Otology/Neurotology · Free Paper Session *Asım Aslan*

11:45–12:45 **Otology Free Papers 18**
Otology/Neurotology · Free Paper Session *Emine Deniz Gözen*

14:00–15:30 **Laryngology Free Paper 5**
Laryngology · Free Paper Session *imdat yüce*

16:30–18:00 **Laryngology Free Paper 6**
Laryngology · Free Paper Session *Erdem Koroglu*

FREE PAPER HALL 4

ICC - B3 Floor - 3B/69

Wednesday, 9 September 2026

14:00–16:00 **Head And Neck Oncology Free Paper 1**
Head and Neck Oncology · Free Paper Session *DUYGU ERDEM*

16:30–18:00 **Head And Neck Oncology Free Papers 8**
Head and Neck Oncology · Free Paper Session *Jamol Ergashev*

Thursday, 10 September 2026

07:00–08:30 **Head And Neck Oncology Free Papers 20**
Head and Neck Oncology · Free Paper Session *Abdülcemal Ümit Işık*

08:30–10:00 **Audiology Free Papers 6**
Audiology · Free Paper Session

10:45–12:45 **Pediatric Otolaryngology Free Papers 13**
Pediatric Otolaryngology · Free Paper Session *Ulugbek Ergashev*

14:00–16:00 **Head And Neck Oncology Free Papers 6**
Head and Neck Oncology · Free Paper Session *Thomas Hjuler*

16:30–18:00 **Head And Neck Oncology Free Paper 11**
Head and Neck Oncology · Free Paper Session *Ahmet Ömer İkiz*

Friday, 11 September 2026

07:00–08:00 **Head And Neck Oncology Free Paper 12**
Head and Neck Oncology · Free Paper Session *Abdülcemal Ümit Işık*

08:00–09:00 **Laryngology Free Paper 10**
Laryngology · Free Paper Session *Sema Zer Toros*

09:00–10:00 **Equilibrium Free Papers 4**
Equilibrium · Free Paper Session

10:45–12:45 **Head And Neck Oncology Free Paper 15**
Head and Neck Oncology · Free Paper Session *Banu Atalay Erdogan*

14:00–16:00 **Head And Neck Oncology Free Papers 24**
Head and Neck Oncology · Free Paper Session *Murod Jafarov*

16:30–18:00 **Yo-IFOS (Young IFOS) Free Papers 3**
Yo-IFOS (Young IFOS) · Free Paper Session *Serkan Özyılmaz*

Saturday, 12 September 2026

08:00–09:00 **Sleep Medicine Free Papers 3**
Sleep Medicine · Free Paper Session *Fatma Tülin Kayhan*

09:00–10:00 **Yo-IFOS (Young IFOS) Free Papers 4**
Yo-IFOS (Young IFOS) · Free Paper Session *Mazhar Çelikoyar*

10:45–11:45 **Sleep Medicine Free Papers 2**
Sleep Medicine · Free Paper Session *Metin Yılmaz*

11:45–12:45 **Phoniatrics Free Papers 2**
Phoniatrics · Free Paper Session *Mazhar Çelikoyar*

14:00–15:30 **Head And Neck Oncology Free Paper 2**
Head and Neck Oncology · Free Paper Session *Murat Ozturk*

16:30–18:00 **Laryngology Free Paper 11**
Laryngology · Free Paper Session *SEDA TÜRKOĞLU BABAKURBAN*

FREE PAPER HALL 5

ICC - B3 Floor - Glazed 1

Wednesday, 9 September 2026

14:00–16:00 **Head And Neck Oncology Free Paper 10**
Head and Neck Oncology · Free Paper Session *Görkem Eskiizmir*

Thursday, 10 September 2026

07:00–08:30 **Head And Neck Oncology Free Paper 18**
Head and Neck Oncology · Free Paper Session *Erdem Koroglu*

08:30–10:00 **Head And Neck Oncology Free Papers 25**
Head and Neck Oncology · Free Paper Session *Murod Jafarov*

10:45–11:45 **Head And Neck Oncology Free Papers 4**
Head and Neck Oncology · Free Paper Session *sahin ogreden*

11:45–12:45 **Head And Neck Oncology Free Papers 21**
Head and Neck Oncology · Free Paper Session *Cömert Şen*

14:00–16:00 **Head And Neck Oncology Free Papers 7**
Head and Neck Oncology · Free Paper Session *Bülent Evren Erkul*

16:30–18:00 **Head And Neck Oncology Free Papers 22**
Head and Neck Oncology · Free Paper Session *Aysenur MERIC HAFIZ*

Friday, 11 September 2026

07:00–08:00 **Head And Neck Oncology Free Paper 16**
Head and Neck Oncology · Free Paper Session *Senem Çengel Kurnaz*

08:00–09:00 **Head And Neck Oncology Free Papers 3**
Head and Neck Oncology · Free Paper Session *samet özlügedik*

09:00–10:00 **Head And Neck Oncology Free Papers 23**
Head and Neck Oncology · Free Paper Session *Aysenur MERIC HAFIZ*

10:45–12:45 **Rhinology Free Papers 27**
Rhinology · Free Paper Session *Bulent Topuz*

14:00–15:00 **Sleep Medicine Free Papers 4**
Sleep Medicine · Free Paper Session *Cüneyt Orhan Kara*

15:00–16:00 **Transverse Activities Free Papers 5**
Transverse activities (Innovation, Basic Research, Education) · Free Paper Session *Ömer Göktuğ Tüfekçi*

16:30–17:30 **Head And Neck Oncology Free Paper 14**
Head and Neck Oncology · Free Paper Session *sahin ogreden*

Saturday, 12 September 2026

07:00–08:00 **Sleep Medicine Free Papers 6**
Sleep Medicine · Free Paper Session *Murat Timur Akçam*

08:00–09:00 **Equilibrium Free Papers 6**
Equilibrium · Free Paper Session *Mahmut Sinan Yilmaz*

09:00–10:00 **Equilibrium Free Papers 5**
Equilibrium · Free Paper Session *Mahmut Sinan Yilmaz*

10:45–11:45 **Laryngology Free Paper 2**
Laryngology · Free Paper Session *Selmin Karatayli Ozgursoy*

11:45–12:45 **Laryngology Free Paper 3**
Laryngology · Free Paper Session *Selmin Karatayli Ozgursoy*

14:00–15:30 **Equilibrium Free Papers 1**
Equilibrium · Free Paper Session *Mehmet Birol Uğur*

16:30–18:00 **Rhinology Free Papers 26**
Rhinology · Free Paper Session *Osman Bahadır*

FREE PAPER HALL 6

ICC - B3 Floor - Glazed 2

Wednesday, 9 September 2026

14:00–16:00 **Transverse Activities Free Papers 1**
Transverse activities (Innovation, Basic Research, Education) · Free Paper Session *Mehmet Tan*

Thursday, 10 September 2026

07:00–08:30 **Transverse Activities Free Papers 3**
Transverse activities (Innovation, Basic Research, Education) · Free Paper Session *Fakih Cihat Eravcı*

08:30–10:00 **Transverse Activities Free Papers 4**
Transverse activities (Innovation, Basic Research, Education) · Free Paper Session *Benghalem Abdelhamid*

10:45–11:45 **Laryngology Free Paper 8**
Laryngology · Free Paper Session *Kamil Hakan Kaya*

11:45–12:45 **Laryngology Free Paper 1**
Laryngology · Free Paper Session *Kamil Hakan Kaya*

14:00–15:00 **Rhinology Free Paper 12**
Rhinology · Free Paper Session *Sibel Yıldırım Moral*

15:00–16:00 **Laryngology Free Paper 9**
Laryngology · Free Paper Session *Taner Yılmaz*

16:30–18:00 **Facial Plastic Surgery Free Papers 8**
Facial Plastic Surgery · Free Paper Session *Murod Jafarov*

Friday, 11 September 2026

07:00–08:30 **Pediatric Otolaryngology Free Papers 1**
Pediatric Otolaryngology · Free Paper Session

08:30–10:00 **Pediatric Otolaryngology Free Papers 10**
Pediatric Otolaryngology · Free Paper Session *Selin Üstün Bezgin*

10:45–11:45 **Pediatric Otolaryngology Free Papers 14**
Pediatric Otolaryngology · Free Paper Session *Tolga Kandoğan*

11:45–12:45 **Pediatric Otolaryngology Free Papers 7**
Pediatric Otolaryngology · Free Paper Session *Yavuz Selim Yıldırım*

14:00–16:00 **Pediatric Otolaryngology Free Papers 11**
Pediatric Otolaryngology · Free Paper Session *Selin Üstün Bezgin*

16:30–18:00 **Pediatric Otolaryngology Free Papers 5**
Pediatric Otolaryngology · Free Paper Session *Erdinç Aydın*

Saturday, 12 September 2026

07:00–08:00 **Pediatric Otolaryngology Free Papers 2**
Pediatric Otolaryngology · Free Paper Session *Victoria Rivero De Jesus*

08:00–09:00 **Pediatric Otolaryngology Free Papers 9**
Pediatric Otolaryngology · Free Paper Session *Victoria Rivero De Jesus*

09:00–10:00 **Pediatric Otolaryngology Free Papers 12**
Pediatric Otolaryngology · Free Paper Session *Ozan Gökler*

10:45–11:45 **Pediatric Otolaryngology Free Papers 8**
Pediatric Otolaryngology · Free Paper Session *Taner Kemal Erdağ*

11:45–12:45 **Rhinology Free Papers 22**
Rhinology · Free Paper Session *Mehmet Ali Çetin*

14:00–16:00 **Pediatric Otolaryngology Free Papers 3**
Pediatric Otolaryngology · Free Paper Session *Sumeyra Doluoglu*

16:30–16:37 **Clinicopathological Spectrum And Changing Surgical Management Of Sinonasal Tumors: A Ten-Year Review Of 167 Cases**
Head and Neck Oncology · Abstract *Fatma Şevval Güçlü*

FREE PAPER HALL 7

ICC - B3 Floor - Glazed 3

Wednesday, 9 September 2026

14:00–15:00 **Facial Plastic Surgery Free Papers 1**
Facial Plastic Surgery · Free Paper Session

15:00–16:00 **Facial Plastic Surgery Free Papers 7**
Facial Plastic Surgery · Free Paper Session

Thursday, 10 September 2026

07:00–08:00 **Facial Plastic Surgery Free Papers 2**
Facial Plastic Surgery · Free Paper Session *Ozan Altuntaş*

08:00–09:00 **Facial Plastic Surgery Free Papers 5**
Facial Plastic Surgery · Free Paper Session *Darren Yap Jia Xiong*

09:00–10:00 **Head And Neck Oncology Free Paper 17**
Head and Neck Oncology · Free Paper Session *Abdülcemal Ümit Işık*

10:45–11:45 **Facial Plastic Surgery Free Papers 4**
Facial Plastic Surgery · Free Paper Session

11:45–12:45 **Transverse Activities Free Papers 6**
Transverse activities (Innovation, Basic Research, Education) · Free Paper Session *Shavkat Amonov*

14:00–15:20 **Hearing Aids Free Paper 1**
Hearing Aids · Free Paper Session *Bülent Gündüz*

16:30–18:00 **Facial Plastic Surgery Free Papers 6**
Facial Plastic Surgery · Free Paper Session *Yusufhan suoglu*

Friday, 11 September 2026

07:00–08:30 **Swallowing Free Paper 1**
Swallowing · Free Paper Session *Emine Elif Altuntaş*

08:30–10:00 **Facial Plastic Surgery Free Papers 3**
Facial Plastic Surgery · Free Paper Session *Yusufhan suoglu*

10:45–12:25 **Swallowing Free Paper 2**
Swallowing · Free Paper Session *saime sağıroglu*

14:00–15:00 **Sleep Medicine Free Papers 1**
Sleep Medicine · Free Paper Session *Murat Ozcan*

16:30–18:00 **Allergy Free Paper 1**
Allergy · Free Paper Session *Müge Özcan; ŞEYDA AKBAL ÇUFALI*

Saturday, 12 September 2026

07:00–09:00 **Pediatric Otolaryngology Free Papers 6**
Pediatric Otolaryngology · Free Paper Session *Mehmet Ada*

09:00–10:00 **Global Outreach Free Papers 1**
Global Outreach (Regional or ENT related Organizations Symposia) · Free Paper Session *Cüneyt Orhan Kara*

10:45–11:45 **Otology Free Papers 24**
Otology/Neurotology · Free Paper Session *Burhan Dadaş*

11:45–12:45 **Rhinology Free Papers 24**
Rhinology · Free Paper Session *Cem Saka*

14:00–15:00 **Phoniatrics Free Papers 1**
Phoniatrics · Free Paper Session *Remzi Dogan*

15:00–16:00 **Otology Free Papers 31**
Otology/Neurotology · Free Paper Session *Gözde Günay*

FREE PAPER HALL 8

ICC - B3 Floor - Glazed 4

Wednesday, 9 September 2026

14:00–16:00 **Rhinology Free Paper 1**
Rhinology · Free Paper Session *Deniz Demir*

Thursday, 10 September 2026

07:00–08:00 **Rhinology Free Paper 11**
Rhinology · Free Paper Session *Nagihan Bilal*

08:00–09:00 **Rhinology Free Paper 10**
Rhinology · Free Paper Session *Nagihan Bilal*

09:00–10:00 **Rhinology Free Papers 29**
Rhinology · Free Paper Session *Keng Lu Tan*

10:45–11:45 **Rhinology Free Paper 13**
Rhinology · Free Paper Session *Enver Altaş*

11:45–12:45 **Rhinology Free Paper 14**
Rhinology · Free Paper Session *Enver Altaş*

14:00–16:00 **Rhinology Free Papers 28**
Rhinology · Free Paper Session *Sophie Mwendwa*

16:30–18:00 **Rhinology Free Paper 16**
Rhinology · Free Paper Session *Victoria Rivero De Jesus*

Friday, 11 September 2026

07:00–08:30 **Rhinology Free Paper 2**
Rhinology · Free Paper Session *NURAY BAYAR MULUK*

08:30–10:00 **Rhinology Free Paper 3**
Rhinology · Free Paper Session *Jonathan Yip*

10:45–11:45 **Rhinology Free Paper 32**
Rhinology · Free Paper Session *Emrah Celtikci*

11:45–12:45 **Rhinology Free Paper 31**
Rhinology · Free Paper Session *Selin Ünsaler*

14:00–15:00 **Rhinology Free Paper 4**
Rhinology · Free Paper Session *Serdar özer*

15:00–16:00 **Rhinology Free Paper 5**
Rhinology · Free Paper Session *Togay Müderris*

16:30–18:00 **Rhinology Free Paper 7**
Rhinology · Free Paper Session *M.Melih Şahin*

Saturday, 12 September 2026

07:00–08:30 **Rhinology Free Paper 8**
Rhinology · Free Paper Session *Ibrahim Sayin*

08:30–10:00 **Rhinology Free Papers 20**
Rhinology · Free Paper Session *Tuba Bayindir*

10:45–11:45 **Rhinology Free Paper 6**
Rhinology · Free Paper Session *Aytug Altundag*

11:45–12:45 **Rhinology Free Paper 9**
Rhinology · Free Paper Session *Özden Savaş*

14:00–15:00 **Rhinology Free Papers 17**
Rhinology · Free Paper Session *BERNA USLU COSKUN*

15:00–16:00 **Rhinology Free Papers 18**
Rhinology · Free Paper Session *Kerem Kökoğlu*

16:30–18:00 **Rhinology Free Papers 23**
Rhinology · Free Paper Session *Fikret Kasapoglu*

HEAD & NECK 1

ICC - B2 Floor - Üsküdar 2

Wednesday, 9 September 2026

14:00–15:00 **AHNS Symposium I: Oral Cavity Cancer In Young And Non-Smoking Patients: Epidemiology, Outcomes, And Management Controversies**

Head and Neck Oncology · International Symposia *Brittany Barber, MD, MSc; Ryan Jackson, MD; Tony Eskander; Stephen Kang, MD;; Sid Puram*

15:00–16:00 **EHNS Symposium - Surgical Margins**

Head and Neck Oncology · International Symposia *Christian Simon; Wojciech Golusinski; René Leemans; Senada Koljenović; Şefik; Hoşal*

16:30–17:00 **Decision Making In The Treatment Of Benign Parotid Tumors**

Head and Neck Oncology · Keynote Lecture *Jan Plzak; Petri Koivunen*

17:00–18:00 **Contemporary Management Of Advanced Or Poorly Differentiated Thyroid Cancer**

Head and Neck Oncology · Round Table *Petri Koivunen; Rajjyoti Das; Jan Plzak; Almir Salkić; Victoria Banuchi*

Thursday, 10 September 2026

07:00–07:30 **Establishment Of Antitumor Vaccines For Head And Neck Cancer**

Head and Neck Oncology · Keynote Lecture *Takumi Kumai; Erdogan OZGUR*

07:30–08:00 **Advanced Parathyroid Surgery: Strategies For Tertiary, Reoperative, And Challenging Cases With Operative Video Demonstrations**

Head and Neck Oncology · Instructional Course *Mustafa Aslıer; Senem Çengel Kurnaz*

08:00–09:00 **Oral And Gut Microbiome In Head & Neck Cancer: Biomarker, Driver, Or Bystander?**

Head and Neck Oncology · Panel Presentation *Secil Akyildiz; Christine Joy S. Arquiza; Jason Y K Chan; Eddy Wong; Anastasios; Maniakas*

09:00–10:00 **PAN AMERICAN PANEL: Treatment Approaches In Laryngeal Cancer**

Head and Neck Oncology · International Symposia *Mark Zafereo; Alirio Mijares Brinez; Rogerio A. Dedivitis; Luiz P. Kowalski; Gabriel; Damiano*

10:45–11:45 **Thyroid Surgery 2026: A Joint Session From The World Congress On Thyroid Cancer And The AHNS-Endocrine Section**

Head and Neck Oncology · International Symposia *Gregory W. Randolph; Marika Russell; Mark Zafereo; Hisham Mehanna; Mustafa; Kürşat Gökcan; Che-Wei Wu; Giuseppe Mercante; Luiz P. Kowalski; Kyung Tae; Ehab; Hanna*

11:45–12:15 **Malignancy Of Parotid Gland: A Surgical Dilemma**

Head and Neck Oncology · Instructional Course *Daniele Marchioni; Ali Bayram*

12:15–12:45 **New Taxonomy Of Approaches In Prestyloid PPS Tumor Vs. Poststyloid PPS Tumor / RPLND (Retropharyngeal Lymph Node Dissection)**

Head and Neck Oncology · Instructional Course *Yoon Woo Koh; Babur Kucuk*

13:00–14:00 **Industry Sponsored Session**

Industrial · Satellitte Symposium *Tim Waterboer; Jason Y K Chan; Sara Pai*

14:00–15:00 **AHNS Symposium II: Contour, Color, Cut – Reconstructing The Parotid Defect Inside And Out**

Head and Neck Oncology · International Symposia *Brett Miles, MD, DDS; Tony Eskander; Stephen Kang, MD; Brittany Barber, MD, MSc;; Larissa Sweeny*

15:00–16:00 **Translational Head And Neck Immunooncology: From Mechanisms To Clinical Application**

Head and Neck Oncology · International Symposia *Stephan Lang; Chris Holsinger; Cornelius Kürten; Timon Hussain*

16:30–17:00 **Patient's Needs Vs Surgeon's Desires Choosing The Optimal Reconstruction For The Defect**

Head and Neck Oncology · Keynote Lecture *Richard Hayden; Emre Vural*

17:00–18:00 **Managing Flap Complications – Prevention And Bailout Strategies**

Head and Neck Oncology · Round Table *Richard Hayden; Mike Moore; Jumin Sunde; Mauricio Moreno, MD- Arkansas*

Friday, 11 September 2026

07:00–08:30 **Head And Neck Oncology Notable Abstracs 1**

Notable Abstracts · Notable Abstract *Mustafa Kürşat Gökcan*

08:30–09:30 **APTS Panel: Management Of Low-Risk Papillary Thyroid Carcinoma**

Head and Neck Oncology · International Symposia *Kyung Tae; Giuseppe Mercante; Shigeru Hirano; Soon-Hyun Ahn; Tzu-Yen Huang;; Christine Joy S. Arquiza*

09:30–10:00 **"Gas-Less" Transoral Robotic Thyroidectomy (TORT) And Transoral Robotic Neck Dissection (TORND) Using The Da Vinci SP System**

Head and Neck Oncology · Instructional Course *Yoon Woo Koh; Babur Kucuk*

10:45–11:45 **Controversies In Oropharyngeal Surgery: Challenging Paradigms In TORS**

Head and Neck Oncology · Round Table *Pawel Golusinski; David Virós Porcuna; Jeroen Meulemans; Andrea Costantino;; Chen-Chi Wang*

11:45–12:45 **Brazilian Head And Neck Society Panel: Bridging Excellence And Access: Innovation Strategies For Global Head And Neck Cancer Care**

Head and Neck Oncology · International Symposia *Luiz P. Kowalski; José Guilherme Vartanian; Thiago Bueno de Oliveira*

13:00–14:00 **Industry Sponsored Session**

Industrial · Satellitte Symposium *Christian Simon*

14:00–15:00 **AHNS Symposium III: Artificial Intelligence In Head And Neck Oncology: The Present And Future Of Precision Surgery**

Head and Neck Oncology · International Symposia *Andrés M. Bur; Chris Holsinger; Melina Windon*

15:00–16:00 **IFHNOS Society Panel: The Role Of Postoperative Adjuvant Therapies In Early Stage Oral Cancer**

Head and Neck Oncology · International Symposia *Ehab Hanna; Christian Simon; Giuseppe Spriano; Rajendra Toprani; Şefik Hoşal*

16:30–17:00 **Consensus Statement On Remote-Access Thyroidectomy**

Head and Neck Oncology · Keynote Lecture *Kyung Tae; Secil Akyildiz*

17:00–18:00 **Oral Cavity Reconstruction In 2026: Best Practices, Controversies, And Emerging Technologies**

Head and Neck Oncology · Panel Presentation *Jumin Sunde; Benoit Schaller; Günter HAFIZ*

Saturday, 12 September 2026

07:00–07:30 **Effect Of Tumor Budding And Worst Pattern Of Invasion On Tongue Cancer Prognosis**

Head and Neck Oncology · Instructional Course *Banu Atalay Erdogan; Çiğdem Tepe Karaca*

07:30–08:00 **Application Of Fluorescence In Surgical Management Of Thyroid Cancer**

Head and Neck Oncology · Instructional Course *Lars Rolighed; Ersoy Doğan*

08:00–09:00 **Controversies And New Possibilities For Diagnosis And Treatment Of HPV-Associated Oropharyngeal Cancer**

Head and Neck Oncology · Round Table *Linda Marklund; Jens Peter Klussmann; Asit Arora; Umamaheswar Duvvuri MD PhD*

09:00–10:00 **Head And Neck Cancer International Group (HNCIG) Session: Trials And Tribulations Of Trials: Lessons Learnt And Practical Tips**

Head and Neck Oncology · International Symposia *Hisham Mehanna; Giovanni Succo; Christian Simon*

10:45–11:45 **Turkish Head And Neck Surgery Society**

Head and Neck Oncology · Continental or International Societies Sessions *Levent Soylu; Babur Kucuk; Şefik Hoşal*

11:45–12:45 **EHNS Tumor Board**

Head and Neck Oncology · International Symposia *Giovanni Succo; Mario Fernandez; Şefik Hoşal; Mustafa Cengiz; Senada Koljenović;; Jan Klozar*

13:00–14:00 **Industry Sponsored Session**

Industrial · Satellitte Symposium *Serap Yücel; Günter HAFIZ*

14:00–15:00 **American Academy Of Otolaryngology: Future Of Clinical Trials And Unmet Needs In Head And Neck Cancer Management**

Head and Neck Oncology · International Symposia *Wojciech Mydlarz; Nicole Schmitt; Steven Chinn; Janice Farlow*

15:00–16:00 **American Academy Of Otolaryngology: New Technologies, Advances And Treatment Strategies In Head And Neck Cancer**

Head and Neck Oncology · International Symposia *Wojciech Mydlarz; Melina Windon; Jamie Ku; Mark Zafereo*

16:30–17:00 **CUP In The HPV Era: Finding The Primary, Refining The Field, Improving Outcomes**

Head and Neck Oncology · Keynote Lecture *René Leemans; J. Scott Magnuson*

17:00–18:00 **TORS Worldwide: What We've Learned, What We Still Debate, And Where We're Going Next?**

Head and Neck Oncology · Round Table *J. Scott Magnuson; Ben Dixon; Tom Vauterin; Vinidh Paleri; Catherine Po Ling Chan;; Yoon Woo Koh*

HEAD & NECK 2

Hilton - Connie 3

Wednesday, 9 September 2026

14:00–14:30 **Open Partial Horizontal Laryngectomies Vs. Transoral Laser Surgery In Intermediate-Advanced Laryngeal Tumors: Two Complementary Tools**

Head and Neck Oncology · Expert Discussion *Cesare Piazza; Rogerio A. Dedivitis*

14:30–15:30 **Open Partial Laryngectomy For Glottic Cancer**

Head and Neck Oncology · Panel Presentation *Cesare Piazza; Paul Boettiger; Andy Bertolin- Italy; Milan Dusan Stankovic; Bora; Başaran; Rajko Jović*

15:30–16:00 **Early-Stage Glottic Cancer: Radiotherapy Or Surgery?**

Head and Neck Oncology · Controversies *Roland Giger; Mustafa Cengiz; Bora Başaran*

16:30–17:00 **The Art And Science Of Facial Nerve Identification: Practical Pearls For Parotid And Parapharyngeal Surgery**

Head and Neck Oncology · Keynote Lecture *Babur Kucuk; Vincent Vander Poorten*

17:00–18:00 **Beyond The Styloid: Mastering Parapharyngeal Space Anatomy And Surgical Corridors—Transparotid Vs Transoral Robotics**

Head and Neck Oncology · Panel Presentation *Babur Kucuk; samet özlügedik; David Virós Porcuna; Nicolas Fakhry; Maha Gilani*

Thursday, 10 September 2026

07:00–07:30 **Head And Neck Cancer Registry Of Japan**

Head and Neck Oncology · Expert Discussion *Görkem Eskiizmir; Seiichi Yoshimoto*

07:30–08:00 **Immune Microenvironment of Head and Neck Cancer**

Head and Neck Oncology · Instructional Course *Takahiro Tsujikawa; Görkem Eskiizmir*

08:00–09:00 **Primary Hyperparathyroidism 2026: Patient Selection, The Essential Imaging Algorithm, Decision-Making And Intraoperative Adjuncts**

Head and Neck Oncology · Round Table *Marika Russell; Ahmet Ömer İkiz; Mine Araz; Tobias Todsen; Mustafa Kürşat Gökcan*

09:00–10:00 **Challenges And Solutions To Head And Neck Cancer Care In Africa And In Lower- And Middle-Income Countries**

Head and Neck Oncology · International Symposia *Johannes Fagan; Kenneth Baidoo; Kagga Douglas Senyonjo; Clemence Chidziva*

10:45–11:45 **ASHNO Panel: Contemporary Management Of Nasopharyngeal Carcinoma**

Head and Neck Oncology · International Symposia *Sheng Po Hao; Jason Y K Chan; Thuy Tran; Napadon Tangjaturonrasme*

11:45–12:45 **What Surgical Action Is Needed For What Specific Clinical Scenario Of Salivary Gland Cancer?**

Head and Neck Oncology · Round Table *Jens Peter Klussmann; Ricard Simo; Giuseppe Mercante; Görkem Eskiizmir; Vincent; Vander Poorten*

14:00–14:30 **20 Years Of Supratracheal Laryngectomy: A Comprehensive Review And Future Perspectives**

Head and Neck Oncology · Keynote Lecture *Giovanni Succo; Utku Aydil*

14:30–15:30 **Management Of Intermediate And Advanced Laryngeal Cancer (T3- T4)**

Head and Neck Oncology · Panel Presentation *Basim Wahba; Giovanni Succo; Dusan Milisavljevic; Vladimir Pavićević; Utku Aydil*

15:30–16:00 **Redefining Prognosis: Long-Term Outcomes Of TORS For Hypopharyngeal And Laryngeal Cancers**

Head and Neck Oncology · Instructional Course *Chen-Chi Wang; Utku Aydil*

16:30–17:30 **Salvage Surgery For Local Recurrence In Nasopharyngeal Carcinoma– Choosing The Right Approach**

Head and Neck Oncology · Round Table *Chen-Chi Wang; Jason Y K Chan; Joseph Chun-Kit Chung; Samuel Cheng*

17:30–18:00 **Transoral Ultrasonic Surgery (TOUSS): From Setup To Safe Resection —A Practical Surgical Guide**

Head and Neck Oncology · Instructional Course *Mario Fernandez; Senem Çengel Kurnaz*

Friday, 11 September 2026

07:00–08:00 **Advanced Resection And Reconstruction In Maxillary Sinus Malignancies: Technical Pearls, Pitfalls, And Future Directions**

Head and Neck Oncology · Round Table *Betsy Davis; Mauricio Moreno, MD- Arkansas; Larissa Sweeny*

08:00–09:00 **Management Of Early-Stage Oropharyngeal Cancers**

Head and Neck Oncology · Panel Presentation *Michael Hinni; Sebastien Vergez; Hisham Mehanna; Jan Klozar; Emre Vural*

09:00–10:00 **SOCIETAS OTORHINOLARYNGOLOGICA LATINA: Leading Technologies In The Treatment Of Cancer In The Different Head And Neck Sites: Advances And Controversies**

Head and Neck Oncology · International Symposia *Desiderio Passali; Gaetano Motta; Metin Onerci; CODRUT SARAFOLEANU; Marco; Piemonte; Eddy Wong*

10:45–11:45 **Austrian HNS Panel: Frailty And Major Head And Neck Surgery – A Growing Problem In An Aging Population?**

Head and Neck Oncology · International Symposia *Dietmar Thurnher; Gregor Heiduschka; Markus Brunner; Stephan Härle; Cesare; Piazza*

11:45–12:45 **What A Messi Trying To Bring Order To Head And Neck Cancer Patients Treated Inadequately – Reflections On Clinical Cases**

Head and Neck Oncology · Round Table *Luca Gazzini; Jeroen Meulemans; Alfred Aga; Remo Accorona*

14:00–15:00 **Planning The Resection And Reconstruction Of Oral Cavity Cancers For The Best Functional And Oncologic Results**

Head and Neck Oncology · Round Table *Bülent Evren Erkul; Ehab Hanna; Mustafa Kürşat Gökcan*

15:00–15:30 **Contemporary Management Of Early-Stage HPV Positive Oropharyngeal Cancer.**

Head and Neck Oncology · Keynote Lecture *Michael Hinni; Emre Vural*

15:30–16:00 **Surgery Or Radiotherapy For HPV Positive Oropharyngeal Cancer**

Head and Neck Oncology · Controversies *Emre Vural; Hisham Mehanna; Enis Ozyar*

16:30–17:00 **Shared Decision Making In Advanced Laryngeal Cancer**

Head and Neck Oncology · Keynote Lecture *Michiel van den Brekel; Kerem Ozturk*

17:00–18:00 **Future Of Head And Neck Oncology: Neoadjuvant Treatments, Immunotherapies And Response Adapted Surgeries**

Head and Neck Oncology · Panel Presentation *Takahiro Tsujikawa; Pen-Yuan Chu; Nicole Schmitt; Barbara Wollenberg*

Saturday, 12 September 2026

07:00–07:30 **Management Of Facial Nerve In Parotid Cancers**

Head and Neck Oncology · Instructional Course *Nicolas Fakhry; Ahmet Ömer İkiz*

07:30–08:00 **What Molecular Biological Discoveries Have Clinical Impact And Relevance In Salivary Gland Cancer?**

Head and Neck Oncology · Keynote Lecture *Ahmet Ömer İkiz; Vincent Vander Poorten*

08:00–08:30 **Integration Of Modeling Into Complex Head And Neck Reconstruction**

Head and Neck Oncology · Expert Discussion *Süleyman Cebeci; Brett Miles, MD, DDS*

08:30–09:00 **Neoadjuvant Immunotherapy In Head And Neck Cancer: Where We Are And Where We Are Going?**

Head and Neck Oncology · Expert Discussion *Sid Puram; Erdogan OZGUR*

09:00–09:30 **Novel And Modifiable Risk Factors For Head And Neck Cancer**

Head and Neck Oncology · Expert Discussion *Brittany Barber, MD, MSc; Erdogan OZGUR*

09:30–10:00 **Management And Recommendations Of Osteoradionecrosis Of The Head And Neck**

Head and Neck Oncology · Expert Discussion *Larissa Sweeny; Erdogan OZGUR*

10:45–11:15 **Neoadjuvant Therapy For Advanced Differentiated Thyroid Cancer**

Head and Neck Oncology · Keynote Lecture *Gregory W. Randolph; Mustafa Kürşat Gökcan*

11:15–11:45 **Establishing An Endocrine Surgery Unit Within An Academic Department Of Otolaryngology–Head And Neck Surgery**

Head and Neck Oncology · Instructional Course *Mustafa Kürşat Gökcan*

11:45–12:45 **Surgery For Thyroid Cancer - Masters All Around The World Panel**

Head and Neck Oncology · Panel Presentation *Miroslav Tedla; Luiz P. Kowalski; Gregory W. Randolph; Anastasios Maniakas;; Shigeru Hirano; Soon-Hyun Ahn; Mustafa Kürşat Gökcan*

14:00–15:00 **Access To High Quality Head And Neck Cancer Care: Challenges And Potential Solutions**

Head and Neck Oncology · Round Table *Bevan Yueh; Johannes Fagan; Heikki Irjala; Lovisa Farnebo; Michiel van den Brekel;; Seiichi Yoshimoto*

15:00–16:00 **Management Of Advanced Oral Cancer**

Head and Neck Oncology · Panel Presentation *Igor Reshetoviv; Murat Yener; Anastasios Maniakas; Gregoire B. Morand*

16:30–17:00 **Mohs Micrographic Surgery In Head And Neck Skin Cancer: Precision Oncology At The Microscopic Level**

Head and Neck Oncology · Keynote Lecture *Isa Kaya; Ozan Erdem*

17:00–18:00 **Management Of Advanced Skin Cancers: Updates And Novel Approaches**

Head and Neck Oncology · Panel Presentation *Wojciech Golusinski; İrfan Kara; Jeroen Kraak; Marija Pastorčić Grgić*

HEAD & NECK 3

ICC - B3 Floor - 3B/38

Wednesday, 9 September 2026

14:00–14:30 **Instructional Course**

Head and Neck Oncology · Instructional Course *Tobias Todsen; Günter HAFIZ; Benedikt Gabriel Hofauer; Aysenur MERIC HAFIZ*

14:30–15:00 **Instructional Course**

Head and Neck Oncology · Instructional Course *Benedikt Gabriel Hofauer; Günter HAFIZ; Tobias Todsen; Aysenur MERIC HAFIZ*

15:00–15:30 **Instructional Course**

Head and Neck Oncology · Instructional Course *Tobias Todsen; Günter HAFIZ; Benedikt Gabriel Hofauer; Aysenur MERIC HAFIZ*

15:30–16:00 **Instructional Course**

Head and Neck Oncology · Instructional Course *Aysenur MERIC HAFIZ; Günter HAFIZ; Tobias Todsen; Benedikt Gabriel Hofauer*

16:30–17:00 **Cervical Paraganglioma: From Diagnosis To Management**

Head and Neck Oncology · Instructional Course *Pietro Perotti; Sema Zer Toros*

17:00–17:30 **Step By Step Carotid Paraganglioma Excision Surgery**

Head and Neck Oncology · Instructional Course *Murat Ozturk; Sema Zer Toros*

17:30–18:00 **CO2 Laser Surgery In Laryngeal Carcinoma**

Head and Neck Oncology · Master of Surgery Video Presentation *lütfi barlas aydoğan; Sema Zer Toros*

Thursday, 10 September 2026

07:00–07:30 **Temporary Tracheotomy In Transoral Robotic Surgery(TORS): A Proposal Of Decision-Making Algorithm.**

Head and Neck Oncology · Instructional Course *sahin ogreden*

07:30–08:00 **Function Preservation In Cervical Schwannoma - How And Why To Do Intracapsular Enucleation Surgery.**

Head and Neck Oncology · Instructional Course *Rupert Obholzer; Sibel Yıldırım Moral*

08:00–08:30 **KNOWLEDGE AND ATTITUDES OF OTOLARYNGOLOGISTS REGARDING HUMAN PAPILLOMAVIRUS INFECTION AND VACCINATION**

Head and Neck Oncology · Instructional Course *Sibel Yıldırım Moral; Erim Pamuk*

08:30–09:30 **Advances In Oral Cavity Surgery: Precision, Preservation, And Progress In Oncologic And Functional Outcomes**

Head and Neck Oncology · Panel Presentation *Christian Grønhøj; Antoine Melkane; Çağlar Eker; Davide Mattavelli; Monir; Abousiam*

09:30–10:00 **Clinical Utility Of Narrow Band Imaging For Early Detection Of Pharyngeal And Laryngeal Cancer And Minimally Invasive Endoscopic Laryngo-Pharyngeal Surgery**

Head and Neck Oncology · Instructional Course *ichiro tateya; Erdogan OZGUR*

10:45–11:15 **The Role Of Partial Laryngectomy Among Organ Preservation Strategies In T3 Laryngeal Cancer**

Head and Neck Oncology · Instructional Course *Çağlar Eker; Hakkı Caner İNAN*

11:15–11:45 **Variability Of The Incidence And Risk Factors For The Development Of Pharyngocutaneous Fistula After Laryngectomy In Different Time Periods**

Head and Neck Oncology · Instructional Course *Robert Šifrer; Çağlar Eker*

11:45–12:45 **Personalized Approaches In Head And Neck Cancer: Biomarkers, Targeted Therapies, And Surgical Decision-Making**

Head and Neck Oncology · Panel Presentation *Trevor Hackman; Hatime Arzu Yaşar; Gözde Yazıcı; SEDA TÜRKOĞLU BABAKURBAN;; Markus Blaurock*

14:00–15:00 **APTS Symposium: Advanced Technology In Thyroid Surgery**

Head and Neck Oncology · International Symposia *Kyung Tae; Che-Wei Wu; KANG-DAE LEE; Shigeru Hirano; Abdulwahid M. Salih*

15:00–16:00 **Field Cancerization In Head And Neck Carcinoma - Biomarkers And Novel Insights On Surgical Margins**

Head and Neck Oncology · Panel Presentation *Todor Popov; Marco Ferrari; Linda Marklund*

16:30–17:00 **Early-Stage Detection And Prevention Of Head And Neck Cancers**

Head and Neck Oncology · Instructional Course *Erim Pamuk; Sara Pai*

17:00–17:30 **TORS For Oropharynx Squamous Cell Carcinomas**

Head and Neck Oncology · Instructional Course *Fernando Danelon Leonhardt; Erim Pamuk*

17:30–18:00 **INCIDENCE OF POSTOPERATIVE DELIRIUM AMONG PATIENTS WHO UNDERWENT HEAD & NECK SURGERY**

Head and Neck Oncology · Instructional Course *rezarta TAGA SENİRLİ; Hakkı Caner İNAN*

Friday, 11 September 2026

07:00–07:30 **Endolaryngeal Laser Surgery In Early Stage Laryngeal Carcinoma**
Head and Neck Oncology · Instructional Course *Meltem Akpınar; Hakkı Caner İNAN*

07:30–08:00 **Transoral Laser Microsurgery For Early Stage Glottic Laryngeal Cancers**
Head and Neck Oncology · Instructional Course *Hakkı Caner İNAN; Meltem Akpınar*

08:00–08:30 **Partial Laryngectomy**
Head and Neck Oncology · Instructional Course *Elvan Evrim Ünsal Tuna; Burcu Vural Çamalan*

08:30–09:00 **Step By Step: Total Laryngectomy**
Head and Neck Oncology · Instructional Course *Yetkin Zeki YILMAZ; Ozlem Unsal*

09:00–10:00 **Danish Society Of ORL-HNS: Novel Strategies In Diagnostics, Treatment, And Surveillance Of Oropharyngeal Carcinoma: The Role Of TORS And Cthpv-DNA**
Head and Neck Oncology · International Symposia *Thomas Kjaergaard; Chris Holsinger; Vinidh Paleri; Christian von Buchwald;; Christian Grønhøj*

10:45–11:45 **Global Epidemiology And Perspectives For Salivary Gland Tumors**
Head and Neck Oncology · Round Table *Malgorzata Wierzbicka; Çiğdem Tepe Karaca; Ravindra Deo; Yetkin Zeki YILMAZ;; Mehmet Düzlü*

11:45–12:45 **Surgical Margins In Oral Cavity Cancer**
Head and Neck Oncology · Round Table *Tobias Todsen; Senada Koljenović; Bülent Evren Erkul; Patrick Sheahan*

14:00–14:30 **TRANSORAL ROBOTIC SURGERY FOR OROPHARYNGEAL CANCER: PERSONAL EXPERIENCE**
Head and Neck Oncology · Instructional Course *Andrea De Vito; Oğuz Kuşcu; David Virós Porcuna*

14:30–15:00 **Salvage Surgery For Local Recurrence In Nasopharyngeal Carcinoma**
Head and Neck Oncology · Instructional Course *Joseph Chun-Kit Chung; Cömert Şen*

15:00–15:30 **Salvage Surgery For Recurrent Head And Neck Cancer: Is It Worthwhile?**
Head and Neck Oncology · Keynote Lecture *Patrick Sheahan; Murat Yener*

15:30–16:00 **How To Prevent Postoperative Pharyngocutaneous Fistula In Salvage Total Laryngectomy?**
Head and Neck Oncology · Instructional Course *Roland Giger; Murat Yener*

16:30–17:00 **Neoadjuvant Chemotherapy In Hypopharyngeal Cancer**
Head and Neck Oncology · Instructional Course *Pen-Yuan Chu; Bayram Barış BUYUK*

17:00–18:00 **Defining The Standard: Controversies In Primary And Neck Treatment For HPV-Negative Oropharyngeal Cancer**
Head and Neck Oncology · Round Table *J. Scott Magnuson; Asit Arora; Vinidh Paleri; Thiago Bueno de Oliveira*

Saturday, 12 September 2026

07:00–07:30 **Head And Neck Reconstruction**
Head and Neck Oncology · Instructional Course *Mehmet Düzlü; Süleyman Cebeci*

07:30–08:00 **Management Of Locally Advanced Thyroid Carcinoma**
Head and Neck Oncology · Instructional Course *MOHAMMED ALESSA; Ali Bayram*

08:00–08:30 **Neuromonitoring And Signal Loss Management In Thyroidectomy**
Head and Neck Oncology · Instructional Course *Nihal Seden Boyoğlu; Ali Bayram; Zehra Veli Cinar*

08:30–09:00 **The Thyroid And The Airway - An Evidence Based Approach**
Head and Neck Oncology · Instructional Course *Ricard Simo; Nihal Seden Boyoğlu*

09:00–09:30 **Tips And Pearls In TOETVA Procedure**
Head and Neck Oncology · Instructional Course *Prachya Maneeprasopchoke; Büşra Kaplan*

09:30–10:00 **Comprehensive Tool To Enhance Quality And Optimize Hospitalization Of Patients Scheduled For Laryngopharyngeal Surgery-Ready For Safe Cancer Treatment (RESET-LC)**
Head and Neck Oncology · Instructional Course *Malgorzata Wierzbicka; Büşra Kaplan*

10:45–11:45 **Management Of Resection Margins In Oral Cavity Squamous Cell Carcinoma**
Head and Neck Oncology · Round Table *Luca Gazzini; Erdogan OZGUR*

11:45–12:15 **Salvage For Recurrent Nasopharyngeal Carcinoma: Surgery Vs Re- Radiotherapy**
Head and Neck Oncology · Controversies *Sümerya Duru Birgi; Stephanie Nga-Sze Wong; Hatime Arzu Yaşar*

12:15–12:45 **Transoral Robotic Surgery For Parapharyngeal Space Tumor**
Head and Neck Oncology · Instructional Course *Chen-Chi Wang; Erdem Koroglu*

14:00–15:00 **Educating The Next Generation Of Head And Neck Robotic Surgeons: Pathways, Standards And Fellowship**

Head and Neck Oncology · Round Table *Tom Vauterin; Şefik Hoşal; Asit Arora; J. Scott Magnuson; Umamaheswar Duvvuri; MD PhD; Robbie Stewart*

15:00–16:00 **Feasibility Of Functional Preservation Surgery Of T3/T4 Head And Neck Cancer - A Pirouette Around The Cricoarytenoid Joint**

Head and Neck Oncology · Round Table *Todor Popov; Jerome LECHIEN; Giovanni Succo; Dusan Milisavljevic; Andy Bertolin-; Italy; Ben Dixon*

16:30–17:00 **Risk Adaptive Neoadjuvant Surgery Approach For Head And Neck Cancer: Lessons Learned From The Experience**

Head and Neck Oncology · Expert Discussion *Trevor Hackman; Sid Puram; Erdogan OZGUR*

17:00–17:30 **Is There Still A Place For Total Laryngectomy?**

Head and Neck Oncology · Instructional Course *Giuseppe Spriano; Erdogan OZGUR*

Sunday, 13 September 2026

07:00–07:30 **TORS For P16+Ve OPSCC: First 3 Cases In Kuwait**

Head and Neck Oncology · Instructional Course *Maha Gilani; Yavuz Gündoğdu*

07:30–08:00 **The Impact Of Chatgpt In Plastic Reconstructive Surgery: A Focus On Head And Neck Abnormality**

Head and Neck Oncology · Instructional Course *Murod Jafarov; Cömert Şen*

08:00–08:30 **Free Flap Reconstruction In Head And Neck Cancer: Current Concepts And Challenges**

Head and Neck Oncology · Instructional Course *Yavuz Gündoğdu; Cömert Şen*

08:30–09:00 **Management Of Advanced Goiters Under Nerve Monitoring**

Head and Neck Oncology · Instructional Course *Osama Hamarneh; Cömert Şen*

09:00–09:30 **Free Flap Reconstruction Alternatives For Various Defects After Oral Cavity Cancer Ablation**

Head and Neck Oncology · Keynote Lecture *Cömert Şen; Osama Hamarneh*

09:30–10:00 **Oral Cavity Reconstruction With Pedicled Flaps Following Cancer Resection**

Head and Neck Oncology · Instructional Course *Murat Yener; Cömert Şen*

10:45–11:15 **Anterior Commissure In Laryngeal Cancer**

Head and Neck Oncology · Instructional Course *Abdulvahap Akyigit; Aylin Eryılmaz*

11:15–11:45 **Management Of Post Chemoradiation Dysphagia In Head And Neck Cancers**

Head and Neck Oncology · Instructional Course *Ika Dewi Mayangsari; Ali Bayram*

11:45–12:15 **Avoidance Of Bilateral Vocal Cord Palsy After Thyroidectomy: What Are The Nuances?**

Head and Neck Oncology · Instructional Course *Ali Bayram; Hamzeh Khair*

12:15–12:45 **Second Branchial Arch Cyst Surgery: Surgical Anatomy, Diagnosis, And Management**

Head and Neck Oncology · Instructional Course *Hazem Saleh; Hamzeh Khair*

HEAD & NECK 4

ICC - B3 Floor - 3B/03

Wednesday, 9 September 2026

14:00–14:30 **Mastering Parotid Surgery: Pearls, Pitfalls, And Lessons From 1000+ Cases**
Head and Neck Oncology · Instructional Course *Saleh Mohebbi; imdat yüce*

14:30–15:00 **Minimally Invasive Parotid Surgery (Periauricular Approach)**
Head and Neck Oncology · Master of Surgery Video Presentation *Erdem Koroglu; imdat yüce*

15:30–16:00 **Controversial And Challenging Conditions In The Treatment Of Parotid Tumors**
Head and Neck Oncology · Controversies *Bülent Evren Erkul; SEDA TÜRKOĞLU BABAKURBAN*

16:30–17:00 **Advancing Surgical Access: Transparotid Approach For Parapharyngeal Tumour Excision"**
Head and Neck Oncology · Instructional Course *Bülent Evren Erkul; Secil Akyildiz*

17:00–17:30 **Salivary Gland Tumors: Modern Approach From Diagnosis To Treatment**
Head and Neck Oncology · Instructional Course *Utku Aydil; Bülent Evren Erkul*

Thursday, 10 September 2026

07:00–07:30 **Evaluating The Evidence On Perioperative Antibiotics In Head And Neck Surgery**
Head and Neck Oncology · Controversies *Markus Blaurock; Banu Atalay Erdogan*

07:30–08:00 **Advanced Thyroid Cancer Surgery: Central Neck, Lateral Neck, And Reoperative Challenges**
Head and Neck Oncology · Instructional Course *Meltem Akpınar; Gul Acar*

08:00–08:30 **Advances In Thyroid Surgery & Active Surveillance**
Head and Neck Oncology · Instructional Course *Christian Grønhøj; Gul Acar*

08:30–09:00 **Strategies For Safe Thyroid Surgery: Lessons From Video Cases**
Head and Neck Oncology · Instructional Course *Gul Acar; Banu Atalay Erdogan*

09:00–09:30 **Video Demonstration Of Interesting Parathyroid Surgery Cases**
Head and Neck Oncology · Instructional Course *imdat yüce; Senem Çengel Kurnaz*

09:30–10:00 **Approach In Locally Advanced Poorly Differentiated Thyroid Cancer Followed By Salvage Surgery: A Video-Based Case Presentation**
Head and Neck Oncology · Instructional Course *orhan Asya; Oğuz Kuşcu*

10:45–11:45 **Artificial Intelligence Models For Differantiation Thyroid Cancers**
Head and Neck Oncology · Round Table *Büşra Kaplan; Erim Pamuk; Oğuz Kuşcu*

11:45–12:15 **Thermal Ablation For Thyroid Nodules**
Head and Neck Oncology · Instructional Course *Konstantinos Chaidas; Büşra Kaplan*

12:15–12:45 **Clinical Trials For Advanced Thyroid Cancer: Intergrating Tumor Genomics With Targeted Therapy And Surgery**
Head and Neck Oncology · Keynote Lecture *Mark Zafereo; Sibel Yıldırım Moral*

14:00–14:30 **Neuromonitoring In Thyroid Surgery**
Head and Neck Oncology · Instructional Course *Ahmet Ömer İkiz; Levent Soylu*

14:30–15:00 **Anaplastic Carcinoma Thyroid --Recent Update In Management.**
Head and Neck Oncology · Instructional Course *Rajjyoti Das; Levent Soylu*

15:30–16:00 **Sino-Orbital And Skull Base Reconstruction: Maximizing Form And Function**
Head and Neck Oncology · Keynote Lecture *Cömert Şen; Leila J. Mady*

16:30–17:00 **Thyroid And Parathyroid Surgery**
Head and Neck Oncology · Instructional Course *Senem Çengel Kurnaz; Aylin Eryılmaz*

17:00–17:30 **Video-Based Case Illustrations In Safe Thyroid Surgery**
Head and Neck Oncology · Instructional Course *imdat yüce; Aylin Eryılmaz*

17:30–18:00 **Surgical Management Of Parathyroid Adenomas With Non- Concordant Imaging: Strategies And Intraoperative Decision-Making**
Head and Neck Oncology · Instructional Course *orhan Asya; Aylin Eryılmaz*

Friday, 11 September 2026

07:00–07:30 **Partial Larygectomy**
Head and Neck Oncology · Instructional Course *Murat Unal; Harun Cansız*

07:30–08:00 **Salvage Total Laryngectomy Following Organ Preservation Treatment**
Head and Neck Oncology · Expert Discussion *Cem Özer; Tim Efthymios Kyrodimos*

08:00–08:30 **Transoral Laser Microsurgery In Laryngeal Carcinoma**
Head and Neck Oncology · Instructional Course *Harun Cansız; Abdulvahap Akyigit*

08:30–09:00 **Evidence-Based Laryngeal Preservation: Indications, Limitations, And Expected Outcomes—A Practical Guide For 2026**
Head and Neck Oncology · Instructional Course *Abdulvahap Akyigit*

09:00–10:00 **Mastering Transoral Laser Surgery: Margin Control, Cordectomy Classification, And Functional Optimization**
Head and Neck Oncology · Round Table *Kerem Ozturk; ichiro tateya; Rajko Jović; Ayşegül Batıoğlu Karaaltın*

10:45–11:45 **NASAL VESTIBULE CARCINOMAS: SETTING NEW STANDARDS FOR A NEGLECTED DISEASE**
Head and Neck Oncology · Panel Presentation *Francesco Bussu; Luca Tagliaferri; Marco Piemonte*

11:45–12:15 **Artificial Intelligence Applications In Laryngeal Cancer Modelling**
Head and Neck Oncology · Instructional Course *Erim Pamuk; Oğuz Kuşcu*

12:15–12:45 **The Evolution Of Transoral Laser Microsurgery (TLM): A 600-Case Odyssey From CO_2 To Blue Laser Innovation**
Head and Neck Oncology · Instructional Course *jaiganesh manickavasagam; Oğuz Kuşcu*

14:00–14:30 **Salvage Surgery In Head And Neck Squamous Cell Carcinoma: How To Optimize Oncologic And Functional Outcome?**
Head and Neck Oncology · Instructional Course *Roland Giger; Murat Ozturk*

14:30–15:00 **Salvage Laryngectomy**
Head and Neck Oncology · Instructional Course *Banu Atalay Erdogan; Murat Ozturk*

15:30–16:00 **Non-Squamous Cancers Of The Larynx**
Head and Neck Oncology · Expert Discussion *Bengu Cobanoglu; Banu Atalay Erdogan*

16:30–17:00 **Hypopharyngeal Malignancy - Standard Of Care In Montenegro**
Head and Neck Oncology · Instructional Course *Vladimir Pavićević; Bengu Cobanoglu*

17:00–17:30 **Modern Concept Of Optimal Treatment Of Laryngeal Carcinoma**
Head and Neck Oncology · Instructional Course *Rajko Jović; Milan Dusan Stankovic; Bengu Cobanoglu*

17:30–18:00 **Precision And Perplexity: A 13-Year Journey In Managing Advanced Parotid Cancer – Evidence, Ethics, And Expertise**
Head and Neck Oncology · Instructional Course *jaiganesh manickavasagam; Utku Aydil*

Saturday, 12 September 2026

07:30–08:00 **The Cervico-Mediastinal Junction Surgery: Tips And Tricks**
Head and Neck Oncology · Instructional Course *Marco Piemonte; Nihal Seden Boyoğlu*

08:00–08:30 **Melanoma Of The Head And Neck: Management And Controversial Aspects**
Head and Neck Oncology · Instructional Course *Jeroen Kraak; Ibrahim Salih Gecer*

08:30–09:00 **Non-Melanoma Skin Cancers Of The Head And Neck: Management And Controversial Aspects**
Head and Neck Oncology · Instructional Course *Görkem Eskiizmir; Ibrahim Salih Gecer*

09:00–09:30 **Synchronous Metachronous Cancers In Head And Neck Cancers: Case Reports**
Head and Neck Oncology · Instructional Course *Melek Kezban Gürbüz; Mehmet Düzlü*

09:30–10:00 **Transoral Laser Microsurgery For Laryngeal Cancer: Principles, Indications, And Pitfalls**
Head and Neck Oncology · Instructional Course *Kerem Ozturk; Mehmet Düzlü*

10:45–11:15 **Neck Dissections**
Head and Neck Oncology · Instructional Course *Sema Zer Toros; Banu Atalay Erdogan*

11:15–11:45 **De-Escalation Strategies For HPV Positive Oropharyngeal Cancer**
Head and Neck Oncology · Instructional Course *Pawel Golusinski; Oğuz Kuşcu*

11:45–12:45 **Hyperbaric Oxygen For Head And Neck Tumors**
Head and Neck Oncology · Panel Presentation *Paolo Marcolin; Selin Ünsaler*

14:00–15:00 **Turkish Head And Neck Society Session II: Global Guidelines On The Management Of Thyroid Malignancies And Local Practices**
Head and Neck Oncology · International Symposia *Mehmet Hakan Korkmaz; Güleser Saylam; Ersoy Doğan; Levent Soylu; Ömer Bayır*

15:00–15:30 **New Prognostic Markers For Laryngeal Cancer**

Head and Neck Oncology · Instructional Course *Elvir Zvrko; Nicolas Fakhry*

15:30–16:00 **Surveillance After Curative Treatment Of Head And Neck Cancer**

Head and Neck Oncology · Expert Discussion *Petri Koivunen; Togay Müderris*

16:30–17:00 **The Evolution Of Total Laryngectomy Procedure From Theodore Billroth To Today**

Head and Neck Oncology · Keynote Lecture *Dietmar Thurnher; Utku Aydil*

17:00–18:00 **Multidisplinary Treatment Of Sinonasal Malignancies**

Head and Neck Oncology · Round Table *CODRUT SARAFOLEANU; Luca Tagliaferri; Paul Boettiger; Thiago Bueno de Oliveira*

Sunday, 13 September 2026

08:00–08:30 **Management Of Thyroid Cancers Under Nerve Monitoring At The Otolaryngology Deparment Of A Tertiary Hospital In Jordan**

Head and Neck Oncology · Instructional Course *Hamzeh Khair; Ali Bayram*

08:30–09:00 **Management Of Recurrent Nasopharyngeal Carcinoma, From Diagnosis To Potential Complications.**

Head and Neck Oncology · Expert Discussion *Jacopo Zocchi; Bayram Barış BUYUK*

09:00–09:30 **Reconstruction Of Oral Cavity Tumors With Free Flaps**

Head and Neck Oncology · Instructional Course *Bayram Barış BUYUK; sahin ogreden*

09:30–09:45 **HEAD AND NECK PARAGANGLIOMAS**

Head and Neck Oncology · Remarkable Presentation *sahin ogreden; Bayram Barış BUYUK*

09:45–10:00 **The Effects Of Radiotherapy On The Middle Ear And The Vestibular System In Head-Neck Cancers**

Head and Neck Oncology · Remarkable Presentation *Sinem Kara Peker; Bayram Barış BUYUK*

10:45–11:15 **Defects Where The Pectoralis Major Flap Can Be Used In Head And Neck Cancers**

Head and Neck Oncology · Instructional Course *Şükrü Aydın; sahin ogreden*

11:15–11:45 **Updates In The Management Of N0 Neck In Head And Neck Squamous Cell Cancers**

Head and Neck Oncology · Instructional Course *Aylin Eryılmaz; Abdulvahap Akyigit*

11:45–12:45 **Sentinel Lymph Node Excision For Oral Cavity Cancer**

Head and Neck Oncology · Round Table *Erim Pamuk; Büşra Kaplan; Oğuz Kuşcu*

HEAD N NECK 1 - ICC 3B/01

Istanbul Congress Center

Sunday, 13 September 2026

07:00–07:30 **Stem Cells In Cochlear Cells Regeneration**

Audiology · Keynote Lecture *Masato Fujioka; Erdogan Bulut*

07:30–08:00 **Immunological Frontiers In ENT: Biologics, Immuno-Oncology & Biomarkers**

Head and Neck Oncology · Expert Discussion *Krzysztof Piersiala; Tim Efthymios Kyrodimos*

08:00–08:30 **Use Of Local Flaps To Prevent Pharyngocutenous Fistula After Total Laryngectomy**

Head and Neck Oncology · Instructional Course *Togay Müderris; Murat Ulusan*

08:30–09:00 **Near Total Laryngectomy For Advanced Laryngeal Cancers: Istanbul University Experience**

Head and Neck Oncology · Keynote Lecture *Murat Ulusan; Togay Müderris*

09:00–09:30 **Quick And Versatile Flaps In Head And Neck Reconstruction**

Head and Neck Oncology · Keynote Lecture *IOANNIS CHATZIIOANNOU; Papouliakos Sotirios*

09:30–10:00 **Impact Of Combined C-MYC Oncogene Amplification/Overexpression On Laryngeal Squamous Cell Carcinoma And Review Of Biomarkers In Laryngeal Squamous Cell Carcinoma**

Head and Neck Oncology · Instructional Course *Papouliakos Sotirios; IOANNIS CHATZIIOANNOU*

10:45–11:45 **Parotid Abscesses: A Multidisciplinary Approach For Optimal Management.**

Head and Neck Oncology · Continental or International Societies Sessions *Antonino Maniaci; Matthew White; Salvatore Lavalle; Alperen Vural; Eric Levi; Peng; Han*

11:45–12:45 **Oncologic Reconstruction Of The Hypopharynx: Techniques, Updates, And Patient Quality Of Life**

Head and Neck Oncology · Panel Presentation *Davide Di Santo; Todor Popov; Stanislav Yordanov*

HEARING AIDS

ICC - B3 Floor - 3B/02

Wednesday, 9 September 2026

14:00–15:30 **Minimal Test Battery For Middle-Ear Assessment Across The Lifespan: Integrating Wideband Acoustic Immittance, ASR, OAE**
Hearing Aids · Instructional Course *Navid Shahnaz; Hatice Seyra ERBEK*

15:30–16:00 **Future Vision Of Hearing Therapeutics: From Early Intervention To Comprehensive Rehabilitation**
Hearing Aids · Keynote Lecture *Mehmet İlhan Şahin; Camille Rochmann*

16:30–17:00 **Bone Conduction Hearing Aids – What We Can Learn From Research In Daily Routine**
Hearing Aids · Keynote Lecture *Christof Roosli; Hatice Seyra ERBEK*

17:00–17:30 **Understanding Hearing And Vestibular Function Through Bayesian Brain Theory: From Perception To Adaptation**
Hearing Aids · Keynote Lecture *Bulent Şerbetçioğlu; Bülent Gündüz*

17:30–17:50 **OTC Hearing Aids: Evolution, Current Evidence, and Real-World Use**
Hearing Aids · Remarkable Presentation *Hatice Seyra ERBEK; Berna Deniz KUNTMAN*

17:50–18:00 **Perceived Stigma, Hearing Aid Outcomes, Health-Related Quality Of Life**
Hearing Aids · Remarkable Presentation *Asuman Küçüköner; Ömer Küçüköner; Deniz Uğur Cengiz*

Thursday, 10 September 2026

07:40–08:00 **SCL -90-R Phychological Symptoms Screening Test And Body Image Scaling In Patients Using Hearing Aids**
Hearing Aids · Remarkable Presentation *Deniz Uğur Cengiz; TUĞÇE GÜL ÇAĞLAR; Muhammed Ensar Ölekli*

08:00–08:30 **Hearing Aids And Spatial Hearing- Current Challenges And Future Directions**
Hearing Aids · Instructional Course *Talha Çögen; Günay KIRKIM*

08:30–09:00 **Climate Change, Migration, And Hearing Healthcare: Challenges In Access And Device Continuity Across Borders**
Hearing Aids · Instructional Course *Hatice Seyra ERBEK; Sanja Spiric*

09:00–09:30 **Artificial Intelligence And The Next Generation Of Hearing Technologies**
Hearing Aids · Keynote Lecture *Achin Bhowmik; Hatice Seyra ERBEK*

09:30–10:00 **Bimodal Hearing Rehabilitation: Integrating Cochlear Implants And Hearing Aids**
Hearing Aids · Instructional Course *Mohammed Shadid; Enis Alpin Güneri*

10:45–11:15 **How To Predict Hearing Aid Outcomes Using AI**
Hearing Aids · Keynote Lecture *Bernard Fraysse; Erdogan Bulut*

11:15–11:45 **Bridging Hearing Loss And Cognition: The ECHHO Program And Beyond**
Hearing Aids · Keynote Lecture *Meral Didem Türkyılmaz; Stefan Launer*

11:45–12:15 **Cognitive Effects Of Hearing Aid Use In Geriatric Individuals**
Hearing Aids · Instructional Course *Meral Didem Türkyılmaz; Sanja Spiric*

12:15–12:45 **Artıfıcıal Intelligence In Medicine And Technological Tools For Neurosciences**
Hearing Aids · Keynote Lecture *Michael Tong; Bulent Şerbetçioğlu*

14:00–15:30 **The World Health Organisation Make Listening Safe Initiative: Standards, Implementation, And Future Directions**
Hearing Aids · Panel Presentation *Mark Laureyns; Carolina Der; Christian Hugonnet; Amarilis Menendez*

15:30–16:00 **Objective Vs Subjective Methods In Cochlear Implant Programming**
Hearing Aids · Keynote Lecture *Mohammed Shadid; Betül Çiçek Çınar*

16:30–17:00 **Impact Of Wearing Hearing Aids On Cognitive Abilities And Subjective Tinnitus In Patients With Sensorineural Hearing Loss**
Hearing Aids · Instructional Course *Andro Košec; Bülent Gündüz*

17:00–17:30 **Revising Implantable Hearing Devices: Principes For Converting A Percutaneous To Transcutaneous Bone Conducting**
Hearing Aids · Keynote Lecture *Douglas D. Backous; Bülent Gündüz*

Friday, 11 September 2026

07:30–07:45 **Comparison Of Satisfaction And ACT Scores In Hearing Aid Users With And Without Bluetooth Features**
Hearing Aids · Remarkable Presentation *Leyla Türe; Özlem Ertuğrul; Celil Göcer*

07:45–08:00 **Hearing Difficulties, Outcomes Of Hearing Aids In People Above 80 Years Of Age**
Hearing Aids · Remarkable Presentation *Fatih Recai Kablan; TUĞÇE GÜL ÇAĞLAR; Celil Göcer*

08:00–08:15 **Assessment Of Audiological Findings And Neurodevelopmental Characteristics In Children With Suspected Hearing Loss: Preliminary Results**
Hearing Aids · Notable Abstract *Meryem Mutlu; İbrahim Özcan; M. Özgür Avinçsal*

08:15–08:40 **Decision-Making In Pediatric Minimal-To-Mild Hearing Loss: Diagnostic Challenges And Hearing Aid Fitting Strategies**
Hearing Aids · Remarkable Presentation *Merve Torun Topçu; M. Özgür Avinçsal*

08:40–09:10 **Beyond Speech Perception: Auditory Localization And Spatial Hearing In Hearing Aid Users**
Hearing Aids · Instructional Course *Erva Değirmenci Uzun; M. Özgür Avinçsal*

09:10–09:30 **Hearing Aids From Past To Present**
Hearing Aids · Keynote Lecture *Fulya Özer; Hatice Seyra ERBEK*

09:30–10:00 **ENT Perspective In Pediatric Hearing Loss And Amplification**
Hearing Aids · Keynote Lecture *M. Özgür Avinçsal; Yüksel Olgun*

10:45–11:15 **Why ENT Should Be Involved In Who ICOPE Program**
Hearing Aids · Keynote Lecture *Bernard Fraysse; Ayça Çiprut*

11:15–11:40 **Speech In Noise: From Neural Mechanisms To Smart Hearing Aids**
Hearing Aids · Keynote Lecture *Ayberk Aydın Tunç; Mustafa Karabulut*

11:40–11:55 **Expanding Horizons In CROS Technologies: Patient-Centered Approaches And Real-World Effectiveness**
Hearing Aids · Remarkable Presentation *Ahmet Ovacık; Günay KIRKIM*

11:55–12:25 **Northwest Hearing Alliance: A Model For Global Access To Quality Hearing Care**
Hearing Aids · Keynote Lecture *Douglas D. Backous; Bulent Şerbetçioğlu*

12:25–12:45 **Compression And Auditory Fatigue: Speech Vs. Music**
Hearing Aids · Remarkable Presentation *Mustafa Yüksel*

14:00–14:30 **Hearing Screening For Children Beyond The Newborn Period: CGHH Global Survey**
Hearing Aids · Keynote Lecture *Teresa Ching; Levent Olgun*

14:30–15:00 **Auracast: Discover A New World Of Listening Experiences**
Hearing Aids · Keynote Lecture *Hatice Seyra ERBEK; Miguel Angel Aranda De Toro*

15:00–15:30 **Modern Approaches To Pediatric Amplification**
Hearing Aids · Keynote Lecture *Gaziz Tufatulin; Bahar çolpan*

15:30–16:00 **The Importance Of Hearing In Developing Countries, Overcoming Resistance To Hearing Aids, And Normalizing The Use Of Hearing Aids**
Hearing Aids · Keynote Lecture *Nyilo Purnami; Turgut Karlıdağ*

16:30–16:50 **Computational Audiology In Hearing Aid**
Hearing Aids · Keynote Lecture *Hurol Erisci; Betül Çiçek Çınar*

16:50–17:10 **Community-Based Universal Newborn Hearing Screening Integrated With Primary Health Care Services In East Java Indonesia**
Hearing Aids · Keynote Lecture *Nyilo Purnami; Mehmet YARALI*

17:10–17:30 **Cochlear Implant Electrode Selection For Revision Cases And Unusual Cochlear Anatomy**
Hearing Aids · Keynote Lecture *Evren Hizal; Douglas D. Backous*

17:30–17:45 **Technology Anxiety And Social Appearance Anxiety As Predictors Of Hearing Aid Outcomes**
Hearing Aids · Notable Abstract *Selim Sermed Erbek; Berna Deniz KUNTMAN*

17:45–18:00 **Pediatric Mild Hearing Loss: Diagnosis and Intervention**
Hearing Aids · Keynote Lecture *Serpil Mungan Durankaya; Selim Sermed Erbek*

Saturday, 12 September 2026

07:00–07:10 **The Role Of Audiogram Configuration In Sound Intolerance Among Patients Undergoing Hearing Aid Fitting**
Hearing Aids · Remarkable Presentation *Ömer Küçüköner; Ercan Karababa*

07:10–07:20 **Predictors Of Hearing Aid Outcomes**
Hearing Aids · Remarkable Presentation *Leyla Türe; TUĞÇE GÜL ÇAĞLAR; Ercan Karababa*

07:20–07:35 **Small Signs, Big Impact Hearing Loss In Children**
Hearing Aids · Remarkable Presentation *Rümeysa Ölçenoğlu; Ercan Karababa*

07:35–08:00 **Exploring Effectiveness, User Satisfaction, And Real-World Outcome**

Hearing Aids · Instructional Course *Furkan Büyükkal; Serpil Mungan Durankaya*

08:00–08:30 **Hearing Aid Use In The Geriatric And Pediatric Population**

Hearing Aids · Remarkable Presentation *Ceren Tombuloğlu; Serpil Mungan Durankaya; Begüm Bayram Açıkgöz*

08:30–09:00 **Towards Better Sound Tolerance: Hearing Aid Protocols In Tinnitus And Hyperacusis**

Hearing Aids · Keynote Lecture *Murat Erinç; Mustafa Yüksel*

09:00–09:30 **Middle Ear Assessment**

Hearing Aids · Keynote Lecture *Johann Oswald; Fakih Cihat Eravcı*

09:30–10:00 **EVALUATION OF HEARING AID SATISFACTION AND PERFORMANCE IN THE GERIATRIC POPULATION**

Hearing Aids · Keynote Lecture *Cem Özer; Fakih Cihat Eravcı*

10:45–11:15 **Beyond The Cochlea: The Hearing Aid As A Vestibular-Cognitive Prosthesis.**

Hearing Aids · Keynote Lecture *Hesham Kozou; Ayça Çiprut*

11:15–12:45 **Hearing Care Today And Tomorrow**

Hearing Aids · Panel Presentation *Stefan Launer; Hatice Seyra ERBEK; Raffael Schmitt; Raphael Koning*

14:00–14:30 **A Multisensory Clinical Perspective On Auditory, Vestibular, And Oculomotor Function**

Hearing Aids · Remarkable Presentation *Gokce SAYGI UYSAL; Selim Sermed Erbek*

14:30–15:00 **Neuroplasticity For Otolaryngologists: Understanding The Adaptive Brain**

Hearing Aids · Instructional Course *Bulent Şerbetçioğlu; Bülent Gündüz*

15:00–16:00 **Vestibular Function, Presbystasis, And Fall Prevention: The Role Of Hearing Aid Use**

Hearing Aids · Panel Presentation *Hatice Seyra ERBEK; Deniz Uğur Cengiz; Sümeyye Kapusızoğlu; Sanem Can; Sarıoğlu; Büşra Mazooğlu*

16:30–17:00 **From Screening To Prevention: 10 Years Of Neonatal Hearing Screening And Children's Hearing Protection Strategies In Hungary**

Hearing Aids · Keynote Lecture *Anita Gáborján; Gulce Kirazli*

17:00–17:20 **From Perceived Hearing Handicap To Hearing Aid Satisfaction**

Hearing Aids · Remarkable Presentation *Elif Öğün; Asuman Feda Bayrak*

17:20–17:45 **When To Consider Hearing Aid Use In Auditory Neuropathy Spectrum Disorder**

Hearing Aids · Remarkable Presentation *Tuğba Yılmaz; Çağıl Gökdoğan*

17:45–18:05 **Advances In Hearing Rehabilitation: Integrating Modern Hearing Technologies**

Hearing Aids · Remarkable Presentation *Çağıl Gökdoğan*

HEARING IMPLANT 1

ICC - B2 Floor - Üsküdar 3

Wednesday, 9 September 2026

14:00–14:30 **Minimal -Invasive Cochlear Implantation**
Cochlear Implants and implantable devices · Instructional Course *Ercole Di Martino; Emre Ocak*

14:30–15:30 **The Role Of Vestibular Assessment In Pediatric Cochlear Implantation: Clinical Impact And Emerging Surgical Techniques**
Cochlear Implants and implantable devices · Instructional Course *Salma Jbyeh, MD; Wiener Vacher sylvette R.*

15:30–16:00 **Bilateral Cochlear Implantation: Simultaneous Or Sequential? Surgical Point Of View**
Cochlear Implants and implantable devices · Instructional Course *Omer Afsin Ozmen; Kadir Serkan Orhan*

16:30–17:30 **Intraoperative And Postoperative Radiological Modalities After Implantation**
Cochlear Implants and implantable devices · Panel Presentation *Mehmet Çelik; Nithreen Mohammed Said Abdelsalam Hussein; Yutaka TAKUMI;; Yahya Güldiken; Adriana Neagos; Ergin Eroğlu*

Thursday, 10 September 2026

07:15–07:45 **Cochlear Implantation In Patients With CHARGE Syndrome**
Cochlear Implants and implantable devices · Keynote Lecture *Khassan Diab; Michel Mondain*

07:45–08:45 **CI In Late Prelingual Hearing Loss**
Cochlear Implants and implantable devices · Panel Presentation *Esra YÜCEL; Elif Baysal; Yıldırım Bayazıt; Jan Boucek; Michel Mondain*

08:45–10:00 **Robotic CI Surgery**
Cochlear Implants and implantable devices · Panel Presentation *Natalie Loundon; Joseph Chen; Wolf Dieter Baumgartner; Marco Caversaccio; Vedat; Topsakal; Huan Jia; Joachim Michael Müller*

10:45–11:15 **Genetical Basis Of Hearing Loss**
Cochlear Implants and implantable devices · Keynote Lecture *Mustafa Tekin; Shin-ichi Usami*

11:15–12:15 **Genetic Treatment Strategies For Hearing Loss**
Cochlear Implants and implantable devices · Panel Presentation *Akira Ishiyama; Chen-Chi Wu; Shin-ichi Usami; Emre Ocak; Mustafa Tekin*

12:15–12:45 **DIFFICULT SURGICAL COCHLEAR IMPLANT CASES**
Cochlear Implants and implantable devices · Instructional Course *Maurizio Falcioni; Thomas Lenarz*

14:00–15:00 **Adult Cochlear Implantation: Bridging The Gap Between Clinical Evidence And Real-World Access**
Cochlear Implants and implantable devices · Panel Presentation *Oleg Borysenko; Carlos Cenjor; Juan Manuel García Gómez; Hồng Anh Lê;; Abdulrahman Hagr; Domenico Cuda*

15:00–16:00 **Genetic Screening For Sensorineural Hearing Loss: When And To Whom**
Cochlear Implants and implantable devices · Panel Presentation *Mustafa Tekin; Radka Kremlíková Pourová; Akira Ishiyama; Chen-Chi Wu*

16:30–17:00 **Cochlear Implantation: Surgical Concept, Special Cases, Precision Surgery, Tricks And Pitfalls**
Cochlear Implants and implantable devices · Instructional Course *Thomas Lenarz; Mario Emilio Zernotti*

17:00–17:30 **Bone Conduction Devices**
Cochlear Implants and implantable devices · Instructional Course *Mario Emilio Zernotti; Thomas Lenarz*

17:30–17:50 **Master Of Video Session -Bonebridge And Soundbridge Surgery In Children With High Grade Microtia**
Cochlear Implants and implantable devices · Master of Surgery Video Presentation *Francoise Denoyelle; Mehmet Çelik*

Friday, 11 September 2026

07:00–08:00 **BRING YOUR OWN CASE: MEET THE EXPERTS**
Cochlear Implants and implantable devices · Controversies *Said Sönmez; Armağan İncesulu; Sunil Narayan Dutt; Doğan Çakan*

08:00–08:30 **Restoring Sound, Preserving Mind: Cochlear Implants And Cognitive Health In Older Adult**
Cochlear Implants and implantable devices · Keynote Lecture *Isabelle Mosnier; Levent Olgun*

08:30–09:30 **CI In Elderly Patients**
Cochlear Implants and implantable devices · Panel Presentation *Rasim Yılmazer; Kristen Rak; Heidi Olze; Levent Olgun; Isabelle Mosnier*

09:30–10:00 **Robotic Surgery In Cochlear Implantation In Children**
Cochlear Implants and implantable devices · Instructional Course *Antonio Della Volpe; Levent Olgun*

10:45–11:15 **Anatomical And Radiological Features Of Inner Ear Malformations**

Cochlear Implants and implantable devices · Keynote Lecture *Levent Sennaroğlu; Isabelle Mosnier*

11:15–12:45 **Management Of Inner Ear Malformation**

Cochlear Implants and implantable devices · Round Table *Levent Sennaroğlu; Adriana Neagos; Hiroshi Yamazaki; Demir Bajin; Isabelle; Mosnier; Joshua Chen; Saumitra Shah*

14:00–14:30 **Innovations In Cochlear Implants: Precision And Performance**

Cochlear Implants and implantable devices · Keynote Lecture *Angel Ramos de Miguel; Milan Profant*

14:30–16:00 **Electrode Choice In CI**

Cochlear Implants and implantable devices · Panel Presentation *Thomas Lenarz; Mario Emilio Zernotti; Rob Briggs; Adrien A. Eshraghi; Milan; Profant*

16:30–18:00 **Complications In CI**

Cochlear Implants and implantable devices · Panel Presentation *Daniel Lee; Abdulmonem Al Shaikh; Dan Cristian Gheorghe; Ahmad Daneshi;; Ossama Hamid; Enis Alpin Güneri; Sunil Narayan Dutt*

Saturday, 12 September 2026

07:00–07:30 **3D Temporal Bone Model Dissection Course**

Transverse activities (Innovation, Basic Research, Education) · Instructional Course *Melikşah Çakır; Fakih Cihat Eravcı*

07:30–08:30 **APSCI Board Panel**

Cochlear Implants and implantable devices · Panel Presentation *Enis Alpin Güneri; Mohan Kameswaran; Rob Briggs; Akira Ishiyama; Chen-Chi Wu;; Shin-ichi Usami; Norio Yamamoto; Hao Wu; Jong Woo Chung*

08:30–10:00 **Difficult CI Surgery**

Cochlear Implants and implantable devices · Panel Presentation *Ali Eftekharian; Luminita Radulescu; Chunfu Dai; Khassan Diab; Rob Briggs; Jong; Woo Chung*

10:45–11:15 **Auditory Implants - Where Are We Today And Where Do We Go?**

Cochlear Implants and implantable devices · Keynote Lecture *Thomas Lenarz; Chunfu Dai*

11:15–12:45 **Revision CI Surgery And Reimplantation**

Cochlear Implants and implantable devices · Panel Presentation *Levent Olgun; Violeta Necula; Michel Mondain; Byung Yoon Choi; Il Joon Moon;; Hiroshi Yamazaki*

14:00–15:00 **CI in Multi-handicapped Children**

Cochlear Implants and implantable devices · Panel Presentation *Adrien A. Eshraghi; Harukazu Hiraumi; Özlem İçöz; Rasim Yılmazer; Dan Jiang*

15:00–15:30 **Management Of Challenging Cases in Cochlear Implantation I: Inner Ear Malformations & Meningitis**

Cochlear Implants and implantable devices · Instructional Course *Levent Sennaroğlu; Andrzej Zarowski; Thomas Klenzner*

15:30–16:00 **Management Of Challenging Cases in Cochlear Implantation II : Chronic Ear Disease and Otosclerosis**

Cochlear Implants and implantable devices · Instructional Course *Levent Sennaroğlu; Andrzej Zarowski; Thomas Klenzner*

16:30–17:30 **Challenging CI Indication**

Cochlear Implants and implantable devices · Panel Presentation *Özgür Yiğit; Maryam Sahwan; Mohamed Elshazly; Thomas Nikolopoulos; Jafri; Kuthubutheen; Adrien A. Eshraghi*

17:30–18:00 **Robotic-Assisted Cochlear Implant Insertion**

Cochlear Implants and implantable devices · Master of Surgery Video Presentation *Evan Cumpston; Levent Sennaroğlu*

HEARING IMPLANT 2

ICC - B3 Floor - 3B/70

Wednesday, 9 September 2026

14:30–15:00 **Active Bone Conduction & Middle Ear Implants: When, Which One & What's Trending?**
Cochlear Implants and implantable devices · Instructional Course *Joseph Manjaly; Giuseppe Nicolò Frau*

15:00–15:30 **Middle Ear Implants In Mixed Hearing Loss, Their Role Based On Long Term Results.**
Cochlear Implants and implantable devices · Instructional Course *Giuseppe Nicolò Frau; Miguel Sá Breda*

15:30–16:00 **Bonebridge Implantation In The Middle Fossa For Paediatric Cases**
Cochlear Implants and implantable devices · Instructional Course *Miguel Sá Breda; Joseph Manjaly*

16:30–17:00 **Vaccination Of CI**
Cochlear Implants and implantable devices · Panel Presentation *Armağan İncesulu; Manolya Kara; İrfan Devranoğlu*

17:00–17:15 **Suprafascial Placement Of Receiver Coil Of The Cochlear Implant To Avoid Thick Temporal Scalp In Adults**
Cochlear Implants and implantable devices · Remarkable Presentation *Orhan Ozturan; İrfan Devranoğlu*

17:15–17:30 **Electroacoustic Stimulation (Hybrid Implant)**
Cochlear Implants and implantable devices · Remarkable Presentation *Işılay Öz; İrfan Devranoğlu*

17:30–18:00 **Preoperative Workup In Pediatric Cochlear Implantation: Why It Matters?**
Cochlear Implants and implantable devices · Keynote Lecture *Marija Dokoska; Giuseppe Nicolò Frau*

Thursday, 10 September 2026

07:15–07:45 **Optimizing CI Outcomes In Children With Congenital Hearing Loss**
Cochlear Implants and implantable devices · Keynote Lecture *Teresa Ching; Levent Olgun*

08:00–08:45 **CI Surgery With Monitoring And/Or Image Guidance**
Cochlear Implants and implantable devices · Controversies *KARKAS Alexandre; Nithreen Said; Andrzej Zarowski*

08:45–10:00 **Hearing Preservation During CI**
Cochlear Implants and implantable devices · Panel Presentation *Abdelaziz Raji; Artur Lorens; Piotr Henryk Skarzynski; Secaattin Gülşen; Levent; Olgun; Stefan K. Plontke; Simon I Angeli*

10:45–11:15 **CI In Retrocochlear Hearing Loss**
Cochlear Implants and implantable devices · Keynote Lecture *Luis Lassaletta; Hao Wu*

11:15–12:45 **CI In Vestibular Schwannoma**
Cochlear Implants and implantable devices · Panel Presentation *Thomas Klenzner; In Seok Moon; Levent Naci Özlüoğlu; Hao Wu*

14:00–15:00 **Long Term Results Of Implantable Hearing Aids**
Cochlear Implants and implantable devices · Panel Presentation *Mario Emilio Zernotti; Sunil Narayan Dutt; Abdullah Dalgic; Chen-Chi Wu;; SCHMERBER Sébastien; Raquel Manrique Huarte*

15:00–16:00 **Management Of Far Advanced Otosclerosis**
Cochlear Implants and implantable devices · Controversies *Demir Bajin; Beldan Polat; Domenico Cuda; Jawwad Ahmad*

16:30–17:00 **Surgical Anatomy Of The Inner Ear. Clinical Applications**
Cochlear Implants and implantable devices · Instructional Course *Manuel Jesús Manrique Rodríguez; Yutaka TAKUMI*

17:00–18:00 **Bring Your Own Case: Meet The Experts**
Cochlear Implants and implantable devices · Controversies *Emine Deniz Gözen; Selcuk Mulazimoglu; Vedat Topsakal; Yutaka TAKUMI*

Friday, 11 September 2026

07:00–08:15 **Bone Anchored Hearing Aids: Different Modalities**
Cochlear Implants and implantable devices · Panel Presentation *Milan Profant; P. Vijaya Krishnan; Miguel Sá Breda; Jaydip Ray; Beldan Polat; Jiří; Skřivan; Douglas D. Backous*

08:15–08:45 **Effect Of Baseline Stimulation On Vestibular Responses In Human Vestibular Implant Recipients**
Cochlear Implants and implantable devices · Keynote Lecture *Raymond van de Berg; Müzeyyen Yildirim Baylan*

08:45–09:30 **Programming Hearing Implant: New Techniques And New Strategies**
Cochlear Implants and implantable devices · Panel Presentation *Charles Limb; Abdullah Asma; Merve Ozbal Batuk*

10:45–11:15 **A Novel Bone Conduction Device**
Cochlear Implants and implantable devices · Keynote Lecture *Norio Yamamoto; Elif Baysal*

11:15–12:45 **Implantable Solution For Conductive And Mixed Hearing Loss**

Cochlear Implants and implantable devices · Panel Presentation *Farid Alzharani; Giuseppe Nicolò Frau; Miguel Sá Breda; John Martin Hempel; Emel; Tahir; Norio Yamamoto*

14:00–15:00 **Surgical Aspects Of Vestibular Implantation**

Cochlear Implants and implantable devices · Panel Presentation *Nils Guinand; Manuel Jesús Manrique Rodríguez; Andrzej Zarowski*

15:00–15:45 **CI In Very Young Children**

Cochlear Implants and implantable devices · Controversies *Gonca Sennaroğlu; Jiří Skřivan; Simon I Angeli*

15:45–16:00 **A Rare Case: Severe Otalgia In The Late Stages Of CI**

Cochlear Implants and implantable devices · Master of Surgery Video Presentation *Erdem Atalay Çetinkaya; Mehmet Çelik*

16:30–17:00 **Atypical Cases Of Cochlear Implantation**

Cochlear Implants and implantable devices · Keynote Lecture *Miguel Sá Breda; Hiroshi Yamazaki*

17:30–18:00 **Surgical Removal Of Intracochlear Inner Ear Schwannomas With Cochlear Implantation And Preservation Of Vestibular Receptor Function**

Cochlear Implants and implantable devices · Master of Surgery Video Presentation *Stefan K. Plontke; Hiroshi Yamazaki*

Saturday, 12 September 2026

07:30–08:30 **Inner Ear Abnormalities: Personalised Approach To Difficult Cases**

Cochlear Implants and implantable devices · Panel Presentation *Sanja Spiric; Omer Afsin Ozmen; Laila Telmesani*

08:30–10:00 **Otitis Media And CI Surgery**

Cochlear Implants and implantable devices · Panel Presentation *Fatthi Baki; Sady Selaimen; Yüksel Olgun; Omer Afsin Ozmen*

10:45–11:15 **Hearing Restoration In NF2 Patients**

Cochlear Implants and implantable devices · Keynote Lecture *Hao Wu; Sady Selaimen*

11:15–12:45 **Auditory Brainstem Implantation**

Cochlear Implants and implantable devices · Round Table *Mohan Kameswaran; Michael Tong; Hao Wu; Gonca Sennaroğlu; Ing Ping Tang;; Shakeel Saeed; Sady Selaimen*

14:00–15:00 **Electrode Malposition: How To Manage It?**

Cochlear Implants and implantable devices · Panel Presentation *Çağlar Batman; Betül Çiçek Çınar; Nicolas Verhaert; Mariam Aljehani*

15:00–16:00 **Late Surgical Problems In CI**

Cochlear Implants and implantable devices · Panel Presentation *Nicolas Verhaert; Ulku Tuncer; Daniele Marchioni; Kadir Serkan Orhan; Simon I; Angeli*

16:30–17:30 **Bring Your Own Case: Meet The Expert**

Cochlear Implants and implantable devices · Expert Discussion *Onur İsmi; Daniele Marchioni; Simon I Angeli; Işılay Öz*

17:30–17:45 **Kissing Cochlea: An Extreme Inner Ear Malformation, Novel Surgical Approach Via Cystic Vestibule**

Cochlear Implants and implantable devices · Master of Surgery Video Presentation *Secaattin Gülşen; Beldan Polat*

17:45–18:00 **“Surgical Considerations And Challenges Of Cochlear Implantation In Far-Advanced Otosclerosis”**

Cochlear Implants and implantable devices · Master of Surgery Video Presentation *İlker Akyıldız; Beldan Polat*

HEARING IMPLANT 3

ICC - B3 Floor - 3B/66

Wednesday, 9 September 2026

14:00–15:00 **Cortical Auditory Evoked Potentials And Neural Plasticity Across Hearing Devices**
Cochlear Implants and implantable devices · Round Table *Wafaa El Kholy; Andy Beynon; Mario Cebulla; Shehata-Dieler, Wafaa; Eyyup KARA*

15:00–15:30 **Music Perception In Cochlear Implant Users**
Cochlear Implants and implantable devices · Keynote Lecture *Ayça Çiprut; Dayse Tavora-Vieira*

15:30–16:00 **Single-Sided Deafness: Are We Achieving Long-Term Success With Cochlear Implantation?**
Cochlear Implants and implantable devices · Keynote Lecture *Ayça Çiprut; Dayse Tavora-Vieira*

16:30–17:30 **Rehabilitation Strategies In CMV Related Hearing Loss**
Cochlear Implants and implantable devices · Panel Presentation *Francesca Forli; Nazan Dalgic; Mehmet Ziya Özüer; Pelin Kocdor*

Thursday, 10 September 2026

07:15–07:45 **MASTER OF SURGERY VIDEO SESSION- 2**
Cochlear Implants and implantable devices · Master of Surgery Video Presentation *Ergin Eroğlu; Erkan Karatas; Ulku Tuncer*

07:45–08:45 **Longitudinal Speech And Language Outcomes Of Children With Auditory Neuropathy**
Cochlear Implants and implantable devices · Panel Presentation *Ayça Çiprut; George Tavartkiladze; Teresa Ching; Mehmet YARALI; Wafaa El Kholy;; Homood Almutairi*

08:45–10:00 **Imaging In CI**
Cochlear Implants and implantable devices · Panel Presentation *Laila Telmesani; Yutaka TAKUMI; Mahmoud Mandour; Badr Eldin Mostafa; Nozomu; Matsumoto; Vanessa Tan Yee Jueen; Levent Sennaroğlu; Luminita Radulescu*

10:45–11:15 **Approach To Asymetrical Hearing Loss**
Cochlear Implants and implantable devices · Keynote Lecture *Ahmet Atas*

11:15–12:45 **Cochlear Implantation In SSD And Asymmetrical Hearing Loss**
Cochlear Implants and implantable devices · Panel Presentation *Manuel Jesús Manrique Rodríguez; Antonio Della Volpe; Italo Cantore; Ahmet Atas;; Artur Lorens*

14:00–14:45 **Cochlear Implantation: Strategies For Maximizing Patient Outcomes**
Cochlear Implants and implantable devices · Panel Presentation *Sarah Mowry; Maura Cosetti; Michael Hoa; Teresa Ching*

14:45–15:05 **Management Of Infectious Complications In Cochlear Implant Recipient**
Cochlear Implants and implantable devices · Remarkable Presentation *Recep Karamert; İlker Burak Arslan*

15:05–15:35 **Implementation Of The Med-EL Otodrive: Results From The Canadian Health Care System**
Cochlear Implants and implantable devices · Instructional Course *Vincent Lin; OZGUR SURMELIOGLU*

16:30–17:15 **CI In Meniere's Disease**
Cochlear Implants and implantable devices · Panel Presentation *Recep Karamert; Badr Eldin Mostafa; Chen-Chi Wu*

17:15–18:00 **Beyond The Circuit. Electrode Impedance As A Biomarker For Intracochlear Health**
Cochlear Implants and implantable devices · Round Table *Dalia Hassan; Yassin Abdelsamad; Hannes Maier; Dayse Tavora-Vieira; Ellen; Andries*

Friday, 11 September 2026

07:00–07:20 **Master Of Video Session- Retrofacial Approach In CI**
Cochlear Implants and implantable devices · Master of Surgery Video Presentation *Rasim Yılmazer; Abdullah Dalgic*

07:20–07:40 **Master Of Video Session- CSF Otorrhea During CI**
Cochlear Implants and implantable devices · Master of Surgery Video Presentation *Müzeyyen Yildirim Baylan; Abdullah Dalgic*

07:40–08:00 **Master Of Video Session-Complication Of CI**
Cochlear Implants and implantable devices · Master of Surgery Video Presentation *Abdullah Dalgic; Özcan Öztürk*

08:00–08:20 **Master Of Video Session- CI In IP3**
Cochlear Implants and implantable devices · Master of Surgery Video Presentation *Abdullah Dalgic; Joshua Chen*

08:20–08:50 **Vestibular Problems After CI**
Cochlear Implants and implantable devices · Keynote Lecture *Wiener Vacher sylvette R.; Demir Bajin*

08:50–09:10 **Vertigo and Postural Instability in Children with CI & ABI**
Cochlear Implants and implantable devices · Remarkable Presentation *Wiener Vacher sylvette R.; Görkem Ertuğrul*

09:10–09:30 **How Does Cochlear Implantation Affect Five Vestibular End-Organ Functions**
Cochlear Implants and implantable devices · Remarkable Presentation *muhammed dağkıran; Wiener Vacher sylvette R.*

09:30–10:00 **Cochlear Ossification**
Cochlear Implants and implantable devices · Keynote Lecture *Maurizio Falcioni; Mario Emilio Zernotti*

10:45–11:15 **New Frontiers In CI And Middle Ear Active Implants**
Cochlear Implants and implantable devices · Keynote Lecture *Enis Alpin Güneri; Marco Mandala*

11:15–12:15 **Totally Implantable Cochlear Implant**
Cochlear Implants and implantable devices · International Symposia *Joachim Michael Müller; Huan Jia; Marco Mandala; Rob Briggs*

12:15–12:45 **Paediatric Auditory Brainstem Implantation: Patient Selection, Surgical Challenges And Management Of Complications**
Cochlear Implants and implantable devices · Keynote Lecture *Dan Jiang; Marco Mandala*

14:00–15:30 **Management Of Hypoplastic Cochlear Nerve**
Cochlear Implants and implantable devices · Panel Presentation *Saumitra Shah; Bee See Goh; Hakan Tutar; Mehmet Ziya Özüer; FABIO ANDRE; SELAIMEN; Mohan Kameswaran; Jaydip Ray*

15:30–16:00 **Transtympanic Electrically Evoked Auditory Brainstem Response (TTEABR) For Cochlear Implant Candidacy Evaluation**
Cochlear Implants and implantable devices · Keynote Lecture *Sunil Narayan Dutt; Jaydip Ray*

16:30–17:30 **LIVING GUIDELINES IN COCHLEAR IMPLANTATION IN ADULTS**
Cochlear Implants and implantable devices · Panel Presentation *Angel Ramos de Macias; Domenico Cuda; OZGUR SURMELIOGLU; Abdulrahman; Hagr; Fazıl Necdet Ardıç*

17:30–17:45 **Cochlear Implantation In A Patient With A Temporal Bone Fracture.**
Cochlear Implants and implantable devices · Master of Surgery Video Presentation *OZGUR SURMELIOGLU; Bahar çolpan*

17:45–18:00 **Cochlear Implantation: Surgical Practice And Clinical Considerations**
Cochlear Implants and implantable devices · Master of Surgery Video Presentation *Sibel Alicura Tokgöz; OZGUR SURMELIOGLU*

Saturday, 12 September 2026

07:00–07:30 **Pulsatile Tinnitus Surgery**
Otology/Neurotology · Instructional Course *Doğan Çakan; Ana Jotic*

08:00–09:00 **Tinnitus And Cochlear Implantation**
Cochlear Implants and implantable devices · Panel Presentation *Andrzej Zarowski; Shi Nae Park; Muhammad Sohail Awan; Eyyup KARA*

09:00–10:00 **How Life Goes For Implanties In Long Term**
Cochlear Implants and implantable devices · Panel Presentation *Pa-Chun Wang; Ahmet Alperen Akbulut; Sercan Çıkrıkcı; Esra YÜCEL; MEHMET; AKDAG*

10:45–11:15 **Humanitarian Cochlear Implant**
Cochlear Implants and implantable devices · Keynote Lecture *Abdulrahman Hagr; Tayyar Kalcıoğlu*

11:15–12:45 **Problems In Emerging Nations In CI**
Cochlear Implants and implantable devices · Panel Presentation *Daniela González Casas; Mutlaq AlSihan; Milan Dusan Stankovic; Badr Eldin; Mostafa; Daniele DE SIATI*

14:00–15:15 **Cochlear Implant Program In Balkan And Central Asian Countries**
Cochlear Implants and implantable devices · Panel Presentation *Tayyar Kalcıoğlu; Aigul Medeulova; Nozima Nadjmuddinova; Munar Beishenova;; Nenad Arsovic; Cem Uzun; Zebo Karimova*

15:15–15:35 **Revision Of CI In Chronic Otitis Media**
Cochlear Implants and implantable devices · Remarkable Presentation *MEHMET AKDAG; Levent Olgun*

15:35–15:55 **Management Of Hereditary Hearing Loss; Cochlear Implantation, Gene Therapy, And The Emerging Sequencing Dilemma**
Cochlear Implants and implantable devices · Remarkable Presentation *Ayşe Pelin Yiğider; Levent Olgun*

16:30–17:00 **Trauma In Cochlear Implantation: New Development On Biosensing And Imaging**
Cochlear Implants and implantable devices · Keynote Lecture *Nicolas Verhaert; Shi Nae Park*

17:00–17:30 **ABI In Adults**
Cochlear Implants and implantable devices · Keynote Lecture *Khassan Diab; Shi Nae Park*

17:30–18:00 **Electrically Evoked Auditory Late Respose is a Novel Method for Cochlear Implant Programming**
Cochlear Implants and implantable devices · Remarkable Presentation *Rışvan Deniz; Ahmet Atas*

HUM+ TRVERSE+GLOBAL 2

ICC - B3 Floor - 3B/10

Wednesday, 9 September 2026

14:00–15:00 **Simulation Education In Lmics: What Works And What Is Needed To Build The Global Surgical Workforce?**
Global Outreach (Regional or ENT related Organizations Symposia) · Panel Presentation *Cody Messick; Joshua Wiedermann; Taseer Din; David Zopf*

15:00–16:00 **Airway Foreign Body Removal Challenges And Solutions To Instrument Access**
Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Cody Messick; Taseer Din; Tarika Srinivasan; Victoria Cress*

16:30–17:30 **Tip Sutures**
Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Ender İnci; Adrian M Agius; Ihsan Ceceli; Seçkin Ulusoy*

17:30–18:00 **Surgical Otologic Training In Africa**
Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Benghalem Abdelhamid; Murad Mutlu*

Thursday, 10 September 2026

07:00–07:30 **Should Every Surgeon Have A Coach? Rethinking Excellence, Performance, And Professional Growth**
Transverse activities (Innovation, Basic Research, Education) · Keynote Lecture *Sam Daniel; Emre Ocak*

07:30–08:00 **SurgSchool: A New Standard In Surgical Training Through Mobile And On-Demand Learning.**
Transverse activities (Innovation, Basic Research, Education) · Keynote Lecture *José Carlos Casqueiro*

08:30–09:30 **Otolaryngology Training**
Transverse activities (Innovation, Basic Research, Education) · Panel Presentation *Tamer Abou-Elsaad; Cüneyt Orhan Kara; Camilla Carroll; Aysenur MERIC HAFIZ;; Hülya Eyigör; Taran Tatla*

09:30–10:00 **IFOS World Survey On Cancer Care**
Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Nicolas Fakhry; Merve Mutlu Çekim*

10:45–11:45 **Surgical Interventions For Paranasal Sinus Tumours**
Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Fikret Kasapoglu; Ghassan Alokby; İrfan Umay Tenekecioğlu; Răzvan Hainăroșie;; Alfred Aga*

11:45–12:45 **Emerging Trends And Innovations In Obstructive Sleep Apnea Management**
Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Zerrin Özergin Coşkun; Ahmed Bahgat; Ethem İlhan; Mustafa İbas; Mario Milkov*

14:00–15:00 **From Burden To Relief: Frontal Sinus Surgery**
Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Islam Herzallah; Apostolos Karligkiotis; Togay Müderris; Richard Harvey*

15:00–16:00 **Innovative Grafts In Rhinoplasty**
Transverse activities (Innovation, Basic Research, Education) · Panel Presentation *Sureyya Seneldir; Ahmet Koder*

16:30–17:30 **Cochlear Implant In Low Resource Countries: How To Build -Up A CI Program?**
Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Abdelaziz Raji; Murad Mutlu*

Friday, 11 September 2026

07:30–08:00 **Therapeutic Education For Children With Severe Bilateral Vestibular Loss: Supporting Families And Daily Care**
Transverse activities (Innovation, Basic Research, Education) · Instructional Course *Salma Jbyeh, MD; Nizamettin Burak Avcı*

08:00–09:00 **Modern Approaches In Rhinoplasty**
Transverse activities (Innovation, Basic Research, Education) · Panel Presentation *Sureyya Seneldir; Pedro Pablo Villarroel; Cristina Maria Goanta; Yelda Ceren Orhan*

09:00–10:00 **Neural Dynamics Of Swallowing: Current Approaches To Assessment And Treatment**
Transverse activities (Innovation, Basic Research, Education) · Panel Presentation *Müge Müzeyyen Çiyiltepe; Melih Çekinmez*

10:45–11:45 **History And Evolution Of Medicine**
Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Hesham Negm; Ulugbek Khassanov*

11:45–12:45 **Artificial Intelligence -Writing Scientific Articles: Practical And Ethical Features**
Transverse activities (Innovation, Basic Research, Education) · Panel Presentation *Taner Kemal Erdağ; Ozlem Onerci Celebi; NURAY BAYAR MULUK; Ömer Necati; Develioglu*

14:00–15:00 **Management Of Voice-Related Gender Dysphoria**

Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Seher Sirin; Guilherme Simas Do Amaral Catani; İsmail Koçak*

15:00–16:00 **Artificial Intelligence In ORL**

Transverse activities (Innovation, Basic Research, Education) · Panel Presentation *Emrah Gündüz; Noel Ayoub; Fakih Cihat Eravcı; Bahaeddin ERAVCI; Selis G. GUVEN;; Nahla Gomaa*

16:30–17:30 **Dizziness: New Insights**

Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Merve Mutlu Çekim; Fatih Çekim; Emrehan Dereköy; Haşmet Yeğin; Sefa Dereköy*

Saturday, 12 September 2026

07:00–07:30 **Key Stages In Scientific Article Writing**

Transverse activities (Innovation, Basic Research, Education) · Instructional Course *NURAY BAYAR MULUK; Cemal Cingi; Ömer Necati Develioglu*

07:30–08:00 **CHAT GPT & CO.: Harnessing Large Language Models In Otolaryngology**

Transverse activities (Innovation, Basic Research, Education) · Instructional Course *alberto maria saibene; Kemal Kef*

08:00–10:00 **Panel Presentation**

Transverse activities (Innovation, Basic Research, Education) · Panel Presentation *Sevval Karadag; Ilter Denizoglu; Erdogan Bulut; Tobias Moser; Jennifer GOODALL;; Fatemeh Makouei; Fakih Cihat Eravcı; Pelin Yildiz; Steven Goudy; Cristina Maria; Goanta; Raiyan Chowdhury; Ramil Hashimli; Cemal Cingi; Halil Erdem Özel*

10:45–11:45 **Pediatric ENT Problems**

Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Jean Baptiste Lecanu; Vincent Cousins; Ostap Orishchak; Doreen Naku; Mom; Thierry*

11:45–12:45 **Advances In The Laryngeal Treatment Of Chronic Cough From The American Academy Of Otolaryngology-Head & Neck Surgery**

Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Stephanie Misono; Nausheen Jamal; Daniel Fink; Kathleen Tibbetts*

14:00–15:00 **“From The Classroom To The Operating Room: Postgraduate Education For Sustainable ORL-HNS Surgery**

Transverse activities (Innovation, Basic Research, Education) · Panel Presentation *Camilla Carroll; Phui Yee Wong; Nahla Gomaa*

15:00–16:00 **New Horizons In Phonosurgery: Air Injection And Transillumination For Vocal Fold Mucosa**

Transverse activities (Innovation, Basic Research, Education) · Round Table *Seher Sirin; Zeynep Alkan; İsmail Koçak*

16:30–17:30 **Endoscopic Tympanoplasty**

Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Sven Beckmann; Furkan Kaya; Utku Mete*

17:30–18:00 **Anatomical And Cultural Considerations In Tip Plasty: An Individualized Approach Across Ethnicities**

Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Yunus Emre Topan; Akif Abakay*

HUM+TRVERSE+GLOBAL 1

ICC - B3 Floor - 3B/11

Wednesday, 9 September 2026

14:00–14:30 **From Idea To Medical Device: How To Do It.**

Transverse activities (Innovation, Basic Research, Education) · Keynote Lecture *Ilter Denizoglu; Erdogan Bulut*

14:30–15:00 **Voice: As Medical Landmark**

Transverse activities (Innovation, Basic Research, Education) · Keynote Lecture *Yusuf Kemal Kemaloğlu; Ilter Denizoglu*

15:00–16:00 **Variations In Ethnic Rhinoplasty**

Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Seçkin Ulusoy; Ahmet Arslanoğlu; Andrew Winkler; Gabriela Kopacheva -Barsova*

16:30–17:00 **The Rise Of Rhinology In Sub-Saharan Africa: A Tanzanian Experience**

Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Mustafa İbas*

17:00–18:00 **Overview Of Head And Neck Cancer Surgeries Worldwide**

Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Görkem Eskiizmir; Ehab Hanna; Egehan Salepci; Koichi Omori; Vincent Vander; Poorten*

Thursday, 10 September 2026

07:00–07:30 **The Journal Of Colleges Of Medicne JCMSA: A Model For Sharing Research From Low And Middle Income Countries (Lmics)**

Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Johannes Fagan; Emrehan Dereköy*

07:30–08:30 **Head And Neck Cancer: How To Manage Depending On Resource Availability?**

Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Johannes Fagan; Nicolas Fakhry; Koichi Omori; Manole Felicia; Mark Zafereo; Melek; Kezban Gürbüz*

08:30–09:30 **Brazilian Perspectives In Otorhinolaryngology: Guidelines, Innovation, And Access To Advanced Care**

Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Wilma Terezinha Anselmo Lima; André Alencar; FABRIZIO RICCI ROMANO; Arthur; Castilho*

09:30–10:00 **Transverse Activities (Innovation, Basic Research, Education) Notable Abstracts**

Notable Abstracts · Notable Abstract *Erdogan Bulut*

10:45–11:15 **Enhancing Clinical Outcomes Through Integrated Management: CFTR ENT Algorithm For Evaluating Otorhinolaryngological Manifestations In Cystic Fibrosis**

Transverse activities (Innovation, Basic Research, Education) · Keynote Lecture *Zacharias Kalentakis; Kemal Kef*

11:15–11:45 **The Global Journey Of IFOS Outreach: Milestones, Impact And The Road Ahead**

Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Mom Thierry; Cemal Cingi*

11:45–12:15 **Development Of Injectable Caha-Based Implants For Vocal Fold Regeneration**

Transverse activities (Innovation, Basic Research, Education) · Keynote Lecture *Dinara Toguzbayeva; Recep Yagiz*

12:15–12:45 **Neoadjuvant Chemotherapy In Hypopharyngeal Cancer**

Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Pen-Yuan Chu; Mom Thierry*

14:00–15:00 **Innovative Inner Ear**

Transverse activities (Innovation, Basic Research, Education) · Panel Presentation *Bernard Fraysse; Mehmet İlhan Şahin; Adrien A. Eshraghi; Emre Ocak; Recep Yagiz*

15:00–16:00 **The Genetic Pathways Of Head And Neck Cancer**

Transverse activities (Innovation, Basic Research, Education) · Round Table *Elif Ersoy Callioglu; SEDA TÜRKOĞLU BABAKURBAN; Fatih Tetik; Hakkı Caner İNAN*

16:30–17:00 **Hearing Screening and hearing aid rehabilitation in low-resource countries**

Global Outreach (Regional or ENT related Organizations Symposia) · Expert Discussion

17:00–17:30 **Structural Approach To The Nasal Vault In External Rhinoplasty**

Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Halis Ünlü; Seçkin Ulusoy*

Friday, 11 September 2026

07:00–08:00 **Extended Endoscopic Approaches In Latin America: Decision-Making Through Real Cases**

Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Jolie Anna Crespo Chanis; Luis Fernando Macias-Valle; Oswaldo A Henriquez;; Andre Felippu*

08:00–08:30 **Mobile Health (Mhealth) In Voice Acoustics**

Transverse activities (Innovation, Basic Research, Education) · Keynote Lecture *Buse Cetinkaya; Ilter Denizoglu*

08:30–09:00 **IFOS Educational Courses Around The World**

Global Outreach (Regional or ENT related Organizations Symposia) · Expert Discussion *Bernard Fraysse; Angel Ramos de Macias; Cemal Cingi*

09:00–10:00 **Patent Processes In Medical Practice**

Transverse activities (Innovation, Basic Research, Education) · Round Table *Ugur Yalciner; Ilter Denizoglu; Erdogan Bulut*

10:45–11:15 **Mastering Sialorrhea: Advances In Surgical Management**

Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Orhan Ozturan; Halis Ünlü*

11:15–11:45 **Three Pillars Of Surgical Teaching: Cadavers, Live Surgery, And 3D Technology**

Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Seçkin Ulusoy; Halis Ünlü*

11:45–12:45 **Training And Certification In Subspecialties In Otorhinolaryngology**

Transverse activities (Innovation, Basic Research, Education) · Round Table *Hülya Eyigör; Ilter Denizoglu*

14:00–15:00 **Innovative Approaches And Key Findings In The Inner Ear**

Transverse activities (Innovation, Basic Research, Education) · Round Table *Erdogan Bulut; Furkan Büyükkal; Nizamettin Burak Avcı; Ilknur Tasdemir Gursen;; Fatma Nur Komur; Begum Arda; Nagehan Gumusel Bulut*

15:00–16:00 **Global Perspectives On The Management Of Thyroid Malignancies And Local Practices**

Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Gregory W. Randolph; Johannes Fagan; Levent Soylu; Mustafa Kürşat Gökcan; Che-; Wei Wu; Giuseppe Mercante; Luiz P. Kowalski*

17:30–17:45 **Ethnic And Racial Perspectives In Modern Rhinoplasty**

Global Outreach (Regional or ENT related Organizations Symposia) · Remarkable Presentation *Serkan Bariskan; Utku Kubilay*

17:45–18:00 **Nasal Valve Surgery**

Global Outreach (Regional or ENT related Organizations Symposia) · Remarkable Presentation *Utku Kubilay; Serkan Bariskan*

Saturday, 12 September 2026

07:00–08:00 **Update On Noise Induced Hearing Loss**

Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Amarilis Menendez; Augusto Peñaranda; Maryna Biletska*

08:00–09:00 **Chronic Rhinosinusitis Treatment**

Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Jeffrey Bedrosian; Edwin Liyombo; Hussain Alrand; Erdi Özdemir; Cemal Cingi*

09:00–10:00 **Innovations In Otolaryngology: From Airway Management To Minimally Invasive Sialendoscopy**

Transverse activities (Innovation, Basic Research, Education) · Round Table *Zafer Ciftci; Giovanni Cammaroto; Nesrettin Fatih Turgut; Kemal Kef*

10:45–11:45 **Mirko Tos Ear & Hearing Research And Innovation**

Transverse activities (Innovation, Basic Research, Education) · Round Table *Cem Uzun; İbrahim Hızalan; Adrien A. Eshraghi; Emre Ocak; Erdogan Bulut; Ahmet; Atas; Suat Turgut; Mario Milkov*

11:45–12:45 **Grafting In Rhinoplasty**

Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Cemal Cingi; Nar Maya Thapa; Suzuki Masanobu; Pedro Pablo Villarroel; Ihsan; Ceceli*

14:00–14:30 **Pan African Endoscopic Ear Surgeons Federation: Then And Now.**

Global Outreach (Regional or ENT related Organizations Symposia) · Keynote Lecture *Waleed Moneir; Akif Abakay*

14:30–15:00 **From Idea To Patent-Process Procedures**

Transverse activities (Innovation, Basic Research, Education) · Instructional Course *Senem Kayahan*

15:00–16:00 **Pre-Biologic Treatment In Recurrent Nasal Polyposis: Optimizing Maximal Conventional Therapy**

Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Jeffrey Bedrosian; Leila Essakali; Cemal Cingi; Christopher Roxbury*

16:30–17:30 **Artificial Intelligence In Otolaryngology: Hype, Hope, And Clinical Translation**

Transverse activities (Innovation, Basic Research, Education) · International Symposia *Noel Ayoub; Pa-Chun Wang; Konstantina M. Stankovic*

ICC - MAIN ENTRANCE

Istanbul Congress Center

Wednesday, 9 September 2026

17:30–18:30 **Opening Cocktail 17:30-18.30**

Ceremony · Opening Ceremony

LARYNGOLOGY 1

ICC - B2 Floor - Emirgan 2

Wednesday, 9 September 2026

14:00–15:00 **Biophsiological Assessment of the VoiceAssessment Of Voice**
Laryngology · Continental or International Societies Sessions *James Phillip Thomas; Gamze Yesilli Puzella; Maral Yeşilyurt; Safiye Giran Örtekin*

15:00–15:30 **Transnasal Oesophagoscopy**
Laryngology · Instructional Course *Kate Heathcote; Remzi Dogan*

15:30–16:00 **Sulcus: Challenges And Treatment**
Laryngology · Instructional Course *Taner Yılmaz; Remzi Dogan*

16:30–17:30 **ELS Research Session**
Laryngology · Continental or International Societies Sessions *Necati Enver; Christoph Arens; Cesare Piazza*

17:30–18:00 **Optimizing Outcomes In Laser Laryngeal Surgery In The OR**
Laryngology · Instructional Course *marc Remacle; Necati Enver*

Thursday, 10 September 2026

07:30–08:30 **TLM: Beyond T1 Larynx**
Laryngology · Panel Presentation *Andrew J McWhorter; Daniel Fink; Viorel Zainea; Kamil Hakan Kaya; Çağatay Oysu*

08:30–09:00 **High Resolution Pharyngeal Manometry: When, Whom Why?**
Laryngology · Instructional Course *Chadwan Al Yaghchi; Leman Veziroğlu Birdane*

09:00–09:30 **Precision In Laryngeal Injections**
Laryngology · Controversies *yakubu karagama; Faisal Zagzoog; Meltem Demirdağ Çevikkan*

09:30–10:00 **Unilateral Vocal Fold Paralysis Management: What Have We Learned In The Past 25 Years?**
Laryngology · Keynote Lecture *Al Merati; Hakan Birkent*

10:45–11:15 **Management Of Vocal Cord Conctact Granulomas: Surgery, Therapy, Or Both?**
Laryngology · Controversies *Esra Özcebe; Hamdi Hakan Coşkun; Kristel Kalling*

11:15–11:45 **Voice Esthetics**
Laryngology · Keynote Lecture *Necati Enver; İsmail Koçak*

11:45–12:15 **New Technique Of Epiglottic Mucosal Free Graft For Treating Laryngeal Stenosis And Vocal Fold Reconstruction**
Laryngology · Keynote Lecture *Hyung Tae Kim; Meltem Akpınar*

12:15–12:45 **Contact Granuloma**
Laryngology · Keynote Lecture *Harun Cansız; Taner Yılmaz*

14:00–15:00 **Laryngoscopy Versus Electromyography**
Phoniatrics · Panel Presentation *James Phillip Thomas; Gerhard Föster; Selmin Karatayli Ozgursoy*

15:00–16:00 **Treatment Of Dysplasia: Surgery And Follow-Up**
Laryngology · Controversies *Anca Barbu; Nupur Kapoor Nerurkar; Sibel Yıldırım Moral; Selmin Karatayli; Ozgursoy; Karen Kost*

16:30–17:30 **Laryngeal Dystonia And Tremor**
Laryngology · Round Table *James Phillip Thomas; KAYHAN OZTURK; Nurullah Türe; Shiying Hey*

17:30–18:00 **Role Of Flexible Endoscopy In The Upper Aerodigestive :Practical Tips And Tricks**
Laryngology · Instructional Course *Christoph Arens; Zafer Ciftci*

Friday, 11 September 2026

07:00–07:30 **Profile Of Injured Singers: Expectations And Insights**
Laryngology · Keynote Lecture *Lesley Childs; SEVTAP AKBULUT*

07:30–08:00 **Chronic Cough: A Systematic Approach**
Laryngology · Instructional Course *Nausheen Jamal; SEVTAP AKBULUT*

08:00–09:00 **Retrograde Cricopharyngeus Muscle Disfunction**
Laryngology · Panel Presentation *SEVTAP AKBULUT; Markus Hess; yakubu karagama*

09:00–10:00 **Treatment Of Reinkes Edema**
Laryngology · Panel Presentation *İsmail Koçak; Peak Woo; Ceki Paltura*

10:45–11:15 **Unilateral Vocal Fold Paralysis: Timing For Treatment - Evidences**
Laryngology · Keynote Lecture *Geraldo Druck Sant Anna; Ramil Hashimli*

11:15–11:45 **Head And Neck Oncology Notable Abstracts 2**

Notable Abstracts · Notable Abstract *Şefik Hoşal*

11:45–12:45 **Understanding Larynx**

Laryngology · Panel Presentation *Hazem Saleh; TSUYOSHI KOJIMA; Ramil Hashimli; Lise CREVIER BUCHMAN*

14:00–15:00 **Pushing The Limits Of Office Procedures Of Larynx**

Laryngology · Panel Presentation *Lucian Sulica; R. Jun Lin; Hakan Birkent; Norazila Abdul Rahim; Necati Enver; NIK; FARIZA HUSNA NIK HASSAN*

15:00–15:30 **Pharyngocutaneous Fistula After Laryngectomy – Pectoralis Major Flap, Yes Or No?**

Head and Neck Oncology · Instructional Course *Robert Šifrer; Kerem Ozturk*

15:30–16:00 **Idiopathic Subglottic Stenosis: Change Of Therapeutic Paradigms?**

Laryngology · Instructional Course *Ozan Tüysüz; Guardmond Ajasllari*

16:30–17:30 **Unilateral Vocal Fold Paralysis — From Early To Late Management**

Laryngology · Round Table *Marina Mat Baki; Wonjae CHA; Anastasios Maniakas; Markus Blaurock*

17:30–18:00 **Real-Time Light-Guided Vocal Fold Injection: Clinical Experience And Technical Pearls And Pitfalls**

Laryngology · Instructional Course *Wonjae CHA; İlhan Topaloğlu*

Saturday, 12 September 2026

07:00–08:00 **Management Of Challenging Cases In Laryngology**

Laryngology · International Symposia *Z. Çiler Büyükatalay Yaldız; Ilter Denizoglu; Engin Başer*

08:00–08:30 **Optimizing Results In Office-Based Laryngological Procedures**

Laryngology · Instructional Course *Ozan Tüysüz; Anastasios Hantzakos*

08:30–09:00 **Laser Treatments Of Benign Lesions In Clinics**

Laryngology · Instructional Course *Mursalin M. Anis; Ozan Tüysüz*

09:00–09:30 **New Tools For Dysphagia Management In Head And Neck Cancer**

Laryngology · Keynote Lecture *Jacqui Allen; Esin Özlem Atmış*

09:30–10:00 **Voice Masculinization**

Laryngology · Expert Discussion *İsmail Koçak; Kursat Yelken*

10:45–11:15 **Chronic Cough: Diagnostic And Treatment Enigma**

Laryngology · Keynote Lecture *Karuna Dewan; Ismail Kocak*

11:15–12:15 **Practical Management Of Laryngopharyngeal Reflux Disease**

Laryngology · Panel Presentation *Jerome LECHIEN; Dinara Toguzbayeva; Mehmet Ekrem Zorlu*

12:15–12:45 **Non-Selective Reinnervation Vs Medialization: What To Do?**

Laryngology · Controversies *Kate Heathcote; jean paul marie*

14:00–15:00 **Challenges In Managing Pediatric Voice Disorders**

Laryngology · Round Table *Nurcan Alpüran Kocabıyık; Ozlem Onerci Celebi; saime sağıroglu*

15:00–16:00 **Voice Feminization And Gender-Affirming Surgery: Current Trends**

Laryngology · Round Table *marc Remacle; Kursat Yelken; Markus Hess; Hakan Birkent*

16:30–17:30 **Arytenoid Adduction: Tips And Tricks**

Laryngology · Panel Presentation *Taner Yılmaz; TETSUJI SANUKI; Al Merati*

17:30–18:00 **Laryngeal Neuropathy-Globus, Cough**

Laryngology · Instructional Course *Inna Husain; Ismail Kocak*

LARYNGOLOGY 2

ICC - B3 Floor - 3B/09

Wednesday, 9 September 2026

14:00–14:30 **Laryngology In 2026: Standard Of Care And State Of The Art**
Laryngology · Keynote Lecture *Elisabeth Sjogren; Kursat Yelken*

14:30–15:00 **Office Based Laryngeal Laser Applications**
Laryngology · Instructional Course *Markus Hess; Ferhan Öz*

15:00–15:30 **Lateral Cricoarytenoid Injuries – The Missed Nerve Impairments**
Laryngology · Keynote Lecture *James Phillip Thomas; Ferhan Öz*

15:30–16:00 **Vocal Fold Cysts- Tread With Cautioni**
Laryngology · Keynote Lecture *Nupur Kapoor Nerurkar; Ferhan Öz*

16:30–17:30 **Complex Laryngeal Pathologies**
Laryngology · Panel Presentation *Amanda Hu; John-Helge Heimdal; A. Volkan Sunter*

17:30–18:00 **Office Based EMG Guided Botulinum Toxin Injection In SD**
Laryngology · Instructional Course *Marie Mailly; Leman Veziroğlu Birdane*

Thursday, 10 September 2026

07:00–07:30 **Otolaryngology Litigation And Clinical Standards: Insights From An Expert Witness**
Transverse activities (Innovation, Basic Research, Education) · Instructional Course *Fahmy Fayez Fahmy*

07:30–08:00 **Laryngology Notable Abstracts**
Notable Abstracts · Notable Abstract *Kursat Yelken*

08:00–09:00 **Anterior Commissure: From Anatomy To Surgery**
Laryngology · Round Table *Ahmet Mutlu; Malgorzata Wierzbicka; Taner Yılmaz*

09:00–10:00 **Evolution Of Surgical Techniques In Early Laryngeal Cancer, From Open To Endoscopic Techniques**
Laryngology · Round Table *Cesare Piazza; Meltem Akpınar; Mehmet Düzlü; Sefa İncaz*

10:45–11:45 **Non-Invasive Neuromodulation in Neuro-Laryngology: From Peripheral Stimulation to Cortical Modulation.**
Laryngology · Panel Presentation *Hirohito Umeno; Bengu Cobanoglu; Oğuzhan Katar; Nurcan Alpüran Kocabıyık;; Ozan Tüysüz*

11:45–12:45 **Emerging Therapies For Unilateral Vocal Fold Paralysis**
Laryngology · Round Table *yakubu karagama; Meltem Demirdağ Çevikkan; Philippe Schultz*

14:00–14:30 **NBI And Laryngeal Imaging**
Laryngology · Expert Discussion *Nupur Kapoor Nerurkar; Yo Kishimoto*

14:30–15:30 **Laryngo-Tracheal Trauma**
Laryngology · Panel Presentation *HASBELLAOUI Mokhtar; Ayşegül Batıoğlu Karaaltın*

15:30–16:00 **Clinical Dilemmas In Diagnosing And Treating Voice Disorders**
Laryngology · Round Table *Ozlem Onerci Celebi; Rukiye Özçelik Erdem; Fazilet Altın*

16:30–17:30 **Zenker's Diverticulum: Spectrum Of Treatment**
Laryngology · Expert Discussion *Andrew J McWhorter; Daniel Fink; Al Merati; Brianna Crawley*

17:30–18:00 **Stroboscopy: Mastering Advanced Imaging For Diagnosis**
Laryngology · Instructional Course *Guillermo Campos; Ozlem Onerci Celebi*

Friday, 11 September 2026

07:30–08:00 **Laryngeal Papillamatosis: Treatment Modalities**
Laryngology · Keynote Lecture *Ferhan Öz*

08:00–09:00 **AI In Laryngology: Opportunities And Challenges**
Laryngology · Panel Presentation *alberto paderno; Ebru Karakaya Gojayev; Banu Atalay Erdogan; Mehmet Akif Kılıç*

09:00–10:00 **Management Of Bilateral Vf Paralysis**
Laryngology · Round Table *Kishore Sandu; Alfred Aga; Chadwan Al Yaghchi; Serap Şahin Önder*

10:45–11:15 **Laryngotracheal Stenosis In The Adult Patient**
Laryngology · Keynote Lecture *Guri Sandhu; Harun Cansız*

11:15–12:15 **Phonomicrosurgery From Basic To Advanced Cases**
Laryngology · Panel Presentation *Elisabeth Sjogren; Nupur Kapoor Nerurkar; Markus Hess; Peak Woo; Geraldo Druck; Sant Anna; Ahmed Geneid*

12:15–12:45 **Medialization Laryngoplasty: How Far Should We Push?**
Laryngology · Controversies *Ahmed Geneid; Ferhan Öz*

14:00–15:00 **Transoral Surgery of the Larynx**
Laryngology · Round Table *Hirohito Umeno; Ayşegül Batıoğlu Karaaltın; Daniel Fink; Andrew J McWhorter*

15:00–15:30 **Beyond The Needle: Lasting Voice Restoration Via Type 2 Thyroplasty In Adductor Spasmodic Dysphonia**
Laryngology · Master of Surgery Video Presentation *TETSUJI SANUKI; Kursat Yelken*

15:30–16:00 **Microlaryngeal Surgery: Tips And Tricks For Better Outcomes**
Laryngology · Round Table *Kursat Yelken; Lucian Sulica; Emel Çadallı Tatar*

16:30–17:30 **Developing Standards For Phonosurgery In Elite Vocalists**
Laryngology · Panel Presentation *Nupur Kapoor Nerurkar; Reinaldo Yazaki; Lucian Sulica; İsmail Koçak*

17:30–17:45 **Modern Approaches To The Formation Of A Cannula-Free Tracheostomy And Their Clinical Efficiency**
Head and Neck Oncology · Remarkable Presentation *Alfisa Orozalieva; Bengu Cobanoglu*

17:45–18:00 **Surgical Management Of A Massive Goiter: Operative Video Lecture**
Head and Neck Oncology · Remarkable Presentation *Ibrahim Salih Gecer; Bengu Cobanoglu*

Saturday, 12 September 2026

07:00–08:00 **Treatment Of Early Staged Larynx Cancer**
Laryngology · Panel Presentation *Milan Dusan Stankovic; Selçuk Güneş; Damira Maktybaeva*

08:00–08:30 **Laryngeal Selective Reinnervation**
Laryngology · Keynote Lecture *jean paul marie; Kate Heathcote*

08:30–09:30 **Challenges Airway Surgery**
Laryngology · Round Table *Guri Sandhu; Karen Kost; Yoichiro Sugiyama*

09:30–10:00 **How To Decide Between Office -Based And OR Procedures In Benign Vocal Fold Surgery**
Laryngology · Keynote Lecture *marc Remacle; Ferhan Öz*

10:45–11:15 **Traditional And Innovative Applications Of Laryngeal Electromyography**
Laryngology · Keynote Lecture *Amanda Hu; Arzubetul Duran*

11:15–12:15 **Voice And Swallowing Rehabilitation Post-Laryngeal Cancer Treatments**
Laryngology · Panel Presentation *Sefa İncaz; Arzubetul Duran; Bayram Barış BUYUK; felat toprak*

12:15–12:45 **Voice Rest Or Early Vocal Rehabilitation – What Does Evidence Suggest?**
Laryngology · Controversies *Aude Lagier; Arzubetul Duran*

14:00–15:00 **RRP Current Management And Future Directions**
Laryngology · Panel Presentation *Alfred Aga; Fatih Öner; Malgorzata Wierzbicka; Joanna Jackowska; Karen Kost*

15:00–16:00 **Management Of Tracheal And Subglottic Stenosis**
Laryngology · Round Table *Prashanth.N; Soumitra Ghosh; R. Jun Lin; Özgül Gergin; worood husain*

16:30–17:30 **Optimizing Vocal Outcomes In Early Glottic Cancer**
Laryngology · Panel Presentation *marc Remacle; Hamdi Hakan Coşkun; Christoph Arens*

17:30–18:00 **Platelet Rich Plasma Treatment For Vocal Fold Pathology**
Laryngology · Instructional Course *Jacqui Allen; H Hakan Coşkun*

OTOLOGY 1

ICC - B2 Floor - Harbiye Auditorium

Wednesday, 9 September 2026

14:00–15:00 **Regenerative Delivery Methods To The Inner Ear**
Otology/Neurotology · Panel Presentation *Judith Kempfle; Marlan Hansen; Charles Limb; Yilai Shu; Marcello Rivolta; Tayfun; Kirazlı*

15:00–15:30 **Delivery To The Inner Ear**
Otology/Neurotology · Keynote Lecture *Ghizlene LAHLOU; Tayfun Kirazlı*

15:30–16:00 **Tips And Pitfalls Of Canal Wall Reconstruction In Canal-Wall-Down Mastoidectomy.**
Otology/Neurotology · Instructional Course *Simon I Angeli; Tayfun Kirazlı*

18:05–18:20 **Welcome Reception 17:30-18:30**
Ceremony · Opening Ceremony

18:20–18:35 **Opening Ceremony 18:30-20:15**
Ceremony · Opening Ceremony

Thursday, 10 September 2026

07:00–07:30 **Robotics And Ear**
Otology/Neurotology · Keynote Lecture *Marco Caversaccio*

07:30–08:00 **Evidence Based Treatment Of Sudden Sensorineural Hearing Loss (ISSNHL)**
Otology/Neurotology · Instructional Course *Stefan K. Plontke; Marco Caversaccio*

08:00–08:30 **Surgical Anatomy Of The Inner Ear**
Otology/Neurotology · Instructional Course *Manuel Jesús Manrique Rodríguez; Marco Caversaccio*

08:30–09:00 **Beyond "See One, Do One, Teach One". Rethinking How We Train Ear Surgeons.**
Otology/Neurotology · Keynote Lecture *Daniele BERNARDESCHI; Ilka Naumann*

09:00–10:00 **Otosclerosis**
Otology/Neurotology · Round Table *Robert Jan Pauw; Daniele BERNARDESCHI; Nicola Quaranta; SCHMERBER Sébastien*

10:45–11:45 **Current Management Strategies For Vestibular Schwannoma**
Otology/Neurotology · Round Table *Walter Kutz; Romain Kania; Zdenek Fik; Trung Le; Khassan Diab*

11:45–12:15 **Diagnosis And Treatment Of Sensorineural Hearing Loss Using An Ultrafine Otoendoscope**
Otology/Neurotology · Instructional Course *SHO KANZAKI; Bernard Fraysse*

12:15–12:45 **Controversies In The Diagnosis And The Management Of Otosclerosis**
Otology/Neurotology · Keynote Lecture *Bernard Fraysse*

13:00–14:00 **Industry Sponsored Session**
Industrial · Satellitte Symposium *Adi Nilson; Brian Kaplan; Angel Ramos de Miguel; Andrzej Zarowski*

14:30–15:00 **Management Of Solitary Vestibular Schwannoma: What Did We Learn From The Last Century?**
Otology/Neurotology · Keynote Lecture *Daniele BERNARDESCHI*

15:00–16:00 **Vestibular Schwannoma**
Otology/Neurotology · Round Table *Stefan K. Plontke; Konstantina M. Stankovic; Benghalem Abdelhamid*

16:30–17:00 **Facial Nerve Outcome In Vestibular Schwannoma: A Change In Paradigm**
Otology/Neurotology · Keynote Lecture *Miguel Arístegui*

17:00–18:00 **Reimagining Otologic Practice Through Technology**
Otology/Neurotology · Panel Presentation *Pa-Chun Wang; Huan Jia; Konstantina M. Stankovic; Jong Woo Chung*

Friday, 11 September 2026

07:00–07:30 **Types of Tympanoplasty: From Classification to Clinical Practice**
Otology/Neurotology · Keynote Lecture *İrfan Devranoğlu*

07:30–08:00 **Surgery For Temporal Bone And Lateral Skull Base Malignant Tumors**
Otology/Neurotology · Instructional Course *Chunfu Dai; Milan Dusan Stankovic*

08:00–08:30 **Surgical Innovations In Management Of Paraganglioma In The Jugular Foramen**
Otology/Neurotology · Keynote Lecture *Chunfu Dai*

08:30–09:00 **The Business Of American Medicine: How To Thrive In Practice**
Otology/Neurotology · Keynote Lecture *Gene Brown; Milan Dusan Stankovic*

09:00–10:00 **Temporal Bone And Skull Base Tumors**

Otology/Neurotology · Round Table *Milan Dusan Stankovic; Hakan Tutar; Maniu Alma Aurelia; Daniele Marchioni; Mete; İşeri; Yang-Sun Cho*

10:45–11:15 **Otology Notable Abstracts 1**

Notable Abstracts · Notable Abstract *Tayfun Kirazlı; Evren Hizal*

11:15–12:45 **Hearing Implant Notable Abstracts**

Notable Abstracts · Notable Abstract *Kadir Serkan Orhan; Evren Hizal*

14:00–14:30 **Surgical Decision And Techniques In Tympano-Jugular Paraganglioma**

Otology/Neurotology · Instructional Course *Enrico Piccirillo; Maurizio Falcioni*

14:30–15:00 **Skull Base Surgery**

Otology/Neurotology · Keynote Lecture *Marc Bassim; Enrico Piccirillo*

15:00–16:00 **Management Of Temporal Bone And External Auditory Canal Tumors**

Otology/Neurotology · Panel Presentation *Khassan Diab; Vincent Lin; Md. Harun Ar Rashid Talukder; Enrico Piccirillo; Jong; Woo Chung*

16:30–17:30 **Temporal Bone Tumors: Fudan Perspective**

Otology/Neurotology · Panel Presentation *Chunfu Dai; Yibo Zhang; Feitian Li; Bingbin Xie*

17:30–18:00 **Subtotal Petrosectomy**

Otology/Neurotology · Instructional Course *Chunfu Dai; Maurizio Falcioni*

18:30–19:00 **Gala Dinner in Çırağan Palace Kempinski Bosphorus 18:30-23:00 requires additional ticket**

Ceremony · Closing Ceremony

Saturday, 12 September 2026

07:00–07:30 **Otosclerosis Updated Management Protocol**

Otology/Neurotology · Instructional Course *Evren Hizal*

07:30–08:00 **Stapes Surgery: Rules & Hints**

Otology/Neurotology · Instructional Course *Robert Vincent; Evren Hizal*

08:00–08:30 **Otosclerosis: From The Lab To The Clinical Set**

Otology/Neurotology · Instructional Course *Sady Selaimen; Evren Hizal*

08:30–09:30 **Otosclerosis Surgery: Standardization, Pitfalls And Pearls**

Otology/Neurotology · Round Table *Romain Kania; Thomas Nikolopoulos; Payal Mukherjee; Maniu Alma Aurelia; Mehmet; Ziya Özüer*

09:30–10:00 **How To Perform Minimally Traumatic Stapes Surgery**

Otology/Neurotology · Instructional Course *Ahmad Alamadi; Romain Kania*

10:45–11:45 **Preoperative Assessment And Imaging Strategies In Otosclerosis**

Otology/Neurotology · Panel Presentation *Nazım Korkut; Christof Roosli; DANIELE DE SETA; Onur Çelik*

11:45–12:45 **Otosclerosis Surgery: Functional Outcomes And Evolving Techniques**

Otology/Neurotology · Panel Presentation *Fazıl Necdet Ardıç; Alejandro Harguindey Antolí-Candela; Maniu Alma Aurelia;; Kristen Rak*

14:00–15:00 **Revision Stapedotomy And Advanced Otosclerosis: Managing Failures And Measuring Success**

Otology/Neurotology · Panel Presentation *Robert Vincent; Eugenijus Lesinskas; Alimohamad Asghari; Marija Dokoska;; Secaattin Gülşen*

15:00–16:00 **Standardization Of Stapedial Surgery In Otosclerosis**

Otology/Neurotology · Round Table *Simon Schams; OSMAN NURİ ÖZGİRGİN; Robert Vincent; Petar Rouev*

16:30–17:00 **Development Of Objective And Quantifiable Hearing Improvement Surgery Using Intraoperative Measurement Device And Surgical Database Of Ossicular Mobility**

Otology/Neurotology · Instructional Course *SHO KANZAKI*

17:00–17:30 **Otoplasty: The Versatile Technique**

Otology/Neurotology · Instructional Course *SHO KANZAKI*

17:30–18:00 **Otitis Media With ANCA-Associated Vasculitis (OMAAV)**

Otology/Neurotology · Keynote Lecture *YUKA MORITA; SHO KANZAKI*

18:00–18:30 **Closing Ceremony**

Ceremony · Closing Ceremony

OTOLOGY 2

ICC - B2 Floor - Beylerbeyi 1

Wednesday, 9 September 2026

14:00–14:30 **Indications And Results Of Bone Anchored Hearing Aids**
Otology/Neurotology · Instructional Course *Giampietro Ricci; Luca D'Ascanio; Armağan İncesulu*

14:30–15:00 **Treatment Of Far-Advanced Otosclerosis**
Otology/Neurotology · Instructional Course *Luca D'Ascanio; Giampietro Ricci; Armağan İncesulu*

15:00–15:30 **Hearing Preservation And Cochlear Implantation In Vestibular Schwannoma Management**
Otology/Neurotology · Instructional Course *Mia Miller; Armağan İncesulu*

15:30–15:45 **Classification And Surgical Management Of Tympanosclerosis**
Otology/Neurotology · Remarkable Presentation *Vijayendra Honnurappa; Armağan İncesulu*

16:30–17:00 **Petrous Bone Cholesteatoma: Diagnosis, Surgical Management And Outcomes Of Primary And Residual Disease**
Otology/Neurotology · Keynote Lecture *Filippo Di Lella; Giulia Bertoli; Tayfun Kirazlı*

17:00–17:30 **Surgical Anatomy Of The Temporal Bone**
Otology/Neurotology · Instructional Course *Tayfun Kirazlı; Asım Aslan*

17:30–18:00 **Cadaveric Temporal Bone Surgical Dissection: Step By Step**
Otology/Neurotology · Instructional Course *Emine Deniz Gözen; Tayfun Kirazlı*

Thursday, 10 September 2026

07:00–07:30 **Minimally Invasive Surgical Techniques For Ossicular Reconstruction. Indications, Techniques & Results**
Otology/Neurotology · Instructional Course *Robert Vincent; Armağan İncesulu*

07:30–08:00 **Conductive Hearing Loss: Tympanoplasty, Hearing Aid Or Implantable Devices?**
Otology/Neurotology · Instructional Course *Mark Praetorius; Armağan İncesulu*

08:00–08:30 **Endoscopic Vs. Microscopic Stapes Surgery**
Otology/Neurotology · Instructional Course *Hüseyin Dere; Armağan İncesulu*

08:30–09:00 **Management Of Middle Ear Ossicular Chain Anomalies**
Otology/Neurotology · Instructional Course *Armağan İncesulu*

09:00–10:00 **Ossicular Reconstruction**
Otology/Neurotology · Panel Presentation *Marcus Neudert; Onur Çelik; Nobuhiro Hakuba; Sefa Dereköy; Daniela Ribeiro*

10:45–11:45 **Ossiculoplasty**
Otology/Neurotology · Panel Presentation *İbrahim Erdim; Milan Dusan Stankovic; Tallat Najeeb; Milan Profant; Arzu; TATLIPINAR; Turgut Karlıdağ*

11:45–12:45 **Management of Conductive Hearing Loss**
Otology/Neurotology · Panel Presentation *Kadir Serkan Orhan; Hong Ju Park; Romain Kania; Ahmed Samanody; Turgut; Karlıdağ; Yüksel Olgun; Ediz Yorgancılar*

14:00–14:30 **Immunology Of The Ear**
Otology/Neurotology · Keynote Lecture *Evren Hizal*

14:30–15:30 **Sudden Hearing Loss**
Otology/Neurotology · Panel Presentation *Seiji Kakehata; Iman Ibrahim; Evren Hizal; Fulya Özer*

15:30–16:00 **Congenital CMV Infection: Early Diagnosis, Hearing Loss, Cochlear Implant**
Otology/Neurotology · Keynote Lecture *Francesca Forli; Evren Hizal*

16:30–17:00 **Comprehensive Management Of Facial Paralysis After Skull Base Surgery**
Otology/Neurotology · Instructional Course *Luis Lassaletta; Vincent Van Rompaey*

17:00–17:30 **Disease-Modifying Therapies In Sensorineural Hearing Loss**
Otology/Neurotology · Keynote Lecture *Vincent Van Rompaey*

17:30–18:00 **Single-Sided Deafness In Children: What To Do?**
Otology/Neurotology · Instructional Course *Franco Trabalzini; Vincent Van Rompaey*

Friday, 11 September 2026

07:00–07:30 **Middle Ear Basic Research: A New Pathogenesis Of Cholesteatoma**
Otology/Neurotology · Instructional Course *TOMOMI YAMAMOTO-FUKUDA; Badr Eldin Mostafa*

07:30–08:00 **Management Of Petrous Bone Cholesteatoma: The Gruppo Otologico Experience**
Otology/Neurotology · Keynote Lecture *Enrico Piccirillo; Badr Eldin Mostafa*

08:00–08:30 **Cholesteatoma : All You Need To Know**
Otology/Neurotology · Instructional Course *Badr Eldin Mostafa*

08:30–09:30 **Cholesteatoma: From Pathophysiology To Clinical Management**
Otology/Neurotology · Round Table *OSMAN NURİ ÖZGİRGİN; Andrzej Zarowski; Manuel Jesús Manrique Rodríguez*

09:30–10:00 **Petrous Bone Cholesteatoma: How To Reduce Recidivism?**
Otology/Neurotology · Keynote Lecture *Khassan Diab; OSMAN NURİ ÖZGİRGİN*

10:45–11:45 **Cholesteatoma: Optimizing Surgical Management**
Otology/Neurotology · Panel Presentation *Daniele BERNARDESCHI; Wenyan Li; Vafa Panahian; Kazuhisa Yamamoto; YUKA; MORITA*

11:45–12:45 **Cholesteatoma Challenges: Innovative Approaches**
Otology/Neurotology · Panel Presentation *Mohamed Badr-El-Dine; Mehmet Murat Günay; Fazıl Necdet Ardıç; Şemsettin; Okuyucu; Jong Woo Chung; Daniele BERNARDESCHI*

14:00–15:00 **Mastering Cholesteatoma Surgery: Tips & Tricks**
Otology/Neurotology · Panel Presentation *Michael Gluth; Maniu Alma Aurelia; Elif Baysal; Banzamit Makhlouf; Mete İşeri; Neil; Donnelly*

15:00–16:00 **Cholesteatoma: Surgical Challenges And Patient Outcomes**
Otology/Neurotology · Panel Presentation *Neil Donnelly; Christof Roosli; Kemal Görür; Müzeyyen Yildirim Baylan; Sergey; Kosyakov*

16:30–17:30 **Cholesteatoma Surgery: From Mastoidectomy To Complication Management**
Otology/Neurotology · Panel Presentation *Mihael Ries; Petar Rouev; Dragana Simić; İlker Akyıldız; Andrzej Zarowski*

17:30–18:00 **Comparison Of Obliteration Techniques In Cholesteatoma Surgery**
Otology/Neurotology · Instructional Course *Andrzej Zarowski*

Saturday, 12 September 2026

07:30–08:00 **Modern Imaging In Cochlear Implantation - From Bench To Bedside**
Otology/Neurotology · Keynote Lecture *Kristen Rak*

08:00–09:00 **Tympanoplasty: Grafts and regenerative strategies**
Otology/Neurotology · Panel Presentation *Tayfun Kirazlı; SHINICHI KANEMARU; Vafa Panahian; Özgür Yiğit; Madina; Zheenbekova*

09:00–10:00 **Management Of Facial Nerve Paralysis**
Otology/Neurotology · Panel Presentation *Milan Dusan Stankovic; Isa Kaya; Onur İsmi; Dragoslava Djerić; Marco Bonali*

10:45–11:45 **Advanced Visualization In Otologic Surgery: The Expanding Role Of The Exoscope**
Otology/Neurotology · Panel Presentation *Tsukasa ITO; Sheng Zhou; Yasuhiro Tanaka; Shintaroh Amano; Chikako Shinkawa*

11:45–12:45 **Tympanoplasty: Pearls, Pitfalls, And Challenging Situations**
Otology/Neurotology · Round Table *Cem Uzun; Dragana Simić; Aziz Mustafa; Yibo Zhang; Banzamit Makhlouf; Asım; Aslan*

14:00–15:00 **Tympanoplasty: Techniques, Approaches, And Outcomes**
Otology/Neurotology · Panel Presentation *Alejandro Harguindey Antolí-Candela; Dragana Simić; Burak Mustafa TAŞ; Luana-; Maria Gherasie; İsmail Aytaç*

15:00–16:00 **Intraoperative Monitoring In Otologic Surgery**
Otology/Neurotology · Round Table *Gul Acar; Huan Jia; Ediz Yorgancılar*

16:30–17:30 **Imaging In Otology And Neurotology**
Otology/Neurotology · Panel Presentation *Norio Yamamoto; Henrique Furlan Pauna; Mariko Kasuga*

17:30–18:00 **Mastoid Obliteration In Chronic Otitis Surgery**
Otology/Neurotology · Instructional Course *Mihael Ries; Norio Yamamoto*

OTOLOGY 3

ICC - B3 Floor - 3B/58

Wednesday, 9 September 2026

14:00–14:30 **Tinnitus**
Otology/Neurotology · Instructional Course *Gregory J. Basura; Evren Hizal*

14:30–15:00 **Objectifying A Subjective Problem: Using Functional Near-Infrared Spectroscopy To Map Human Tinnitus**
Otology/Neurotology · Instructional Course *Gregory J. Basura; Evren Hizal*

15:00–15:30 **Idiopathic CSF Hypotension, The Forgotten Diagnosis**
Otology/Neurotology · Keynote Lecture *Fahmy Fayez Fahmy; Evren Hizal*

15:30–16:00 **When The Ear Speaks First: Hearing Loss As An Early Indicator Of Systemic Pathology**
Otology/Neurotology · Keynote Lecture *Ilka Naumann; Evren Hizal*

16:30–17:00 **Infectious Risk Factors In Congenital Hearing Loss**
Otology/Neurotology · Instructional Course *Laura Maria De Luca; Evren Hizal*

17:00–17:30 **Classification And Surgical Management Of Attic Retraction Pockets**
Otology/Neurotology · Instructional Course *Evren Hizal; Vijayendra Honnurappa*

17:30–18:00 **Single Side Deafness: How To Make A Decision?**
Otology/Neurotology · Instructional Course *Mohamed Mahtar; Evren Hizal*

Thursday, 10 September 2026

07:00–07:30 **Inner Ear Regeneration Therapy**
Otology/Neurotology · Instructional Course *Manuel Jesús Manrique Rodríguez*

07:30–08:00 **Stem Cells In Otology**
Otology/Neurotology · Keynote Lecture *Marcello Rivolta; Mustafa Tekin*

08:00–09:00 **Genetics And Hearing Loss**
Otology/Neurotology · Panel Presentation *Mustafa Tekin; Lukas Varga; Raquel Manrique Huarte; Georgios Korres; Hideki; Mutai*

09:00–10:00 **Innovative Inner Ear Therapies For Hearing Loss: Current Status**
Otology/Neurotology · Panel Presentation *Michael Hoa; Vincent Van Rompaey; Yilai Shu; Judith Kempfle*

10:45–11:45 **Advances In Inner Ear Therapeutics (American Academy Of Otolaryngology)**
Otology/Neurotology · International Symposia *Wade Chien; Konstantina M. Stankovic; Michael Hoa; Alan G. Cheng; Natalie; Loundon*

11:45–12:45 **Regenerative Therapy in Middle and Inner Ear Disorders**
Otology/Neurotology · Panel Presentation *Konstantina M. Stankovic; Judith Kempfle; SHINICHI KANEMARU; Wade Chien*

14:00–14:30 **Stem Cells In Cochlear Cells Regeneration**
Otology/Neurotology · Instructional Course *Takayuki Okano*

14:30–15:00 **Network In The Genetic Diagnosis Of Hypoacusia**
Otology/Neurotology · Instructional Course *Sebastian Picciafuoco; Takayuki Okano*

15:00–15:30 **Gene Therapy With AAV-Hotof For Autosomal Recessive Deafness**
Otology/Neurotology · Keynote Lecture *Yilai Shu; Takayuki Okano*

15:30–16:00 **Modiifed Radical Mastoidectomy Reconstruction/ Rehabilitation**
Otology/Neurotology · Keynote Lecture *Shane Anderson; Takayuki Okano*

16:30–17:30 **Drug Delivery To The Inner Ear**
Otology/Neurotology · Panel Presentation *Akira Ishiyama; Stefan K. Plontke; Sebastian Picciafuoco; Trung Le*

Friday, 11 September 2026

07:00–07:30 **Revision Atresiaplasty**
Otology/Neurotology · Keynote Lecture *Yang-Sun Cho; Tatsuya Yamasoba*

07:30–08:00 **Surgery For External Ear Canal Atresia Or Stenosis**
Otology/Neurotology · Instructional Course *Tatsuya Yamasoba*

08:00–08:30 **Microbiata Of The Middle Ear**
Otology/Neurotology · Keynote Lecture *Luigina Romani; Tatsuya Yamasoba*

08:30–09:30 **External Ear Canal**
Otology/Neurotology · Round Table *Rinor Ajeti; Mehmet Murat Günay; Yukiko Iino; Sady Selaimen*

09:30–10:00 **Pointers And Pitfalls In Chronic Ear Surgery**
Otology/Neurotology · Instructional Course *Sady Selaimen*

10:45–11:15 **Diagnosis And Management Of Spontaneous CSF Leaks: A Comprehensive Approach**
Otology/Neurotology · Instructional Course *Walter Kutz*

11:15–11:45 **Strategy Guide For Meningoencephalic Herniation**
Otology/Neurotology · Instructional Course *Miguel Arístegui; Walter Kutz*

11:45–12:45 **Cerebrospinal Fluid Leakage And Encephalocele In The Lateral Skull Base**
Otology/Neurotology · Round Table *Walter Kutz; Michael Hoa; Hans Thomeer; Senem Kurt Dizdar; Alex Bien*

14:00–14:30 **Third Window Anomalies And Otic Dehiscences**
Otology/Neurotology · Keynote Lecture *Eugen Constant Ionescu*

14:30–15:00 **Keratosis Obturans - A Disease More Aggressive Than Cholesteatoma**
Otology/Neurotology · Keynote Lecture *Vijayendra Honnurappa; Eugen Constant Ionescu*

15:00–16:00 **Otosclerosis**
Otology/Neurotology · Panel Presentation *Dirk Beutner; Vedat Topsakal; Santiago A. Arauz; Eugen Constant Ionescu; Piotr; Henryk Skarzynski*

16:30–17:00 **Cochlear Immunology**
Otology/Neurotology · Instructional Course *Agnieszka Szczepek; Sarah Mowry*

Saturday, 12 September 2026

07:00–07:30 **What's Next In Otopathology? Toward Better Patient Outcomes**
Otology/Neurotology · Instructional Course *Sebahattin Cureoglu*

07:30–08:00 **Unlocking Otopathology: A Digital Library For Otology Research**
Otology/Neurotology · Instructional Course *Sebahattin Cureoglu*

08:00–08:30 **From Lab To Clinic: Otopathology In Meniere's Disease And Otosclerosis**
Otology/Neurotology · Keynote Lecture *Sebahattin Cureoglu*

08:30–09:00 **Lessons Learned From +1800 Balloon Dilations Of The Eustachian Tube In Local Anesthesia**
Otology/Neurotology · Instructional Course *Martin Nue Møller; Ercole Di Martino*

09:00–10:00 **Eustachian Tube Pathologies**
Otology/Neurotology · Panel Presentation *Ercole Di Martino; maryam yaghoobi; Nesibe Gül Yüksel Aslıer; NOOR DINA HASHIM*

10:45–11:45 **Surgical Management Of Eustachian Tube Pathologies**
Otology/Neurotology · Panel Presentation *Cuneyt M. Alper; Yusif Hajiyev; Erkan Karatas; Sergey Kosyakov*

11:45–12:45 **Complications Of Otitis Media**
Otology/Neurotology · Round Table *Ann Hermansson; Sibel Alicura Tokgöz; SARA AGHALAR; SUELA SALLAVACI*

14:00–14:30 **Acute Mastoiditis In Children**
Otology/Neurotology · Expert Discussion *Gheorghe Iovanescu; Işılay Öz; Çiğdem Kalaycık*

14:30–15:00 **Endoscopic Transoral, Endoscopic Transnazal And Lateral Skull Base Approaches To Infratemporal Fossa**
Otology/Neurotology · Keynote Lecture *Mete İşeri*

15:00–16:00 **Diagnosis And Management Of Pediatric Conductive Hearing Loss**
Otology/Neurotology · Panel Presentation *Wenyan Li; Jie Zhang; Wei Wang; Bo Li*

16:30–17:30 **Middle Ear Ventilation (Attic Mucosal Folds And Ventilation Pathways)**
Otology/Neurotology · Round Table *Yukiko Iino; Erdem Atalay Çetinkaya; Ediz Yorgancılar; Franco Trabalzini*

17:30–18:00 **Mastoiditis In Children: Management And Treatment**
Otology/Neurotology · Instructional Course *Franco Trabalzini*

OTOLOGY 4

Hilton - Connie 2

Wednesday, 9 September 2026

14:00–14:30 **Cadaveric Endoscopic Temporal Bone Dissection**
Otology/Neurotology · Instructional Course *Ediz Yorgancılar; Daniele Marchioni*

14:30–15:00 **Endoscopic Anatomy Of The Ear**
Otology/Neurotology · Keynote Lecture *Ediz Yorgancılar*

15:00–15:30 **Fifteen Years Of Endoscopic Ear Surgery: Lessons Learned And Evolving Standards**
Otology/Neurotology · Keynote Lecture *José Carlos Casqueiro; Ediz Yorgancılar*

15:30–16:00 **A Novel Continuous Irrigating Mode For Endoscopic Ear Surgery**
Otology/Neurotology · Instructional Course *Hua Liao; Ediz Yorgancılar*

16:30–17:00 **Set Up And Instruments In Endoscopic Ear Surgery**
Otology/Neurotology · Keynote Lecture *Ediz Yorgancılar; Enis Alpin Güneri*

17:00–17:30 **The Tympanoplasty Journey: From Pure Endoscopic To Combined Micro-Endoscopic Techniques**
Otology/Neurotology · Keynote Lecture *Enis Alpin Güneri*

17:30–18:00 **The Tips And Tricks Of Pediatric Endoscopic Ear Surgery**
Otology/Neurotology · Keynote Lecture *Davide Soloperto; Enis Alpin Güneri*

Thursday, 10 September 2026

07:00–07:30 **Endoscopic Ear Surgery**
Otology/Neurotology · Keynote Lecture *Daniel Lee*

07:30–08:00 **How Endoscopic Ear Surgery Is Reshaping The Otology Landscape**
Otology/Neurotology · Keynote Lecture *Mohamed Badr-El-Dine; Daniel Lee*

08:00–09:00 **Mastering The Skills Of Transcanal Endoscopic Ear Surgery (TEES): Strategies For Skill Development And Assessment**
Otology/Neurotology · Round Table *Seiji Kakehata; Kishiko Sunami; Tsukasa ITO; Kunio Mizutari; Daniel Lee*

09:00–10:00 **Tips And Techniques In Transcanal Endoscopic Ear Surgery (TEES)**
Otology/Neurotology · Panel Presentation *Seiji Kakehata; Suetaka Nishiike; Yu Matsumoto; Daniele Marchioni*

10:45–11:45 **Advanced Applications: Cutting Edge In Transcanal Endoscopic Ear Surgery (TEES)**
Otology/Neurotology · Panel Presentation *Seiji Kakehata; Kishiko Sunami; Suetaka Nishiike; Tsukasa ITO; Rintaro Kawaguchi;; Saki Takihata; Kunio Mizutari*

11:45–12:15 **Tips And Tricks In Endoscopic Ear Surgery**
Otology/Neurotology · Keynote Lecture *Mustafa Kapadia*

12:15–12:45 **Endoscopic Management Of Attic Cholesteatoma**
Otology/Neurotology · Keynote Lecture *Mustafa Kapadia; Jong Woo Chung*

14:00–15:00 **Endoscopic Tympanoplasty**
Otology/Neurotology · Panel Presentation *Romain Kania; Robert Jan Pauw; Afruz Masimova; Resul Arjin Öksüz; Gözde Günay*

15:00–15:30 **Risk Factors For Cholesteatoma Recurrence In Endoscopic Ear Surgery**
Otology/Neurotology · Keynote Lecture *Lau Tsz Lun; Celil Göcer*

15:30–16:00 **Avoiding Complications In Endoscopic Ear Surgery**
Otology/Neurotology · Instructional Course *Celil Göcer*

16:30–17:30 **Total Vs. Assistant Endoscopic Ear Surgery In Cholesteatoma**
Otology/Neurotology · Round Table *Abdelrahman Ezzat Ibrahim; Burak Ulkumen; Maky Hafidh; Ahmed Allam; Giulia; Bertoli*

17:30–18:00 **Endoscopes And Microscopes In Otology & Neurotology: From Conflict To Harmony.**
Otology/Neurotology · Instructional Course *Waleed Moneir; Abdelrahman Ezzat Ibrahim*

Friday, 11 September 2026

07:00–07:30 **Innovation: Next-Generation Techniques In Innovative Endoscopic Ear Surgery~Efficacy Of Image-Guided Percutaneous Endoscopic Ear Surgery**
Otology/Neurotology · Instructional Course *Seiji Kakehata; Masaya Uchida; Ryusuke Hori; In Seok Moon*

07:30–08:00 **Endoscopic Stapedectomy, Evidence Based Outcomes**
Otology/Neurotology · Keynote Lecture *Abdelrahman Ezzat Ibrahim; Seiji Kakehata*

08:00–08:30 **Endoscopic Stapes Surgery: Pearls And Pitfalls**
Otology/Neurotology · Keynote Lecture *Brandon Isaacson; Seiji Kakehata*

08:30–09:30 **New Aspects In Endoscopic Ear Surgery (Underwater, Laser)**
Otology/Neurotology · Panel Presentation *Gokce Tanyeri Toker; Selcuk Mulazimoglu; Enis Alpin Güneri; Ediz Yorgancılar*

09:30–10:00 **Endoscopic Ear Surgery And Ossiculoplasty**
Otology/Neurotology · Instructional Course *Ahmad Daneshi; Miguel Sá Breda*

10:45–11:45 **Recognition And Management Of The Unusual Petrous Apex Disease: A Case-Based Interactive Approach**
Otology/Neurotology · Panel Presentation *Maura Cosetti; Ann Jay; Elizabeth H. Toh; Michael Hoa; Sarah Mowry*

11:45–12:45 **Limits Of Totally Endoscopic Ear Surgery**
Otology/Neurotology · Panel Presentation *Ali Özdek; Secaattin Gülşen; Ahmad Daneshi; Tankut Uzun; Esra Kavaz Uştu; Ediz; Yorgancılar*

14:00–14:30 **Retraction Pockets In Children: Should They Always Be Treated With Surgery?**
Otology/Neurotology · Instructional Course *Franco Trabalzini; İbrahim Hızalan*

14:30–15:00 **Endoscopic Lateral Skullbase Surgery: Extension Of EES Beyond Middle Ear**
Otology/Neurotology · Keynote Lecture *Daniele Marchioni; In Seok Moon*

15:00–16:00 **Recognition And Management Of Unusual Facial Nerve: A Case-Based Interactive Approach**
Otology/Neurotology · Panel Presentation *Sarah Mowry; Maura Cosetti; Angela Peng; Ann Jay; Pete Weber*

16:30–17:30 **Hearing Care And Healthy Aging**
Transverse activities (Innovation, Basic Research, Education) · Round Table *Bernard Fraysse; Fabian Auberger; Manuel Jesús Manrique Rodríguez; Nicholas; Reed*

17:30–17:45 **Intratympanic Steroid Injection In The Treatment Of Sudden Sensorineural Hearing Loss – A Systematic Review**
Otology/Neurotology · Remarkable Presentation *Shatha Yahya Alqahtani; Bernard Fraysse*

17:45–18:00 **Transmastoid Facial Nerve Decompression With Intact Ossicular Chain Preservation**
Otology/Neurotology · Remarkable Presentation *Redallah-larbi ABADA; Bernard Fraysse*

Saturday, 12 September 2026

07:00–07:30 **Endoscopic Ear Surgery: From Basics To Underwater Surgery**
Otology/Neurotology · Instructional Course *Selcuk Mulazimoglu; Ahmad Daneshi*

07:30–08:30 **Endoscopic Surgery Of Middle Ear Tumors**
Otology/Neurotology · Round Table *Brandon Isaacson; Vedat Topsakal; OZGUR SURMELIOGLU; Raymond Ngo; Kadir; Serkan Orhan*

08:30–09:00 **Endoscopic Underwater Facial Nerve Decompression In Cholesteatoma Surgery**
Otology/Neurotology · Instructional Course *Ahmad Daneshi*

09:00–10:00 **Tympanoplasty: Hearing Preservation And Modern Approaches**
Otology/Neurotology · Round Table *Bülent Satar; Nadir Yıldırım; Adriana Neagos; Irina Arechvo; Maky Hafidh*

10:45–11:45 **The Modern Day Management Of Chronic Otitis Media/Cholesteatoma: Combining European And American Perspectives Over A Half-Century Of Combined Experience**
Otology/Neurotology · Keynote Lecture *KARKAS Alexandre; Yaşar Çokkeser*

11:45–12:15 **Endoscopic Transpromontorial Appraoch To IAC & Endoscopic Approach For Traumatic And Neoplastic Facial Nerve Lesions**
Otology/Neurotology · Instructional Course *Daniele Marchioni; Yaşar Çokkeser*

12:15–12:45 **Surgical Management Of Internal Auditory Canal Lesions**
Otology/Neurotology · Keynote Lecture *Khassan Diab; Daniele Marchioni*

14:00–15:00 **Optogenetic Hearing Restoration**
Transverse activities (Innovation, Basic Research, Education) · Panel Presentation *Tobias Moser; Kathrin Kusch; Rachael Richardson; Nazempour, Roya*

15:00–16:00 **Pan-American Otorhinolaryngology-HNS Association: Discussion Of Difficult Cases Of Cholesteatoma**
Otology/Neurotology · International Symposia *Sady Selaimen; Angel Ramos de Macias; Douglas D. Backous; Gabriel Charlone;; Miguel Arístegui*

16:30–17:00 **Otology Notable Abstracts 3**
Notable Abstracts · Notable Abstract *Mete İşeri*

17:00–17:40 **Otology Notable Abstracts 4**
Notable Abstracts · Notable Abstract *Çiğdem Kalaycık*

OTOLOGY 5

ICC - B3 Floor - 3B/62

Wednesday, 9 September 2026

14:00–14:30 **Dawn of A New Era in Middle Ear Surgery: Tympanic Membrane Regeneration Therapy**
Otology/Neurotology · Keynote Lecture *SHINICHI KANEMARU; Vinay Vijayendra*

14:30–15:00 **VII Heaven - The Joy Of Facial Nerve Surgery**
Otology/Neurotology · Instructional Course *Vinay Vijayendra*

15:30–16:00 **New Paradigm In The Management Of Microtia - Aural Atresia**
Otology/Neurotology · Instructional Course *Mario Emilio Zernotti; Vinay Vijayendra*

Thursday, 10 September 2026

07:00–07:30 **Middle Ear Cholesteatoma Complications: 25-Year Of Personal Experience**
Otology/Neurotology · Keynote Lecture *Aziz Mustafa*

07:30–08:00 **Head And Neck Paragangliomas: Contemporary Management Guided By Risk–Benefit Evaluation**
Otology/Neurotology · Keynote Lecture *Romain Kania; Jeroen Jansen; Aziz Mustafa*

08:00–08:30 **Cholesteatoma Surgery: Tailor Made Approach**
Otology/Neurotology · Keynote Lecture *Miguel Sá Breda; Aziz Mustafa*

08:30–09:00 **Advancements In Endoscopic Surgery For Middle Ear Cholesteatoma With Semicircular Canal Fistula: Surgical Strategy And Outcomes**
Otology/Neurotology · Keynote Lecture *Yibo Zhang; Aziz Mustafa*

09:00–09:30 **Diagnosis And Management Of Complexities And Complications In Temporal Bone Surgery**
Otology/Neurotology · Keynote Lecture *Filippo Di Lella*

09:30–10:00 **Extended Modified Bondy Mastoidectomy: A Hearing-Preserving Technique For Epitympanic Cholesteatoma With Medial Extension To The Ossicles**
Otology/Neurotology · Instructional Course *Kanu Lal Saha; Filippo Di Lella*

10:45–11:45 **Otologic Problems Of Divers**
Otology/Neurotology · Round Table *Cem Uzun; Selin Gamze Sümen; Luca de Campora; Mario Milkov*

11:45–12:15 **Advanced Cholesteatoma Of The Middle Ear**
Otology/Neurotology · Keynote Lecture *Maniu Alma Aurelia*

12:15–12:45 **Single-Stage Tympanoplasty For Middle Ear And Mastoid Cholesteatoma: Surgical Technique**
Otology/Neurotology · Instructional Course *DANIELE DE SETA; Maniu Alma Aurelia*

14:00–15:00 **Endoscopic Middle Ear Surgery**
Otology/Neurotology · Round Table *Ali Özdek; muhammed dağkıran; Yavuz Gündoğdu; Demir Bajin; Arunachalam Iyer;; Selçuk Arslan*

15:00–15:30 **Eustachian Tube Function Assessment And Testing For Balloon Dilation: Complex To Simple**
Otology/Neurotology · Instructional Course *Cuneyt M. Alper; İsmet Bayramoglu*

15:30–15:40 **Surgical Management Of Intracanalicular Vestibular Schwannoma**
Otology/Neurotology · Master of Surgery Video Presentation *Anup Singh; İsmet Bayramoglu*

15:40–15:50 **Transotic Approach For Multifocal Intravestibulocochlear And Intracranial Vestibular Schwannoma**
Otology/Neurotology · Master of Surgery Video Presentation *Nicola Quaranta; İsmet Bayramoglu*

15:50–16:00 **Endoscope Assisted Vestibular Schwannoma Surgery**
Otology/Neurotology · Master of Surgery Video Presentation *İsmet Bayramoglu*

16:30–16:40 **Endoscopic Transtympanic Tympanoplasty Without Tympanomeatal Flap**
Otology/Neurotology · Master of Surgery Video Presentation *Abdullah Belada; isa dagli*

16:40–16:50 **Concurrent Congenital Cholesteatoma And Cholesterol Granuloma – A Rare Entity**
Otology/Neurotology · Master of Surgery Video Presentation *Vinay Vijayendra; isa dagli*

16:50–17:00 **Conductive Hearing Loss**
Otology/Neurotology · Master of Surgery Video Presentation *isa dagli*

17:00–17:10 **Grafts In Tympanoplasty**
Otology/Neurotology · Master of Surgery Video Presentation *Şemsettin Okuyucu; isa dagli*

17:10–17:20 **Surgical Management Of Petrous Bone Cholesteatoma**
Otology/Neurotology · Master of Surgery Video Presentation *Alessia Rubini; isa dagli*

17:20–17:30 **Translabyrinthine Approach And Simultaneous Cochlear Implantation In Vestibular Schwannoma**
Otology/Neurotology · Master of Surgery Video Presentation *Alessia Rubini; isa dagli*

17:30–17:40 **Transpromontorial Approach To IAC: A Step By Step Guide**
Otology/Neurotology · Master of Surgery Video Presentation *Daniele Marchioni; isa dagli*

17:40–17:50 **Middle Cranial Fossa Repair Of Cerebrospinal Fluid Leak With Bone Cement**
Otology/Neurotology · Master of Surgery Video Presentation *Evan Cumpston; isa dagli*

17:50–18:00 **Transcanal Endoscopic Management Of Middle Ear Paragangliomas**
Otology/Neurotology · Master of Surgery Video Presentation *OZGUR SURMELIOGLU; isa dagli*

Friday, 11 September 2026

07:00–07:30 **Vestibular Schwannoma And Simultaneous Cochlear Implant: Indications And New Prospectives**
Otology/Neurotology · Instructional Course *Robert Jan Pauw; Enrico Piccirillo*

07:30–08:00 **Mastoid Obliteration In Cholesteatoma Surgery: Rationale, Surgical Technique And Outcomes**
Otology/Neurotology · Instructional Course *Robert Jan Pauw*

08:00–08:30 **Stapes Surgery: Review How To Do It Safely**
Otology/Neurotology · Instructional Course *Tawfiq Khurayzi; Robert Jan Pauw*

08:30–09:00 **Revision Surgery With Obliteration After Canal Wall Down Mastoidectomy**
Otology/Neurotology · Instructional Course *Eugenijus Lesinskas*

09:00–09:30 **The Mastoid Obliteration Technique In Cholesteatoma**
Otology/Neurotology · Instructional Course *Hans Thomeer; Eugenijus Lesinskas*

09:30–10:00 **Microbiome Of The Ear**
Otology/Neurotology · Keynote Lecture *Eugenijus Lesinskas*

10:45–11:15 **Hearing Restoration In NF2 Patients**
Otology/Neurotology · Keynote Lecture *İbrahim Hızalan; Hao Wu*

11:15–11:45 **Otitis Media**
Otology/Neurotology · Expert Discussion *Haytham Kubba; İbrahim Hızalan; Charlotte M. Chiong*

11:45–12:15 **Tympanosclerosis Surgery**
Otology/Neurotology · Keynote Lecture *Ali Özdek; İbrahim Hızalan*

12:15–12:45 **Endoscopic Ear Surgery In Lateral Skull Base**
Otology/Neurotology · Keynote Lecture *Daniele Marchioni; Marco Bonali*

14:00–15:00 **Artificial Intelligence In Otology And Neurotology**
Otology/Neurotology · Round Table *Mühlfay Gheorghe; Cristian Norbert Ionescu; Horváth Karin Ursula*

15:00–16:00 **Endoscopic Stapes Surgery (EES)**
Otology/Neurotology · Panel Presentation *Ahmad Daneshi; Euan Murugasu; Marco Bonali*

16:30–16:40 **Tympanojugular Paraganglioma: Our Experience Of 46 Cases**
Otology/Neurotology · Master of Surgery Video Presentation *Boudjenah Farid; Jong Woo Chung*

16:40–16:50 **The Management Of Advanced Malignancies In The External Auditory Canal And Temporal Bone**
Otology/Neurotology · Master of Surgery Video Presentation *Jong Woo Chung*

16:50–17:00 **Temporal Bone Paraganglioma Resection Through Endoscopic Transcanal Approach: Video Illustration Of Critical Surgical Points**
Otology/Neurotology · Master of Surgery Video Presentation *Romain Kania; Jong Woo Chung*

17:00–17:10 **Canal Wall Down Tympanoplasty With Mastoid Obliteration Using Bone Pate Plate For Canal Wall Reconstruction In Cholesteatoma Surgery**
Otology/Neurotology · Master of Surgery Video Presentation *Yutaka Yamamoto; Jong Woo Chung*

17:10–17:20 **Outcomes Of The Canal Wall Down Mastoidectomy In The Management Of Middle Ear Cholesteatoma**
Otology/Neurotology · Master of Surgery Video Presentation *Houssem Eddine Bouraba; Jong Woo Chung*

17:20–17:30 **Facial Nerve Reanimation**
Otology/Neurotology · Master of Surgery Video Presentation *Houssem Eddine Bouraba; Jong Woo Chung*

17:30–17:40 **Endoscopic Ear Surgery**
Otology/Neurotology · Master of Surgery Video Presentation *Müzeyyen Yildirim Baylan; Jong Woo Chung*

17:40–17:50 **Cholesteatoma Surgery: A Visual Review Of Endoscopic And Microscopic Surgical Techniques**
Otology/Neurotology · Master of Surgery Video Presentation *Mehmet İlhan Şahin; Jong Woo Chung*

17:50–18:00 **Stapedectomy In Patients With Dehiscent And Prolapsed Facial Nerve**
Otology/Neurotology · Master of Surgery Video Presentation *EROL SENTURK; Jong Woo Chung*

Saturday, 12 September 2026

07:00–08:00 **Endoscopic Management Of Advanced Cholesteatoma**

Otology/Neurotology · Panel Presentation *Kadir Serkan Orhan; Hakan Tutar; Mohamed Badr-El-Dine; Walter Kutz; Daniele; Marchioni*

08:00–09:00 **Cholesteatoma Surgery: Advances And Future Perspectives In The Southeast Europe**

Otology/Neurotology · International Symposia *Ana Jotic; Andro Košec; Marija Dokoska*

09:00–10:00 **Research Outcomes In Cholesteatoma**

Otology/Neurotology · International Symposia *Samantha Anne; Arunachalam Iyer; Paul Merkus; Manuela Fina; François Simon*

10:45–11:45 **Advances In Cholesteatoma: New Insights From Experimental Models And Clinical Studies**

Otology/Neurotology · International Symposia *Albert Park; TOMOMI YAMAMOTO-FUKUDA; Naotaro Akiyama; Chisei Satoh; Yi-; Chun Carol Liu; Gabriel Dunya*

11:45–12:45 **Symposium Of The Society Of Polish Otorhinolaryngologists, Phoniatrists, And Audiologists**

Otology/Neurotology · International Symposia *Javier Gavilan; Artur Lorens; Mario Emilio Zernotti; Piotr Henryk Skarzynski*

14:00–15:00 **Hearing Restoration - Mediterranean Society Of Otology And Audiology (MSOA)**

Otology/Neurotology · International Symposia *Badr Eldin Mostafa; Antonio Della Volpe; Saba Battelino; Ayça Çiprut; Armağan; İncesulu*

15:00–15:30 **Intratympanic Medication For Tinnitus**

Otology/Neurotology · Keynote Lecture

15:30–16:00 **Ear & Hearing Care And Neonatal Hearing Screening Program In A Developing Country: Limitations And Way Forward**

Otology/Neurotology · Keynote Lecture *Md Abul Hasnat Joarder*

16:30–16:40 **Management Of Intraoperative Complications In Otosclerosis Surgery**

Otology/Neurotology · Master of Surgery Video Presentation *Emine Deniz Gözen; Müzeyyen Yildirim Baylan*

16:40–16:50 **Revision stapedotomy: Piston dislocation and re-obliteration of the footplate**

Otology/Neurotology · Master of Surgery Video Presentation *Hüsamettin Yaşar; Müzeyyen Yildirim Baylan*

16:50–17:00 **Surgical Management Of Otosclerosis: Technique, Precision, And Audiological Results**

Otology/Neurotology · Master of Surgery Video Presentation *İlker Akyıldız; Müzeyyen Yildirim Baylan*

17:00–17:10 **Otosclerosis**

Otology/Neurotology · Master of Surgery Video Presentation *Müzeyyen Yildirim Baylan*

17:10–17:20 **Endoscope-Assisted Middle Fossa Approach For Cranial Base Cholesteatoma**

Otology/Neurotology · Master of Surgery Video Presentation *Selcuk Mulazimoglu; Müzeyyen Yildirim Baylan*

17:30–18:00 **The New Concept Of Mastoid Sinus**

Otology/Neurotology · Instructional Course *Mühlfay Gheorghe; Mete İşeri*

OTOLOGY 6

ICC - B3 Floor - 3B/65

Thursday, 10 September 2026

07:00–07:30 **Canal Wall Reconstruction Tympanoplasty**
Otology/Neurotology · Instructional Course *Burhan Dadaş*

07:30–08:00 **Considerations For Stapes Surgery In The Next Generation**
Otology/Neurotology · Instructional Course *Joseph Manjaly; Burhan Dadaş*

08:00–08:30 **Tinnitus In Daily ENT Practice: What Works, For Whom, And Why — A Personalized Approach**
Otology/Neurotology · Instructional Course *Ljiljana Cvorovic; Burhan Dadaş*

08:30–09:00 **Stress Hormones And Auditory Synaptic Plasticity: Sex-Specific Mechanisms At The Inner Hair Cell Synapse**
Otology/Neurotology · Keynote Lecture *Agnieszka Szczepek; Burhan Dadaş*

09:00–09:15 **Diagnosis And Management Of Comorbid Conditions In Spontaneous Cerebrospinal Fluid Leak Patients**
Otology/Neurotology · Remarkable Presentation *Evan Cumpston*

09:15–09:30 **Endaural Mastoid Surgery. When And Why?**
Otology/Neurotology · Remarkable Presentation *Fozilkhon Usmonkhonov; Evan Cumpston*

09:30–09:45 **Epitympanotomy - An Important Tool In Every Surgeon's Arsenal**
Otology/Neurotology · Remarkable Presentation *Vinay Vijayendra; Evan Cumpston*

09:45–10:00 **Impact Of Chorda Tympani Morhology On Taste Function After Stapedectomy: A New Classification.**
Otology/Neurotology · Remarkable Presentation *Waleed Moneir; Evan Cumpston*

10:45–11:45 **Stapedotomy: Raising Points Of Contention.**
Otology/Neurotology · Panel Presentation *Waleed Moneir; Yazid Laziben; Abdussalam Jahan*

11:45–12:15 **Roadblocks Enroute A Successful Stapedotomy**
Otology/Neurotology · Instructional Course *Vinay Vijayendra; Waleed Moneir*

12:15–12:45 **Gymnastics Around The Stapes - How To Score A Perfect 10i**
Otology/Neurotology · Keynote Lecture *Vijayendra Honnurappa; Waleed Moneir*

14:00–14:30 **Composite Multi-Fractured Osteoperiosteal Flap (Uçar Flap) For Canal Wall Reconstruction And Mastoid Obliteration: Multicenter Surgical Outcomes**
Otology/Neurotology · Instructional Course *Cevat Uçar; Abdulkadir Özgür; Hitendra Prakash Singh; Vijayendra Honnurappa*

14:30–15:00 **Congenital Cholesteatoma – Classification And Surgical Management**
Otology/Neurotology · Instructional Course *Vijayendra Honnurappa*

15:00–15:30 **Combined Approach Tympanoplasty With Selective Epitympanic Partial Obliteration**
Otology/Neurotology · Instructional Course *Codruta Neumann; Vijayendra Honnurappa*

15:30–16:00 **Otology Notable Abstracts 2**
Notable Abstracts · Notable Abstract *Cevat Uçar*

16:30–17:00 **Tympanoplasty: Why Is A 'Simple' Surgery Not Always Successful?**
Otology/Neurotology · Instructional Course *FABIO ANDRE SELAIMEN; In Seok Moon*

17:00–18:00 **Diagnostic Tools And Decision Making In Eustachian Dysfunction**
Otology/Neurotology · Panel Presentation *Cuneyt M. Alper; OSMAN NURİ ÖZGİRGİN; Marta Sandoval; Vikas Agrawal; In Seok; Moon*

Friday, 11 September 2026

07:00–07:15 **Hyaluronic Acid Gel In Middle Ear Surgery: From Stapedotomy Sealant To Tympanoplasty Packing**
Otology/Neurotology · Remarkable Presentation

07:15–07:30 **Mastoid Obliteration In CWDM: Allograft Bone, Silicone Blocks, Amniotic Membrane, Temporalis Fascia**
Otology/Neurotology · Remarkable Presentation

07:30–08:00 **Diagnostic Issues And Challenges In Hereditary Hearing Loss**
Otology/Neurotology · Instructional Course *Lukas Varga*

08:00–08:30 **Actual Indications For VEMP Use In Clinical ENT Practice**
Otology/Neurotology · Keynote Lecture *Ana Carolina Binetti*

08:30–08:45 **Secondary Mastoid Obliteration For Problematic Mastoid Cavities- Challenges Of Hearing Rehabilitation. Passive Middle Ear Implants And Bone Conduction Devices Choice.**
Otology/Neurotology · Remarkable Presentation *Codruta Neumann; Hüseyin Dere*

08:45–09:00 **Skull Base Osteomyelitis**
Otology/Neurotology · Remarkable Presentation *Fatma Ceyda Akın Öçal; Hüseyin Dere*

09:00–09:30 **The Importance Of The Vestibular System And Structure Preservation – Assessing Function With Objective Testing Prior To Cochlear Implantation**
Otology/Neurotology · Keynote Lecture *Jafri Kuthubutheen; Hüseyin Dere*

09:30–10:00 **Radiological Diagnosis Of Middle Ear Pathologies**
Otology/Neurotology · Instructional Course *Enrico Piccirillo; Hüseyin Dere*

10:45–11:15 **Management Of Eustachian Tube Pathology**
Otology/Neurotology · Keynote Lecture *Holger Sudhoff*

11:15–12:15 **Long Term Outcomes for Eustachian Tube Balloon Dilation**
Otology/Neurotology · Panel Presentation *Holger Sudhoff; Çağlar Batman; Juha Tapio Silvola; In Seok Moon*

12:15–12:45 **Say Goodbye To Cavity Problemsi**
Otology/Neurotology · Instructional Course *Vijayendra Honnurappa; Holger Sudhoff*

14:00–15:00 **Pediatric Eustachian Balloon Tuboplasty**
Otology/Neurotology · Panel Presentation *Çağlar Batman; Holger Sudhoff; Cuneyt M. Alper*

15:00–15:15 **Retrospective Analysis Of Type 3 Tympanoplasties**
Otology/Neurotology · Remarkable Presentation *Arsenii Skupchenko; Çağlar Batman*

15:15–15:30 **My Experience In Surgical Treatment Of Adhesive Otitis Media**
Otology/Neurotology · Remarkable Presentation *Çağlar Batman*

15:30–16:00 **Development Of An Innovative App For The Diagnosis And Treatment Of Tinnitus Using Sound Therapy**
Otology/Neurotology · Instructional Course *CARLOS CUILTY SILLER; Çağlar Batman*

16:30–17:00 **Surgical Management Of Unrecovered Bell's Palsy**
Otology/Neurotology · Instructional Course *Vijayendra Honnurappa; Fatih Celenk*

17:00–17:10 **Attic Cholesteatoma Endoscopic Surgery**
Otology/Neurotology · Master of Surgery Video Presentation *Fatih Mutlu; Fatih Celenk*

17:10–17:20 **Outcome Of Endoscopic Facial Nerve Decompression For Traumatic Facial Nerve Injury**
Otology/Neurotology · Master of Surgery Video Presentation *Mohd Sazafi; Fatih Celenk*

17:20–17:30 **Endoscopic Ear Surgery**
Otology/Neurotology · Master of Surgery Video Presentation *Fatih Celenk*

17:30–17:40 **Expanding the Role of Diode Laser in Endoscopic Middle Ear Surgery: Three Clinical Applications**
Otology/Neurotology · Master of Surgery Video Presentation *Bilal Sizer; Fatih Celenk*

17:40–17:50 **Underwater Endoscopic Ear Surgery**
Otology/Neurotology · Master of Surgery Video Presentation *Gokce Tanyeri Toker; Fatih Celenk*

17:50–18:00 **Extended Approach In Cerebellar Cholesteatoma**
Otology/Neurotology · Master of Surgery Video Presentation *Fatih Celenk*

Saturday, 12 September 2026

07:30–07:45 **Modulating ATOH1 And POU4F3 Pathways To Enhance Hair Cell Regeneration And Inhibit Ferroptosis In Cochlear Support Cells**
Otology/Neurotology · Remarkable Presentation *Yu Rong; Vinay Vijayendra*

07:45–08:00 **Transcanal Facial Nerve Decompression For Treatment Of Traumatic Facial Nerve Palsy**
Otology/Neurotology · Remarkable Presentation *Vinay Vijayendra*

08:00–09:00 **Proms In Otology**
Otology/Neurotology · Panel Presentation *Paul Merkus; Emel Tahir; Tahmina Arzomand*

09:00–09:30 **Intracranial Complications Secondary To Chronic Otitis Media**
Otology/Neurotology · Instructional Course *Gabriel Charlone; Hernan Goldsztein*

09:30–10:00 **Shifting Paradigms In Treatment Of Skull Base Osteomyelitis**
Otology/Neurotology · Keynote Lecture *Gabriel Charlone; Bini Faizal*

10:45–11:15 **Cochleovestibular Screening Of The Elder Population As The Next Steps In Development Of Vestibulology Servise In Uzbekistan**
Otology/Neurotology · Keynote Lecture *Alex Bien; Karimova Nargiza Abdullayevna*

11:15–11:45 **Mastoid Obliteration For Middle Ear Cholesteatoma Surgery**
Otology/Neurotology · Keynote Lecture *Alex Bien; Banzamit Makhlouf*

11:45–12:15 **Evaluation And Management Of Pulsatile Tinnitus**

Otology/Neurotology · Instructional Course *Alex Bien*

12:15–12:45 **Intratemporal Facial Nerve Grafting: Techniques & Outcomes**

Otology/Neurotology · Instructional Course *Alex Bien*

14:00–15:00 **British Egyptian Medical Association: Section Of Otolaryngology**

Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Fahmy Fayez Fahmy; Atef Elkholy; Rana Tahoun; Ossama Hamid; Mohammed Salem;; Ahmed Allam*

15:00–15:30 **Regenerative Medicine In ENT: Bridging The Gap Between Laboratory Research And Clinical Reality**

Transverse activities (Innovation, Basic Research, Education) · Keynote Lecture *Mikhail Svistushkin*

15:30–16:00 **Surgical Ergonomics Across the Career Span: A Practical, Skills- Based Workshop for Otolaryngologists**

Transverse activities (Innovation, Basic Research, Education) · Instructional Course *Smriti Nayan; Ercan Akbay*

16:30–17:30 **Dealing With Cholesteatomas: Open Techniques/ Canal Wall Down Techniques/ Endoscopic Ear Surgery**

Global Outreach (Regional or ENT related Organizations Symposia) · Round Table *Jean Baptiste Lecanu; Fırat Onur; Derya Cebeci*

17:30–18:00 **Voices From The Field: Female Surgeons In Lmics On Training, Culture, And Research**

Transverse activities (Innovation, Basic Research, Education) · Controversies *Amina Seguya; Merry Sebelik, MD, FACS, MAMSE*

PED OTOLARYNGOL 1

ICC - B2 Floor - Beylerbeyi 2

Wednesday, 9 September 2026

14:15–14:30 **Pediatric Otitis Media Complications**
Pediatric Otolaryngology · Remarkable Presentation *Selin Üstün Bezgin; Oğuzhan Katar*

14:30–15:00 **Olfaction In Children**
Pediatric Otolaryngology · Instructional Course *Giulio Cesare Passali; Ljiljana Jovancevic; Mariaconsiglia Santantonio; Oğuzhan; Katar*

15:00–15:30 **Foreign Bodies Of The Esophagus In Children - Our Experiences**
Pediatric Otolaryngology · Keynote Lecture *Oğuzhan Katar*

15:30–16:00 **The Use Of Navigation In Paediatric Skull Base Surgery**
Pediatric Otolaryngology · Instructional Course *Sunil Sharma; Oğuzhan Katar; Grace Khong*

16:30–17:30 **Pediatric Cholesteatoma Follow-Up, Why Is It Different Than Adult?**
Pediatric Otolaryngology · International Symposia *François Simon; Mohamad A. EL Bitar; Manuela Fina; Sarp Saraç; Ignacio Javier; Fernandez*

17:30–18:00 **“Decision-Making In The Management Of Adenotonsillar Hypertrophy: The Pediatric Otolaryngologist’s Perspective On Surgical Indications”**
Pediatric Otolaryngology · Keynote Lecture *Victoria Demarchi; Erdinç Aydın*

Thursday, 10 September 2026

07:00–07:30 **Intracapsular Tonsillectomy And Endoscopic Adenoidectomy Using Coblation**
Pediatric Otolaryngology · Instructional Course *Leonel Luis; Sinan Atmaca*

07:30–09:00 **Congenital Laryngeal And Tracheal Disorders**
Pediatric Otolaryngology · International Symposia *Mike Rutter; Talal Al-khatib; Wei-Chung HSU; Briac Thierry; Michael Kuo*

09:00–10:00 **Cervical And Facial Congenital Cysts**
Pediatric Otolaryngology · Round Table *Benjamin Hartley; Sinan Atmaca; Iman Almashharawi; Eric Levi; Randa Al Barazi;; François Simon*

10:45–11:15 **Management Of Inhaled Foreign Bodies**
Pediatric Otolaryngology · Keynote Lecture *Nikolaus Wolter; Mai Nasser*

11:15–11:45 **Open Surgery For Laryngeal Stenosis**
Pediatric Otolaryngology · Keynote Lecture *Kishore Sandu; David White*

11:45–12:15 **Feeding Problems And Their Management**
Pediatric Otolaryngology · Keynote Lecture *Hannah Burns; Sinan Atmaca*

12:15–12:45 **EXIT And Intrauterine Procedures**
Pediatric Otolaryngology · Keynote Lecture *Luv Javia; Salma Alsheibani*

14:00–15:30 **Management Of Residual OSA After T And A**
Pediatric Otolaryngology · International Symposia *Maria Pia Villa; Wei-Chung HSU; Sheng Zhou; Fırat Tevetoğlu*

15:30–16:00 **Neck Check: Navigating Chronic Paediatric Cervical Lymphadenopathy**
Pediatric Otolaryngology · Keynote Lecture *Kate Stephenson*

16:30–17:00 **Pediatric Otitis Media In The Primary ENT Sector In Denmark**
Pediatric Otolaryngology · Keynote Lecture *kim werther; Fırat Tevetoğlu*

17:00–18:00 **Pediatric Chronic Rhinosinusitis: A Pan American Association Clinical Consensus**
Pediatric Otolaryngology · International Symposia *Hassan H. Ramadan; Tania Sih; Jivianne Lee; José Lubianca; Jaqueline Alvarado;; Pablo Stolovitzky*

Friday, 11 September 2026

07:00–07:30 **Pediatric Cervicofacial Atypical Mycobacterial Lymphadenitis: Rethinking The Management**
Pediatric Otolaryngology · Controversies *Ömer Faruk Ünal; Joshua Wiedermann*

07:30–08:30 **PEDIATRIC EAR SURGERY**
Pediatric Otolaryngology · Instructional Course *Iman Almashharawi; Luis Lassaletta; Daniela Carvalho; Ömer Faruk Ünal*

08:30–10:00 **Future Of Pediatric ENT**
Pediatric Otolaryngology · International Symposia *Alan T Cheng; Colin Barber; Carlton Zdanski; Christopher Hartnick; Romain Luscan;; Sanjay Parikh; Daniela Carvalho*

10:45–11:15 **What Is Happening To Otitis Media?**
Pediatric Otolaryngology · Keynote Lecture *Taner Kemal Erdağ; Ann Hermansson*

11:15–12:15 **Surgery For Pediatric Voice Problems**
Pediatric Otolaryngology · Round Table *Scott Rickert; Gresham Richter; Pierre Fayoux; Marshall Smith; Pamela Mudd;; Özgül Gergin*

12:15–12:30 **Rational Pharmacotherapy Of Adenoid Hypertrophy In Young Children**
Pediatric Otolaryngology · Remarkable Presentation *Özgül Gergin*

12:30–12:45 **Recurrent Acute Otitis Media In Children**
Pediatric Otolaryngology · Remarkable Presentation *Özgül Gergin*

14:00–15:00 **Decision Making In Difficult Airway Cases**
Pediatric Otolaryngology · Round Table *Ahmed El-Sobki; David White; Özgül Gergin; Bas Pullens; Talal Al-khatib; Thushitha; Kunanandam; Steven Sobol*

15:00–16:00 **Pediatric Otolaryngology Training And Practice In Different Parts Of The World**
Pediatric Otolaryngology · Panel Presentation *Hannah Burns; Tomislav Baudoin; Hugo Rodriguez; Shazia Peer; Steven Sobol*

16:30–17:30 **Cochlear Implant**
Pediatric Otolaryngology · Round Table *Natalie Loundon; David Chi; Levent Sennaroğlu; Huan Jia; Nils Guinand; Piotr; Henryk Skarzynski*

17:30–18:00 **Biologic Therapy In Paediatric Chronic Rhinosinusitis**
Pediatric Otolaryngology · Keynote Lecture *Sheng Zhou; Özgül Gergin*

Saturday, 12 September 2026

07:00–07:30 **Journey To Sound: Advancing Early Diagnosis And Cochlear Implantation In Children**
Pediatric Otolaryngology · Master of Surgery Video Presentation *Munar Beishenova; Ömer Faruk Çalım*

07:30–08:00 **Hemangiomas In Otorhinolaryngology Practice: Diagnostic And Therapeutic Experiences**
Pediatric Otolaryngology · Keynote Lecture *Ahmet Kızılay; Ömer Faruk Çalım*

08:00–08:30 **Thyroglossal Duct Cyst Surgery**
Pediatric Otolaryngology · Instructional Course *Mehmet Düzlü; Ömer Faruk Çalım*

08:30–09:00 **Disruptive Use Of Mobile Applications And ICT In International Teaching And Learning**
Pediatric Otolaryngology · Keynote Lecture *RICARDO DE HOYOS; Luisa Maria Bellussi*

09:00–10:00 **The Case I Want To Forget About.**
Pediatric Otolaryngology · Panel Presentation *Ömer Faruk Çalım; Serap Şahin Önder; Brian Reilly; Dan Cristian Gheorghe; R.; Önder Günaydın*

10:45–11:45 **Juvenile Angiofibroma Management Of Residual Disease**
Pediatric Otolaryngology · Round Table *François Simon; Nikolaus Wolter; Romain Luscan; Marco Ferrari*

11:45–12:00 **Airway Management On Burned Children**
Pediatric Otolaryngology · Keynote Lecture *Yusif Hajiyev; Erdinç Aydın*

12:00–12:30 **The Evolution Of Airway Balloon Dilation**
Pediatric Otolaryngology · Keynote Lecture *Mike Rutter; Erdinç Aydın*

12:30–12:45 **Septal Perforation In Children**
Pediatric Otolaryngology · Remarkable Presentation *Yuri Rusetskiy; Erdinç Aydın*

14:00–15:00 **Skull Base Management In The Child**
Pediatric Otolaryngology · International Symposia *François Simon; Paresh Pramod Naik; Vincent Couloigner; Grace Khong*

15:00–15:30 **Endoscopic Management Of Bilateral Vocal Fold Inmobility In Children**
Pediatric Otolaryngology · Instructional Course *Andrés Alvo; Mehmet Ada*

15:30–16:00 **Alternative Approach For Adenoidectomy**
Pediatric Otolaryngology · Keynote Lecture *lütfi barlas aydoğan; Mehmet Ada*

16:30–17:00 **Challenging Pediatric Airway Lesions: Cysts And Tumors Requiring Surgical Intervention**
Pediatric Otolaryngology · Keynote Lecture *Taner Kemal Erdağ; Selin Üstün Bezgin*

17:00–17:30 **Volumetric Assessment Silent Sinus Sindrom Surgery In Children**
Pediatric Otolaryngology · Remarkable Presentation *Yuri Rusetskiy; Selin Üstün Bezgin*

PED OTOLARYNGOL 2

ICC - B3 Floor - 3B/45

Wednesday, 9 September 2026

14:00–14:30 **Aesthetic And Functional Surgery For Microtia And Atresia**
Pediatric Otolaryngology · Keynote Lecture *Myung-Whan Suh; Yuce Islamoglu*

14:30–15:00 **Ankyloglossia: What Is The Science?**
Pediatric Otolaryngology · Controversies *Anna H. Messner; Yuce Islamoglu*

15:00–16:00 **Update On Difficult Cases**
Pediatric Otolaryngology · Panel Presentation *Amarilis Menendez; Victoria Demarchi; Tania Sih; Brian Reilly*

16:30–17:00 **Ventilation Tube – History And Present**
Pediatric Otolaryngology · Keynote Lecture *Gheorghe Iovanescu; Erdinç Aydın*

17:00–18:00 **DIAGNOSTIC WORK-UP OF PEDIATRIC OSAS**
Pediatric Otolaryngology · Round Table *Vincent Couloigner; Derek Lam*

Thursday, 10 September 2026

07:00–07:30 **EXIT [Ex Utero Intrapartum Treatment] Procedure**
Pediatric Otolaryngology · Keynote Lecture *Murthy Panchala; Serap Şahin Önder*

07:30–08:30 **LARYNGOMALACIA**
Pediatric Otolaryngology · Instructional Course *Taher Valka; Isaac Okyeremah Kofi Barnor; Ömer Faruk Çalım; Yusif Hajiyev;; Haytham Kubba*

08:30–09:00 **Pediatric Eustachian Tube Dilation: Our Experience And Lessons Learned.**
Pediatric Otolaryngology · Instructional Course *Shraddha Mukerji; Taner Kemal Erdağ*

09:00–10:00 **Solid Neck Masses**
Pediatric Otolaryngology · Panel Presentation *George H Zalzal; Rudolf Hagen; Ken Kazahaya; Vincent Couloigner; Taner Kemal; Erdağ; Ömer Faruk Ünal*

10:45–11:15 **Natural Evolution Of OSA In Children And Adolescents**
Pediatric Otolaryngology · Keynote Lecture *Luisa Maria Bellussi; Sanjay Parikh*

11:15–12:15 **T&A Surgery Instructional Course**
Pediatric Otolaryngology · Instructional Course *Michael Kuo; Emily Boss; Seçkin Ulualp; Nicolas Guertler; Sam Daniel*

12:15–12:30 **Partial Tonsillectomy: Surgical Technique, Case-Based Ev,Idence, And Long-Term Outcomes.**
Pediatric Otolaryngology · Remarkable Presentation *Alper Şenkal; Serap Şahin Önder*

12:30–12:45 **Coblation Adenoidectomy**
Pediatric Otolaryngology · Master of Surgery Video Presentation *Yavuz Selim Yıldırım; Serap Şahin Önder*

14:00–14:30 **Gene Therapy For Pediatric Hearing Loss**
Pediatric Otolaryngology · Keynote Lecture *Natalie Loundon; Alper Şenkal*

14:30–15:00 **Managing Complicated And Non-Complicated Acute Sinusitis In Children**
Pediatric Otolaryngology · Keynote Lecture *Erdinç Aydın; Soham Roy*

15:00–15:30 **Diagnosis And Treatment Of Laryngeal Cleft**
Pediatric Otolaryngology · Keynote Lecture *Ömer Faruk Ünal; Mike Rutter*

15:30–16:00 **Laryngeal Papillomatosis**
Pediatric Otolaryngology · Keynote Lecture *Craig Derkay; Pamela Mudd*

16:30–17:00 **Tracheotomy In Infant**
Pediatric Otolaryngology · Keynote Lecture *Sumeyra Doluoglu; Alper Şenkal*

17:00–18:00 **Pediatric Obstructive Sleep Apnea Worldwide: Critical Issues And New Perspectives**
Pediatric Otolaryngology · Round Table *Luisa Maria Bellussi; Maria Pia Villa; Archwin Tanphaichitr; Marisa Santos*

Friday, 11 September 2026

07:00–07:30 **Tonsillectomy Or Tonsillotomy For Recurrent Acute Tonsillitis?**
Pediatric Otolaryngology · Keynote Lecture *Tejs Ehlers Klug; Ozan Gökler*

07:30–08:00 **Microtia Repair**
Pediatric Otolaryngology · Keynote Lecture *Yi-Chun Carol Liu; Ozan Gökler*

08:00–08:30 **Management Of Ear Atresia**
Pediatric Otolaryngology · Keynote Lecture *Francoise Denoyelle*

08:30–09:00 **Teaching Pediatric Ear Surgery: Tips And Tricks**
Pediatric Otolaryngology · Keynote Lecture *Taner Kemal Erdağ; Cuneyt M. Alper*

09:00–10:00 **Congenital Obstruction Of The Nose**
Pediatric Otolaryngology · Round Table *Grace Khong; Stephan Hackenberg; Dilyana Vicheva; Anna H. Messner; Tolga; Kandoğan*

10:45–11:15 **Contemporary Management Of Paediatric Drooling**
Pediatric Otolaryngology · Keynote Lecture *Eric Levi; Ozan Gökler*

11:15–11:45 **Pediatric Rhinosinusitis – A New Concepts For Treatment**
Pediatric Otolaryngology · Keynote Lecture *Dilyana Vicheva; Ozan Gökler*

11:45–12:45 **Airway Surgery Tricks That I Have Learned From My Mentors**
Pediatric Otolaryngology · Round Table *Michelle Wyatt; Tawakir Kamani; Ozan Gökler; Vikash K. Modi; Tolga Kandoğan;; Shazia Peer*

14:00–15:00 **PEDIATRIC TRACHEOSTOMY**
Pediatric Otolaryngology · Panel Presentation *Gheorghe Iovanescu; Marilena Trozzi; Kishore Sandu; Romain Luscan; Tawakir; Kamani*

15:00–16:00 **Nasal And Sinus Masses In Children**
Pediatric Otolaryngology · International Symposia *Marco Ferrari; Paresh Pramod Naik; Hassan H. Ramadan; Grace Khong; Gheorghe; Iovanescu*

17:00–17:30 **Minimally Invasive Bone Anchored Hearing Implants - MIPS, MONO, MOSIA**
Pediatric Otolaryngology · Keynote Lecture *Sam Daniel; R. Önder Günaydın*

17:30–18:00 **DECISION MAKING IN DIFFICULT AIRWAY CASES**
Pediatric Otolaryngology · Keynote Lecture *Steven Sobol; R. Önder Günaydın*

Saturday, 12 September 2026

07:00–07:30 **“Mytrach” A Smart Phone Application Improves Safety And Quality Of Life For Children On Tracheostomy**
Pediatric Otolaryngology · Remarkable Presentation *Danah Alrusayyis; Özgül Gergin*

07:30–08:00 **MANAGEMENT OF THYROID CANCER IN CHILDREN**
Pediatric Otolaryngology · Controversies *Daniel Chelius; Jeffrey P. Simons; Özgül Gergin*

08:00–09:00 **ENT Manifestations Of CF In Children - An Update**
Pediatric Otolaryngology · International Symposia *Nicolien van der poel; Kim Van Hoorenbeeck; Anneclaire Vroegop; alberto maria; saibene*

09:00–09:30 **Innovative Pediatric Airway Medicine/Surgery In The Last 20 Years.**
Pediatric Otolaryngology · Keynote Lecture *Alan T Cheng; Ömer Faruk Ünal*

09:30–10:00 **Principles Of Cannula And Stoma Care With Family Education In Pediatric Tracheostomy:An ENT Approach**
Pediatric Otolaryngology · Keynote Lecture *Büşra Ünsal; Özgül Gergin*

10:45–11:45 **The Ten Seconds That Matter: Operative Decision Making In Pediatric Head And Neck Surgery**
Pediatric Otolaryngology · International Symposia *Daniel Chelius; Jeffrey P. Simons; Kara D Meister; Kara Prickett; Ömer Faruk Ünal*

11:45–12:15 **Pott's Puffy Tumor**
Pediatric Otolaryngology · Instructional Course *Nicolien van der poel; alberto maria saibene; Ömer Faruk Ünal*

12:15–12:45 **How Knowledge Of Infant Mental Health Can Improve Your Surgical Practice.**
Pediatric Otolaryngology · Keynote Lecture *Eric Levi; Ömer Faruk Ünal*

14:00–14:30 **A Novel Multimodal Strategy For Pediatric Sialorrhea: Sequential Botulinum Toxin-A And Duct Ligation**
Pediatric Otolaryngology · Instructional Course *Ömer Faruk Çalım; Orhan Ozturan*

14:30–15:00 **Surgical Treatment Of Rhabdomyosarcoma**
Pediatric Otolaryngology · Keynote Lecture *Romain Luscan; Tolga Kandoğan*

15:00–15:30 **An Exploratory View Of Clinical Aspects In Chronic Rhinosinusitis In Children**
Pediatric Otolaryngology · Keynote Lecture *Manole Felicia; Tolga Kandoğan*

15:30–16:00 **Emerging Insights Into Cochlear Implantation For Unilateral Hearing Loss In Children**
Pediatric Otolaryngology · Keynote Lecture *Samantha Anne; David Chi; Tolga Kandoğan*

16:30–17:00 **Bizact Pediatric Tonsillectomy**
Pediatric Otolaryngology · Instructional Course *RICARDO DE HOYOS; CARLOS CUILTY SILLER*

17:00–18:00 **Management Of Unilateral Hearing Loss In Children: A Global Perspective**
Pediatric Otolaryngology · Round Table *Samantha Anne; François Simon; Daniela Carvalho; Albert Park*

PHON 4 + SWALLOWING

ICC - B3 Floor - 3B/36

Wednesday, 9 September 2026

14:00–15:00 **Swallowing Assessment-1**

Phoniatrics · Instructional Course *Emine Elif Altuntaş; Ali Bayram; saime sağıroglu; Tuba Doğan Karataş*

15:00–16:00 **Swallowing Assessment-2**

Phoniatrics · Panel Presentation *daniele farneti; Arzubetul Duran; Emine Elif Altuntaş; Ebru Karakaya Gojayev*

16:30–17:30 **Occupational Voice**

Phoniatrics · Panel Presentation *Emine Elif Altuntaş; Silvia Capobianco; catherine cantor cutiva; carlos manzano;; Pasquale Bottalico*

Thursday, 10 September 2026

08:30–09:00 **Instrumental Assessment Of Dysphagia In Adults**

Phoniatrics · Instructional Course *daniele farneti; carlos manzano*

09:00–10:00 **Reclaiming Voice After Head & Neck Cancer: Multidisciplinary Pathways To Long-Term Functional Recovery**

Phoniatrics · Panel Presentation *Gamze Yesilli Puzella; Francesco Bussu; Fatma Şentürk*

10:45–11:15 **Lasers In Pediatric Airway - Update 2025**

Phoniatrics · Keynote Lecture *Kishore Sandu; Tolga Kandoğan*

11:15–11:45 **Instrumental Swallowing Assessment In Children: Fiberoptic Or Fluoroscopic**

Swallowing · Instructional Course *Mariam Shadi; Güleser Saylam*

11:45–12:45 **Developing Cochlear Implantation Program In South East Europe**

Phoniatrics · Panel Presentation *Nenad Arsovic; Celil Göcer; Gabor Polony; Fuad Brkic; Saba Battelino; Mihael Ries;; Ruminita Radulescu*

14:00–15:00 **Pediatric Dysphagia**

Phoniatrics · Panel Presentation *Ana Danic Hadzibegovic; Daša Gluvajić; Tamer Abou-Elsaad; daniele farneti; reham; abdelwakil ibrahim; Christian Aaron Mejia Arista*

15:00–16:00 **From Neural Pathways To Swallowing: Insights Into Neurogenic Dysphagia**

Phoniatrics · Panel Presentation *KAYHAN OZTURK; virginie woisard; Paola Diaz Borrego; rodica muresan*

16:30–17:00 **Neuroplasticity-Based Dysphagia Rehabilitation: Bridging Research And Practice**

Phoniatrics · Instructional Course *mohamed farahat; Ozan Bağış Özgürsoy*

17:00–17:30 **Dysphagia In Head And Neck Cancer, Management Protocol And Patients' Journey**

Phoniatrics · Keynote Lecture *Justin Roe; Engin Dursun*

17:30–18:00 **New Office-Based Injectables**

Phoniatrics · Keynote Lecture *Peak Woo; SEVTAP AKBULUT*

Friday, 11 September 2026

07:00–07:30 **Updates On Management Of Chronic Cough**

Phoniatrics · Keynote Lecture *Jonathan Bock; Taner Yılmaz*

07:30–08:30 **Surgical Treatment In Bilateral Vocal Fold Paralysis**

Phoniatrics · Panel Presentation *Mustafa Aslıer; Sami Rouadi; Taner Yılmaz; Dinara Toguzbayeva; Güleser Saylam*

08:30–09:30 **Oropharyngeal Dysphagia**

Swallowing · Panel Presentation *Ana Danic Hadzibegovic; Miroslav Tedla; samit majumdar; Mariam Shadi; Shiying; Hey*

09:30–10:00 **Swallowing Disorders In Systemic Diseases: Multimodal Evaluation And Case-Based Approach**

Swallowing · Instructional Course *Emel Tahir*

10:45–11:15 **Evaluation And Management Of Complex Pharyngoesophageal Segment Dysfunction**

Swallowing · Keynote Lecture *Maggie Kuhn; Z. Çiler Büyükatalay Yaldız*

11:15–11:45 **Comprehensive Assessment Of Pediatric Dysphagia In Children With Disabilities: Clinical Approaches For ENT And Speech-Language Pathologists**

Swallowing · Instructional Course *Z. Çiler Büyükatalay Yaldız; Özge Selen AVCI CAN*

11:45–12:15 **Swallowing Computed Tomography And Extended Reality System In Swallowing Evaluation**

Swallowing · Instructional Course *Rumi Ueha; Z. Çiler Büyükatalay Yaldız*

12:15–12:45 **Phoniatry Notable Abstracts**

Notable Abstracts · Notable Abstract *Z. Çiler Büyükatalay Yaldız*

14:00–15:00 **Rehabilitation Methods For Swallowing Disorders**

Swallowing · Panel Presentation *Müge Müzeyyen Çiyiltepe; Melda Kunduk*

15:00–15:30 **Restoring The Swallow: Surgical Solutions For Neurological Dysphagia**

Swallowing · Keynote Lecture *ALEXANDROS DELIDIS; Emel Çadallı Tatar*

15:30–16:00 **FEES In Dysphagia Management: A Practical Guide For Clinicians**

Swallowing · Instructional Course *Sibel Alicura Tokgöz; Emel Tahir*

16:30–17:30 **Assessment And Management Of Pediatric Swallowing Disorders, State Of The Art**

Swallowing · Panel Presentation *Gayem Köprücü; Tamer Abou-Elsaad; Ozan Bağış Özgürsoy*

17:30–18:00 **Tailored Aspiration Prevention Surgery For Severe Dysphagia To Improve Quality Of Life**

Swallowing · Instructional Course *Rumi Ueha; Ozan Bağış Özgürsoy*

Saturday, 12 September 2026

07:00–07:30 **Platelet-Rich Plasma Injections Into The Olfactory Clefts Of Patients With Olfactory Dysfunction: An Updated Clinical Practice**

Swallowing · Keynote Lecture *Jerome LECHIEN; Zara Patel*

07:30–08:00 **Electrical Stimulation Therapy For Dysphagia**

Swallowing · Keynote Lecture *Yoichiro Sugiyama; Emel Çadallı Tatar*

08:00–08:30 **What's New In Pediatric Swallowing Assessment: Innovations And Future Direction**

Swallowing · Instructional Course *Jeyasakthy Saniasiaya; Emel Çadallı Tatar*

08:30–10:00 **Swallowing Head And Neck Cancer: From Prevention To Treatment**

Swallowing · Panel Presentation *Priya Krishna MD; Aliya Turyeva; Hamdi Hakan Coşkun; Özlem E Tulunay-Uğur;; Nausheen Jamal*

10:45–11:45 **Swallowing, What Is New?**

Swallowing · Round Table *Al Merati; Emel Tahir; Özlem E Tulunay-Uğur; Jacqui Allen*

11:45–12:45 **The Artistic Voice And Voice Measures**

Phoniatrics · Panel Presentation *Mette Pedersen; Ramon Hernandez-Villoria; Reinaldo Yazaki; alberto paderno;; valentina camesasca*

14:00–15:00 **Salivary Control Disorders**

Swallowing · Panel Presentation *KAYHAN OZTURK; Ömer Erdur; Elif Ayanoğlu Aksoy; Dinara Toguzbayeva; Ercan; Akbay*

15:00–15:30 **Differential Diagnosis Of Upper Esophageal Sphincter Disorders And Their Surgical And Behavioral Treatment**

Swallowing · Keynote Lecture *Daniel Fink; Melda Kunduk; Andrew J McWhorter*

15:30–16:00 **Geriatric Dysphagia: How To Manage.**

Swallowing · Keynote Lecture *Özlem E Tulunay-Uğur; Selmin Karatayli Ozgursoy*

17:00–17:30 **AI Role In Assessment And Intervention Of Dysphagia.**

Swallowing · Keynote Lecture *Tamer Abou-Elsaad; Haldun Oguz*

PHONIATRICS 1

ICC - B2 Floor - Emirgan 1

Wednesday, 9 September 2026

14:00–15:30 **Updates On Laryngeal Imaging Techniques**

Phoniatrics · Instructional Course *Ana Danic Hadzibegovic; tamer mesellam; Robert Šifrer; Mette Pedersen; Ahmed; Mohamed Refaat Salam; Emine Elif Altuntas*

15:30–16:00 **Office Vs OR For Preneoplastic Conditions And Laryngeal Papilloma**

Phoniatrics · Keynote Lecture *Haldun Oguz; samit majumdar; Bengu Cobanoglu*

16:30–17:30 **Pediatric Laryngeal Disorders**

Phoniatrics · Panel Presentation *Nikolay Sapundzhiev; Stefan Mattheis; Romain Luscan; SEDA TÜRKOĞLU; BABAKURBAN; Lora Nikiforova*

17:30–18:00 **Singing Endoscopy**

Phoniatrics · Keynote Lecture *SEVTAP AKBULUT; Haldun Oguz*

Thursday, 10 September 2026

07:00–08:00 **Objective Voice Evaluation**

Phoniatrics · Panel Presentation *Philipp P. Caffier; jorg bohlender; Michael.Fuchs; Hyung Tae Kim; virgilijus Ulozas*

08:00–09:30 **Assessment, Office-Based And Endolaryngeal Approach For Unilateral Vocal Fold Immobilty**

Phoniatrics · Panel Presentation *Camille Finck; James Phillip Thomas; Ilter Denizoglu; Jonathan Bock; Wonjae CHA;; Aude Lagier; Oğuzhan Katar; Ömer Bayır*

09:30–10:00 **Challenges Affecting ENT And Phoniatrics Practice In Underpriviliged World**

Phoniatrics · Panel Presentation *Jerome LECHIEN; Sophie Gitonga; Kristel Kalling*

10:45–12:45 **Recurrent Respiratory Papillomatosis: A New Horizon For An Old Disease**

Phoniatrics · Panel Presentation *simon best; Seth Pransky; Daša Gluvajić; Shiying Hey; Hanna Klimza; Vasiliki; Triantafillou; Sara Pai*

14:00–14:30 **Freeing The Jaw And Root Of Tongue In Voice Therapy**

Phoniatrics · Instructional Course *Rehab Awad; Gamze Yesilli Puzella*

15:00–15:30 **Applications Of Custom Gpts In Voice Assessment And Management**

Phoniatrics · Instructional Course *Khalid MALKI; Bengu Cobanoglu*

15:30–16:00 **Speech & Language Therapy**

Phoniatrics · Panel Presentation *Oğuzhan Katar; Emine Elif Altuntaş; Mehbube Tuncer*

16:30–17:30 **Current Concepts In Vocal Fold Paralysis**

Phoniatrics · Instructional Course *reham abdelwakil ibrahim; Hazem Saleh; Seher Sirin*

17:30–18:00 **Radiation-Induced Dysphagia In Head And Neck Cancer**

Phoniatrics · Expert Discussion *Yoshihiko Kumai; Oğuzhan Katar*

Friday, 11 September 2026

07:00–08:00 **Management Of Rheumatological Manifestations In Larynx**

Phoniatrics · Panel Presentation *Viktoria Shilenkova; irina osipava; Aliya Turyeva; Ramil Hashimli*

08:00–09:00 **Session Of The Ototoxicity Working Group Of The German-Indonesian Society For Medicine**

Phoniatrics · Panel Presentation *Antoinette am Zehnhoff-Dinnesen; Tri Juda Airlangga Hardjoprawito; Milanka; Drenovak; Anna Katharina Rohlfs; Celil Göcer*

09:00–10:00 **Istanbul Consensus: Consensus Statement About Retrograde Cricopharyngeal Dysfunction (R-CPD) Definition And Mangement**

Phoniatrics · Panel Presentation *Jerome LECHIEN; yakubu karagama; SEVTAP AKBULUT; Tom Carroll; Ahmed Geneid*

10:45–11:45 **Surgical Management Of Unilateral Vocal Cord Immobility**

Phoniatrics · Panel Presentation *Shiying Hey; Marina Mat Baki; jean paul marie; yakubu karagama; Gerd Fabian Volk*

11:45–12:15 **Visual Neurolaryngology**

Phoniatrics · Keynote Lecture *James Phillip Thomas; Shiying Hey; Gerd Fabian Volk*

12:15–12:45 **Superior Laryngeal Nerve Injury - Why Thyroid Surgeons Should Document The Highest Pitch Before And After Surgery**

Phoniatrics · Keynote Lecture *James Phillip Thomas; Nurullah Türe*

14:00–15:00 **Laryngeal Dystonia – Challenges And Pitfalls In Diagnostics And Treatment**

Phoniatrics · Panel Presentation *Danijela Dragičević; yakubu karagama; Tolga Kandoğan*

15:00–15:30 **Surgical Treatment (Primarily Reinnervation) For Adductor Laryngeal Dystonia/Spasmodic Dysphonia**

Phoniatrics · Keynote Lecture *Joel Blumin*

15:30–16:00 **Phono-Surgical Considerations For Optimal Outcome In Professional Singers.**

Laryngology · Instructional Course *Peak Woo; Necati Enver*

16:30–17:30 **Weighting Oncological And Functional Outcomes In Laryngeal Oncology. Comparing Total Laryngectomy With Surgical And Non Surgical Laryngeal Preservation**

Phoniatrics · Panel Presentation *Jacopo galli; Jens Peter Klussmann; Johannes Rijken; Francesco Bussu; Arzubetul; Duran*

17:30–18:00 **Functional Dysphagia, Diagnosis And Management. Tips And Tricks.**

Phoniatrics · Instructional Course *Rehab Awad; Ozan Gökdoğan*

Saturday, 12 September 2026

07:00–08:00 **Physiological Features And Phoniatric Aspects Of Traditional Singing Across The Turkic World: Problems And Solutions**

Phoniatrics · Panel Presentation *Haldun Oguz; Ramil Hashimli; kamil suleymanov; Dinara Toguzbayeva; Gavkhar; Haydarova; Aliya Turyeva; Alfisa Orozalieva*

08:00–08:30 **In Office Laser/Steroid Injection For Professional Voice Pathologies**

Phoniatrics · Keynote Lecture *Jennifer Anderson; Bengu Cobanoglu*

08:30–09:00 **Endoscopic CO2-Laser Zenker's Diverticulo(S)Tomy**

Swallowing · Instructional Course *Roland Giger*

09:00–10:00 **High Technology In Laryngeal Surgery**

Phoniatrics · Panel Presentation *Ahmed Geneid; Sachin Gandhi; Güleser Saylam*

10:45–11:15 **Laryngopharyngeal Reflux (LPR): Disease Of The 21St Century**

Phoniatrics · Keynote Lecture *Tomislav Baudoin; Haldun Oguz*

11:15–12:45 **Optimising Outcomes In Gender Affirming Laryngeal Surgery**

Phoniatrics · Panel Presentation *Chadwan Al Yaghchi; brian nuyen; Katherine C. Yung; peter tomassen; James; Phillip Thomas; Elad Azizli; Engin Dursun*

14:00–16:00 **Brainstorming In The Swallowing Universe**

Phoniatrics · Panel Presentation *Gabriela Guerra; Mariam Shadi; Ramon Hernandez-Villoria; Yoshihiko Kumai;; mohamed farahat; Ahmed Mohamed Refaat Salam; Ana Penezic; Pedro Malave*

16:30–17:30 **The Great Debate: Surgical Approaches To Zenker's Diverticulum**

Phoniatrics · Panel Presentation *Robbi Kupfer; Ozan Bağış Özgürsoy; Maggie Kuhn; Brianna Crawley*

17:30–18:00 **Laryngeal Framework Surgery: Endoscopic Mucosal Graft To Close Glottic Gap After Laser Cordectomy**

Laryngology · Keynote Lecture *Erwan de Mones*

PHONIATRICS 2

ICC - B3 Floor - 3B/29

Wednesday, 9 September 2026

14:00–14:30 **Laryngeal Biomechanics In Mugham Singing: Endoscopic Insights And Clinical Implications**
Phoniatrics · Remarkable Presentation *Ramil Hashimli; Kristel Kalling*

14:30–15:00 **From Free Text To Real World Evidence Standardizing Voice Care Data In ENT Clinics (APD Voice)**
Phoniatrics · Instructional Course *Kristel Kalling; Ramil Hashimli*

15:00–16:00 **Beyond White Light: The Promise, Pitfalls, And Future Of NBI In Early Laryngeal Cancer Detection**
Phoniatrics · Panel Presentation *Hazem Saleh; Christoph Arens; Wioletta Pietruszewska; Hakan Birkent; ichiro; tateya*

16:30–18:00 **Voice Evolution Across The Lifespan — Pediatric, Pubertal, Menopausal, And Elderly Voice**
Phoniatrics · Panel Presentation *Ceki Paltura; Engin Dursun; Ralph Haddad; Ana Penezic; Sibel Yıldırım Moral*

Thursday, 10 September 2026

07:00–08:00 **Voice Rehabilitation**
Phoniatrics · Panel Presentation *carlos manzano; Ilter Denizoglu; Gamze Yesilli Puzella; Afaq Abbasova*

08:00–08:30 **Tracheostomy-Free Laryngeal Surgery For Anticipated Difficult Airways Using High-Flow Oxygenation**
Phoniatrics · Keynote Lecture *Seong Keun Kwon; Hamdi Hakan Coşkun*

08:30–09:00 **Management Of Cricopharyngeal Muscle Disorders In OR And Office**
Phoniatrics · Keynote Lecture *Ahmed Geneid; Haldun Oguz*

09:00–10:00 **Fundamentals Of Vocal Health And Management Of Functional Voice Problems**
Phoniatrics · Instructional Course *Sanja Krejovic; Saliha Kuşoğlu Atalay; Rania Malhem*

10:45–11:45 **Voice Disorders In Systemic And Rheumatological Diseases**
Phoniatrics · Expert Discussion *Ebru Karakaya Gojayev; Alper Şenkal; A. Volkan Sunter*

11:45–12:45 **Auditory Feedback In Phoniatrics**
Phoniatrics · Expert Discussion *Mustafa Yüksel; Bülent Gündüz; Pasquale Bottalico*

14:00–15:00 **From European And American Consensus To The IFOS Guidelines For Managing Laryngopharyngeal Reflux Disease**
Phoniatrics · Panel Presentation *Jerome LECHIEN; Inna Husain; Maria Rosaria Barillari; Emel Çadallı Tatar*

15:00–16:00 **Evidence Based Management Of Oropharyngeal Dysphagia**
Phoniatrics · Panel Presentation *samit majumdar; Miroslav Tedla; Ahmed Geneid; Mariam Shadi; Justin Roe*

16:30–17:30 **Functional Endoscopic Evaluation Of Swallowing**
Phoniatrics · Instructional Course *Ana Danic Hadzibegovic; Tamer Abou-Elsaad; Emine Elif Altuntaş*

17:30–18:00 **The Art Of Botulinum Toxin Injection In Laryngology: Indications, Dosing Dilemmas, Pitfalls, And Techniques**
Phoniatrics · Instructional Course *reham abdelwakil ibrahim; Esma Altan; Afaq Abbasova*

Friday, 11 September 2026

07:00–08:00 **Relationship Between Normal Or Impaired Hearing And Accurate Singing In Singers Of All Ages**
Phoniatrics · Panel Presentation *SUELA SALLAVACI; Dusan Milisavljevic; dugagjin spanca; Ahmet Atas; Mario; Milkov; Arzubetul Duran*

08:00–08:30 **Biomechanical Vocal Transnasal Flexible Evaluation To Plan & Choose The Voice Therapy Exercises: How To Perform It.**
Phoniatrics · Keynote Lecture *Reinaldo Yazaki; Engin Dursun*

08:30–09:00 **Challenging Cases Of Hearing Loss: Diagnostic Strategies And Multidisciplinary Approaches**
Phoniatrics · Instructional Course *Austeja Peceliuniene; Irina Arechvo; Armağan İncesulu*

09:00–10:00 **Reflux And Hoarseness**
Phoniatrics · Panel Presentation *James Phillip Thomas; Markus Hess; Maria Rosaria Barillari; A. Volkan Sunter*

10:45–12:15 **From The Operating Room To The Office**
Phoniatrics · Panel Presentation *Karen Kost; Jennifer Anderson; marc Remacle; Joel Blumin; Rehab Awad; Ferhan Öz*

12:15–12:45 **Longterm Follow-Up In Subglottic Stenosis: Does ILSI Affect Surgery Free Interval? Results In 90 Patients Over 20 Years.**
Phoniatrics · Keynote Lecture *Jennifer Anderson; Mustafa Gerek*

14:00–15:00 **Vocal Fold Scars And Aging : A Room For Regenerative Medicine?**

Phoniatrics · Panel Presentation *Chadwan Al Yaghchi; Peak Woo; Ralph Haddad; Emel Çadallı Tatar; Shigeru Hirano*

15:00–16:00 **Keynote: The Various Faces Of Laryngeal Spasmi**

Phoniatrics · Keynote Lecture *Nasser Kotby; Metin Onerci*

16:30–17:30 **Chronic Cough**

Phoniatrics · Panel Presentation *Ahmed Geneid; Inna Husain; Jacqui Allen; Shiying Hey*

17:30–18:00 **Voice Assessment And Interpretation (Acoustic Voice Analysis- Glottal Inverse Filtering-Biomechanical Analysis)**

Phoniatrics · Instructional Course *Ramon Hernandez-Villoria; Gabriela Guerra; Austeja Peceliuniene; Isabel Cardoso*

Saturday, 12 September 2026

07:00–07:30 **Thyroidectomy Complications And Management**

Phoniatrics · Keynote Lecture *Mirjana Gnjatic; Güleser Saylam; Engin Dursun*

07:30–08:00 **Working With The Singers: The Collaborative Work Between Therapy And Vocal Rehabilitation.**

Phoniatrics · Instructional Course *Rehab Awad; Michael vickers; Mario Milkov*

08:00–09:00 **Russian Experience Of Surgical Treatment And Rehabilitation Of Patients With Different Pathologies Of The Larynx**

Phoniatrics · Panel Presentation *natalia chuchueva; kamila magomedova; ismail guseynov; Semih Yazla; Ekaterina; Osipenko*

09:00–10:00 **Vocal Fold Paresis. When I Couldn't Get The Patient's Voice Back**

Phoniatrics · Panel Presentation *Viktoria Shilenkova; Andrey Shilenkov; Dinara Toguzbayeva; Shoira; Makhmadaminova; Irina Evomaa*

10:45–11:45 **Therapeutic Approach For Unilateral Vocal Fold Paralysis**

Phoniatrics · Panel Presentation *Seong Keun Kwon; Peak Woo; Markus Hess; ichiro tateya*

11:45–12:45 **Thyroplasty**

Phoniatrics · Panel Presentation *Taner Yılmaz; Ahmed Geneid; Semih Yazla; Sachin Gandhi*

14:00–15:30 **Rehabilitation Of Voice And Breathing Functions In Patients With Bilateral Paresis And Paralysis Of The Larynx**

Phoniatrics · Panel Presentation *Robert Peter Kesmarszky; kamila magomedova; Ramil Hashimli; mawaddah azman;; Hamdi Hakan Coşkun; Ekaterina Osipenko*

15:30–16:00 **Adding Laryngeal Reinnervation To Your Practice**

Phoniatrics · Instructional Course *Joel Blumin; Mustafa Aslıer*

16:30–18:00 **The Accent Method Of Voice Therapy**

Phoniatrics · Instructional Course *Nasser Kotby; Aliaa Khidr*

PHONIATRICS 3

Hilton - Liz

Wednesday, 9 September 2026

14:00–15:00 **Latest Data On The Global Status Of Newborn Hearing Screening, WHO Tracer Indicator For Progress In Ear N Hearing Care**

Phoniatrics · Panel Presentation *Katrin Neumann; Carolina Der; Hung THAI-VAN; Sebastian Cozma; Ramon; Hernandez-Villoria; Celil Göcer; Nadia kamal*

15:00–16:00 **Evaluation And Consequences Of Hearing Loss In Childhood**

Phoniatrics · Panel Presentation *Ali Özdek; Adrien A. Eshraghi; Tayyar Kalcıoğlu; Merve Ozbal Batuk; Soumit; Dasgupta; Mariam Ghazi AlSaeed*

16:30–17:00 **Transnasal Esophagoscopy**

Swallowing · Instructional Course *yakubu karagama; Elif Ayanoğlu Aksoy*

17:00–17:30 **Nasal Resonance Disorders: Diagnosis, Surgical Management, And Speech Therapy**

Phoniatrics · Instructional Course *Mehmet Akif Kılıç; Semih Yazla*

17:30–18:00 **Feedback Mechanisms In Voice And Speech: From Physiology To Therapy**

Phoniatrics · Keynote Lecture *Mehmet Akif Kılıç; saime sağıroglu*

Thursday, 10 September 2026

07:00–08:30 **Physiology And Pathology Of The Organs Of The Head And Neck**

Phoniatrics · Panel Presentation *Ramon Hernandez-Villoria; ıgor kastyro; Anton Kovalenko; svetlana dragunova;; renas ali; vasiliy samsonov; polina mikhalskaia*

08:30–10:00 **Benign Vocal Fold Lesions: Comprehensive Management; Surgical, Non-Surgical, Medical Treatment Modalities**

Phoniatrics · Panel Presentation *reham abdelwakil ibrahim; Ekaterina Putkaradze; A. Volkan Sunter; Nadhirah Mohd; Shakri; Bengu Cobanoglu; Esma Altan; Selmin Karatayli Ozgursoy; Maryam Ali; AlQaydi; Engin Dursun*

10:45–11:45 **Can AI Outperform Humans In Voice Assessment?**

Phoniatrics · Panel Presentation *Khalid MALKI; kamil suleymanov; valentina camesasca; Mette Pedersen; Ramon; Hernandez-Villoria; alberto paderno*

11:45–12:45 **Laryngeal Manifestations Of Autoimmune Diseases**

Phoniatrics · Expert Discussion *Inna Husain; Jacqui Allen; Oğuzhan Katar*

14:00–15:00 **Tracheostomy Practices & Protocols**

Phoniatrics · Panel Presentation *Soumitra Ghosh; arpit sharma; Gautam Khaund; Manju Issac; Seher Sirin*

15:00–16:00 **Diagnosis And Treatment Of Reflux: What Is Coming**

Phoniatrics · Panel Presentation *Nikki Johnston; Jacqui Allen; Tom Carroll; Jerome LECHIEN; Inna Husain; tamer; mesellam*

16:30–17:30 **Advances In Tracheal Regeneration: Emerging Strategies And Translational Insights**

Phoniatrics · Panel Presentation *Seong Keun Kwon; Tendy Chiang; Briac Thierry; Yo Kishimoto; Mehmet Hakan; Korkmaz*

17:30–18:00 **Ermergency & Elective Tracheotomy**

Phoniatrics · Instructional Course *Hazem Saleh; Mehmet Hakan Korkmaz; Engin Dursun*

Friday, 11 September 2026

07:00–08:00 **Non-Invasive Methods Of Voice Assessment And Intervention [Venezuelan Society Of Phoniatrics]**

Phoniatrics · Panel Presentation *Ramon Hernandez-Villoria; Gabriela Guerra; Pedro Malave; Esma Altan*

08:00–09:00 **Challenges In Early Diagnosis Of Syndromic Hearing Loss**

Phoniatrics · Panel Presentation *Nadia kamal; Hosnova Dagmar; Iman Sadek; Ranjisth Rajeswaran; Ali Özdek*

09:00–10:00 **Management Of Single-Sided Deafness**

Phoniatrics · Panel Presentation *Jan Boucek; Petra Kalitova; Vladmir Koucky; Z. Çiler Büyükatalay Yaldız*

10:45–11:45 **Voice-Related Biomarkers For Clinical Praxis**

Phoniatrics · Panel Presentation *Mette Pedersen; valentina camesasca; alberto paderno; Ramon Hernandez-Villoria;; Samantha Mairesse*

11:45–12:45 **Tracheotomy: The UEP Swallowing Committee Position Paper**

Phoniatrics · Panel Presentation *daniele farneti; Mariam Shadi; Miroslav Tedla; mohamed farahat; reham abdelwakil; ibrahim*

14:00–15:00 **Effective Treatment Approaches For Auditory Processing Disorders And Listening Difficulties In Children**

Phoniatrics · Panel Presentation *Meral Didem Türkyılmaz; Katrin Neumann; Amélie Hesping; Stefan Launer; Ramon; Hernandez-Villoria; Wafaa El Kholy*

15:00–15:30 **Cochlear Implantation And Time As A Factor For Indicator**

Phoniatrics · Instructional Course *Jan Boucek; Petra Kalitova; Nenad Arsovic*

15:30–16:00 **Tinnitus: Current Concepts And Management**

Phoniatrics · Instructional Course *Austeja Peceliuniene; Irina Arechvo; Fuad Brkic*

16:30–18:00 **Solutions For Airway Problems**

Phoniatrics · Panel Presentation *Esma Altan; Shoira Makhmadaminova; Soumitra Ghosh; Taner Yılmaz*

Saturday, 12 September 2026

07:00–08:00 **Treatment Approaches In Laryngeal Cancer**

Laryngology · Panel Presentation *Mark Zafereo; Alirio Mijares Brinez; Rogerio A. Dedivitis; Luiz P. Kowalski; Gabriel; Damiano; Paul Boettiger*

08:00–09:00 **Voice Deepening**

Phoniatrics · Panel Presentation *Chadwan Al Yaghchi; Kursat Yelken; Nupur Kapoor Nerurkar; brian nuyen; Hakan; Birkent*

09:00–10:00 **Vocal Training In Professional Voice Users**

Phoniatrics · Panel Presentation *Aliaa Khidr; Rehab Awad; Z. Çiler Büyükatalay Yaldız; Saliha Kuşoğlu Atalay; Baiba; Trinite*

10:45–11:45 **Multidisciplinary Approach To Managing Singers Following Phonosurgery**

Phoniatrics · Panel Presentation *Rehab Awad; Michael vickers; Miroslav Tedla; Sean Fang*

11:45–12:45 **Potentially Cancerous Lesions Of The Vocal Folds**

Phoniatrics · Panel Presentation *Camille Finck; Emel Çadallı Tatar; Sermin Can*

14:00–14:30 **Phoniatrician In The Artistic Voice: Office, Backstage-Onstage, Operating Room**

Phoniatrics · Keynote Lecture *Reinaldo Yazaki; Haldun Oguz*

14:30–15:30 **From Scalpel To Speech: A Difficult Road In Advanced Laryngeal Cancer**

Phoniatrics · Panel Presentation *Francesco Bussu; Bengu Cobanoglu; Jacopo galli*

15:30–16:00 **Strategies To Manage Chemoradiation-Associated Dysphagia**

Swallowing · Keynote Lecture *Nausheen Jamal*

16:30–17:00 **Union Of European Phoniatricians - Young Phoniatricians Committee**

Phoniatrics · Instructional Course *Sibel Yıldırım Moral; Haldun Oguz*

17:00–18:00 **Functional Management Of Tracheostomy In ICU And Post-ICU Patients**

Phoniatrics · Panel Presentation *Aude Lagier; Ana Danic Hadzibegovic; Chadwan Al Yaghchi; Mariam Shadi*

RHINOLOGY 1

ICC - B2 Floor - Beyazıt

Wednesday, 9 September 2026

14:00–14:30 **New Classifications In Sinus Surgery**
Rhinology · Keynote Lecture *Ramon Moreno Luna; Rodolfo Nazar*

14:30–15:00 **How to avoid complications of FESS Before it's too late: Cadaver and Navigation Guidance**
Rhinology · Keynote Lecture *Reda Kamel; Burçay Tellioğlu*

15:00–16:00 **Primary Sinus Surgery For CRS: What's New In The Past Five Years?**
Rhinology · Round Table *FABRIZIO RICCI ROMANO; Oswaldo A Henriquez; Luis Fernando Macias-Valle;; Rodolfo Nazar; Amin Javer; Julio Heinichen; Ramon Moreno Luna*

16:30–17:00 **Science-Based And Nature-Aligned Concepts In Modern Rhinosinusitis**
Rhinology · Keynote Lecture *Desiderio Passali; Meryem Nesil Keles Türel*

17:00–18:00 **Office Based Rhinologic Procedures**
Rhinology · Round Table *Sarah K. Wise; Ashutosh Kacker; Murugappan Ramanathan; Edward McCoul; Pablo; Stolovitzky; Erich Voigt; Meryem Nesil Keles Türel*

Thursday, 10 September 2026

07:00–07:30 **Functional Endoscopic Sinus Surgery: The Graz School**
Rhinology · Instructional Course *Axel Wolf; Gerd Wolf*

07:30–08:00 **Tips And Trics For Safe And Effective Frontal Sinus Surgery**
Rhinology · Instructional Course

08:00–09:00 **Challenges In Biological Therapy In 2026**
Rhinology · Round Table *Chae-Seo Rhee; Joseph Han; Anna Sophie Hoffmann; Kasper Aenaes; Gerd Wolf*

09:00–09:30 **Transorbital Endoscopic Skull Base Surgery: Current Trends And Limitations 2026**
Rhinology · Keynote Lecture *Darlene Lubbe*

09:30–10:00 **Evidence, Controversies, And Themes In Skull Base Reconstruction: Insights From Literature And Experts**
Rhinology · Keynote Lecture *Edward Kuan*

10:45–12:15 **Type 2 Crswnp In 2026: Global Variations And Decision-Making Process In The Era Of Biologics**
Rhinology · International Symposia *Joseph Han; FABRIZIO RICCI ROMANO; Richard Harvey; Klaus Stelter; Chae-Seo; Rhee*

12:15–12:45 **How Do We Measure Disease Control In CRS (And Why We Need To)**
Rhinology · Keynote Lecture *Ahmad R. Sedaghat; Enes Yiğit*

14:00–15:30 **Complications In Endoscopic Sinus And Skull Base Surgery**
Rhinology · International Symposia *Cem Meco; Dong-Young Kim; Ali Al Amri; Camilo R. Van Strahlen; Jan Plzak; Edward; Kuan*

15:30–16:00 **Silent Sinus Syndrome: What To Know? How To Treat?**
Rhinology · Instructional Course *Nicholas BuSaba; Marco Velimir Grgic; John M DelGaudio*

16:30–18:00 **Rethinking Empty Nose Syndrome: Identifying Risk, Respond To Patient Concers And Continue Effective Surgery**
Rhinology · International Symposia *Richard Harvey; Dana Crosby; Edward McCoul; John R. Craig; Jae Hwan Kwon; Sue; Jean Mun; Nicholas BuSaba*

Friday, 11 September 2026

07:00–07:30 **Nasal Vestibule Carcinoma: Update On Treatment Strategies**
Rhinology · Instructional Course *Francesco Bussu; Togay Müderris*

07:30–08:00 **Sinonasal Melanoma Tratment Update**
Rhinology · Instructional Course *Robbie Woods; Togay Müderris; Wojciech Mydlarz*

08:00–09:00 **Contemporary Evidence In Sinonasal Malignancy Treatment 2026**
Rhinology · International Symposia *Edward Kuan; Ehab Hanna; Ian Witterick; Ameet Singh; Cem Meco*

09:00–09:30 **Future Directions In Management Of Sinonasal Malignancies**
Rhinology · Keynote Lecture *Ehab Hanna; Cem Meco*

09:30–10:00 **Strategies For Skull Base Reconstruction**
Rhinology · Keynote Lecture *Jean Anderson Eloy; Cem Meco*

10:45–11:45 **Histology Based Multimodal Treatment Concepts Of Sinonasal Malignancies**

Rhinology · Round Table *Marco Ferrari; Alperen Vural; Ian Witterick; Christian von Buchwald; CODRUT; SARAFOLEANU; Robbie Woods*

11:45–12:45 **Nasopharyngeal Carcinoma: 2026 Update On Management**

Rhinology · International Symposia *Michael Tong; Zhaohui Shi; Sheng Po Hao; Ing Ping Tang; Robbie Woods*

13:00–14:00 **Industry Sponsored Session**

Industrial · Satellitte Symposium

14:00–14:30 **Frontal Sinus Surgery: Are We Truly At The Summit, Or Still Climbing?**

Rhinology · Keynote Lecture *Anshul Sama; Suat Turgut*

14:30–16:00 **Frontal Sinus Surgery – The Last Frontier**

Rhinology · International Symposia *Anshul Sama; Suat Turgut; James Palmer; Mario Turri-Zanoni; Jean Anderson Eloy*

16:30–17:30 **Biologics & Smell In Crswnp: Dupilumab, Tezepelumab, Beyond**

Rhinology · Round Table *Richard Harvey; Zara Patel; Brent Senior; Jivianne Lee; Asim Kaytaz*

17:30–18:00 **Should We Reduce Dosing Frequency In Biologic Responders: Pros And Cons?**

Rhinology · Instructional Course *Valerie Hox; David Liu; Asim Kaytaz*

Saturday, 12 September 2026

07:00–07:30 **Using High-End Technology In Rhinology And Skull Base Surgery: Innovations And Future Directions**

Rhinology · Instructional Course *Wojciech Mydlarz; Stefan Mattheis; Chae-Seo Rhee; Petr Schalek*

07:30–08:00 **The Role Of Induction Chemotherapy In The Management Of Sinonasal Cancers: Current Concepts**

Rhinology · Keynote Lecture *Mario Turri-Zanoni; Petr Schalek*

08:00–09:00 **Revision Sinus Surgery**

Rhinology · Round Table *Michael G. Stewart; Raluca Grigore; Teoman Dal; Pavol Surda; Rodolfo Nazar; Metin; Yılmaz*

09:00–09:30 **Revision Frontal Sinus Surgery**

Rhinology · Keynote Lecture *Stil Kountakis; Metin Onerci*

09:30–10:00 **Rhinologic Strategies In Primary Ciliary Dyskinesia And Cystic Fibrosis: Optimizing Airway Health And Surgical Care**

Rhinology · Keynote Lecture *Brent Senior; Metin Onerci*

10:45–12:15 **Transorbital Approaches – Present And Future**

Rhinology · International Symposia *Darlene Lubbe; Hazan Basak; Tae-Bin Won; Cem Meco*

12:15–12:45 **Quality Of Life And Nasal Function Measurement: Current Stand In 2026**

Rhinology · Keynote Lecture *Michael G. Stewart; Cem Meco*

14:00–15:30 **Management Of Orbital, Skull Base And Maxilla Involvement In Sinonasal Malignancies**

Rhinology · International Symposia *Ehab Hanna; Marco Ferrari; Christian Betz; Ian Witterick; Erdem Eren; Cem Saka*

15:30–16:00 **Technology And Robotics In Rhinologic Surgery 2026**

Rhinology · Controversies *Tomislav Baudoin; Raewyn Campbell; Stefan Mattheis; Cem Saka*

16:30–17:30 **Overcoming Difficulties In Frontal Sinus Surgery**

Rhinology · Round Table *Brad Woodworth; Shazada Ahmed; Ozan Altuntaş; Yaşar Çokkeser*

17:30–18:00 **Adenoid Cystic Carcinoma Of The Sinonasal Cavity: Current Standarts And Evolving Advances In 2026**

Rhinology · Instructional Course *Frank Rikki Canevari; Alberto Schreiber; Wojciech Mydlarz; Suha Beton*

RHINOLOGY 2

Hilton - Grace II

Wednesday, 9 September 2026

14:30–15:30 **CRS Outcomes And Disease Control – Are We Doing Well?**
Rhinology · International Symposia *Ahmad R. Sedaghat; David Liu; Özden Savaş; Islam Herzallah*

16:30–18:00 **Rhinology Free Paper 15**
Rhinology · Free Paper Session *Yalcin Alimoglu*

Thursday, 10 September 2026

07:00–07:30 **Personalized Surgical Strategies In Revision Frontal Sinus Surgery: Anatomy And Pathology-Driven Decision Making**
Rhinology · Instructional Course *Mario Turri-Zanoni; Shazada Ahmed*

07:30–08:00 **Running A Modern Smell Clinic?**
Rhinology · Instructional Course *Carl Philpott; Antje Welge Lussen; Claudia Lill*

08:00–09:00 **Inferior Turbinate Surgery: What Are The Best Treatment Options In 2026?**
Rhinology · Round Table *Anders Cervin; Claudia Lill; Sergey Gorbunov; Mohsen Naraghi; Gabriela Kopacheva; -Barsova; Carl Philpott*

09:00–09:30 **Olfaction: Exploring The Neuroscience Behind The Sense Of Smell**
Rhinology · Keynote Lecture *Giulio Cesare Passali; Sabri Uslu*

09:30–10:00 **Optimizing Management Of CRS With NP Balancing Biologis And Surgery**
Rhinology · Keynote Lecture *Claire Hopkins; Sabri Uslu*

10:45–11:45 **Management Of Recalcitrant CRS**
Rhinology · Round Table *Jivianne Lee; Hussam Elbosraty; Meryem Nesil Keles Türel; Amin Javer; Claire; Hopkins*

11:45–12:15 **Scarred, Leaking, And Bleeding: A Survival Guide To Endoscopic Skull Base Complications**
Rhinology · Instructional Course *Apostolos Karligkiotis; Uygar DEMIR*

12:15–12:45 **Optic Nerve Decompression**
Rhinology · Keynote Lecture *Sandeep Bansal; Uygar DEMIR*

14:00–14:30 **Panamerican Association Of Otorhinolaryngology: Minimally Invasive Procedures To Treat Nasal Airway Obstruction Secondary To Nasal Valve Collapse**
Rhinology · Instructional Course *Pablo Stolovitzky; Alper Tutkun*

14:30–16:00 **Biological Therapy For Severe Sinusitis With Nasal Polyposis: Lights And Shadows**
Rhinology · International Symposia *Desiderio Passali; CODRUT SARAFOLEANU; Sergey Karpishchenko; Giulio Cesare; Passali; Pongsakorn Tantilipikorn; FABRIZIO RICCI ROMANO*

16:30–17:30 **Endoscopic Pituitary Surgery – Global Perspective From High To Low Resource Settings**
Rhinology · Round Table *Mohammadsadegh Zabihidan; Emrah Celtikci; CODRUT SARAFOLEANU; Julio; Heinichen*

17:30–18:00 **Quality Of Life After Skull Base Surgery: Are We Doing Well?**
Rhinology · Instructional Course *David Liu; CODRUT SARAFOLEANU; Julio Heinichen*

Friday, 11 September 2026

07:00–07:30 **Treatable Traits In Chronic Rhinosinusitis**
Rhinology · Instructional Course *Jonathan Yip; Leigh Sowerby; Christopher J Chin; Cem Saka*

07:30–08:00 **Contemporary Management Of Fibroosseous Lesions**
Rhinology · Keynote Lecture *Sergey Karpishchenko; Lütfü Şeneldir*

08:00–09:00 **Allergic Fungal Rhinosinusitis: Summary Of A National Institutes Of Health Multidisciplinary Workshop**
Rhinology · Round Table *Hassan H. Ramadan; Ashutosh Kacker; Kent Lam; Do Yeon Cho*

09:00–09:30 **Transorbital Neuroendoscopic Surgery For Sphenoid Wing Meningiomas**
Rhinology · Instructional Course *M.Melih Şahin; Emrah Celtikci*

09:30–10:00 **Odontogenic Sinusitis: From Teeth To The Sinuses And Beyond**
Rhinology · Instructional Course *alberto maria saibene; John R. Craig; Marta Kwiatkowska; Petr Kocum; Ozan; Özdemir*

10:45–11:15 **Central Compartment Atopic Disease: Advances In Understanding Its Phenotype**
Rhinology · Instructional Course *John M DelGaudio; Ramon Moreno Luna; Oswaldo A Henriquez; Lütfü Şeneldir*

11:15–11:45 **Septal Perforations Repair: Improving Results**
Rhinology · Keynote Lecture *Rodolfo Nazar; Lütfü Şeneldir*

11:45–12:45 **Transorbital Surgery: Challenging Cases**

Rhinology · Round Table *Pavol Surda; Dana Crosby; Chris Dhepnorrarat; Zeina Korban; Hatice Sema Başak*

14:00–14:30 **Facial Pain**

Rhinology · Keynote Lecture *Adrian M Agius; Selim Sermed Erbek*

14:30–16:00 **Real World Evidence In Biological Therapy For Crswnp: Current Status In 2026**

Rhinology · International Symposia *Jan Vodička; Dana Crosby; Syed Ahamed Peer Mohamed; Carl Philpott; Daniel Lupoi*

16:30–17:30 **Challenges In Epistaxis Management**

Rhinology · Round Table *CODRUT SARAFOLEANU; Olga Romanova; Alper Ceylan*

17:30–18:00 **Baloon Sinuplasty In 2026**

Rhinology · Instructional Course *Martin Nue Møller*

Saturday, 12 September 2026

07:00–07:30 **Scar Wars: Landmark Orientation And Strategies To Prevent Restenosis In Endoscopic Revision Sinus Surgery**

Rhinology · Instructional Course *Apostolos Karligkiotis; Cem Saka*

07:30–08:00 **Sphenoid Sinus Lateral Recess Spontaneous CSF Leak Management**

Rhinology · Instructional Course *Cem Saka*

08:00–09:00 **Managing Traumatic CSF Leaks Of The Anterior Skull Base: Challenging Cases**

Rhinology · Round Table *Frank Rikki Canevari; Özgür Kemal; Ashok Rokade; John M DelGaudio; Eliza Brozek; Madry*

09:00–10:00 **Sphenoid Sinus Surgery: Tailored Approaches From Basics To Advanced Techniques**

Rhinology · Round Table *Hussain Al Baharna; Suha Beton; Shazada Ahmed; Elif Ayanoğlu Aksoy*

10:45–11:45 **Perioperative And Postoperative Management Of CRS: Current Practice And Controversies**

Rhinology · International Symposia *Eliza Brozek Madry; Ray Kim; Aleksandra Aleksic; Raewyn Campbell; İbrahim; Çukurova*

11:45–12:45 **Fungal Sinusits: The Surviving Factor**

Rhinology · International Symposia *Julio Heinichen; NORASNIEDA MD SHUKRI; Şenol Çomoglu; Reda Kamel; İbrahim; Çukurova*

14:00–14:30 **Ergonomics In Rhinology - What You Need To Know And Do To Avoid A Painful Career And Early Retirement**

Rhinology · Keynote Lecture *Raewyn Campbell; Özgür Kemal*

14:30–16:00 **Olfactory Neuroblastoma: Currents Advances In Diagnosis And Treatment**

Rhinology · International Symposia *CORINNA LEVINE; Noel Ayoub; Murugappan Ramanathan; Davide Mattavelli;; Ludovic de Gabory; Nyall London; Özgür Kemal*

16:30–17:30 **Endoscopic Sinus Surgery: Tips And Tricks That Has Proven Their Value For Safe Surgery**

Rhinology · Round Table *Meryem Nesil Keles Türel; Asim Kaytaz; Oguz Ogretmenoglu; Hatice Sema Başak;; Suha Beton*

17:30–18:00 **Comprehensıve Management Of Inverted Papillomas**

Rhinology · Instructional Course *Kenzo Tsuzuki; Samy Elwany; Seth Brown; Asim Kaytaz*

RHINOLOGY 3

Hilton - Connie 1

Wednesday, 9 September 2026

14:00–14:30 **Endoscopic Pitituary Surgery: How To Establish Effective Colloboration With Neurosurgeons?**
Rhinology · Instructional Course *Ashok Rokade; Laura Van Gerven*

14:30–15:30 **Reconstruction Of The Anterior Skull Base: Lessons Learned**
Rhinology · International Symposia *Laura Van Gerven; Pavol Surda; Theodore A. Schuman; M.Melih Şahin; Ashok; Rokade*

15:30–16:00 **Endoscopic DCR: Different Techniques And Controversies**
Rhinology · Instructional Course *Puya Dehgani-Mobaraki; Islam Herzallah; Mohsen Naraghi*

16:30–17:00 **Patient-Tailored Management Of Recalcitrant Chronic Rhinosinusitis**
Rhinology · Instructional Course *Islam Herzallah; Kristine Smith; Günter HAFIZ*

17:00–18:00 **External Vs Endoscopic Approaches For Sinonasal Malignancies: Which One And When For Optimal Management?**
Rhinology · Round Table *Martin Jurlina; Zsolt Bella; Günter HAFIZ; Kristine Smith*

Thursday, 10 September 2026

07:00–07:30 **Transnasal Access To Pituitary Tumors**
Rhinology · Instructional Course *Julio Heinichen; Ana Krizmanić Mikolčević*

07:30–08:00 **Reconstruction Of The Defects Of The Nose: Strategies From Simple To Complex**
Rhinology · Instructional Course *Emre Vural; Isa Kaya; Ana Krizmanić Mikolčević*

08:00–09:00 **Orbital And Optic Nerve Decompression: When And How?**
Rhinology · Round Table *Serdar özer; Yu Hosokawa; Ashutosh Kacker; Emre Vural*

09:00–09:30 **Odontogenic/Postimplantation Maxillary Sinusitis**
Rhinology · Keynote Lecture *Andrey Lopatin; Zahide Mine Yazici*

09:30–10:00 **The Potential Role Of The Microbiome In The Pathogenesis Of Nasal Tumors: A Comprehensive Review**
Rhinology · Keynote Lecture *Gianluca Bellocchi; Julio Heinichen*

10:45–11:45 **Restoring Smell: Proven And Emerging Therapies**
Rhinology · International Symposia *Zara Patel; Jan Vodička; Rumi Sekine; Aytug Altundag; Apostolos Karligkiotis*

14:00–14:30 **Local And Regional Flaps In Endoscopic Sinus Surgery: Surgical Techniques And Tips&Tricks**
Rhinology · Instructional Course *Carlo Conti; Alessandro Vinciguerra; Serdar özer*

14:30–15:00 **The Role Of Artificial Intelligence-Driven Personalized Hand-Gesture Non-Invasive Contactless ORL Surgery In Virtual Reality Environments**
Rhinology · Keynote Lecture *IVICA KLAPAN; Serdar özer*

15:00–16:00 **When Septal Perforation Repair Fails**
Rhinology · Panel Presentation *John R. Craig; Leigh Sowerby; Jose M. Villacampa; Richard Harvey; Gediz Murat; Serin*

16:30–17:30 **TSOHNS (Taiwan Society Of Otolaryngology, Head & Neck Surgery) And TRS (Taiwan Rhinology Society) Rhinology Symposium For IFOS 2026**
Rhinology · Round Table *Carlson Ying-Piao Wang; Ming Ying Lan; Chih-Jaan Tai; M.Melih Şahin*

17:30–18:00 **Avoid Complication In Endoscopic Sinus Surgery**
Rhinology · Instructional Course *Bilge Türk*

Friday, 11 September 2026

07:00–07:30 **Vidian And Posterior Nasal Neurectomy: Different Techniques From Trans-Turbinate Endoscopic Corridor To Trans PPF**
Rhinology · Instructional Course *Kangga chandra adi surya; Joseph Han; Gediz Murat Serin*

07:30–08:00 **Emerging Biological Therapies For Uncontrolled CRS With Nasal Polyps**
Rhinology · Keynote Lecture *Joseph Han; Gediz Murat Serin*

08:00–09:00 **Managing Difficult Nasal Airway: Increasing Function Through Septum And Turbinate Surgery**
Rhinology · International Symposia *Ramon Moreno Luna; Erdogan Gultekin; Jose M. Villacampa; Gediz Murat Serin;; Seth Brown; İsmail Topçu*

09:00–09:30 **Complete En Bloc Resection In More Than 50 Benign Tumors**
Rhinology · Keynote Lecture *GUILLERMO SANJUAN DE MORETA; Wolfgang Luxenberger*

09:30–10:00 **AI In Rhinology**

Rhinology · Keynote Lecture *Ludovic de Gabory; Wolfgang Luxenberger*

10:45–11:15 **Diagnosis And Management Of Traumatic Skull Base Defects**

Rhinology · Keynote Lecture *Cem Meco; Hatice Sema Başak*

11:15–11:45 **Completeness Of Surgery Index: Defining Path For Optimizing Success**

Rhinology · Keynote Lecture *James Palmer; Hatice Sema Başak*

11:45–12:45 **CEORL-HNS Update On Benign Sinonasal Tumors**

Rhinology · Round Table *Jan Plzak; Tomislav Baudoin; Bostjan Lanisnik; Christian Betz; Benjamin Verillaud;; Cem Meco*

14:00–17:30 **IFOS General Assembly**

Ceremony · Opening Ceremony *Özgür Yiğit*

Saturday, 12 September 2026

07:00–07:30 **Endoscopic CSF Leak Closure: Techiques For Success**

Rhinology · Instructional Course *Sinan Dheyauldeen; Asli Sahin Yilmaz; Ceren Gunel; Uygar DEMIR*

07:30–08:00 **How To Navigate Without A Navigator? Anatomical Variation Analysis, Imaging Checklist For Safe Surgery And How To Avoid Ethmoidal Arteries**

Rhinology · Instructional Course *Rashid Al Abri; Zacharias Kalentakis; Uygar DEMIR*

08:00–09:00 **Eusica/Insica Brain Round Table: Advancing The Sinonasal Tumor Management Through Collaboration**

Rhinology · Round Table *Mario Turri-Zanoni; Benjamin Verillaud; Nyall London; Robbie Woods; Hazan Basak*

09:00–10:00 **Mastering Inverted Papillomas: Tailored Strategies And Surgical Challenges In The Endoscopic Era**

Rhinology · International Symposia *Ing Ping Tang; Uygar DEMIR; Yvonne Chan; Apostolos Karligkiotis; Sinan; Dheyauldeen*

10:45–12:15 **Inferior Turbinates Hypertrophy: What To Do?**

Rhinology · International Symposia *Desiderio Passali; Ulugbek Khassanov; CODRUT SARAFOLEANU; Rashid Al Abri;; Erich Voigt; Răzvan Hainăroșie; Marco Piemonte; Mario Milkov*

12:15–12:45 **Prımary Frontal Sınus Surgery: Importance Of Intact Bulla Technique**

Rhinology · Keynote Lecture *Suat Turgut; Răzvan Hainăroșie; Catalina Voiosu*

14:00–15:00 **Optimal Flaps, Materials And Techniques In Dural Defect Closure: How To Secure Watertight Closure Everytime?**

Rhinology · Round Table *Leylya Omerova; Martin Jurlina; Bilge Türk; Ashutosh Kacker; Oguz Ogretmenoglu*

15:00–16:00 **Ensuring Safety In Endoscopic Surgery Of Pterygopalatine Fossa And Beyond**

Rhinology · International Symposia *Bostjan Lanisnik; Gülpembe Bozkurt; Alberto Schreiber; Oguz Ogretmenoglu*

16:30–17:30 **Recalcitant Chronic Sinuistis: Diagnostic And Therapeutic Challenges In The Post-Surgical Patient**

Rhinology · Round Table *Marilene B. Wang, MD; Zara Patel; Edward McCoul; David Conley; John M; DelGaudio; Brent Senior*

RHINOLOGY 4

ICC - B3 Floor - 3B/13

Wednesday, 9 September 2026

14:30–15:30 **The Future Of Clinical Olfactory Testing**

Rhinology · International Symposia *Rumi Sekine; MARCO AURELIO FORNAZIERI; Rosalinda Pieruzzini; Aytug Altundag;; Nagihan Bilal*

15:30–16:00 **How To Stay Safe In Endoscopic Sinus Surgery**

Rhinology · Instructional Course *Semih Sütay; Ibrahim Sayin*

16:30–17:00 **Utility Of Endonasal Endoscopic Approach In Sinonasal SCC**

Rhinology · Instructional Course *Melis Demirag Evman; Ömer Göktuğ Tüfekçi; Togay Müderris; Hazan Basak*

17:00–18:00 **Rhinology Practice In African Developing Countries**

Rhinology · Round Table *Sharfi Ahmed; Edwin Liyombo; Darlene Lubbe; Hazan Basak*

Thursday, 10 September 2026

07:00–07:30 **"One Airway, One Team: The Role Of Multidisciplinary Care In Optimizing Biologic Therapy For Chronic Rhinosinusitis"**

Rhinology · Keynote Lecture *Janan Al Abduwani; Selin Ünsaler*

07:30–08:00 **Nasal Mucosa Immunity: COVID-19 To Environmental And Infectious Challenges**

Rhinology · Instructional Course *Selin Ünsaler*

08:00–09:00 **The maxillary sinus as a corridor to the orbit**

Rhinology · Round Table *Giovanni Felisati; Selin Ünsaler; John R. Craig; Remo Accorona; Andre Sousa; Machado; Marco Velimir Grgic; Jose M. Villacampa*

09:00–09:30 **Managing CSF Leaks: Essentials From Diagnosis To Treatment**

Rhinology · Instructional Course *Özden Savaş*

09:30–10:00 **Choanal Atresia Repair**

Rhinology · Instructional Course *Axel Wolf; Özden Savaş*

10:45–11:45 **Eozinophilic Rhinosinusitis: Japanese Experience In Immunotyping And Treatment**

Rhinology · International Symposia *Kenji Kondo; Kenzo Tsuzuki; Mitsuhiro OKANO; Marco Velimir Grgic*

11:45–12:30 **Anti-Aging Medicine Of Otolaryngology In Japan**

Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Kenji Kondo; Shigeru Hirano; Koichiro Wasano; Tatsuya Yamasoba; İrfan Kaygusuz*

12:30–12:45 **Endoscopic Resection Of Juvenile Nasopharyngeal Angiofibroma Without Preoperative Embolization**

Rhinology · Remarkable Presentation *Azizbek Uzokov; Marco Velimir Grgic*

14:00–14:30 **Setting Up Your Biologics Service In Rhinology**

Rhinology · Instructional Course

14:30–15:30 **Post-Viral Anosmia To Parosmia Rehab**

Rhinology · International Symposia *Antje Welge Lussen; Aytug Altundag; Carl Philpott; Anda Gata*

15:30–16:00 **Corticotherapy Based Medical Treatment Of Nasal Polipozis**

Rhinology · Instructional Course *Bulent Topuz; Meltem Akpınar; Tuba Bayindir; Chae-Seo Rhee*

16:30–17:30 **The Vision Of Olfaction Across The World**

Rhinology · Round Table *Giulio Cesare Passali; Mariaconsiglia Santantonio; Jerome LECHIEN; Kivanc; Gunhan; Bilge Türk*

17:30–18:00 **Endoscopic Frontal Sinus Surgery: From Basic To Complex**

Rhinology · Instructional Course *Emel Çadallı Tatar; Fikret Kasapoglu; Mehmet Ali Çetin; BERNA USLU COSKUN*

Friday, 11 September 2026

07:00–07:30 **Closing The Septal Perforation: A Spectrum Of Surgical Techniques**

Rhinology · Instructional Course *Benyamin Rahmaty; Georgiy A. Polev; Deniz Hancı; Elif Ayanoğlu Aksoy*

07:30–08:00 **New Innovations In Office-Based Rhinology**

Rhinology · Instructional Course *Shazada Ahmed; Elif Ayanoğlu Aksoy*

08:00–09:00 **Avoiding Complications In Endoscopic Sinus Surgery**

Rhinology · Round Table *RAUF YÜCEL ANADOLU; Ramiza Ramza Ramli; Fadlullah Aksoy*

09:00–10:00 **Integrating Technology In Endoscopic Sinus Surgery**

Rhinology · International Symposia *Marco Caversaccio; Sergey Karpishchenko; Agnieszka Strembosz; Paresh Pramod; Naik; Teoman Dal*

10:45–11:45 **Japanese ORL-HNS Society Update On Rhinology**

Rhinology · Round Table *Kenji Kondo; Nobuyoshi Otori; Nobuo Ohta; Tetsuya Terada*

11:45–12:15 **Centripetal Endoscopic Sinus Surgery**

Rhinology · Keynote Lecture *Andre Felippu; Ana Krizmanić Mikolčević*

12:15–12:45 **Chronic Sinonasal Inflammation And Mucoceles As A Comorbidity Of Benign Sinonasal Tumors: How To Manage**

Rhinology · Instructional Course *Aleksandar Peric; Michail Katotomichelakis; Ana Krizmanić Mikolčević*

14:00–15:00 **Canadian Society Round Table - Oral Corticosteroid Stewardship In CRS: Are We Ready To Change?**

Rhinology · Round Table *Yvonne Chan; Ian Witterick; Daniel Lee; Christopher J Chin; Leigh Sowerby;; Jonathan Yip*

15:00–16:00 **Sinus Surgery In The Era Of Biologics**

Rhinology · International Symposia *Cenk Ecevit; Kasper Aenaes; Yvonne Chan; Mohamad Chaaban; Melis Demirag; Evman*

16:30–17:30 **Pediatric Endoscopic Skull Base Surgery: Overcoming The Challenges And Improving Outcomes**

Rhinology · Round Table *Abdullah AlBader; Gokmen Kahilogullari; Suha Beton; Nikolaus Wolter; Hakan Kara;; Grace Khong*

17:30–18:00 **Outcomes And Adverse Prognostic Factors In Sinonasal Intestinal Type Adenocarcinoma (ITAC)**

Rhinology · Instructional Course *Carmine Prizio; Niccolò Mevio; Hakan Kara*

Saturday, 12 September 2026

07:00–07:30 **Sinonasal Fibroosseous Lesions: Difficulties And Their Solutions In Surgical Management**

Rhinology · Instructional Course *Mariam Mella; Domen Vozel*

07:30–08:00 **Endoscopic DCR: A Step By Step Guide**

Rhinology · Instructional Course *Burak Ulkumen; Mümtaz Taner Torun; İbrahim Çukurova; Domen Vozel*

08:00–08:30 **Understanding Drug-Induced Effects Of Systemic Medications On Nasal Function: Urological Medications And Beyond**

Rhinology · Instructional Course *Muhammet Fatih Gökmen; Chae-Seo Rhee; Mümtaz Taner Torun*

08:30–09:30 **New Perspectives In Chronic Sinusitis**

Rhinology · Instructional Course *Jan Vodička; Jan Plzak; Petr Schalek; Martin Kaňa; Lenka Čábalová; Mümtaz Taner; Torun*

09:30–10:00 **Skull Base Reconstruction: Which Material When And Why?**

Rhinology · Instructional Course *Domen Vozel; Mümtaz Taner Torun*

10:45–11:45 **Management Of Septal Perforations: Strategies And Techniques**

Rhinology · Round Table *Serdar özer; Mohsen Naraghi; Yuri Rusetskiy; Muhammet Fatih Gökmen; Deniz; Hancı*

11:45–12:45 **Diagnosis And Management Of Facial Pain Of Rhinogenic And Non- Rhinogenic Origin**

Rhinology · Round Table *Adrian M Agius; Farah Dayana Zahedi; Eliza Brozek Madry; Zahide Mine Yazici;; Muhammet Fatih Gökmen*

14:00–15:00 **The Romanian ENT Head And Neck Society Session**

Rhinology · Round Table *Adriana Neagos; Mühlfay Gheorghe; Răzvan Hainărosie; CODRUT SARAFOLEANU;; Nicolae Balica; Raluca Grigore; Dragos Palade*

15:00–16:00 **Academy Assembly (By Invitation Only)**

Ceremony · Continental or International Societies Sessions *George Tavartkiladze*

16:30–17:00 **Achieving Adequate Hemostais During Sinonasal And Skull Base Surgery**

Rhinology · Instructional Course *Luis Fernando Macias-Valle; Chih-Jaan Tai; Yetkin Zeki YILMAZ*

RHINOLOGY 5 + ALLERGY

ICC - B2 Floor Yıldız 1

Wednesday, 9 September 2026

14:00–14:30 **PRECISION MOLECULAR DIAGNOSIS OF ALLERGIC RHINITIS FOR PERSONALISED MANAGEMENT**
Allergy · Keynote Lecture *Hideyuki Kawauchi; İlknur Haberal Can*

14:30–15:30 **CURRENT AND FUTURE DIRECTIONS IN PEDIATRIC ALLERGIC RHINITIS**
Allergy · International Symposia *Mitsuhiro OKANO; William Reisacher; Elshan Aghayev; Riaz Seedat*

15:30–15:45 **Revision Endoscopic Endonasal Frontal Sinus Surgery After Open Access**
Rhinology · Remarkable Presentation *Elisabeth Bolozneva; Cenk Ecevit*

15:45–16:00 **Holistic Approach To Crswnp Patients: MDT Clinic Experience At A Tertiary Hospital**
Rhinology · Remarkable Presentation *OMAR ABU SULIMAN; Cenk Ecevit*

16:30–17:30 **NONALLERGIC RHINITIS-CHALLENGES IN DIAGNOSIS AND TREATMENT**
Allergy · Round Table *Cenk Ecevit; Mustafa Kemal ADALI*

17:30–18:00 **Surgery For Nasal Allegy And Posterior Nasal Neurectomy**
Rhinology · Keynote Lecture *Ahilasamy Nagalingeswaran; Mustafa Kemal ADALI*

Thursday, 10 September 2026

07:30–08:00 **PRECISION DIAGNOSIS OF RHINITIS**
Allergy · Instructional Course *Pongsakorn Tantilipikorn; Mustafa Kemal ADALI*

08:00–09:00 **LOCAL ALLERGIC RHINITIS**
Allergy · Round Table *Luisa Maria Bellussi; Kivanc Gunhan; Bulent Topuz; Meltem Akpınar*

09:00–09:30 **SKIN PRICK TEST**
Allergy · Instructional Course *Müge Özcan; Bulent Topuz; ŞEYDA AKBAL ÇUFALI*

09:30–10:00 **CURRENT AND FUTURE DIRECTIONS IN GERIATRIC RHINITIS**
Allergy · Keynote Lecture *Jayant Pinto; Asli Sahin Yilmaz*

10:45–11:15 **EPITHELIAL BARRIER HYPOTHESIS: NONCOMMUNICABLE DISEASE**
Allergy · Keynote Lecture *Cezmi Akdis; Cemal Cingi*

11:15–12:15 **ADVANCES IN ALLERGEN IMMUNOTHERAPY FOR OTORHINOLARYNGOLOGISTS**
Allergy · International Symposia *Pongsakorn Tantilipikorn; Ralph Mösges; Daiju Sakurai; BERNA USLU COSKUN*

12:15–12:45 **European Board Examination In ORL & HNS**
Rhinology · International Symposia *Cem Meco; Marcus Neudert; Wolfgang Luxenberger*

14:00–15:00 **Endoscopic Skull Base Reconstruction - What Is Evidence Based?**
Rhinology · International Symposia *Cem Saka; Saleh Mohebbi; Domen Vozel; Mehmet Ali Çetin*

15:00–16:00 **Endoscopic Sinus Surgery- The Brazilian Experience**
Rhinology · Controversies *Eduardo Macoto Kosugi; Wilma Terezinha Anselmo Lima; Miguel Tepedino; Edwin; Tamashiro; Mehmet Ali Çetin*

16:30–17:30 **Chronic Rhinosinusitis With Nasal Polyps: The Brazilian Way For Assessing And Treating Medically**
Rhinology · Expert Discussion *Fabiana Valera; FABRIZIO RICCI ROMANO; MARCO AURELIO FORNAZIERI; Wilma; Terezinha Anselmo Lima; Zahide Mine Yazici*

17:30–18:00 **American Austrian Foundation Salzburg Cornell Medical Seminar Alumni**
Rhinology · Continental or International Societies Sessions *Cem Meco; Michael G. Stewart*

Friday, 11 September 2026

07:00–07:30 **Rhinosinusitis: New Therapies; Surgery Versus Biologicals For Crswnp; Relationship With GER**
Rhinology · Instructional Course *Francesco Maria Passali; Scasso Felice; Şenol Çomoglu*

07:30–08:00 **Pediatric Allergy, Rhinology And Sleep Medicine**
Rhinology · Instructional Course *Maria Pia Villa; Marilena Trozzi; Şenol Çomoglu*

08:00–09:00 **Challenges In Management Of Jnas**
Rhinology · Round Table *Ahilasamy Nagalingeswaran; Şenol Çomoglu; GUILLERMO SANJUAN DE MORETA;; Gabriela Kopacheva; Aliaa Khidr*

09:00–10:00 **NEW TRENDS IN DIAGNOSTIC AND TREATMENT OF OLFACTORY DISORDERS**
Rhinology · Panel Presentation *Rosalinda Pieruzzini; Adriana Izquierdo; Adelaida Bock; Sophie Mwendwa*

10:45–11:45 **Immune-Mediated Sinonasal Disorders: From Vasculitis To Igg4- Disease**
Rhinology · International Symposia *Cecilia Ahlström Emanuelsson; Nicholas BuSaba; Erdem Eren; Rosalinda Pieruzzini*

11:45–12:45 **Complications Of Acute Sinusitis: Current Facts And Practice**
Rhinology · International Symposia *Ceren Gunel; Dilyana Vicheva; SARA AGHALAR; Rosalinda Pieruzzini*

14:00–14:30 **INTRALYMPHATIC IMMUNOTHERAPY**
Allergy · Keynote Lecture *Tetsuya Terada; Bulent Topuz*

14:30–15:30 **SURGICAL TREATMENT OF ALLERGIC RHINORRHEA AND CONGESTION**
Allergy · International Symposia *Sarah K. Wise; Asli Sahin Yilmaz; Carlson Ying-Piao Wang; Tuba Bayindir; Zukhrob; Sobirzhonovi Matmurotov*

15:30–16:00 **Component-Resolved Diagnosis For Otorhinolaryngologists**
Allergy · Instructional Course *Müge Özcan; Nurcan Yurtsever Kum*

16:30–17:30 **CENTRAL COMPARTMENT ATOPIC DISEASE**
Allergy · Round Table *Islam Herzallah; İlknur Haberal Can; Olavo Mion; Zahide Mine Yazici*

Saturday, 12 September 2026

07:00–07:30 **Restoring Olfactory Function: Lessons From Biologics**
Rhinology · Instructional Course *Müge Özcan*

07:30–08:00 **IMMUNOTHERAPY UPDATE 2025**
Allergy · Instructional Course *William Reisacher; Müge Özcan*

08:00–08:30 **LEVERAGING ARTIFICIAL INTELLIGENCE IN ALLERGY AND IMMUNOLOGY: INNOVATIONS IN DIAGNOSIS AND TREATMENT**
Allergy · Instructional Course *Anisa Daftari; Müge Özcan*

08:30–09:30 **Pharmacotherapy Of Allergic Rhinitis**
Allergy · International Symposia *Chung-Han Hsin; Sunita Chhapola Shukla; Yoshiaki Kitamura; Bulent Topuz; Adile; Berna Dursun; Safiye Giran Örtekin*

09:30–10:00 **AI IN THE DIAGNOSIS AND MANAGEMENT OF ALLERGIC DISEASES**
Allergy · Keynote Lecture *Olavo Mion; BERNA USLU COSKUN*

10:45–11:45 **ALLERGIC FUNGAL RHINOSINUSITIS**
Allergy · Round Table *Meryem Nesil Keles Türel; Tuba Bayindir; Hakan Kara; Elvan Onan*

11:45–12:15 **BIOLOGICS IN ALLERGIC RHINITIS , WHAT CHANGED IN TREATMENT**
Allergy · Keynote Lecture *Valerie Hox; Cenk Ecevit*

12:15–12:45 **Allegic Rhinitis Immunotherapy And Intranasal Vaccines: An Update From Japan**
Rhinology · Instructional Course *Takashi Hirano; Masafumi Sakashita; Yoshiaki Kitamura; Nobuyoshi Otori*

14:00–14:30 **Multidiscipilinary Orbital Surgery: Together Avoiding Pitfalls For Success**
Rhinology · Keynote Lecture *Pongsakorn Tantilipikorn; Zahide Mine Yazici*

14:30–15:00 **Multidiscipilinary Orbital Surgery: Together Avoiding Pitfalls For Success**
Rhinology · Keynote Lecture *Zahide Mine Yazici*

15:00–15:30 **Minimally Invasive Sinus Surgery: My Experience**
Rhinology · Keynote Lecture *Kuljit Singh; Zahide Mine Yazici*

15:30–16:00 **Complete Surgical Management Of The Maxillary Sinus: From Middle Antrostomy To The Prelacrimal Approach**
Rhinology · Instructional Course *Jose M. Villacampa; Scasso Felice; Bülent Öcal; Zahide Mine Yazici*

16:30–17:30 **Clinical Aspects Of Diagnosing And Managing Smell And Taste Disorders: Case Discussions**
Rhinology · Round Table *Christian A. Mueller; Bertold Renner; IORDANIS KONSTANTINIDIS; Aytug Altundag;; Leylya Omerova*

17:30–18:00 **Tips And Trics In Lacrimal Patrhway Surgery**
Rhinology · Instructional Course *Gonzalo Díaz Tapia; Leylya Omerova*

RHINOLOGY 6

ICC - B3 Floor - 3B/37

Wednesday, 9 September 2026

14:00–15:00 **Nasal Airway Management In Pediatric Patients**

Rhinology · Round Table *Raewyn Campbell; Khaled Mohamed Bofares; Talal Abdulla; Yong Ju Jang; Cenk; Ecevit*

15:00–16:00 **Global Overview Of Skull Base Surgery**

Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Benjamin Verillaud; Alperen Vural; Skander Kedous; Kachorn Seresirikachorn; Nina; Wenda; Nadim KHOUEIR*

16:30–17:30 **Endoscopic Management Of Intranasal Benign Tumours**

Global Outreach (Regional or ENT related Organizations Symposia) · International Symposia *Khaled Mohamed Bofares*

Thursday, 10 September 2026

07:00–08:30 **Rhinology Notable Abstracts 2**

Notable Abstracts · Notable Abstract *Cem Meco; RAUF YÜCEL ANADOLU*

08:30–08:45 **Cost Effectiveness Of Therapies For Crswnp**

Rhinology · Remarkable Presentation *Islam Herzallah; Erdem Eren*

08:45–09:00 **Can Sinonasal Diagnostics Be Changed?**

Rhinology · Remarkable Presentation *Marko Velepič; Erdem Eren*

09:00–10:00 **Acute Sinusitis: 2026 Update**

Rhinology · Round Table *Yvonne Chan; Ann Hermansson; Jaqueline Alvarado; Firas Kassem; Ljiljana; Jovancevic; Fikret Kasapoglu*

10:45–10:55 **Endoscopic Repair Of CSF Leak: A Minimally Invasive Skull Base Approach**

Rhinology · Master of Surgery Video Presentation *Mohammadsadegh Zabihidan; M.Melih Şahin*

10:55–11:05 **Traumatic CSF Leakage In A Patient 6-Year-Old And Cystic Fibrosis.**

Rhinology · Master of Surgery Video Presentation *Kerem Kökoğlu; M.Melih Şahin*

11:05–11:15 **Endoscopic Endonasal Repair Of Spontaneous Ethmoid Roof Meningoencephalocele**

Rhinology · Master of Surgery Video Presentation *Kent Lam; M.Melih Şahin*

11:15–11:25 **Endoscopic Endonasal Drainage Of Petrous Apex Cholesterol Granuloma**

Rhinology · Master of Surgery Video Presentation *Kent Lam; Melis Demirag Evman*

11:25–11:35 **Utility Of Contralateral Hadad Flap For Sphenoid Sinus CSF Leak Repair**

Rhinology · Master of Surgery Video Presentation *Yuri Rusetskiy; Melis Demirag Evman*

11:35–11:45 **Surgical Management Of Pituitary Adenomas: A Video-Based Educational Approach**

Rhinology · Master of Surgery Video Presentation *Mohammadsadegh Zabihidan; Melis Demirag Evman*

11:45–12:15 **Surgical Staging of Inverted Papilloma: 30 Years Experience**

Rhinology · Keynote Lecture *Reda Kamel; Melis Demirag Evman*

12:15–12:45 **Spectrum Of Endoscopic Procedures For Management Of Orbital Rhabomyosracomas**

Rhinology · Keynote Lecture *Remon Bazak; Melis Demirag Evman*

14:00–15:00 **Spontaneous CSF Leak Management - Challenges**

Rhinology · International Symposia *Brad Woodworth; Edward Chih-Jaan Tai; Shazada Ahmed; Osman Bahadır; Alper; Ceylan*

15:00–16:00 **Invasive Fungal Sinusitis: Challenges And Choices**

Rhinology · Round Table *Amin Javer; Uzdan Uz; Jure Urbancic; Shirin Irani; Alper Ceylan*

16:30–17:30 **Rhinology Notable Abstracts 1**

Notable Abstracts · Notable Abstract *Serdar özer*

18:00–18:30 **Yo-IFOS Quiz**

Yo-IFOS (Young IFOS) · Instructional Course *Daniele DE SIATI*

Friday, 11 September 2026

07:00–07:30 **Strategies For Maintaining Long-Term Patency: The Role Of Drain Placement In Frontal Sinus Surgery**

Rhinology · Instructional Course *Abdullah Ozdem; orhan Asya; Ceren Gunel*

07:30–08:00 **Video Session 2**

Rhinology · Instructional Course *Kerem Kökoğlu; Ceren Gunel*

08:00–08:15 **Endoscopic Endoneurosurgery - Optimizing Outcomes Through Multidisciplinary Colloboration**

Rhinology · Remarkable Presentation *Emrah Celtikci; Ceren Gunel*

08:15–08:30 **The Modern Paradigm For CSF Leak Management: Diagnostic Algorithms And Surgical Techniques**
Rhinology · Remarkable Presentation *Laura Van Gerven; Ceren Gunel*

08:30–08:40 **Endoscopic Transnasal Vidian Neurectomy And Pterygopalatine Fossa Anatomy**
Rhinology · Master of Surgery Video Presentation *Ercan Akbay; Enes Yiğit*

08:40–08:50 **Nose And Paranasal Sinus Surgery**
Rhinology · Master of Surgery Video Presentation *Enes Yiğit*

08:50–09:00 **Mucosal Preserving Turbinate Surgery**
Rhinology · Master of Surgery Video Presentation *Mohsen Naraghi; Enes Yiğit*

09:00–09:10 **Repair Of Septal Perforation By Inferior Meatal Flaps**
Rhinology · Master of Surgery Video Presentation *Mohsen Naraghi; Ana Krizmanić Mikolčević*

09:10–09:20 **Endoscopic Septal Perforation Repair Techniques**
Rhinology · Master of Surgery Video Presentation *Melis Demirag Evman; Ana Krizmanić Mikolčević*

09:20–09:30 **Endoscopic Tension-Free Locking Suture Technique For Nasal Septal Perforation Repair: A Novel Minimally Invasive Approach**
Rhinology · Master of Surgery Video Presentation *Benyamin Rahmaty; Ana Krizmanić Mikolčević*

09:30–09:40 **Endoscopic And Combined Surgical Management Of Frontoethmoid Osteomas: Techniques And Outcomes**
Rhinology · Master of Surgery Video Presentation *orhan Asya; Hakan Kara*

09:40–09:50 **Management Of Odontogenic Cysts**
Rhinology · Master of Surgery Video Presentation *orhan Asya; Gediz Murat Serin*

10:45–11:00 **Prelacrimal Approach To Maxillary Sinus**
Rhinology · Remarkable Presentation *Farhad Arbabzadeh; Cüneyt Orhan Kara*

11:00–11:15 **Management Of Internal Carotid Artery Injury During Endoscopic Surgery**
Rhinology · Remarkable Presentation *Shirin Irani; Cüneyt Orhan Kara*

11:15–11:30 **The Potential Of Endoscopic Transoral Approach To Skull Base**
Rhinology · Remarkable Presentation *Sevil Nasirmohtaram; Cüneyt Orhan Kara*

11:30–11:45 **The Ideal Surgical Corridor For Endoscopic Transsphenoidal Surgery: A Single-Center Experience Of 6,000 Cases**
Rhinology · Remarkable Presentation *Cüneyt Orhan Kara*

11:45–12:00 **Umbilical Graft For CSF Repair**
Rhinology · Remarkable Presentation *Hadi Samimi Ardestani.; Cüneyt Orhan Kara*

12:00–12:15 **AI For Automated CT Analysis And Surgical Planning In ESS**
Rhinology · Remarkable Presentation *Cüneyt Orhan Kara*

12:15–12:30 **Odontogenic Maxillary Sinusitis**
Rhinology · Remarkable Presentation *Hamidreza Bagheri; Cüneyt Orhan Kara*

12:30–12:45 **Endoscopic Surgical Management Of Spontaneous CSF Rhinorrhea - Findings Based On Our Institutional Policy Framework**
Rhinology · Remarkable Presentation *Cüneyt Orhan Kara*

14:00–14:15 **Rehabilitation Of Postviral Olfactory Disfunction**
Rhinology · Remarkable Presentation *Anastasia Varvyanskaya; Erdem Mengi*

14:15–14:30 **Endoscopic DSR**
Rhinology · Remarkable Presentation *Erdem Mengi; Semra Külekçi Öztürk*

14:30–14:45 **Middle Turbinate Management In FESS And Rhinoplasty**
Rhinology · Remarkable Presentation *Maryam Roomiani; Erdem Mengi*

14:45–15:00 **Special Indications And Contraindications In Septoplasty**
Rhinology · Remarkable Presentation *Lütfü Şeneldir; Erdem Mengi*

15:00–15:10 **Surgery For Refractory Allergic Rhinitis**
Rhinology · Master of Surgery Video Presentation *Ali Dogan Aydinbelge; Hakan Kara*

15:10–15:20 **Endoscopic Stentless Dacryocystorhinostomy How We Do It, A Single Center 20 Years Experience**
Rhinology · Master of Surgery Video Presentation *REN HUI LO; Hakan Kara*

15:20–15:30 **Steps In Osteotomy During Open Rhinoplasty**
Rhinology · Master of Surgery Video Presentation *İsmail Salcan; Hakan Kara*

15:30–15:40 **Management of Septal Perforation**
Rhinology · Remarkable Presentation *Gediz Murat Serin; Hakan Kara*

16:30–17:30 **Young IFOS General Assembly**

Ceremony · Opening Ceremony

Saturday, 12 September 2026

08:10–08:50 **Endoscopic Approach To Maxillary Sinus Disorders**

Rhinology · Instructional Course *Nagihan Bilal; Afruz Masimova; Aytug Altundag*

09:00–10:00 **Artificial Intelligence And Machine Learning In Rhinology**

Rhinology · International Symposia *Ibrahim Sayin; Ludovic de Gabory; Semih Sütay*

10:45–12:15 **Rhinology Free Papers 30**

Rhinology · Free Paper Session *NURAY BAYAR MULUK*

15:00–16:00 **Otolaryngology Competency Assessment: Guiding The Future Of Otolaryngology**

Transverse activities (Innovation, Basic Research, Education) · International Symposia *Sonya Malekzadeh; Jenny X. Chen; Kelly Malloy*

SIALENDOSCOPY

ICC - B3 Floor - 3B/06

Thursday, 10 September 2026

07:00–08:00 **Sialendoscopy Journal Club (Up-To-Date Ongoing Research Discussion)**
Sialendoscopy · Expert Discussion *MICHAEL KOCH; Pasquale Capaccio; Cengiz Ozcan; Higino Steck*

08:00–09:00 **Salivary Stones: A General Outline**
Sialendoscopy · Round Table *Luca de Campora; Ela Araz Server; Hesham Yusuf Ali Alrayyes; Gabriela; Robaskewicz Pascoto; Jeong Kyu KIm; Milind Navalakhe*

09:00–10:00 **Treatment Options For Sialolithiasis**
Sialendoscopy · Round Table *Z. Çiler Büyükatalay Yaldız; Emad Magdy; Pasquale Capaccio; mark marzouk;; Aleksandar Aničin; Trevor Hackman; Gabriela Robaskewicz Pascoto*

10:45–11:15 **Endoscopic-Assisted Approaches In The ISWL-Era And Their Current Role In A Treatment Algorithm For Sialolithiasis**
Sialendoscopy · Keynote Lecture *MICHAEL KOCH; Pasquale Capaccio*

11:15–11:45 **Beyond sialendoscopy: management of the patient and duct post procedure**
Sialendoscopy · Keynote Lecture *Trevor Hackman*

11:45–12:45 **Intraductal Pneumatic Lithotripsy for Giant Salivary Stones (≥15 mm): Technical Challenges, Practical Tips, and Clinical Outcomes**
Sialendoscopy · Round Table *MICHAEL KOCH; Ela Araz Server; Necdet Özçelik; Atilla Şengör; Bülent Evren Erkul*

14:00–14:30 **Sialendoscopy. Holmium Laser Lithotripsy Versus Pneumatic Lithotripsy In Salivary Gland Stones**
Sialendoscopy · Keynote Lecture *Suleyman Ozdemir; Giulianno Molina de Melo*

14:30–15:30 **Intraductal treatment of salivary stones: How I do it?**
Sialendoscopy · Round Table *Atilla Şengör; Varun Rai; Bini Faizal; Torti Florinda; Luca de Campora; Hesham Yusuf; Ali Alrayyes; Osama Hamarneh; Trevor Hackman*

15:30–16:00 **Pediatric Sialendoscopy: Diagnostic And Therapeutic Management From Strictures To Stones**
Sialendoscopy · Instructional Course *Jeffrey Dorrity; mark marzouk*

16:30–17:30 **Issues Related To The Papilla And The Duct Itself**
Sialendoscopy · Panel Presentation *Ela Araz Server; Aleksandar Aničin; Suleyman Ozdemir; Mohamed Fawzy Fathalla;; Varun Rai; Alvaro Sánchez Barrueco*

17:30–18:00 **Papillotomy Or Not?**
Sialendoscopy · Controversies *Torti Florinda; Necdet Özçelik; Gabriela Robaskewicz Pascoto; Varun Rai; Carlos; Cenjor; Rashid Al Abri*

Friday, 11 September 2026

07:00–08:00 **Sialendoscopy Free Paper**
Sialendoscopy · Free Paper Session *Necdet Özçelik; Barry Schaitkin; mark marzouk; Rashid Al Abri*

08:00–09:30 **Sialendoscopy Experiences Around The World**
Sialendoscopy · Panel Presentation *Emad Magdy; Torti Florinda; Maryam Sahwan; Sümbül BAYRAKTAR GÜZELDAĞ;; Osama Hamarneh; Higino Steck; Nesrettin Fatih Turgut; Saleh Mohebbi; Arista; Nachane; Talal Abdulla; Giulianno Molina de Melo; Purushotman Ramasamy*

09:30–10:00 **Starting Sialendoscopy In A Developing Country: Unique Challenges And Achievementsi**
Sialendoscopy · Keynote Lecture *Emad Magdy; Giulianno Molina de Melo*

10:45–11:45 **Parotid Stones**
Sialendoscopy · Round Table *Barry Schaitkin; Salma Alsheibani; Selin Ünsaler; Pasquale Capaccio; Carlos; Chiesa-Estomba; Bülent Evren Erkul; Irena Ivković*

11:45–12:45 **Submandibular Stones**
Sialendoscopy · Round Table *Higino Steck; Pasquale Capaccio; mark marzouk; Mahmoud Seif-Elnasr; Ahmed; Elbana; Cengiz Ozcan; Varun Rai; Irena Ivković*

14:00–14:30 **Managing Parotid Sialolithiasis: Challenges, Decision Points, And A Practical Algorithm**
Sialendoscopy · Keynote Lecture *Z. Çiler Büyükatalay Yaldız; mark marzouk*

14:30–15:30 **Sialendoscopy For Non-Lithiasic Diseases**
Sialendoscopy · Panel Presentation *Carlos Saga; Alvaro Sánchez Barrueco; Giulianno Molina de Melo; mark marzouk;; Sam Daniel; Rahmatullah Wais Rahmati; Jolie Chang*

15:30–16:00 **Juvenile Recurrent Parotitis (JRP)**

Sialendoscopy · Instructional Course *Irena Ivković; Al Wiaam Al Balushi; mark marzouk*

16:30–17:00 **Non-Stone Indications For Sialendoscopy**

Sialendoscopy · Keynote Lecture *Barry Schaitkin; Mahmoud Seif-Elnasr*

17:00–18:00 **Ductal And Parenchymal Non-Lithiasic Diseases And Sialendoscopy**

Sialendoscopy · Panel Presentation *Gabriela Robaskewicz Pascoto; Higino Steck; Hatem Kooli; Bini Faizal; Mahmoud; Seif-Elnasr; Rashid Al Abri; Milind Navalakhe*

Saturday, 12 September 2026

07:00–08:00 **MEET THE EXPERTS - Scientific Future In Sialendoscopy**

Sialendoscopy · Panel Presentation *Ela Araz Server; Gabriela Robaskewicz Pascoto; Evelyne Kalyoussef; Milind; Navalakhe*

08:00–09:00 **Complications & Management**

Sialendoscopy · Round Table *Salma Alsheibani; Bülent Evren Erkul; Mahmoud Seif-Elnasr; Jeong Kyu KIm;; Ahmed Beshir; Emad Magdy*

09:00–09:30 **Complications Of Sialendoscopy And Their Management**

Sialendoscopy · Keynote Lecture *Pasquale Capaccio; Jeong Kyu KIm*

09:30–10:00 **Robotics In The Near Future Of Sialendoscopy**

Sialendoscopy · Controversies *Pasquale Capaccio; mark marzouk; Jeong Kyu KIm*

10:45–11:45 **Miscellenous topics**

Sialendoscopy · Round Table *Jeong Kyu KIm; Hatem Kooli; Evelyne Kalyoussef; Suleyman Ozdemir; Bini Faizal;; Mazin Merdad*

11:45–12:15 **Office Sialendoscopy managment of complication**

Sialendoscopy · Controversies *Gokhan Altin; Carlos Saga; Trevor Hackman; Hatem Kooli; Rahmatullah Wais; Rahmati*

12:15–12:45 **Sialendoscopy 2026 Year In Review**

Sialendoscopy · Keynote Lecture *Hatem Kooli; Evelyne Kalyoussef*

14:00–15:00 **Future Directions And Recent Innovations**

Sialendoscopy · Round Table *Nihal Seden Boyoğlu; Gabriela Robaskewicz Pascoto; Hesham Yusuf Ali Alrayyes;; Saleh Mohebbi; Rashid Al Abri*

15:00–16:00 **Establishment Of A New Sialendoscopy Group: IFOS Sialendoscopy Group (ISG)**

Sialendoscopy · Round Table *Mazhar Çelikoyar; Suleyman Ozdemir; Emad Magdy; mark marzouk; Gabriela; Robaskewicz Pascoto; Rashid Al Abri; MICHAEL KOCH; Saleh Mohebbi*

16:30–18:00 **SIALOVID (Sialendoscopy Video) Competition**

Sialendoscopy · International Symposia *Hesham Yusuf Ali Alrayyes; Rashid Al Abri*

Sunday, 13 September 2026

07:00–08:00 **Sialendoscopy Scopes & Instruments: Handling, Sterilization & Care**

Sialendoscopy · Expert Discussion *Suleyman Ozdemir; Emad Magdy; Tarek Najjar; Atilla Şengör*

08:00–09:30 **Sialendoscopy Training Models, Simulators And Courses**

Sialendoscopy · International Symposia *MICHAEL KOCH; Mazhar Çelikoyar; Gabriela Robaskewicz Pascoto; Emad Magdy;; Pasquale Capaccio; Salma Alsheibani; Mohamed Fawzy Fathalla*

09:30–10:00 **Gland Removal In The Era Of Sialendosopy: Does It Is Still Exist?**

Sialendoscopy · Controversies *MICHAEL KOCH; mark marzouk; Aleksandar Aničin; Salma Alsheibani*

10:45–12:30 **Live Sialendoscopy Demonstration**

Sialendoscopy · International Symposia *Osama Hamarneh; Mazhar Çelikoyar; Suleyman Ozdemir; Gabriela Robaskewicz; Pascoto; mark marzouk; Emad Magdy; Rashid Al Abri; Selin Ünsaler*

12:30–12:45 **Closing Remarks**

Sialendoscopy · Remarkable Presentation *Suleyman Ozdemir*

SLEEP

Hilton - Grace I

Wednesday, 9 September 2026

14:00–14:30 **Why Do We Treat A Snoring Patient?**
Sleep Medicine · Keynote Lecture *Joachim T. Maurer; Mustafa Gerek*

14:30–15:30 **Phenotypes/Endotypes What Causes OSA?**
Sleep Medicine · Panel Presentation *Rahul Modi; Murat Ozcan; Ewa Olszewska*

16:30–17:00 **Obstructive Sleep Apnoea: From Dickens To Davinci And Beyond**
Sleep Medicine · Keynote Lecture *Bhik Kotecha; Ozan Bağış Özgürsoy*

17:00–17:30 **Patient Is Snoring, What's Next? (Diagnostics, Sleep Studies, CPAP Treatment)**
Sleep Medicine · Expert Discussion *Shailesh Khode; Supawan Laohasiriwong*

17:30–18:00 **DRUG INDUCED SLEEP ENDOSCOPY TO IMPROVE DECISIONS IN OBSTRUCTIVE SLEEP APNEA**
Sleep Medicine · Instructional Course *Jaime Sanabria; Murat Toprak*

Thursday, 10 September 2026

07:15–07:45 **Preservation And Conservative Techniques For Palatal Surgery**
Sleep Medicine · Expert Discussion *Mohamed Abdelwahab; Hesham Yusuf Ali Alrayyes; Metin Yılmaz*

07:45–08:15 **Anterior Septal Reconstruction Variants**
Sleep Medicine · Instructional Course *Mohamed Abdelwahab; Ozan Bağış Özgürsoy*

08:15–08:45 **Is The Nose Essential To Treat In OSA?**
Sleep Medicine · Controversies *Vikas Agrawal; Konstantinos Chaidas*

08:45–09:15 **Why Sleep Surgery- How Lasting Is The Treatment?**
Sleep Medicine · Keynote Lecture *Daniel Jira; Edilson Zancanella*

09:15–09:30 **CPAP Therapy: First Steps And Practical Essentials For The Sleep Surgeon**
Sleep Medicine · Expert Discussion *Cíntia Felicio Adriano Rosa; Clarissa Delpizzo Castagno*

09:30–09:45 **Palatal Collapse In OSA Explained In 3D**
Sleep Medicine · Expert Discussion *Vikas Agrawal; Kivanc Gunhan*

09:45–10:00 **Adaptation To CPAP As A Form Of Treatment For OSA, In A Private Medical Practice**
Sleep Medicine · Remarkable Presentation *Clarissa Delpizzo Castagno; Kivanc Gunhan*

10:45–11:45 **Snore No More? Myths And Realities Of Surgical Success**
Sleep Medicine · Round Table *Jesper Bille; Jolie Anna Crespo Chanis; Chu Qin Phua*

11:45–12:15 **Sleep Apnea Treatment Metrics- Mean Disease Alleviation**
Sleep Medicine · Keynote Lecture *Ozan Bağış Özgürsoy; Olivier Vanderveken*

12:15–12:45 **Drug Induced Sleep Endsocopy From A To Z**
Sleep Medicine · Instructional Course *Cenk Ecevit; Anand Raju*

14:00–15:00 **Drug-Induced Sleep Endoscopy**
Sleep Medicine · Panel Presentation *Anna Bonsembiante; Shrinivas Kishore Sistla; Seçil Bahar Dal; RAUF YÜCEL; ANADOLU*

15:00–16:00 **Palatoplasty Around The World Different Techniques For Palatal/Pharyngoplasty Surgery**
Sleep Medicine · Panel Presentation *Ryan Nord; Andrea De Vito; Ordival Augusto Rosa; Sandeep Bansal; Ryan Chin Taw; Cheong; Jessica Schwarts; Giovanni Cammaroto*

16:30–17:00 **Wearable Technology / AI Technology In OSA**
Sleep Medicine · Keynote Lecture *Karl Hoermann; Mario Milkov*

17:00–18:00 **How To Manage OSA In Complicated Pediatric Patients**
Sleep Medicine · Panel Presentation *P. Vijaya Krishnan; Erdinç Aydın*

Friday, 11 September 2026

07:30–08:00 **Airway Restoration Beyond Surgery: Rethinking Surgical Goals And Multimodal Strategy Selection**
Sleep Medicine · Expert Discussion *Carolina Ferraz de Paula Soares*

08:00–09:30 **Complications Of Sleep Apnea Surgery - How To Manage Them**
Sleep Medicine · Panel Presentation *Mustafa Gerek; Ahmed Bahgat; Nicholas BuSaba; Giovanni Cammaroto*

09:30–10:00 **Should Sleep Apnea Be Treated?**
Sleep Medicine · Controversies *Shintaro Chiba; Rodolfo Lugo Saldaña; Jolie Chang*

10:45–12:15 **Consensus In Tongue Base, Hypopharyngeal And Supraglottic Surgery In OSA**

Sleep Medicine · Panel Presentation *Ewa Olszewska; Andrea De Vito; Olivier Vanderveken; Joachim T. Maurer; Ryan Chin; Taw Cheong; Anand Raju*

12:15–12:45 **Exponential Sleep Medicine: When AI Predicts, Lasers Cure, Patients Thrive**

Sleep Medicine · Expert Discussion *Graciela Pepe; Christoph Janott; Konstantinos Chaidas*

14:00–15:00 **Sleep Surgery In Turkiye (Pharyngoplasty, TORS, Maxillomandibular Advancement)**

Sleep Medicine · Panel Presentation *Fatma Tülin Kayhan; Metin Yılmaz; Murat Timur Akçam; Sabit Kunter Berkay; Şerifoğlu*

15:00–16:00 **Skeletal Surgery In OSA**

Sleep Medicine · Panel Presentation *Micheal Hutz; Thomas Fleury; Badr Ibrahim; Graciela Pepe*

16:30–17:30 **New Frontiers In Neurostimulation**

Sleep Medicine · Panel Presentation *Clemens Heiser; Maria Suurna*

17:30–18:00 **Snoring Approach- Update For 2026**

Sleep Medicine · Instructional Course *Fabio Tadeu Moura Lorenzetti; Danilo Sguillar; Edilson Zancanella; Murat Timur; Akçam*

Saturday, 12 September 2026

07:30–08:00 **Sleep Medicine Notable Abstracts**

Notable Abstracts · Notable Abstract *Ozan Bağış Özgürsoy*

08:00–08:30 **Young IFOS Notable Abstracts**

Notable Abstracts · Notable Abstract *Alperen Vural*

08:30–09:30 **Sleep Medicine In Turkiye**

Sleep Medicine · Panel Presentation *RAUF YÜCEL ANADOLU; Secil Akyildiz; Hande ARSLAN; Murat Karaman; Buğra; Subaşı*

09:45–10:00 **Smart Phone Based Application For Positional OSA**

Sleep Medicine · Remarkable Presentation *Nuntigar Sonsuwan; Metin Yılmaz*

10:45–11:15 **Effects Of Sleep Apnea On Neurocognitive Development In Children**

Sleep Medicine · Keynote Lecture *Konomi Ikeda; Ozan Bağış Özgürsoy*

11:15–11:45 **T&A Vs Palatal Expansion In Pediatric OSA**

Sleep Medicine · Controversies *Konomi Ikeda; Shrinivas Kishore Sistla*

11:45–12:45 **Pediatric DISE And How To Guide The Treatment Beyond T&A**

Sleep Medicine · Panel Presentation *Derek Lam; Christopher Hartnick; Alius Ruxandra Oana*

14:00–14:30 **Aging Effect On Airway During Sleep**

Sleep Medicine · Keynote Lecture *Carolina Ferraz de Paula Soares; Selmin Karatayli Ozgursoy*

14:30–15:00 **Single Stage All Level Vs Multistage Surgery**

Sleep Medicine · Controversies

15:00–15:30 **Myofascial Therapy. To Treat Or Not To Treat Tongue Ties (Ankyloglossia)?**

Sleep Medicine · Controversies *Matej Delakorda; Erin Kirkham; Ahmet Ural*

15:30–16:00 **Does Treating Sleep Apnea Early In Adults Prevent Long Term Health Problems?**

Sleep Medicine · Controversies *Yi Cai; Clement, C. H. Lin*

16:30–17:30 **Identifying And Managing Comorbid Sleep Conditions: Insomnia, Central Apnea, Excessive Daytime Sleepiness**

Sleep Medicine · Panel Presentation *Megan Durr; Yi Cai; Denise L Alvarenga*

17:30–18:00 **Upper Airway Resitance Syndrome**

Sleep Medicine · Keynote Lecture *Ani Papian; Kivanc Gunhan*

YOUNG IFOS 1

ICC - B3 Floor - 3B/63

Wednesday, 9 September 2026

14:00–15:30 **Cochlear Implantation**
Yo-IFOS (Young IFOS) · Panel Presentation *Cristina Blebea; François Simon; Ahmed Aldhafeeri; Fida Abdulaziz Almuhawas;; Emine Deniz Gözen; Mukhlisa Abdukamilova*

15:30–16:00 **Applications Of AI In Rhinology**
Yo-IFOS (Young IFOS) · Keynote Lecture *Laura Van Gerven; Fırat Tevetoğlu*

16:30–17:00 **From Basic Research To Translational, From Translational To The Field**
Yo-IFOS (Young IFOS) · Expert Discussion *Tony Eskander; Mehmet İlhan Şahin*

17:00–17:30 **Otolaryngology Postgraduate Examinations : How To Prepare**
Yo-IFOS (Young IFOS) · Instructional Course *Nagihan Bilal; Fahmy Fayez Fahmy*

17:30–18:00 **Pediatric Tracheotomy**
Yo-IFOS (Young IFOS) · Instructional Course *Randa Al Barazi; Begum Bahar Yılmaz; Mehmet Ekrem Zorlu*

Thursday, 10 September 2026

07:00–08:00 **What Would You Do? – Clinical Case Review: ENT Emergencies And Common Disorders**
Yo-IFOS (Young IFOS) · Panel Presentation *Ana Penezic; Fırat Tevetoğlu; Burak Çelik; Çağrı Becerik; Öykü İzel ONARAN*

08:00–09:00 **Technology & Innovation**
Yo-IFOS (Young IFOS) · Round Table *Michele Cassano; Giannicola Ianella; Eleonora Maria Consiglia Trecca; Bayram Barış; BUYUK; Muhammed Sefa Uyar; Ayşegül Batıoğlu Karaaltın*

09:00–09:30 **Beyond Usher Syndrome: Genetic Disorders Associated With Sensorineural Hearing Loss And Visual Impairment. Differential Diagnosis And Multidisciplinary Management**
Yo-IFOS (Young IFOS) · Keynote Lecture *Fazilet Altın; Maria Rosaria Barillari*

09:30–10:00 **Innovation In Medical Robotics**
Yo-IFOS (Young IFOS) · Keynote Lecture *Jason Y K Chan; Alperen Vural*

10:45–11:30 **How To Write A Scientific Paper (P)**
Yo-IFOS (Young IFOS) · Panel Presentation *Yilai Shu; Jerome LECHIEN; Ali Bayram*

11:30–12:15 **Global Fellowship Training: Insights From Around The World**
Yo-IFOS (Young IFOS) · Round Table *Paresh Pramod Naik; Pavol Surda; Wai Tsz CHANG*

12:15–12:45 **BC Hearing Devices: Clinical Indications And Practical Insights**
Yo-IFOS (Young IFOS) · Keynote Lecture *Eleonora Maria Consiglia Trecca; Ceren Karaçaylı*

14:00–15:00 **Benign Vocal Fold Lesions & Phonosurgery**
Yo-IFOS (Young IFOS) · Expert Discussion *Ozlem Onerci Celebi; Mursalin M. Anis; Ahmet Mutlu; Aurora Ka Yue Tam*

15:00–16:00 **Laryngeal Cancer: A Comprehensive Overview Panel**
Yo-IFOS (Young IFOS) · Panel Presentation *Ömer Bayır; Matthew White; Yetkin Zeki YILMAZ; Enis Ozyar; Christina Sauter;; Demet Etit*

16:30–17:30 **Why Functional Audio-Vestibular Testing Matters: Engaging The Next Generation Of Otolaryngologists And Building Global Collaboration**
Yo-IFOS (Young IFOS) · Round Table *Salma Jbyeh, MD; Josine Widdershoven; Gülin Gökçen Kesici; Daniele DE SIATI;; Jeyasakthy Saniasiaya; Alfarghal Mohamad; Jacob Brodsky*

17:30–18:00 **Contemporary Management Of Choanal Atresia**
Yo-IFOS (Young IFOS) · Instructional Course *Lina Woods; Ozan Gökler; Utku Mete*

Friday, 11 September 2026

07:00–08:00 **How To Develop A Career In ORL**
Yo-IFOS (Young IFOS) · Round Table *Amin Javer; Tony Eskander; Warren Mullings; Anastasios Maniakas; Hazan Basak*

08:00–09:00 **Future Of Otolaryngology**
Yo-IFOS (Young IFOS) · Expert Discussion *Daniele DE SIATI; Antonino Maniaci*

09:00–10:00 **Sinonasal Malignant Tumors**
Yo-IFOS (Young IFOS) · Panel Presentation *Benjamin Verillaud; Marco Ferrari; Suha Beton; Uygar DEMIR*

10:45–12:15 **Women In ORL**
Yo-IFOS (Young IFOS) · International Symposia *Zara Patel; Maryana Cherkes; Eleonora Maria Consiglia Trecca; Nicolien van der; poel; Anneclaire Vroegop; Irina Arechvo; Armağan İncesulu*

12:15–12:45 **Targeted Therapy In The Management Of Thyroid Cancer**
Yo-IFOS (Young IFOS) · Keynote Lecture *Mark Zafereo; Murat Yener*

14:00–15:00 **DCR Surgery, Indications, Techniques And Tips For Optimizing Outcome**
Yo-IFOS (Young IFOS) · Panel Presentation *Remo Accorona; Haissan Iftikhar; Melis Demirag Evman; Hazan Basak*

15:00–15:30 **Real-World Deployment Of Artificial Intelligence In Otolaryngology – Head & Neck Surgery**
Yo-IFOS (Young IFOS) · Keynote Lecture *Daniel Lee; Doğan Çakan*

15:30–16:00 **How To Use Large Language Models For Daily ENT Practice**
Yo-IFOS (Young IFOS) · Instructional Course *alberto maria saibene; Doğan Çakan*

16:30–17:30 **Young Indian Academy OHNS Session**
Yo-IFOS (Young IFOS) · International Symposia *Sreenivas Kamath Kasaragod; Rajika Ramkrishnan; Anup Singh; Tamer Bayoumi; Ebaied*

17:30–18:00 **Endoscopic Ear Surgery**
Yo-IFOS (Young IFOS) · Instructional Course *Doğan Çakan; Khalid Al Zaabi*

Saturday, 12 September 2026

07:00–07:45 **The Keys To Establishing A Successful Residency Program**
Yo-IFOS (Young IFOS) · Round Table *Jason Ohlstein; Ozlem Onerci Celebi; Bülent Öcal; Hesham Behzad; Gozde Orhan; Kubat*

08:00–08:30 **Fundamentals Of The Facelift: Anatomy, Techniques, And Evolution**
Yo-IFOS (Young IFOS) · Instructional Course *Vedat Taş; Sevinc Bayrak*

08:30–08:45 **My Experience with Coblation Plasma–Assisted Adenotonsillar Surgery**
Pediatric Otolaryngology · Master of Surgery Video Presentation *DUYGU ERDEM*

09:30–10:00 **The Otospace Group - Ear And Gravity**
Yo-IFOS (Young IFOS) · Keynote Lecture *Daniele DE SIATI; Serdal Celik*

10:45–11:15 **Management Of Recurrent Nasopharyngeal Carcinoma: From Diagnosis To Potential Complications**
Yo-IFOS (Young IFOS) · Expert Discussion *Çağrı Becerik; Mario Turri-Zanoni; Apostolos Karligkiotis; Jacopo Zocchi*

11:15–12:30 **Thyroid Surgery: How To Perform Safe Surgery? Key Points**
Yo-IFOS (Young IFOS) · Panel Presentation *Ömer Bayır; Güleser Saylam; Mehmet Hakan Korkmaz; eray uzunoğlu; Ersoy Doğan*

12:30–12:45 **Clinical Experience with Hypoglossal Nerve Stimulation in Patients with Obstructive Sleep Apnoea**
Yo-IFOS (Young IFOS) · Remarkable Presentation *Jan-Niklas Kuschel; Seçil Bahar Dal*

14:00–14:30 **Simultaneous Total Joint Replacement And Orthognathic Surgery**
Yo-IFOS (Young IFOS) · Keynote Lecture *Erol Cansiz; Alperen Vural*

14:30–15:00 **Malpraxis And Legal Issues In ORL**
Yo-IFOS (Young IFOS) · Keynote Lecture *Jean Anderson Eloy; Suha Beton*

15:00–15:30 **The Evolving Role Of FESS In Managing Pediatric Sinonasal Disease**
Yo-IFOS (Young IFOS) · Instructional Course *Öykü İzel ONARAN; Hazan Basak; Marella Reale*

15:30–16:00 **Management Of Malignant Otitis Externa**
Yo-IFOS (Young IFOS) · Controversies *Khalid Al Zaabi; Ahmet Mutlu*

17:00–18:00 **Application Of Artificial Intelligence In Otolaryngology Resident Training**
Yo-IFOS (Young IFOS) · Round Table *Sermin Can; Alper Özdemir; Ferhat Deniz; Banu Öksüz Ok; Ahmet Furkan Kürüm;; Resul Arjin Öksüz; ilayda Baykan Kendir*

YOUNG IFOS 2

ICC - B3 Floor - 3B/60

Wednesday, 9 September 2026

14:00–15:00 **Pediatric Airway**
Yo-IFOS (Young IFOS) · Panel Presentation *Shazia Peer; Mehmet Ekrem Zorlu; Hayat Adib; Thuy Thi Thanh Nguyen; Cinzia; Calabrese; Sinan Ghavami*

15:00–16:00 **Common Childhood Ear, Nose, And Throat Issues**
Yo-IFOS (Young IFOS) · Panel Presentation *Lina Woods; Ana Penezic; Gozde Orhan Kubat; Burak Çelik; Marella Reale*

16:30–17:30 **AI In Otorhinolaryngology: Different Subspecialties, Different Uses**
Yo-IFOS (Young IFOS) · Panel Presentation *Habib Zalzal; Ebru Karakaya Gojayev; Noel Ayoub; Sermin Can; Daniel Lee*

17:30–18:00 **Pediatric Middle Ear Pathologies And Management**
Yo-IFOS (Young IFOS) · Instructional Course *Irina Maria Puscas; Sebla Caliskan; Furkan Kaya*

Thursday, 10 September 2026

07:00–08:00 **When Every Second Counts: Navigating ENT Emergencies**
Yo-IFOS (Young IFOS) · Panel Presentation *Maryana Cherkes; Pavol Surda; François Simon; Erim Pamuk*

08:00–09:00 **Laryngotracheal Stenosis**
Yo-IFOS (Young IFOS) · Panel Presentation *Shazia Peer; Mehmet Ekrem Zorlu; Sinem Kara Peker; David White; Kishore Sandu*

09:00–09:45 **Vocal Cord Paralysis- A Clinical Update On Diagnosis And Management**
Yo-IFOS (Young IFOS) · Panel Presentation *Sibel Yıldırım Moral; Necati Enver; Guardmond Ajasllari*

09:45–10:00 **Conducting Research Abroad During Ph.D. Studies With Scholarship**
Yo-IFOS (Young IFOS) · Remarkable Presentation *Fatma Nur Komur; Necati Enver*

10:45–11:15 **Elevate Your ENT Training: Tips And Pearls**
Yo-IFOS (Young IFOS) · Keynote Lecture *François Simon; Eleonora Maria Consiglia Trecca*

11:15–12:45 **Reconstruction Strategies After Head & Neck Surgery**
Yo-IFOS (Young IFOS) · Panel Presentation *Süleyman Cebeci; Carlos Chiesa-Estomba; Alberto Grammatica; Aberto Deganello;; Nicolas Fakhry*

14:00–14:30 **Understanding Tongue Surgery - From Clinical Consideration To Surgical Techniques**
Yo-IFOS (Young IFOS) · Instructional Course *Monir Abousiam; Cömert Şen; Luca Gazzini*

14:30–15:00 **Odontogenic Sinusitis**
Yo-IFOS (Young IFOS) · Instructional Course *alberto maria saibene; John R. Craig; Hakan Kara*

15:00–15:30 **Salivary Gland - Surgical Techniques**
Yo-IFOS (Young IFOS) · Instructional Course *Remzi Dogan; Secil Akyildiz; YAGMUR BARCAN*

15:30–16:00 **Tech And Innovation In Otology**
Yo-IFOS (Young IFOS) · Keynote Lecture *Recep Karamert; Vedat Topsakal*

16:30–17:00 **Sialoendoscopy**
Yo-IFOS (Young IFOS) · Keynote Lecture *Carlos Chiesa-Estomba; Selin Ünsaler*

17:00–18:00 **Case Discussion The Uncommon Salivary Tumors**
Yo-IFOS (Young IFOS) · Panel Presentation *Monir Abousiam; Esra Nur BAYIR; Ömer Bayır; Sümerya Duru Birgi; Carlos Chiesa-; Estomba*

Friday, 11 September 2026

07:00–07:30 **Navigating The Complex Sinonasal Anatomy- Imaging Interpretation**
Yo-IFOS (Young IFOS) · Instructional Course *Paresh Pramod Naik; Gülpembe Bozkurt*

07:30–08:30 **Intranasal Benign Tumours**
Yo-IFOS (Young IFOS) · Round Table *David Liu; Boonsam Roongpuvapaht; Alperen Vural; Elvan Onan; Hakan Kara*

08:30–10:00 **The Principles Of FESS: A Step-By-Step Guide For The Novice**
Yo-IFOS (Young IFOS) · Panel Presentation *David Liu; Haissan Iftikhar; Leigh Sowerby; Axel Wolf; Camilo R. Van Strahlen*

10:45–11:15 **Fungal Rhinosinusitis (Round Table Case Discussion)**
Yo-IFOS (Young IFOS) · Round Table *John R. Craig; Warren Mullings; alberto maria saibene; Muhammed Sefa Uyar*

11:15–12:15 **FESS Complications (Round Table-Case Discussions)**
Yo-IFOS (Young IFOS) · Round Table *Anda Gata; Alessandro Vinciguerra; Davide Mattavelli; Camilo R. Van Strahlen;; Katarzyna Stańska-Kowalik*

12:15–12:45 **Epistaxis: An Evidence-Based Approach**

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14:00–14:30 **What's New In CRS? Updates From Recent Clinical Trials And Consensus Statements**

Yo-IFOS (Young IFOS) · Keynote Lecture *Anda Gata; Emrah Gündüz*

14:30–15:00 **Self Care For Otorhinolaryngologists**

Yo-IFOS (Young IFOS) · Expert Discussion *Nausheen Jamal; Alper Tanrısever; Serkan Özyılmaz*

15:00–16:00 **The Septum And Turbinates: A Comprehensive Approach To Nasal Airway Obstruction**

Yo-IFOS (Young IFOS) · Panel Presentation *Ivan Oreski; orhan Asya; Rami al Salman; Alper Tanrısever; Afruz Masimova*

16:30–18:00 **The Modern Paradigm For CSF Leak Management: Diagnostic Algorithms And Surgical Techniques**

Yo-IFOS (Young IFOS) · Panel Presentation *Camilo R. Van Strahlen; Özden Savaş; Warren Mullings; orhan Asya; Hazan Basak*

Saturday, 12 September 2026

07:00–08:00 **An Introduction To Septorhinoplasty**

Yo-IFOS (Young IFOS) · Panel Presentation *Ivan Oreski; Abdullah Rabeea Alkhalil; Vedat Taş; Selçuk Erol*

08:00–08:30 **The Microbiome In Head And Neck Cancers**

Yo-IFOS (Young IFOS) · Keynote Lecture *Jason Y K Chan; Doğan Çakan*

08:30–09:00 **Use Of Robot In The Management Of Parapharyngeal Space Lesions**

Yo-IFOS (Young IFOS) · Instructional Course *Pietro Perotti; Andrés M. Bur; Fırat Tevetoğlu*

09:00–09:30 **Facial Reanimation Surgery**

Yo-IFOS (Young IFOS) · Instructional Course *Buket Canda*

09:30–10:00 **Fellowships – Is It Worth It And How Can I Receive One ?**

Yo-IFOS (Young IFOS) · Instructional Course *Maryana Cherkes; Miray-Su Yilmaz; Pavol Surda*

10:45–11:45 **The Problematic Ear: From Medical Failure To Surgical Options- Case Discussion**

Yo-IFOS (Young IFOS) · Expert Discussion *Ozan Altuntaş; Said Sönmez; Bakhtier Tadzhibaev; Tamer Bayoumi Ebaied; Niels; West*

11:45–12:15 **Thyroid Surgery For Beginners**

Yo-IFOS (Young IFOS) · Instructional Course *Fırat Tevetoğlu; Gregoire B. Morand*

12:15–12:45 **Introduction To Botox: A Beginner's Guide**

Yo-IFOS (Young IFOS) · Instructional Course *Hesham Behzad; Esin Özlem Atmış; Sevinc Bayrak*

14:00–14:30 **Auditory Brainstem Implants (IC)**

Yo-IFOS (Young IFOS) · Instructional Course *Hao Wu; Huan Jia; Doğan Çakan*

14:30–16:00 **Vertigo: A Clinical Update On Diagnosis And Management**

Yo-IFOS (Young IFOS) · Panel Presentation *Gülin Gökçen Kesici; Rana Barake; Ceren Karaçaylı; Daniele DE SIATI; Wai Tsz; CHANG*

16:30–18:00 **Oral Cancer Surgery: Optimizing Oncological And Functional Outcomes**

Yo-IFOS (Young IFOS) · Panel Presentation *Aberto Deganello; Remo Accorona; Alberto Grammatica; Anastasios Maniakas;; Süleyman Cebeci; Mehmet Hakan Korkmaz*

ABSTRACTS

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2200 abstracts in total

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ALLERGY

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OP-001

Nasopharyngeal Oncocytic Metaplasia With Complete Resolution Under Allergy-Targeted Medical Management

AYBERK YENİKALE[1], **ORHAN ASYA**[1]

[1]*MARMARA UNIVERSITY*

BACKGROUND & AIM

Nasopharyngeal oncocytic metaplasia is an uncommon entity that may present as an incidental finding or with symptoms such as nasal obstruction and Eustachian tube dysfunction. Oncocytes are large epithelial cells characterized by abundant eosinophilic granular cytoplasm resulting from mitochondrial proliferation. To date, regression following conservative medical therapy has not been clearly documented in the literature. This report presents a case of newly developed nasopharyngeal oncocytic metaplasia and highlights the potential role of conservative medical management as a viable treatment approach.

MATERIAL & METHODS

Clinical, radiologic, and endoscopic data were retrospectively reviewed from institutional records. Following identification of a newly emerged nasopharyngeal nodular lesion during routine postoperative follow-up, punch biopsy was performed and histopathological analysis was conducted using conventional hematoxylin–eosin staining.

After histological confirmation of oncocytic metaplasia, conservative medical management consisting of intranasal corticosteroids and oral leukotriene receptor antagonist plus antihistamine therapy was initiated. Endoscopic examinations were conducted at two- and four-month intervals to document lesion evolution.

RESULTS

Histopathological examination confirmed nasopharyngeal oncocytic metaplasia. Following initiation of intranasal corticosteroid therapy combined with oral levocetirizine and montelukast, progressive regression of the lesion was observed. At the two-month follow-up, partial endoscopic regression was noted, and complete resolution was documented by the fourth month. No recurrence was detected during subsequent follow-up examinations. The patient's nasal symptoms also improved significantly under medical therapy, and no surgical intervention was required.

CONCLUSIONS

Oncocytic metaplasia is histologically characterized by eosinophilic, mitochondria-rich epithelial cells. Advanced age and smoking are established risk factors, while local mucosal irritation may also contribute to its development. In this case, potential etiological factors included age, smoking history, allergic mucosal inflammation, and prior turbinate radiofrequency ablation. Given its predominance in elderly patients, surgical excision under general anesthesia may carry avoidable risks. The observed regression following anti-allergic therapy suggests a possible inflammatory component in lesion persistence. Conservative medical management may therefore be considered before surgical intervention in selected cases.

KEYWORDS
Allergy, Pharynx, Airway, Rhinology

OP-002

Trial For The Development Of A Standardized Extract Of Japanese Cypress Pollen

Shusuke Akachi[1], **Kengo Kanai**[1], **Aiko Oka**[1], **Hideaki Kouzaki**[2], **Takeshi Shimizu**[2], **Takaya Higaki**[3], **Mizuo Ando**[4], **Kojiro Hirano**[5], **Isao Suzaki**[5], **Minoru Gotoh**[6], **Kimihiro Okubo**[6], **Mitsuhiro Okano**[1]

[1]*International University of Health and Welfare School of Medicine;* [2]*Shiga University of Medical Science;* [3]*Kawasaki Medical School General Medical Center;* [4]*Okayama University School of Medicine;* [5]*Showa Medical University School of Medicine;* [6]*Nippon Medical School*

BACKGROUND & AIM

Japanese cedar pollinosis (JCP) is the most prevalent seasonal allergic rhinitis in Japan. Many JCP patients are also sensitized to Japanese cypress pollen (JCyP), and their symptoms become exacerbated and prolonged during the JCyP dispersal period after JCP. To date, there have been no reports on the development of JCyP-specific allergen immunotherapy. For the future development of a JCyP-specific skin test and immunotherapy, we sought to develop a reference extract for future standardization of JCyP extract.

MATERIAL & METHODS

A 1:20 antigen extract (Lot AA) was prepared from JCyP grains by the glycerin extraction method. The protein and allergen concentrations in the extract were determined. After confirming its safety, 3-fold serially diluted solutions of JCyP extract were prepared from Lot AA. The average threshold dilution eliciting a positive response in the intradermal skin test was determined among Japanese subjects with serum JCyP-specific IgE class of 2 or higher.

RESULTS

The protein concentration in Lot AA was 4.7 mg/mL, and the allergen concentration was 18.8 µg/mL for Cha o 1 and 1.1 µg/mL for Cha o 3. In total, 85 individuals were registered for this study and finally, 55 subjects were left for the analysis. A total of 45 individuals (81.8%) showed reactions to the extract diluted up to a maximum of 729-fold, with a mean threshold dilution of 1,131-fold. No serious adverse events were observed at any of the tested dilutions.

CONCLUSIONS

The results showed that Lot AA of JCyP extract exhibited in vivo allergic potency and was safe. Thus, it may be useful as a future standardized antigen of JCyP or a reference antigen for standardizing other JCyP extracts for the diagnosis and treatment of JCyP pollinosis.

KEYWORDS

Japanese cedar pollinosis (JCP), Japanese cypress pollen (JCyP), A 1:20 antigen extract (Lot AA)

OP-003

Innovative Immunotherapy For Patients With Allergic Rhinitis -Basic Concept And Updated Clinical Situation

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BACKGROUND & AIM

I would like to address you informations on the future coming antigen-specific immunotherapy, from standpoints of mucosal route of immunotherapy (sublingual or per os), regional intralymphatic IT, so called, ILIT, and high dose of allergenic epitopes delivery system.

MATERIAL & METHODS

Our consensus on clinical efficacy of on-going Immunotherapy SCIT or SLIT are as follows: 1. SCIT or SLIT is effective for responder (>50%), 2. It takes long enough for patients to feel satisfactory (> 6 months), 3. Clinical experience indicates that adverse events could be the case but not so serious for patients, 4. However, we should be still aware of anaphylactic reactions in rarely some cases. Therefore, we need to seek for more effective and safer methods. Promising future immunotherapy might be achieved by those possible vaccine methods and delivery routes, such as new vaccines, novel adjuvants and new ways of administration, per os, Intralymphatic, and so on, to pursue efficacy and safetyness.

RESULTS

Most recently, ILIT have been employed and reported from these groups worldwide as less time-consuming cost-effective method rather than SLIT. Zelaska, Hylander, and Terada performed their clinical trials, employing MAT fusion Feld vaccine, birch pollen, ceder pollen extracts. As promising routes of allergen delivery, we have devoted our much research time to clarify mechanism of SLIT or per os administration and its clinical efficacy, by using murine allergic rhinitis model and we participated with transgenic(Tg) rice seed project, which started 2005 by the Ministry of Agriculture, Japanese Government. Our responsibility has been to see the clinical effect of These Tg-rice containing ceder pollen allergenic T-cell epitopes in murine

cedar pollinosis model, which is our original one. I would like to introduce you the details of our experimental data in the murine cedar pollinosis model.

CONCLUSIONS

Our conclusion and discussion proposed is as follows: 1. Hypoallergenic products or modified agents should be prepared by modern molecular technologies, because those have an important future role, especially in pediatric patients, to avoid adverse-events. 2. Introduction route of vaccine (allergenic peptides) can be newly classified and evaluated by a mechanism of action and clinical data such as SCIT, SLIT, ILIT, and OIT. 3. Reliable biomarkers should be found to predict efficacy beforehand and evaluation of treatment afterward. Unmet needs could be as the early intervention (prophylactic treatment, or maternal immunization) to avoid allergic status after birth.

KEYWORDS

immunotherapy, allergic rhinitis, SCIT, SLIT, ELIT

OP-004

Evaluation Of The Effect Of Intranasal Botulinum Toxin A Treatment On Olfactory Functions In Patients With Allergic Rhinitis

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[1]*Department of Otorhinolaryngology, Zonguldak Bülent Ecevit University Faculty of Medicine*

BACKGROUND & AIM

Allergic rhinitis (AR) is a chronic, IgE-mediated inflammatory disease affecting 10–40% of the population. Beyond nasal symptoms, AR impairs olfaction in 20–40% of patients through mucosal congestion and eosinophilic inflammation. Standard treatments—intranasal corticosteroids and antihistamines—fail to achieve adequate control in a significant subset of patients. Botulinum Toxin A (BTX-A) represents a promising alternative, reducing rhinorrhea and modulating inflammatory mediators such Substance P. However, its effect on olfactory function remains poorly characterized. This study aims to evaluate the impact of intranasal BTX-A on olfaction in moderate-to-severe AR patients refractory to standard therapy, using the Sniffin' Sticks 12-item identification test.

MATERIAL & METHODS

This retrospective chart review was conducted at the Department of Otorhinolaryngology, Zonguldak Bülent Ecevit University. Data from 30 adult patients diagnosed with moderate-to-severe allergic rhinitis per ARIA criteria between June–December 2025 were analyzed.

Inclusion criteria: age ≥18 years; TNSS ≥6; resistance to standard therapy (intranasal corticosteroids + oral antihistamines); complete pre- and post-treatment olfactory test records. Exclusion criteria: active upper respiratory infection, acute sinusitis, nasal polyposis, severe septal deviation, prior head trauma/neurological disease, or pregnancy/lactation.

All eligible patients received intranasal abobotulinumtoxinA (Dysport®) 80 U total, distributed as 20 U per inferior and middle turbinate bilaterally.

Olfactory function was assessed at baseline and at one month post-injection using the Sniffin' Sticks 12-item odor identification test (score 0–12). Demographic data, COVID-19 history, smoking status, TNSS, RQLQ scores, and allergen sensitization profiles were retrospectively extracted from medical records

RESULTS

Mean patient age was 32.7 ± 8.5 years; 53.3% were female. The most common allergens were cat epithelium, dog epithelium, grass pollen, and dust mites.

Sniffin' Sticks scores improved significantly from 9.67 ± 1.06 at baseline to 10.53 ± 0.90 at month one (Δ = +0.87; paired t-test, $t = -4.07$, $p = 0.0003$). TNSS declined from 8.10 ± 2.09 to 4.17 ± 2.78 ($t = 5.97$, $p < 0.001$), and RQLQ from 95.03 ± 33.23 to 45.03 ± 30.00 (Δ = −50.00; $t = 6.90$, $p < 0.001$). Olfactory improvement did not differ by sex, COVID-19 history, or smoking status.

Spearman correlation revealed a significant negative association between olfactory gain and TNSS reduction ($r = -0.441$, $p = 0.015$), indicating that greater nasal symptom improvement corresponded with better olfactory recovery. The correlation between olfactory change and RQLQ reduction approached but did not reach significance ($r = -0.312$, $p = 0.093$).

CONCLUSIONS

In patients with refractory moderate-to-severe allergic rhinitis, intranasal BTX-A application appears to reduce nasal symptom burden and may contribute to improvements in quality of life. The observed gains in olfactory scores could potentially be related to reduction in nasal congestion and inflammatory mediators, which may allow better access of odor molecules to the olfactory epithelium. These preliminary observations suggest that BTX-A may be a worthwhile consideration in refractory AR management; however, given the retrospective design and limited sample size, findings should be interpreted cautiously. Further prospective, controlled studies with larger cohorts and longer follow-up are needed to draw definitive conclusions.

KEYWORDS

Allergic rhinitis, Botulinum toxin A, Olfaction Disorders, Nasal Obstruction

OP-005

Sometimes You Just Need To Keep On Track With The Guidelines: An Uncommon Side-Effect Of Tonsils' Enlargement Following Oral Immunotherapy.

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BACKGROUND & AIM

A 6-year-old female patient presented with chronic rhinitis perennially and was tested positive in the prick test for House Dust Mites (HDM) - Dermatophagoides pteronyssinus 6mm, Dermatophagoides farinae ≥5 mm. Her symptoms included morning sneezing, stuffy nose, conjunctivitis and occasionally shortness of breath when playing in her room, additionally causing sleep disturbances, impairment at school and eventually affecting quality of life.

No improvement was seen 3 months after mite avoidance measures were taken (mite-reducing measures encasing, lowering interior humidity levels). Nasal rinsing and steroid sprays as well as oral anti-histamines marginally improved her symptoms.

MATERIAL & METHODS

She was referred from her pediatrician to an allergist that begun treatment with tablets of oral immunotherapy for allergic rhinitis to HDM. 6 months afterwards she had gradually begun to complain of difficulty in breathing though the mouth and her parents reported snoring that previously did not exist, added to difficulties in eating and drinking.

Follow up ENT examination revealed tonsils grade III without infection and of benign and symmetrical appearance. Blood counts were normal as was her remaining physical examination as the child did not have any notable lymphadenopathy. Ultrasound examination of the abdomen was negative as well.

RESULTS

Even though immunotherapy tablets have been proposed as treatment through international guidelines for HDM in children, the specific brand had indications for "adolescents and adults (12 – 65 years) for persistent moderate to severe house dust mite (HDM) allergic rhinitis despite use of symptom-relieving medication". Additionally, the product monograph master template indicated "Swelling of the tonsils" as an uncommon adverse event -in means of between 0,1% - 1% of patients (more than 1 in 1000 but less than 1 in 100).

Treatment was paused and gradually in the following 3 months the tonsils are decreasing back to their initial size, following the resolution of symptoms and drastic improvement to the patient's condition.

CONCLUSIONS

Despite how rare a complication as the aforementioned might be; after excluding all other possible causes, it remains the most likely underlying pathology.

At the time the patient and family are discussing more orthodox regimens of treatment.

KEYWORDS

Allergic rhinitis, sublingual immunotherapy, tonsills enlargement

OP-006

Diagnostic Accuracy Of The Score For Allergic Rhinitis (SFAR) Compared With Skin Prick Testing

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BACKGROUND & AIM

Allergic rhinitis is a common condition requiring accurate and practical diagnostic tools. The Score for Allergic Rhinitis (SFAR) is a simple questionnaire-based tool; however, its diagnostic performance compared to skin prick testing remains to be further validated. To evaluate the diagnostic accuracy of the SFAR questionnaire in predicting allergic sensitization using skin prick testing as the reference standard.

MATERIAL & METHODS

This cross-sectional diagnostic accuracy study included 180 patients who underwent skin prick testing for suspected allergic rhinitis. Skin prick test positivity was defined as the presence of at least one positive allergen reaction. SFAR scores were calculated for all participants, and a cut-off value of ≥7 was used to define allergic rhinitis. Diagnostic performance was assessed using sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and receiver operating characteristic (ROC) curve analysis.

RESULTS

Among the 180 participants, 118 (65.6%) were skin prick test positive. SFAR scores were significantly higher in the prick-positive group. Using a cut-off value of ≥7, SFAR demonstrated a sensitivity of 89.8% and a specificity of 80.6%. The PPV and NPV were 89.8% and 80.6%, respectively. The overall diagnostic accuracy was 86.7%. ROC analysis revealed an area under the curve (AUC) of 0.91, indicating excellent discriminative ability.

CONCLUSIONS

The SFAR questionnaire demonstrates high diagnostic accuracy in identifying allergic sensitization compared with skin prick testing. With excellent sensitivity and good specificity, SFAR may serve as a reliable and practical screening tool in clinical settings, particularly where access to allergy testing is limited.

KEYWORDS

Allergic Rhinitis, Skin Prick Test, SFAR (Score for Allergic Rhinitis), Diagnostic Accuracy, Screening Tool, Sensitivity, Specificity

OP-007

EVALUATION OF THE CORRELATION BETWEEN INTERLEUKIN LEVELS AND NASAL POTENTIAL DIFFERENCE IN CHRONIC RHINOSINUSITIS WITH NASAL POLYPS: A CONTROLLED STUDY

İSMAİL KAYGISIZ[1], **MEHMET ALTAN**[2], **BERK DURAN**[3], **HÜSEYİN BOZKURT**[4], **ÖZGÜR YİĞİT**[1]

[1]*University of Health Sciences Istanbul Training and Research Hospital Otorhinolaryngology Clinic;* [2]*Cerrahpaşa Faculty of Medicine, Department of Physiology;* [3]*University of Health Sciences Istanbul Training and Research Hospital, Department of Biochemistry;* [4]*University of Health Sciences Istanbul Training and Research Hospital, Department of Radiology*

BACKGROUND & AIM

To reveal the relationship between basal nasal potential difference measurement and Th2-mediated interleukin levels in patients with chronic rhinosinusitis with nasal polyps.

MATERIAL & METHODS

This study was designed as a prospective controlled clinical trial. Twenty patients diagnosed with chronic rhinosinusitis with nasal polyps (study group) who were indicated for functional endoscopic sinus surgery (FESS) and 20 patients planned for septoplasty (control group) due to septal deviation based on physical examination were included in the study. Basal nasal potential difference measurements were performed on the study group and control group before surgery. Venous blood samples were also taken to measure serum Interleukin 4, 5, and 13 (IL-4, 5, 13). FESS was performed on the study group, while septoplasty was performed on the control group. On postoperative month 1, basal nasal potential difference measurements and serum interleukin measurements were repeated in both groups. Clinical and radiological findings were evaluated preoperatively using the Lund Mackay score and Lund Kennedy score.

RESULTS

The study included 20 patients with chronic rhinosinusitis with nasal polyps and 20 patients with septal deviation. A statistically significant relationship was found between preoperative basal nasal potential difference measurements and IL-5 levels, while no significant relationship was observed with IL-4 and IL-13. Although preoperative basal nasal potential difference measurements showed more negative values in the patient group, this difference was not statistically significant. A significant relationship was found between preoperative Lund-Mackay scores and IL-4 and IL-13 in the patient group, but no significant relationship was found with IL-5. No significant relationship was observed between preoperative Lund-Kennedy scores and interleukin values.

CONCLUSIONS

In this study, patients with chronic rhinosinusitis with nasal polyps were found to have lower nasal potential values compared to the control group. A relationship was specifically demonstrated between IL-5 and nasal potential difference. Although these findings suggest an association between epithelial dysfunction and IL-5 levels, further comprehensive studies are warranted.

KEYWORDS

Nasal Polyp, Nasal Potential Difference, Chronic Rhinosinusitis, Interleukin, Epithelial Dysfunction

OP-008

The Effect Of PRF Application After Inferior Turbinate Radiofrequency On Wound Healing And Complications: A Comparative Study With Furacin Ointment

Hayder Al FARJAWEE[1], **ERAY UZUNOĞLU**[1]

[1]*Bakirçay University Faculty of Medicine*

BACKGROUND & AIM

Inferior turbinate hypertrophy is one of the most common causes of chronic nasal obstruction. Although radiofrequency (RF) reduction is a mucosa-preserving technique with low complication rates, postoperative crusting and delayed mucosal recovery remain clinical concerns. Platelet-rich fibrin (PRF), an autologous second-generation platelet concentrate, provides sustained release of growth factors that promote tissue regeneration. This study aimed to evaluate whether PRF application after inferior turbinate RF improves wound healing, reduces postoperative crusting, and enhances patient-reported outcomes.

MATERIAL & METHODS

This retrospective split-nose study was conducted at Çiğli Training and Research Hospital, İzmir. Patients undergoing inferior turbinate RF were included. PRF was applied to one inferior turbinate, while the contralateral side served as control. Although power analysis suggested 50 patients, 39 met inclusion criteria and were analyzed. Crusting severity at postoperative week 1

was graded (none–severe) and compared using Bowker and McNemar tests. Symptom severity and quality of life were assessed using SNOT-22 and VAS scores at baseline, week 1, and month 1. Paired t-tests and Wilcoxon signed-rank tests were used for within-patient comparisons. Subgroup analyses evaluated sex, smoking, allergy history, prior surgery, and repeat RF status.

RESULTS

Thirty-nine patients (mean age 42.1±12.1 years; 51.3% male) were analyzed. At postoperative week 1, crusting severity was significantly lower on the PRF-treated side (χ^2=13.45, p=0.009), with 56.4% demonstrating reduced crusting compared with the control side. SNOT-22 scores significantly improved from baseline to week 1 (p=0.0109) and further at month 1 ($p=4.3\times10^{-7}$). VAS scores showed marked reduction at week 1 ($p=1.46\times10^{-7}$) and month 1 ($p=9.68\times10^{-12}$). Improvements were consistent across subgroups. Patients with allergy showed greater SNOT-22 reduction at month 1 (p=0.034), though interpretation is limited by small sample size.

CONCLUSIONS

PRF application following inferior turbinate RF significantly reduces early postoperative crusting and improves patient-reported symptom scores. These findings suggest that PRF may enhance mucosal healing and accelerate functional recovery after turbinate RF. Prospective randomized studies with larger cohorts are needed to validate these results.

KEYWORDS

Inferior turbinate hypertrophy; platelet-rich fibrin; radiofrequency ablation; wound healing; nasal obstruction

OP-009

Intralymphatic Allergen Immunotherapy In Grass Pollen Allergy: Current Insights And Clinical Perspectives

Elshan Aghayev

BACKGROUND & AIM

Grass pollen allergy is one of the most prevalent causes of seasonal allergic rhinitis worldwide, significantly impacting patient quality of life. Allergen-specific immunotherapy (AIT) remains the only disease-modifying treatment, but traditional subcutaneous (SCIT) and sublingual (SLIT) routes require long treatment durations and suffer from poor adherence. Intralymphatic immunotherapy (ILIT) is a novel route that involves direct injection of allergens into lymph nodes, offering the potential for rapid and sustained immunological tolerance with minimal dosing.

MATERIAL & METHODS

A prospective, multi-center, open-label clinical trial was conducted to evaluate the efficacy, safety, tolerability, and immunological outcomes of intralymphatic immunotherapy (ILIT) with a standardized grass pollen allergen extract in adult patients with moderate to severe seasonal allergic rhinitis. Participants received three ultrasound-guided intralymphatic injections of a standardized grass pollen allergen extract, administered into a groin lymph node at four-week intervals (weeks 0, 4, and 8). Injections were performed under sterile conditions using high-resolution ultrasonography for accurate needle placement.

RESULTS

Our clinical study involved three ultrasound-guided injections at four-week intervals and demonstrated that ILIT with grass pollen extract reduces rhinoconjunctivitis symptoms and medication use, with effects persisting at least 2 years after therapy.

CONCLUSIONS

ILIT represents a promising and efficient alternative to conventional immunotherapy in grass pollen allergy. Its short duration, favorable safety profile, and long-lasting effects make it especially attractive for improving patient compliance. However, standardized protocols, broader indications and different allergens, and further long-term, large-scale studies are still needed to fully integrate ILIT into clinical practice guidelines.

KEYWORDS

Intralymphatic immunotherapy, ILIT, grass pollen allergy, allergen-specific immunotherapy, allergic rhinitis, immune tolerance, immunological mechanisms, AIT.

OP-010

Efficacy Of Sublingual Immunotherapy With Japanese Cedar Pollen For Cypress Pollinosis In Real-World Settings

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BACKGROUND & AIM

It remains unclear whether allergen immunotherapy with Japanese cedar pollen extract is effective for Japanese cypress pollinosis in real-world settings. This study investigated the Japan-wide prevalence of cypress pollinosis, the efficacy of cedar

sublingual immunotherapy (SLIT) on cypress pollinosis, the role of serum specific IgE levels in pollinosis, and patients' interest in the development of cypress SLIT.

MATERIAL & METHODS

A cross-sectional, multicenter study using self-administered questionnaires was conducted in regions of Japan where cedar and cypress pollen dispersal is prevalent. This study included patients aged 5 to 69 years who received cedar SLIT in 2023. Data were collected from 31 facilities of Amesara ENT Clinic, Arao Internal Medicine and Otolaryngology, Azusawa ENT Clinic, Bamba ENT Clinic, Chofu Ekimae ENT Clinic, Fukushima Clinic, Hama ENT Clinic, Hidamari Clinic, Hyo ENT Clinic, Ikeda ENT Clinic, Kumanomidou ENT Clinic, Kosugi ENT Clinic, Masuda ENT Clinic, Minna-no-kodomo Allergy Clinic, Makinohara Nanohana ENT Clinic, Mie ENT Clinic, Mimura Clinic, Miyako Clinic, Nagakura ENT Allergy Clinic, Niitsu Clinic, Oizumigakuen ENT Clinic, Okawa ENT Clinic, Oyama Nakamaru Clinic, Sakaguchi ENT Clinic, Shiratsuchi ENT Clinic, Tokuda Family Clinic, Tokuriki ENT Clinic, Terada Allergy Kodomo Clinic, Yasuda Clinic, Yuta Clinic, International University of Health and Welfare Narita Hospital.

RESULTS

Out of 2,597 participants analyzed, 84.5% experienced pollinosis symptoms during the cypress season prior to receiving cedar SLIT. Among these patients, 40.2% felt that cedar SLIT was less effective during the cypress season than during the cedar season. The longer patients received cedar SLIT, the greater the inefficacy perceived during the cypress versus the cedar season. No significant differences were reported for IgE levels to cedar and cypress between patients reporting either high or less efficacy for the cedar SLIT during cypress season. Interest in cypress SLIT was seen in 78.4% of these patients.

CONCLUSIONS

Although there is a bias based on regional distribution, cedar SLIT has induced a limited efficacy on cypress pollinosis in real-world settings, suggesting a need for the development of cypress SLIT.

KEYWORDS

Japanese cedar pollen, Japanese cypress pollen, Pollinosis, Real-world evidence, Sublingual immunotherapy

OP-011

Real-Life Practice In The Medical Treatment Of Allergic Rhinitis: A Nationwide Survey Of Physician Decision-Making

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BACKGROUND & AIM

Allergic rhinitis is managed by physicians from different specialties, and treatment decisions may vary in real-life practice. This study aimed to evaluate real-life medical treatment patterns in allergic rhinitis and to identify key factors influencing physician decision-making, including education, clinical experience, and guideline use.

MATERIAL & METHODS

A cross-sectional web-based survey consisting of 16 questions was conducted among otorhinolaryngologists and primary care physicians. The survey assessed treatment preferences, use of educational and guideline resources, concerns about adverse effects, and mask recommendations. Group comparisons were performed using chi-square analysis.

RESULTS

A total of 183 physicians participated. Disease severity (88.1%), dominant symptom (60.3%), and drug efficacy (49.7%) were the main factors influencing treatment decisions. The most common reference source was knowledge gained during residency (64.5%), while ARIA guideline use was 44.3% and significantly higher among otorhinolaryngologists ($p < 0.05$). Oral antihistamines and intranasal corticosteroids were the most preferred first-line treatments. Leukotriene receptor antagonists were among the most frequently preferred second-line treatments in cases of inadequate response (50.8%). Immunotherapy was recommended by 18.6% of physicians. Decongestants were also commonly used (57.6%). Systemic corticosteroids were the most frequently avoided drugs due to adverse effect concerns (75.3%). Additionally, 45.4% of physicians did not recommend mask use.

CONCLUSIONS

Real-life management of allergic rhinitis is largely driven by symptom profile and clinical experience rather than strict adherence to guideline algorithms. The frequent use of leukotriene receptor antagonists and relatively low immunotherapy recommendation rates suggest that individualized clinical priorities play a central role in treatment decision-making.

KEYWORDS

Allergic rhinitis, Real-life practice, Physician decision-making, Treatment patterns, Survey, Leukotriene receptor antagonists, Immunotherapy, Guideline use.

AUDIOLOGY

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OP-012

Increased Listening Effort In Chronic Tinnitus Despite Comparable Audiometric And DPOAE Findings

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BACKGROUND & AIM

Chronic subjective tinnitus is often accompanied by speech-in-noise difficulties despite normal conventional audiometric thresholds. These complaints may reflect increased cognitive load during listening rather than reduced audibility alone. This study aimed to evaluate listening effort in adults with chronic tinnitus using an individualized dual-task speech-in-noise paradigm, while also examining tinnitus burden, extended high-frequency hearing, and distortion-product otoacoustic emission findings.

MATERIAL & METHODS

This controlled cross-sectional study included 37 adults with chronic subjective tinnitus and normal conventional audiometric thresholds ≤20 dB hearing level, as well as 37 age-matched normal-hearing controls. All participants underwent conventional pure-tone audiometry, extended high-frequency audiometry, and distortion-product otoacoustic emission testing at 1, 3, 4, 6, and 8 kHz. Tinnitus burden was assessed using the Tinnitus Handicap Inventory. Speech reception threshold was determined using the Turkish Matrix Sentence Test. Three individualized signal-to-noise ratio conditions were calculated relative to each participant's speech reception threshold: −3, 0, and +3 dB. Listening effort was assessed using a dual-task paradigm, with median reaction time of the secondary task as the primary outcome. Data were analyzed using mixed analysis of variance and Bonferroni-adjusted comparisons.

RESULTS

Speech recognition performance did not differ significantly between groups across signal-to-noise ratio conditions, $p = 0.284$. Extended high-frequency thresholds and distortion-product otoacoustic emission responses at 1, 3, 4, 6, and 8 kHz were also comparable between groups, all $p > 0.05$. However, the tinnitus group showed longer reaction times than controls at −3 dB, 856 ± 124 versus 708 ± 110 ms; 0 dB, 781 ± 118 versus 642 ± 103 ms; and +3 dB, 704 ± 105 versus 582 ± 97 ms. Mixed analysis of variance revealed significant main effects of Group, $F(1,72) = 14.62$, $p < 0.001$, and signal-to-noise ratio, $F(2,144) = 31.48$, $p < 0.001$. The Group × signal-to-noise ratio interaction was not significant, $p = 0.301$.

CONCLUSIONS

Adults with chronic tinnitus demonstrated increased listening effort despite comparable conventional audiometry, extended high-frequency hearing, distortion-product otoacoustic emission findings, and speech recognition performance. These findings suggest that tinnitus-related listening difficulties may reflect increased cognitive-auditory load not captured by threshold-based or outer hair cell measures alone. Dual-task listening-effort assessment may add clinically meaningful information to tinnitus evaluation and counseling.

KEYWORDS
Tinnitus; Listening effort; Speech perception in noise; Dual-task testing; Extended high-frequency hearing; DPOAE

OP-013

Usage Of Personal Listening Devices And Awareness Of Safety Precautions Among Tertiary Students In UDS

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BACKGROUND & AIM

The increasing prevalence of Personal Listening Devices (PLDs) among tertiary students raises concerns regarding their auditory health. This study investigated the usage patterns and awareness of safety precautions associated with PLDs among students at the University for Development Studies (UDS).

MATERIAL & METHODS

The study was conducted among students at University for Development Studies, Ghana. A cross-sectional design was employed through a multi-stage sampling method where 477 participants were surveyed through a structured questionnaire. The study evaluated personal listening devices (PLDs) usage and awareness of safety precautions and was then analyzed using Stata version to determine frequencies and proportions, and Chi-square tests to determine associations between socio-demographic factors with PLD usage and awareness of safety precautions.

RESULTS

The findings revealed a high prevalence of PLD usage (93.5%) with the majority using in-ear earphones (74.6%). Majority of respondents were aware that listening to content through your PLD for a prolonged time can contribute to hearing loss (89.5%). Most of the respondents knew that using PLDs less than sixty minutes is the safest duration (69.8%). Most respondents were aware that high volume on PLDs causes hearing loss (87.6%) with most aware 60% is the safest volume limit (73%). Overall, majority of respondents had a good awareness level (56.4%) of the safety about PLDs. There was a significant association between students' faculty affiliation and their awareness levels [chi=10.96, p-value=0.012].

CONCLUSIONS

The study showed a high prevalence of PLDs usage among the students of UDS with most of the students aware of the safety precautions needed while using their PLDs.

KEYWORDS
Personal Listening Devices, Awareness, Safety Precautions, Tertiary Students, UDS

OP-014

Video Ocular Counter-Roll Responses In Individuals With Benign Paroxysmal Positional Vertigo : Preliminary Findings

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BACKGROUND & AIM

Benign paroxysmal positional vertigo (BPPV) is the most common pathology of the peripheral vestibular system and is closely related to the functional integrity of the otolith organs, especially the utricle. Ocular counter-roll (OCR) is a reflex in which both eyes are rotated in the opposite direction in response to tilting the head in the frontal plane, and this response is largely regulated by utricle. Given the association between BPPV and utricle, this study aimed to evaluate video OCR (vOCR) responses in individuals diagnosed with BPPV in comparison with healthy controls.

MATERIAL & METHODS

This study was conducted using a cross-sectional design. The study included individuals aged 23–40 years (n = 10; 7F, 3M) diagnosed with unilateral posterior canal canalitis (BPPV) confirmed by positional test, and age- and gender-matched healthy controls (n = 10; 6F, 4M). vOCR measurement was performed by recording eye position responses with a 30° head tilt to the right and left via a videonystagmography system. The Mann-Whitney U test was used for intergroup comparisons, and the Wilcoxon test was used for comparisons of the affected and unaffected sides.

RESULTS

In the BPPV group, the degree of static vOCR eye position was found to be statistically significantly lower compared to the control group (6.75° ± 0° for control, 3.88° ± 1.75° for BPPV; p = 0.002). The asymmetry rate was higher in the BPPV group (0.20) compared to the control group (0.03) (p = 0.015). Six participants in the study group had left posterior canal involvement, while four had right posterior canal involvement. The degree of static vOCR eye position on the affected ear side (4.00° ± 2.00°) was found to be lower in BPPV patients compared to the unaffected side (5.00° ± 2.00°) (p=0.029).

CONCLUSIONS

The preliminary findings suggest that BPPV is not limited to canal pathology but can also measurably affect otolithic function. vOCR stands out as a non-invasive and feasible clinical tool that can contribute to the assessment of utricular function in BPPV. Confirmation of these results with larger samples is important for the integration of vOCR into BPPV protocols.

KEYWORDS

BPPV, utricular function, ocular counter roll, vestibular assessment

OP-015

Occupational Auditory Health: A Multi-Center Cross-Sectional Analysis Of Noise-Induced Hearing Loss Among Hospital Food Service Personnel

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BACKGROUND & AIM

Excessive noise exposure leading to hearing loss is a recognized health hazard. While industrial environments have historically been the focus of noise studies, hospital kitchens represent a significant, yet often overlooked, source of acoustic pollution. Prolonged exposure in these settings may pose a substantial risk to staff. This is one of the largest multi-center studies in Malaysia evaluating the prevalence of noise-induced hearing loss (NIHL) among hospital kitchen personnel compared to other healthcare staff. Our aim is to evaluate noise hazards in hospital kitchens, establish foundational occupational health rights, and promote proactive hearing protection awareness among staff.

MATERIAL & METHODS

Utilizing a descriptive cross-sectional approach, this study evaluated kitchen staff from five hospitals in Malaysia. Comparisons were made with a cohort of non-kitchen personnel, specifically administrative and clinical staff. Following a mandatory 48-hour noise-free interval, subjects underwent clinical assessment via pro forma, otoscopy, and pure tone audiometry within a controlled soundproof setting.

RESULTS

A total of 245 hospital employees participated in this study, comprising 123 kitchen staff and 122 non-kitchen personnel. Kitchen workers exhibited a significantly higher rate of hearing impairment (54.3%) than their counterparts (27.0%). Audiometric dips were primarily localized at 6 kHz, followed by 4 kHz and 3 kHz. Furthermore, the duration of employment (years of service) differed significantly based on the severity of hearing loss ($p = 0.010$).

CONCLUSIONS

The findings indicate that noise levels within hospital kitchens constitute a significant occupational hazard. A positive correlation was observed between the duration of employment and the severity of hearing impairment among kitchen personnel. Consequently, we recommend the mandatory implementation of hearing protective equipments for all staff operating in these environments.

KEYWORDS

Noise Induced Hearing Loss, Kitchen Noise, Occupational Hazard

OP-016

Development And Adaptation Of Kyrgyz Speech Tests For Pediatric Hearing Assessment

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BACKGROUND & AIM

The absence of standardized speech audiometry materials in the Kyrgyz language limits accurate hearing assessment in Kyrgyz-speaking children. The aim of this study was to develop and adapt linguistically and perceptually balanced speech tests for pediatric audiological evaluation in the Kyrgyz language and to assess their reliability in children with normal hearing.

MATERIAL & METHODS

The project was conducted within the framework of the JICA mini-grant program from January to March 2025. During the first stage, Kyrgyz-language speech audiometry materials were developed for pediatric hearing assessment, including monosyllabic, disyllabic, multisyllabic, dichotic, and binaural alternating speech test tables. Word selection was based on phonetic balance, syllable structure, word frequency, part-of-speech distribution, and psycholinguistic factors, including priming effects. Test lists were balanced according to acoustic and phonetic characteristics of the Kyrgyz language. During the second stage, the reliability and perceptual balance of the tests were evaluated in 112 children aged 3–16 years with normal hearing. Testing was performed in a quiet environment with background noise below 65 dB, and all participants underwent audiometric examination confirming normal hearing. Following revision of selected words, additional validation was

conducted in 20 children. The final version demonstrated stable perceptual balance and high reliability for pediatric speech audiometry.

RESULTS

Initial testing demonstrated high perceptual reliability of the developed speech materials. Minor errors were identified in the reproduction of two individual words by a small number of participants. Following linguistic revision and replacement of these words, repeated testing in the supplementary group showed no reproduction errors. The final test lists demonstrated stable perceptual balance and consistency across age groups.

CONCLUSIONS

The developed Kyrgyz-language speech audiometry materials represent a reliable and linguistically validated tool for pediatric hearing assessment. These tests may improve accessibility and accuracy of speech audiometry for Kyrgyz-speaking children in clinical audiology practice.

KEYWORDS

Pediatric audiology, speech tests, hearing assessment, Kyrgyz language

OP-017

Associations Of Body Mass Index And Physical Activity With Balance Performance In Healthy Young Adults

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BACKGROUND & AIM

Body mass index (BMI) may influence postural control; however, evidence regarding its association with balance performance in healthy young adults, particularly those with low BMI, remains limited. This study aimed to investigate the associations of BMI categories and physical activity (PA) levels with static postural control and dynamic balance performance in healthy young adults.

MATERIAL & METHODS

This cross-sectional study included 76 healthy university students (mean age: 21.8±1.4 years). Participants were categorized as underweight (n=10), normal-weight (n=53), or overweight (n=13) according to BMI. Balance was assessed using the Fukuda Stepping Test, Tandem Walking Test, Modified Clinical Test of Sensory Interaction on Balance (mCTSIB), Limits of Stability (LOS), and Rhythmic Weight Shift (RWS) tests. PA was assessed using the Physical Activity Scale-2. Group differences were analyzed using the Kruskal–Wallis test with Bonferroni-adjusted post-hoc comparisons, and associations were examined using Spearman correlation analysis.

RESULTS

Significant differences among BMI groups were observed across all mCTSIB conditions ($p=0.005–0.015$) and the composite score ($p<0.001$). Postural sway was highest in the underweight group and lowest in the overweight group. The median composite sway velocity was 0.72°/s, 0.58°/s, and 0.47°/s in the underweight, normal-weight, and overweight groups, respectively. BMI was negatively correlated with all mCTSIB parameters, with the strongest association observed for the composite sway velocity ($r=−0.444$, $p<0.001$). No significant differences were found among BMI groups in LOS or RWS parameters (all $p>0.05$). BMI was positively correlated with RWS anterior-posterior velocity ($r=0.250$, $p=0.030$). PA was associated with selected dynamic balance parameters, including LOS endpoint excursion ($r=−0.341$, $p=0.003$) and RWS mediolateral velocity ($r=0.355$, $p=0.002$).

CONCLUSIONS

Lower BMI was associated with greater postural sway, particularly under challenging sensory conditions, whereas dynamic balance performance did not differ significantly across BMI groups. PA was associated with selected dynamic balance parameters, suggesting that BMI and PA may be related to different aspects of balance performance in healthy young adults. These findings highlight the potential value of considering both BMI and PA when evaluating postural control and balance performance in this population.

KEYWORDS

Body mass index; Postural control; Balance; Postural sway; Computerized posturography

OP-018

IMPACT OF PROLONGED ELECTRONIC DEVICE USE ON AUDITORY PROCESSING DISORDER

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BACKGROUND & AIM

The auditory system is crucial for interpreting sounds, yet individuals with Auditory Processing Disorder (APD) struggle despite normal hearing. APD affects abilities such as sound localization, temporal resolution, and speech perception in noise. The widespread use of electronic devices—including smartphones, tablets, and personal listening devices—has raised concerns

about potential impacts on cognitive and sensory functions. Excessive use has been associated with attention, memory, and language difficulties, but its effects on central auditory processing remain underexplored. This study in Riyadh, Saudi Arabia, examined whether prolonged device use affects auditory processing in both adults and children using standardized APD assessments.

MATERIAL & METHODS

This study included 160 Arabic-speaking participants with normal peripheral hearing: 100 adults (18–80 years) and 60 children (5–17 years). Inclusion required regular use of electronic devices and informed consent (guardian consent for children). Exclusion criteria included peripheral hearing loss, auditory or neurological disorders, cognitive deficits, non-Arabic speakers, children under 5, and unreliable usage reporting. Participants were divided into two groups based on daily device exposure: limited (≤5 hours/day) and overexposure (>5 hours/day).

Data collection had two stages. Stage 1: an online survey (Arabic/English) collected demographics, device usage, and scheduled appointments. Stage 2: clinical assessment included peripheral hearing evaluation and Auditory Processing Disorder (APD) tests: Gaps-in-Noise (GIN), Pitch Pattern Sequence (PPS), Duration Pattern Sequence (DPS), Masking Level Difference (MLD), and Random Gap Detection (RGDT), with stimuli presented binaurally at 50–70 dB HL using standard scoring and normative data.

Statistical analysis used descriptive statistics, Mann–Whitney U tests, and Spearman's rho correlations ($p < 0.05$).

RESULTS

A total of 160 participants completed the study: 100 adults (62.5%) and 60 children (37.5%), median age 25 years (range 8–68), with 51.3% males and 48.7% females. Median daily device use was 5.5 hours (range 2–14). Participants were divided into limited exposure (≤5 hrs/day) and overexposure (>5 hrs/day) groups, with no baseline differences in sex, usage, or hearing function.

Adults with limited exposure outperformed overexposed adults on APD tests: GIN (73.3% vs. 62.3%), PPS (96.7% vs. 81.5%), DPS (93.3% vs. 86.6%), MLD (18.0 dB vs. 12.0 dB), and RGD (11.3 ms vs. 16.3 ms), $p<0.001$, with strong bilateral correlations.

In children, deficits were more pronounced: limited users scored higher in GIN, PPS, DPS, and MLD, while overexposed users showed poorer temporal resolution (RGD), with high bilateral correlations, notably PPS ($r = 0.922$).

Prolonged device use impaired auditory processing in both groups, especially children.

CONCLUSIONS

This study demonstrates that prolonged electronic device use (>5 hrs/day) negatively impacts central auditory processing in both adults and children with normal hearing. Across APD tests, overexposed participants performed significantly worse than those with limited use. Children were more vulnerable, showing greater deficits in pitch and duration recognition, temporal resolution, and binaural interaction. Adults also exhibited reduced temporal and binaural processing. Strong bilateral correlations indicate that deficits affect the auditory system as a whole. These findings stress the importance of balanced technology use, especially during childhood, and highlight the need for awareness, clinical monitoring, and further research.

KEYWORDS

Auditory Processing Disorder (APD); Central Auditory Nervous System (CANS); Electronic Device Usage; Hearing Health; Temporal Resolution; Binaural Processing; Cognitive Auditory Skills; Technology Overuse

OP-019

Investigation Of Hearing Aid Performance In Patients With Subjective Tinnitus

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BACKGROUND & AIM

Patients with tinnitus and hearing loss frequently report difficulty understanding speech, particularly in noisy environments. Hearing aids may reduce tinnitus-related distress by restoring auditory input and improving communication; however, their benefits may not be fully reflected by pure-tone thresholds alone. This study aimed to investigate changes in tinnitus handicap and speech perception in noise after six months of hearing aid use in patients with subjective tinnitus. A secondary aim was to examine whether improvements differed between the tinnitus-affected and non-tinnitus sides.

MATERIAL & METHODS

This study included 23 adults aged 18–59 years with subjective tinnitus and hearing loss who were fitted with hearing aids. All participants underwent a standard assessment protocol before hearing aid fitting and after six months of regular hearing aid use. Tinnitus-related distress was evaluated using the Tinnitus Handicap Inventory (THI). Speech perception was assessed with hearing aids using the Turkish Matrix Sentence Test in quiet and under different noise conditions. Pure-tone audiometric thresholds were also recorded. For the side-specific analysis, participants with clearly defined right- or left-sided/dominant tinnitus were evaluated by comparing performance on the tinnitus-affected and non-tinnitus sides. Relationships between changes in THI scores, speech-in-noise performance, and pure-tone thresholds were examined.

RESULTS

After six months of hearing aid use, THI scores decreased significantly, indicating a reduction in tinnitus-related handicap. Speech-in-noise performance improved significantly across the noise conditions, whereas the change in quiet was limited. In the side-specific analysis, the improvement in speech reception threshold was greater on the tinnitus-affected side, reaching approximately 4 dB, while a smaller improvement was observed on the non-tinnitus side. The reduction in THI scores was moderately associated with the improvement in Matrix test performance on the tinnitus side (Spearman's ρ = 0.51). In contrast, changes in tinnitus handicap were not significantly associated with pure-tone hearing thresholds.

CONCLUSIONS

Six months of hearing aid use was associated with reduced tinnitus handicap and improved speech-in-noise performance. The greater improvement observed on the tinnitus-affected side suggests that regular hearing aid use may provide benefits beyond amplification alone. Moreover, the relationship between THI reduction and speech-in-noise improvement—but not pure-tone thresholds—indicates that tinnitus-related improvement is more closely linked to functional listening performance than to audibility. Therefore, the clinical evaluation of hearing aid benefit in patients with tinnitus should include tinnitus-specific questionnaires and speech-in-noise testing in addition to conventional pure-tone audiometry.

KEYWORDS

hearing aid, tinnitus, speech-in-noise test

OP-020

CORGEE: Automatic And Objective Assessment Of Speech Intelligibility And Hearing Device Benefit In Pediatric Hearing Aid And Cochlear Implant Users

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BACKGROUND & AIM

Assessments of speech intelligibility provide clinically meaningful information on how children perceive and process speech in everyday listening environments and are essential for evaluating functional hearing and aided benefit. However, current methods such as speech audiometry have important limitations in vulnerable populations, particularly young children, when behavioral testing is unreliable or infeasible. Neural Speech Tracking (NST), derived from EEG responses to continuous natural speech, is a promising biomarker of auditory speech processing, quantified as alignment between cortical responses and the speech envelope. CORGEE translates NST into clinically usable software enabling real-time EEG acquisition and visualization during natural speech presentation contexts.

MATERIAL & METHODS

To date, however, NST has not been translated into a clinically usable device. CORGEE addresses this unmet need by implementing NST methodology in clinical software.

We conducted a multicenter clinical trial including 99 pediatric participants with hearing impairment (age range: 0;07 – 12;04 years), consisting of hearing aid users (N = 88) and a subgroup of cochlear implant users (N = 11). CORGEE was used to present continuous natural speech (an age-appropriate animated movie) at different stimulus intensities while simultaneously recording and processing EEG signals to derive NST outcomes in real time. Behavioral speech intelligibility scores were using standardized speech-in-quiet audiometry and compared with NST outcomes.

RESULTS

Results from both hearing aid and cochlear implant users demonstrate that CORGEE can reliably obtain NST measures in a clinical context. NST increased with increasing stimulus intensity, indicating sensitivity to speech audibility. Moreover, stronger NST was associated with higher behavioral speech intelligibility scores. In hearing aid users, CORGEE captured aided benefit objectively, with NST differences between aided and unaided conditions most pronounced at lower stimulus intensities.

CONCLUSIONS

These findings provide clinical evidence that NST, as implemented in CORGEE, reflects auditory access to speech and relates to speech intelligibility in children with hearing impairment. CORGEE may therefore serve as a feasible and clinically relevant complementary tool to behavioral speech audiometry, particularly for hard-to-test children, and may support outcome evaluation, counseling, and hearing device fitting during early auditory development.

KEYWORDS

Cochlear implant EEG based fitting - speech intelligibility

OP-021

Postmenopausal Hormone Therapy And Risk Of Hearing Loss: A Systematic Review

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BACKGROUND & AIM

Age-related hearing loss is common among older women and is associated with reduced quality of life, social isolation, and cognitive decline. Experimental and epidemiologic data suggest estrogen may influence auditory function, yet studies evaluating menopausal hormone replacement therapy (HRT) and hearing outcomes have reported inconsistent findings. We conducted a systematic review to synthesize the evidence and assess study quality.

MATERIAL & METHODS

EMBASE, MEDLINE, and the Cochrane Central Register of Controlled Trials were searched from inception to January 17, 2026 for studies examining hearing outcomes in postmenopausal women using HRT. Eligible designs included randomized controlled trials, cohort, cross-sectional, and case-control studies. Two reviewers independently screened studies, extracted data, and assessed risk of bias using the Newcastle-Ottawa Scale.

RESULTS

Eleven studies comprising 267,826 participants met inclusion criteria, including three prospective cohorts, seven cross-sectional studies, and one randomized controlled trial. Definitions of HRT exposure and hearing loss varied. Two large prospective cohorts reported a modestly increased risk of sensorineural hearing loss among HRT users, including a 25% higher risk in the largest cohort. One study observed a duration gradient, and another variation by age at natural menopause. Smaller audiometry-based studies reported better hearing thresholds among HRT users, particularly with estrogen-only regimens, whereas others found no association. Study quality was mixed.

CONCLUSIONS

The current evidence does not support hormone therapy for preventing hearing loss. While some smaller audiometry-based studies suggest a protective effect of estrogen-only therapy on age-related auditory decline, large cohort data indicate modest increase in hearing loss among users, with neutral or adverse effects in combined regimens. These inconsistencies are explained by heterogeneity in exposure and outcome definitions, study design differences, and residual confounding. Further robust prospective longitudinal studies using measures such as pure-tone audiometry and structured questionnaires in HRT users versus non-users are required before firm conclusions can be drawn.

KEYWORDS

Menopause; hormone replacement therapy; hearing loss; estrogen.

OP-022

The Relationship Between Speech-In-Noise Performance And Cognitive Functions In Normal-Hearing Adults

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BACKGROUND & AIM

Speech perception in noise depends on both auditory and cognitive processes. The aim of this study was to evaluate the speech-in-noise performance of normal-hearing adults using the Turkish Matrix Sentence Test and to investigate its relationship with global cognitive status, attention, and digit span performance.

MATERIAL & METHODS

Speech-in-noise thresholds were measured using the Turkish Matrix Sentence Test, comparing initial trial results with final Speech Reception Threshold (SRT) scores. Cognitive functions were assessed using the Mini-Mental State Examination (MMSE), and verbal working memory was evaluated with the Digit Span Test. Data were analyzed using Wilcoxon signed-rank and Pearson correlation tests.

RESULTS

The study included a cohort of normal-hearing adults with a mean age of 33.08 ± 11.49 years (range: 23.41–60.27). The median Matrix SRT scores was -7.4 dB SNR, which was significantly lower than Matrix trial score ($p < 0.001$). A strong positive correlation was found between the Matrix trial and Matrix SRT scores ($r=0.8018$, $p<0.001$). No statistically significant correlation was found between Digit Span scores and Matrix test results ($p > 0.05$). However, Matrix SRT scores showed a significant correlation with MMSE attention sub-scores and MMSE total scores ($p < 0.05$). Other cognitive sub-domains did not show significant associations with speech-in-noise performance.

CONCLUSIONS

Our findings suggest that speech-in-noise performance in normal-hearing adults is more closely associated with global cognitive status and attention than with digit span capacity. The strong correlation between trial and final SRT scores highlights the reliability of the test protocol. Furthermore, the implementation of an initial trial phase in the Matrix Sentence Test is essential to ensure measurement accuracy and to account for the procedural learning effect, even in normal-hearing populations

KEYWORDS
speech perception in noise, Normal hearing, congnitive functions,Matrix Sentence Test

OP-023

Exploratory Patient-Reported Burden Of Speech-In-Noise Deficit In Type 2 Diabetes From The Observational DIAMANT Study: Lived Experience And Psychosocial Impact

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BACKGROUND & AIM

Peripheral auditory neuropathy is associated with disproportionate speech-in-noise difficulties despite near-normal audiometry. In patients with type 2 diabetes (T2D), its early manifestations often remain undiagnosed, overshadowed by competing comorbidities and neglected due to low clinical awareness. In the DIAMANT study, ~26% of participants with normal cognition demonstrated a speech-in-noise deficit despite normal standard audiogram (SIN-D), sometimes referred to as hidden hearing loss, highlighting the need to understand what these findings mean for patients in real life. This study aimed to characterize the functional, psychological, and social burden associated with SIN-D and explore patient understanding, care pathways, and expectations.

MATERIAL & METHODS

Nine adults (5 women, 4 men; ages 50-80 years) with uncontrolled T2D with normal cognition and SIN-D determined with Framatrix, previously enrolled in the DIAMANT study, were invited to a follow-up exploratory investigation. A market research-style qualitative methodology was implemented and conducted by an independent interviewer not involved in clinical assessments. Participants represented varied socio-professional backgrounds: working adults, individuals on sick leave / disability or retired persons. Each completed a structured pre-interview diary designed to promote reflection on symptom history, emotional reactions, daily difficulties, and expectations. This was followed by an in-depth ~90-minute ethnographic interview exploring symptom interpretation, perceived impact, social functioning, and interactions with healthcare professionals. A thematic analysis was applied to identify recurrent patterns and patient-reported burden dimensions.

RESULTS

Symptoms developed progressively and remained undiagnosed until DIAMANT for all participants. Most believed hearing difficulties were age-related and not linked to diabetes; a connection rarely raised by their clinicians. The central disabling complaint was speech-in-noise comprehension difficulty, frequently accompanied by listening effort and cognitive fatigue; hyperacusis and/or tinnitus added discomfort for some.

Participants described recurring daily challenges: understanding speech in restaurants, family meals, group discussions, following conversations in noisy work environments, maintaining exchanges in cars, and difficulties with soft voices, fast talkers, or overlapping speakers.

The psychological burden was substantial (embarrassment/shame, anxiety, frustration, anger, sadness, loss of confidence, feeling ill at ease). Social effects included self-exclusion, avoidance of noisy environments, isolation in multi-talker settings, reduced participation in family/community events, and, among working participants, adaptations such as teleworking or avoiding cafeteria lunches. Some felt dismissed by clinicians, while others remained in partial or complete denial, attributing difficulties to concentration or fatigue.

CONCLUSIONS

This study highlights a major psychological and social burden linked to early peripheral auditory neuropathy in type 2 diabetes, as well as significant gaps in diagnostic recognition and patient-clinician communication. Patients expressed strong expectations for symptom recognition, clearer explanations, and therapeutic options beyond hearing aids, including interest in locally administered treatments. These findings support integrating patient-centered functional endpoints and targeted Patient-reported-outcome instruments in future trials. However, the small sample size limits generalizability, and larger, more robust studies are required to confirm and extend these insights.

KEYWORDS

Hidden Hearing Loss, Diabetes type 2, Speech-in-noise deficit, quality of life, psychosocial impact, emotional burden, patient experience

OP-024

Insights Into Economic, Social, And Workplace Outcomes In Hearing Device Users

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BACKGROUND & AIM

Hearing impairment impairs communication, affecting social participation and relationships and workplace productivity, all essential to the well-being of adults. This study aims to determine whether social participation; interpersonal relationship

functioning; and work functioning and performance differ among adult hearing aid, cochlear implant (CI), and bimodal device users. Further, the cost effectiveness of bimodal device use versus unilateral and bilateral CI use was also determined using the same study dataset.

MATERIAL & METHODS

Cross-sectional data were drawn from the Hearing Impairment in Adults: A Longitudinal Outcomes Study (conducted during 2022-2024), which recruited 745 adults aged ≥40 years old using hearing devices from hearing centres across Australia and social media platforms. Primary outcomes included Work performance and engagement; Social Participation Restriction and Interpersonal Relationship Functioning scores. A Markov state-transition model was used to estimate costs and quality-adjusted life years (QALYs) over a lifetime horizon from the Australian healthcare system perspective.

RESULTS

After multivariate adjustment, total work performance scores were significantly higher (indicating a better outcome) among CI (2.26) and bimodal users (2.31) than hearing aid users (2.08, $p < 0.05$). Similarly, mean Utrecht Work Engagement Scale scores were higher (better outcome) in CI (4.16) and bimodal users (4.50) than hearing aid users (3.97, $p < 0.05$). Bimodal users also showed significantly higher mean Social Participation restriction scores than hearing aid users (90.0 vs. 78.3; p=0.01), and higher mean social perception scores (49.9 versus 42.3; p=0.003); differences became non-significant after adjusting for self-reported hearing performance. Bimodal users reported lower mean Interpersonal Relationship Functioning scores than hearing aid users (1.98 versus 2.25, P=0.04). Compared with unilateral CI use, bimodal device usage yielded an incremental cost of $5,032 and a QALY gain of 0.15, resulting in an ICER of $34,753 per QALY. Bimodal device usage was cost-saving versus unilateral CI use.

CONCLUSIONS

These findings suggest that bimodal device use confers meaningful vocational advantages, with higher work performance and engagement than hearing aids alone, indicating enhanced functional hearing translates into productivity gains. Although bimodal users reported greater social participation restrictions and poorer interpersonal functioning, these differences were attenuated after accounting for hearing performance, underscoring the central role of auditory capacity in social outcomes. Importantly, bimodal devices demonstrated favourable economic value, with an ICER of $34,753 per QALY versus unilateral cochlear implants and cost savings relative to bilateral implants, supporting bimodal fitting as a clinically effective and economically efficient rehabilitation strategy.

KEYWORDS

Social Participation, Relationship, Cochlear Implants, Hearing aids, Hearing loss; Work engagement, Individual work performance, Economic evaluation

OP-025

Retrospective Comparison Of The Efficacy Of Systemic Steroid With Combined Intratympanic Steroid Injection In The Treatment Of Idiopathic Sudden Sensorineural Hearing Loss

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BACKGROUND & AIM

We aimed to retrospectively compare the audiological recovery results of patients receiving only systemic steroid therapy versus those receiving systemic steroid therapy combined with intratympanic injection for the treatment of idiopathic sudden sensorineural hearing loss (ISSNHL).

MATERIAL & METHODS

The study was conducted with a total of 80 patients who presented to the Otorhinolaryngology Clinic of Sancaktepe Şehit Prof. Dr. İlhan Varank Training and Research Hospital between April 2023 and April 2026 with a diagnosis of ISSNHL. Patients aged 18 and over who presented with sensorineural hearing loss of 30 dB or more in at least 3 consecutive frequencies that developed within less than 3 days were included in the study. Conversely, patients with bilateral hearing loss, a history of Meniere's disease, or a history of acoustic trauma were excluded from the study. Patients were divided into two groups, each consisting of 40 patients: those receiving only systemic steroid therapy (Group 1) and those receiving 3 doses of intratympanic injection in addition to systemic steroid therapy (Group 2). Treatment success was evaluated using Siegel's Criteria.

RESULTS

A homogeneous distribution was observed among the groups in terms of age, gender, and comorbidities. When comparing treatment outcomes, it was determined that hearing recovery rates were statistically significantly higher in the group receiving intratympanic injection in addition to systemic steroid therapy (Group 2) compared to the group receiving only systemic therapy (Group 1) according to Siegel's Criteria ($p<0.05$).

CONCLUSIONS

It was observed that intratympanic injection combined with systemic steroid in the treatment of ISSNHL is statistically significantly more effective on hearing recovery compared to systemic steroid therapy alone. These data support the role of

combined therapy in routine clinical practice and emphasize the importance of intratympanic injection in optimizing treatment protocols.

KEYWORDS

Sudden hearing loss, systemic steroid, intratympanic injection, audiometry, Siegel's Criteria.

OP-026

Computational Audiology In Hearing Healthcare

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BACKGROUND & AIM

Advances in digital technologies, artificial intelligence, and data-driven healthcare have significantly transformed diagnostic and rehabilitative practices across medical disciplines, including audiology.

Computational audiology has emerged as a response to this transformation, integrating information technologies with traditional audiological assessment and intervention methods. This interdisciplinary field enables more precise diagnostics, personalized rehabilitation strategies, and scalable healthcare solutions.

The aim of this presentation is to define computational audiology within its historical and technological context, to illustrate its evolution from analog instrumentation to intelligent, data-driven systems, and to explore its current and potential impact on healthcare technologies.

MATERIAL & METHODS

This work is based on a conceptual and descriptive methodology. The material consists of a structured review of published scientific literature, industry reports, and historical documentation related to audiological instrumentation, digital signal processing, tele-audiology, and artificial intelligence applications in hearing healthcare.

In addition, illustrative examples from existing clinical technologies—such as smart hearing aids, automated fitting systems, remote monitoring platforms, and calibration methodologies—are used to demonstrate real-world applications of computational audiology. No original experimental data, human participants, or patient-specific information were included in this work.

RESULTS

The analysis demonstrates that computational audiology has played a critical role in enhancing diagnostic accuracy, clinical efficiency, and accessibility in hearing healthcare. Key developments include the transition to digital audiometric systems, the use of machine learning algorithms for hearing aid fitting and outcome prediction, and the implementation of tele-audiology platforms for remote assessment and follow-up.

These developments have enabled personalized hearing solutions, improved device calibration processes, and expanded access to audiological services, particularly for underserved populations. Furthermore, computational tools have supported clinicians in decision-making processes by providing data-driven insights and standardized evaluation methods.

CONCLUSIONS

Computational audiology represents a fundamental shift in the practice of audiology, moving the field toward a more data-driven, technology-integrated, and patient-centered healthcare model. Rather than replacing clinical expertise, computational approaches enhance the clinician’s ability to deliver accurate, efficient, and personalized care.

As healthcare technologies continue to evolve, the integration of computational audiology into education, clinical practice, and industry standards will become increasingly essential. Future efforts should focus on interdisciplinary collaboration, ethical use of data, and the development of standardized frameworks to ensure sustainable and equitable implementation of these technologies in audiological care.

KEYWORDS

Computational Audiology,Digital Health Technologies,Artificial Intelligence in Audiology,Hearing Aid Technologies,Audiological Instrumentation and Calibration,Data-Driven Healthcare

OP-027

Efficacy Of Personalized Mobile Music Therapy (Tinnimizer®) In Chronic Tinnitus Management And Clinical Predictors Of Treatment Outcomes

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BACKGROUND & AIM

Chronic subjective tinnitus affects approximately 10–15% of the global adult population and is frequently associated with psychological distress and impaired quality of life. This study aims to evaluate the efficacy of Tinnimizer®, a personalized mobile application grounded in Tinnitus Retraining Therapy (TRT) principles, and to identify clinical and demographic predictors of therapeutic response.

MATERIAL & METHODS

The study followed a quasi-experimental design involving 60 participants (mean age: 56.25 ± 14.33 years) with chronic tinnitus. The intervention utilized a "mixing point" calibration protocol across seven standard frequencies to generate patient-specific therapeutic noise. Participants listened to a mix of this personalized noise and their preferred music (via YouTube Music) for at least 60 minutes daily over an 8-to-12-week period. Outcomes were measured using the Tinnitus Handicap Inventory (THI) and various Visual Analog Scales (VAS) across three sessions, with data analyzed using non-parametric statistical tests.

RESULTS

Significant improvements were observed across all primary outcome measures. THI scores decreased from a baseline of 41.87±22.05 to 22.00±14.98 by the third session ($p < 0.001$), and tinnitus discomfort scores dropped from 6.87±2.07 to 3.27±1.13 ($p < 0.001$). Secondary measures, including concentration difficulty and hearing difficulty, also showed significant long-term improvements ($p < 0.001$ and $p = 0.001$, respectively). Subgroup analyses revealed that male participants, individuals with hearing loss, and those with bilateral tinnitus demonstrated higher rates of improvement in specific parameters. Furthermore, a significant negative correlation was found between tinnitus pitch and THI score changes ($\rho = -0.470$).

CONCLUSIONS

Tinnimizer® is an effective, safe, and highly accessible digital health intervention that significantly reduces the functional and psychological burden of chronic tinnitus. The findings underscore the importance of precision medicine and personalized acoustic stimulation algorithms in optimizing tinnitus treatment outcomes.

KEYWORDS

Tinnitus, mHealth, Music Therapy, Tinnimizer, Tinnitus Retraining Therapy (TRT), Precision Medicine.

OP-028

Speech-In-Noise Deficit As A Marker Of Peripheral Auditory Neuropathy In Diabetes: Epidemiological Insights And Clinical Implications

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BACKGROUND & AIM

Sensorineural hearing loss (SNHL) and speech-in-noise (SIN) deficits are increasingly reported in patients with type 2 diabetes (T2D) where chronic hyperglycemia can induce i) cochlear microangiopathy; ii) oxidative stress and mitochondrial dysfunction; iii) peripheral auditory neuropathy, including cochlear synaptopathy; and iv) systemic inflammation which may alter central auditory processing.

Because no in-vivo method allows direct visualization of the cochlear structures, assessments rely on indirect functional or electrophysiological measures, which do not fully capture real-life auditory disability.

The DIAMANT study aimed to refine auditory phenotypes in participants with uncontrolled T2D and provide insight into clinically meaningful endpoints for this high-risk population.

MATERIAL & METHODS

366 participants aged 25-70 with T2D for >2 years and HbA1c >7% were recruited in a French multicenter, cross-sectional, prospective study conducted in three diabetology centers. They underwent a comprehensive battery of auditory testing: pure-tone audiometry (0.25 to 16kHz), SIN assessment using the French Matrix (Framatrix), electrocochleography (EcochG) and a cognitive screening (Montreal Cognitive Assessment (MoCA)). Participants with conductive or asymmetrical hearing loss were excluded.

Participants were classified using the standard Pure Tone Average (PTA) (0.5-4kHz) and the Framatrix score. Hearing categories were defined as: normal hearing (NH; PTA <25dB and Framatrix <-3dB), SIN deficit (SIN-D; PTA <25dB and Framatrix ≥-3dB), and hearing loss (HL; PTA ≥25 dB). Analyses were performed on the full sample and participants with preserved cognition (MoCA ≥26).

RESULTS

Among 241 participants (57.7% women, median age 60), 45.6% were classified NH, 37.3% SIN-D, and 17% HL. Mid-frequency thresholds followed age-related ISO 7029 distribution, whereas low and high frequency thresholds were below it.

After excluding those with cognitive impairment (43.2%), 137 participants remained: NH 59.8%, SIN-D 26.3%, and HL 13.9%. Audiometry revealed significant differences between NH and HL at all frequencies. NH and SIND curves overlapped at 0.25-1kHz, but SIN-D diverged at mid-to-high frequencies (≥2 kHz) and converged with HL from 8 to 16kHz.

Framatrix scores were significantly correlated with PTA, indicating SIN performance deteriorates as pure-tone sensitivity declines, and effectively distinguishes SIN-D from NH, with a median 2 dB SNR difference.

EcochG revealed significantly reduced auditory nerve response amplitude in the SIN-D group compared to the NH group. Individually, amplitude correlated with Framatrix score and mid-to-high frequency PTA, reinforcing that those assessments can identify emerging deficits.

CONCLUSIONS

DIAMANT revealed high prevalence of SIN deficit with normal standard hearing thresholds in T2D, while hearing loss prevalence was not different from the general population. Interestingly, there was a high incidence of cognitive impairment, complicating behavioral hearing assessment. It highlights a neglected population with functional deficits that escape detection. High frequency vulnerability and reduced auditory nerve response amplitudes suggest underlying peripheral auditory neuropathy when controlled for cognition.

This underscores the need for stronger multidisciplinary collaboration, universal SIN assessment in routine practice, and continued development of markers of real-life auditory disability with longitudinal data to determine sensitivity to progression or improvement.

KEYWORDS

Hidden Hearing Loss, peripheral auditory neuropathy, Diabetes type 2, Speech-in-noise deficit test, electrophysiology, cognition, biomarker

OP-029

Assessment Of Listening Experience In University Students With Single-Sided Deafness: A Preliminary Study

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BACKGROUND & AIM

Individuals with single-sided deafness (SSD) may not benefit from the advantages of binaural hearing, which may adversely affect their listening experience in everyday communication settings. University students with SSD may be particularly vulnerable in this regard, as university life inherently exposes individuals to sustained and multifaceted listening demands within acoustically and academically challenging environments, rendering listening experiences especially demanding. Therefore, this study aimed to compare the listening experience of university students with SSD and their university student peers with normal hearing in terms of listening effort (LE) and listening-related fatigue (LRF), while also examining the relationship between these two constructs.

MATERIAL & METHODS

The present study consisted of 6 university students with SSD aged 19 to 25 years and 9 university students with normal hearing aged 18 to 24 years. LE was evaluated using the dual-task paradigm, and LRF was assessed using the Brief Version of the Vanderbilt Fatigue Scale for Adults. The Mann-Whitney U test was used to compare the groups, and the Spearman correlation coefficient was employed to examine the relationship between LE and LRF.

RESULTS

University students with SSD demonstrated statistically significantly more adverse listening experience compared to their peers with normal hearing, as reflected by significantly greater LE and LRF ($p<0.001$). A moderate positive correlation was found between LE and LRF ($r_s=0.650$, $p<0.001$).

CONCLUSIONS

Despite having normal hearing in one ear, university students with SSD may experience a significantly more challenging listening experience compared to their peers with normal hearing. These findings suggest that the impact of SSD extends beyond peripheral hearing ability and may impose a considerable burden on daily communication, particularly within the demanding acoustic environment of university life. Accordingly, audiological management should adopt a more holistic approach that considers the broader listening experience alongside conventional audiometric outcomes, ensuring that intervention options are evaluated and offered in a timely and individualized manner.

KEYWORDS

single-sided deafness, listening effort, listening-related fatigue, VFS-A

OP-030

Reversible Sensorineural Hearing Loss Linked To Chronic Allergic Rhinitis

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BACKGROUND & AIM

Sensorineural hearing loss (SNHL) is traditionally considered irreversible. We report a case suggesting a potential link between chronic allergic rhinitis and reversible SNHL, aiming to raise clinical awareness of this underrecognized association.

MATERIAL & METHODS

A 58-year-old woman with progressive bilateral SNHL and mild but persistent nasal symptoms underwent allergy testing, audiometry, and ENT evaluation. Anti-allergic treatment included intranasal corticosteroids, oral antihistamines, and a short course of systemic corticosteroids.

RESULTS

Following targeted therapy, the patient's hearing thresholds improved markedly, with normalization in one ear and significant improvement in the other. Long-term follow-up over three years confirmed sustained auditory recovery. Allergy testing supported an atopic profile.

CONCLUSIONS

This case supports the hypothesis that chronic allergic inflammation may contribute to reversible SNHL. Allergy assessment should be considered in patients with idiopathic or progressive SNHL, and targeted anti-allergic therapy may offer a non-invasive treatment option.

KEYWORDS

Sensorineural hearing loss, Chronic allergic rhinitis, Corticosteroids, Antihistamine therapy, Reversible hearing loss

OP-031

Academic Progression And Family History Influence On Noise Attitudes In Speech-Language Pathology Students

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BACKGROUND & AIM

Recreational noise exposure is a major risk factor for noise-induced hearing loss. Attitudes toward noise are associated with preventive behaviors and may be influenced by formal audiology training as well as family experience with hearing loss. However, the relative contribution of academic progression versus family background remains unclear. We hypothesized that greater academic progression in audiology coursework would be associated with more protective attitudes toward noise, independently of family history of hearing loss.

MATERIAL & METHODS

A quantitative, cross-sectional analytical study was conducted in 203 undergraduate Speech-Language Pathology students at a university setting. Academic progression (independent variable) was classified into three levels according to completed audiology courses. Attitudes toward noise were assessed using the Youth Attitudes to Noise Scale (YANS), including total score and four factor scores (outcome measures). Family history of hearing loss and hearing aid use in the family were recorded as covariates. Due to non-normal distribution, non-parametric analyses were performed (Spearman correlation, Kruskal–Wallis with Holm adjustment, and Wilcoxon test). Effect sizes (r) were calculated. Simple and multivariable linear regression models were used to assess independent associations.

RESULTS

Academic progression showed a weak but statistically significant negative correlation with total YANS score ($\rho = -0.140$; $p = 0.046$). Significant differences were observed in Factor 2 across progression levels ($\chi^2 = 6.22$; $p = 0.045$). Multivariable regression confirmed an independent association between academic progression and total YANS score ($\beta = -0.128$; $p = 0.034$), although with low explanatory power (adjusted $R^2 = 0.009$). No significant differences were found according to family history of hearing loss or hearing aid use ($p > 0.05$; $|r| \leq 0.13$).

CONCLUSIONS

Greater academic progression in audiology is independently associated with more protective attitudes toward noise. Family background did not significantly influence attitudes. Although statistically significant, the effect size was small, suggesting that additional factors may contribute to shaping preventive attitudes toward recreational noise exposure.

KEYWORDS

Academic progression, Noise attitudes, Youth Attitudes to Noise Scale, Hearing loss prevention, Recreational noise exposure, Audiology education, Speech-Language Pathology students

OP-032

Association Of Radiological Disease Extent With Audiological And Functional Outcomes In Otosclerosis: Preliminary Findings

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BACKGROUND & AIM

Otosclerosis is a progressive otodystrophy affecting the bony otic capsule, where cochlear involvement can lead to mixed or sensorineural hearing loss. This study investigated the relationship between radiological disease extent, audiological thresholds, and functional hearing performance. We hypothesized that a greater radiological disease burden would correlate with poorer hearing thresholds and reduced functional hearing.

MATERIAL & METHODS

This preliminary cross-sectional analysis included 20 ears from 13 adult patients with otosclerosis. Audiological assessment provided air-conduction and bone-conduction pure-tone averages (AC-PTA, BC-PTA), and the air-bone gap (ABG). High-resolution computed tomography (HRCT) images of the temporal bone were evaluated by an otorhinolaryngologist and categorized according to the Veillon classification and lesion extent stage (0–3). Functional hearing was quantified using the Turkish Speech, Spatial and Qualities of Hearing Scale (SSQ). Data were analyzed using Spearman's correlation, Mann–Whitney U, and Fisher's exact tests.

RESULTS

The cohort comprised 15 fenestral and 5 mixed otosclerosis ears. Lesion extent was classified as Stage 1 (n=12), Stage 2 (n=3), and Stage 3 (n=5). Median AC-PTA, BC-PTA, and ABG were 55.0 dB HL, 24.0 dB HL, and 22.0 dB, respectively. The median SSQ total score was 218.5. Moderate positive correlations between lesion stage and both AC-PTA and BC-PTA trended toward statistical significance (ρ=0.425, p=0.062; and ρ=0.434, p=0.056, respectively). No significant correlation was observed with the ABG (ρ=0.056, p=0.830). Advanced lesion stages were significantly associated with lower SSQ speech and total scores in ear-level analyses (ρ=-0.490, p=0.028; and ρ=-0.478, p=0.033). However, these specific associations lost statistical significance in patient-level sensitivity analyses (all p>0.10).

CONCLUSIONS

Preliminary findings suggest that increasing radiological disease extent in otosclerosis trends with deteriorating bone-conduction thresholds and diminished functional hearing, without a clear impact on the air-bone gap. Confirmation in larger cohorts utilizing mixed-effects modeling is warranted to robustly validate these patient-level associations.

KEYWORDS

Otosclerosis; High-resolution computed tomography; Pure-tone audiometry; Audiological outcomes; Functional hearing

OP-033

Cochlear And Vestibulary Fuctions After Cardiopulmonary Bypass

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BACKGROUND & AIM

Senseurineural hearing loss (SNHL) can be driven by genetic, degenarative, infectious causes; however microvascular ischemia remains a critical acquired etiology due to the end-arterial blood supply of the inner ear. It has been reported with variable incidences in patients undergoing coronary artery bypass surgery (CABG) according to previous studies. With greater amount of hemodynamic stress, senseurineural hearing loss can potentially occur due to cochlear hypoperfusion and microembolisms. The objective of this preliminary study is to evaluate the potential association and clinical correlation of vestibular and cochlear impairment in patients undergoing CABG.

MATERIAL & METHODS

This preliminary study is conducted on 20 patients (16 male, 4 female) undergoing CABG with extracorporeal circulation in a single tertiary institution. Odiologic and vestibulary assesments has made preoperatively and postoperatively (until 1 month) with pure tone audiometry, otoacoustic emissions (TEOAE and DPOAE) and vestibulary head impulse test (VHIT). Pure tone measurements evaluated for 250,500,1000,2000, 4000 Hz frequencies. Vestibular system complaints and tinnitus evaluated using the Visual Analogue Scale (VAS) and the Tinnitus Handicap Index. Cardiopulmonary bypass surgery, cross-clamp and cardioplegia times, degree of hypothermia have been recorded.

RESULTS

Comparing pre- and post-operative pure tone average and otoaccoustic emissions, we did not find any statistically significant difference (p>0.05). Two patients has reported with tinnitus: one had newly onset after surgery, the other patient reported increase of ongoing complaints. None of the patients in the postoperative period reported hearing loss or dizziness. There was no significant difference between cross-clamp time, cardiopulmonary bypass time, hypothermia degree and any of the odiologic and vestibulary assesments.

CONCLUSIONS

Although there is no objective evidence of SNHL, the presence of tinnitus in two patients raised suspicions of cochlear involvement and suggested that this pilot study should be evaluated on a larger scale. Some studies stated that increasing the duration of the patient's stay on the cardiopulmonary bypass pump, aortic cross-clamping can affect the occurrence of hearing

loss; also significant decline in hearing thresholds predominantly observed at frequencies of 1000 Hz and above. The results of our study has not shown any objective differences; however, studies conducted on larger cohorts may provide further insight into subclinical manifestations.

KEYWORDS

senseurineural hearing loss, otoacoustic emissions, vestibulary head impulse test, tinnitus

OP-034

"Migraine-Associated Ageotropic HC-BPPV Represents A Hyperexcitable Vestibular Phenotype Rather Than Purely Mechanical Pathology."

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BACKGROUND & AIM

Benign paroxysmal positional vertigo is the most common peripheral vestibular disorder. Horizontal canal BPPV accounts for 5–30% of cases. The ageotropic variant is typically attributed to cupulolithiasis, producing persistent direction-changing horizontal nystagmus. Compared to canalithiasis, it often produces: Stronger vertigo, marked nausea/vomiting, and therapeutic resistance. Migraine is increasingly recognized as a modulator of vestibular excitability, including in Vestibular migraine. However, the relationship between migraine and ageotropic HC-BPPV remains poorly characterized.

The Aim: To study the correlation betweeen migraine and Cupulolithiasis of Horizontat Semi Circular Canal.

MATERIAL & METHODS

Study Design: Retrospective single-center observational study (2020–2025). Inclusion Criteria: Clinical diagnosis of ageotropic horizontal canal BPPV, Positive supine roll test, No central lesion on MRI when performed. Exclusion Criteria: Central positional nystagmus, Demyelinating disease (e.g., Multiple sclerosis), Cerebellar stroke, Drug-induced nystagmus. Variables Collected: Age / Sex, Migraine diagnosis (ICHD-3), Presence of vomiting, Number of repositioning maneuvers required, Recurrence rate, Definition of Resistance: Persistence after ≥2 standardized repositioning maneuvers (Gufoni/Barbecue roll).

RESULTS

Results: Out of 50 patients: 30 (60%) migraine-associated, 30 (60%) severe vomiting, 20 (40%) required ≥3 repositioning sessions, MRI normal in all tested cases, No COVID correlation

CONCLUSIONS

Migraine-associated ageotropic HC-BPPV appears to represent a distinct clinical phenotype characterized by heightened autonomic response and increased resistance to repositioning maneuvers. Central sensitization and vestibulo-autonomic amplification may contribute to this presentation.

KEYWORDS

Vertigo, Vestibular migraine, Dizziness, Migraine, Vomitting, Ageotropic nystagmus, Horizontal SCC cupulolithiasis, repositioning maneuvers, central sensetization, Vestibulo-autonomic amplification.

OP-035

Effects Of Different Signal To Noise Ratios On Speech Discrimination And Amplitude-Latency Of The P1-N1-P2 Complex In Adult Cochlear Implant Users

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BACKGROUND & AIM

The aim of this study is to compare the hearing performance of adult cochlear implant users in quiet and noisy environments by auditory cortical responses. Also, we aintended to detect the level of noise affecting the users.

MATERIAL & METHODS

20 subjects who have profound hearing loss in postlingual process, included in the study. Subjects were evaluated for the P1-N1-P2 complex in 3 listening situations. The phonemes of /m/, /t/, /g/ were presented first at 75dBSPL in silent environment, then with the same intensity with 75dBSPL cocktail party noise (SNR=0dB), and finally at the same intensity with 65dBSPL cocktail noise (SNR=+10dB) with appropriate loudspeaker. Speech discrimination ability was evaluated in quiet, SNR:+10dB, SNR:0dB situations. All condition was compared to each other.

RESULTS

All of the phonemes of /m/, /t/ and /g/ in silent environment with the condition of SNR=+10dB and SNR=0dB, negative correlation was observed between wave morphology and amplitudes ($p<0.001$). It was observed that the speech discrimination skill of the subjects deteriorated significantly with the increase in noise ($p<0,05$).

CONCLUSIONS

It will be beneficial to use noise canceling algorithms and arrange the environment in order to prevent the negative effects of CI users' speech understanding and cortical processes in noise.

KEYWORDS

Cochlear Implant, Auditory Cortical Responses, P1-N1-P2 Complex, Signal to Noise Ratio, Speech in noise

OP-036

Use Of Artificial Intelligence Chatbots In Tinnitus Management: A Scoping Review Of Current Literature

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BACKGROUND & AIM

The increasing use of artificial intelligence (AI)-based chatbots in healthcare necessitates careful evaluation, particularly in terms of the quality and reliability of information provided in tinnitus management. In this study, it was hypothesized that AI-based chatbots provide highly accurate and clinically useful information for tinnitus management. The aim of this scoping review is to comprehensively examine the potential, limitations, and clinical applicability of AI chatbot use in tinnitus management in light of the current literature.

MATERIAL & METHODS

This study was designed as a scoping review. A literature search was conducted in PubMed, Scopus, Web of Science, and Google Scholar databases for studies published between 2010 and 2026 using the keywords “tinnitus management,” “AI chatbot,” and “AI healthcare.” Original research articles and studies evaluating AI chatbots with full texts available in English or Turkish were included. Review articles and studies involving AI applications other than chatbots were excluded. The included studies were summarized using a descriptive approach and evaluated through narrative synthesis.

RESULTS

A total of five original studies meeting the inclusion criteria were included in the evaluation. Most studies reported that ChatGPT demonstrated high levels of accuracy, relevance, and clarity in responses related to tinnitus. ChatGPT-4 exhibited more consistent performance overall, whereas ChatGPT-3.5 was reported to occasionally generate misleading or incomplete information. In comparative analyses, ChatGPT, Gemini, and Perplexity emerged as leading models in terms of accuracy; however, no significant differences were identified regarding overall information quality and reliability. Reliability rankings varied across studies. Additionally, GPT Creator-based chatbots were found to be user-friendly, although the need for personalization persists.

CONCLUSIONS

AI chatbots hold considerable potential to complement conventional patient education by providing accessible and patient-centered information in tinnitus management. Nevertheless, the limited number of available studies, methodological heterogeneity, and the absence of standardized evaluation frameworks constrain the generalizability of current findings. Further large-scale studies employing standardized methodologies are warranted to support clinical integration.

KEYWORDS

AI chatbot, tinnitus, tinnitus management, AI healthcare

OP-037

The Importance Of Validity And Cultural Compatibility In Subjective Measures

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BACKGROUND & AIM

In tinnitus management, subjective measures are used to quantify severity, effect on QoL and progression. The tinnitus handicap inventory (THI), covers a variety of tinnitus related functional domains whilst simultaneously focusing on the psychological aspects of tinnitus.

It is currently available in standard Arabic formats. It was translated and validated on a population in Lebanon. Cultural compatibility is important when using a questionnaire as cross-cultural differences may impact responses.

The aim of this study was to assess the validity and cultural compatibility of the Arabic THI on a saudi population and discuss results in relation to other widely used subjective measures

MATERIAL & METHODS

161 Arabic individuals permanently residing in Saudi Arabia with tinnitus filled out the Arabic THI questionnaire and a short field study questionnaire designed to assess the cultural appropriateness of the questionnaire.

RESULTS

Preliminary results found the questionnaire to be clear and culturally acceptable. The total scale had high internal consistency (alpha of 0.90), consistent with other reported values in the literature. The catastrophic subscale exhibited the weakest internal validity with alpha 0.64. The study finds some items to have poor correlation with the scale as a whole in our population which may warrant revision and possible ommission of these items. Handicap was significantly greater in the hearing impaired subjects

CONCLUSIONS

The THI is a valid and culturally compatible tool for the Saudi population

KEYWORDS

Tinnitus handicap index, questionnaire validation, cultural compatibility, tinnitus

OP-038

Newborn Hearing Screenings: Evaluation Of Eleven-Year Follow-Up Data From Our Reference Center Hospital

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BACKGROUND & AIM

Newborn hearing screenings standardized nationwide Turkey in 2008. Until 2019, screening was performed using otoacoustic emissions (OAE) for healthy infants and auditory brainstem response (ABR) for at-risk groups. Since 2019, following an announcement by the Ministry of Health, screening has been standardized using the ABR method. Infants who fail the initial screening test are re-evaluated, while those who fail twice or have risk factors undergo a clinical ABR hearing assessment. Infants diagnosed with hearing loss are placed in an auditory rehabilitation program early on, aiming to bring their speech and language development to the level of their peers.

MATERIAL & METHODS

Following local ethics committee approval, a review of the files of infants who underwent newborn hearing screening tests at our clinic between January 2015 and December 2025 was conducted. The patients' birth methods, gestational age (prematurity), birth weight, history of intensive care unit admission, external auditory canal atresia, history of meningitis, neonatal jaundice, family history of hearing loss, febrile illness, and risk factors such as Down syndrome were evaluated to determine the appropriate screening test method (otoacoustic emission or screening ABR).

RESULTS

In this study, 22,697 patients were screened, and a total of 5,044 (22.22%) infants failed the hearing screening tests. Of these 5,044 infants, only 582 (11.5%) failed the second screening test and were referred for clinical ABR testing. Of these 582 infants, 365 (62.7%) were evaluated with OAE and 217 (37.3%) with automated ABR. The vast majority of infants who failed the test did not have any risk factors, with hyperbilirubinemia (3.9%) being the most common risk factor.

CONCLUSIONS

Newborn hearing screenings have been conducted for many years in almost all regions of the world, especially in developed countries. In our country, these examinations, both OAE and ABR, have been successfully carried out for many years, and babies with hearing loss are diagnosed from birth, receiving early auditory rehabilitation to enable them to catch up with their peers in terms of language and speech skills and neurodevelopment.

KEYWORDS

hearing loss, newborn hearing screening, otoacoustic emissions, otoacoustic emissions, hyperbilirubinemia, auditory rehabilitation

OP-039

Behavioral Audiometric Methods In Children: Principles, Developmental Contexts, And Clinical Applications

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BACKGROUND & AIM

Behavioral audiometric methods (BAM) are considered the gold standard for assessing auditory perception in the youngest children. Behavioral observations guide key clinical decisions and subsequent therapeutic or rehabilitative steps. At our clinic, we have performed BAM, including VRA, for more than ten years, enabling reliable assessment even in children for whom objective methods alone are insufficient. Combining objective audiometry with BAM has proven highly effective in diagnosing and managing early hearing impairment.

The aim is to show how behavioral audiometric methods integrate into the care of diverse pediatric diagnostic groups and to highlight opportunities for standardizing the procedure.

MATERIAL & METHODS

This retrospective observational study analyzed 534 children examined in 2024 at a specialized pediatric audiology center. We evaluated the outcomes of behavioral audiometric methods—Behavioral Observation Audiometry (BOA), Visual Reinforcement Audiometry (VRA), and Conditioned Play Audiometry (CPA)—in relation to age, diagnosis, test success rate, and data quality.

The analysis focused on how developmentally appropriate each method was and how useful it proved in clinical practice. We also assessed result validity and test feasibility across diagnostic groups to determine the overall effectiveness of behavioral audiometry in routine pediatric hearing assessment.

RESULTS

Valid behavioral audiometric outcomes were obtained in 94.2% of the 534 assessed children. BOA proved most effective in infants under 6 months, while VRA showed the highest success rate between 6–36 months. CPA was reliably performed mainly in children above 2.5–3 years, with delayed transition observed in children with developmental disorders. Across diagnostic groups, including children with neurodevelopmental conditions and combined impairments, BAM consistently provided usable thresholds. Using behavioral and objective tests together increased diagnostic confidence, especially in borderline or unclear cases.

CONCLUSIONS

Behavioral audiometric methods represent an effective, developmentally sensitive approach for evaluating hearing in infants and young children, including those with neurodevelopmental or combined disorders. Their high success rate and strong data validity make them essential for clinical decision-making, especially when objective methods alone are insufficient. Integrating BOA, VRA and CPA into routine assessment enhances diagnostic accuracy and supports timely intervention.

KEYWORDS

behavioral audiometry; BOA; VRA; CPA; pediatric hearing assessment; developmental disorders; clinical audiology

OP-040

Tone Deaf By Design: Reporting Standards For Hearing Loss Conceal Crucial High Frequency Performance Gaps.

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BACKGROUND & AIM

Current American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS) guidelines assess ossiculoplasty outcomes using the four-frequency pure-tone average air–bone gap (PTA-ABG) across 500–3000 Hz. However, this metric excludes higher frequencies that are important for speech understanding and everyday communication. This study evaluated high-frequency hearing outcomes after ossiculoplasty in ears achieving excellent conventional results.

MATERIAL & METHODS

A retrospective multicenter analysis was performed using a six-institution ossiculoplasty outcomes registry. Ears reconstructed with a synthetic partial or total ossicular replacement prosthesis (PORP/TORP) and achieving a postoperative PTA-ABG ≤15 dB were included. Air–bone gaps (ABGs) and air-conduction (AC) thresholds were analyzed from 500–8000 Hz. Primary outcomes included postoperative ABG, ABG improvement, and AC improvement by frequency.

RESULTS

Among 1,484 PORP/TORP reconstructions, 499 ears met inclusion criteria. Mean follow-up was 34.4 ± 35.7 months. Bone-conduction thresholds remained stable postoperatively. Despite a mean postoperative PTA-ABG of 9.6 dB, ABG at 4000 Hz was significantly larger than ABGs at 500–3000 Hz and larger than the PTA-ABG (all $p<0.001$). More than half of ears (51.5%) demonstrated a postoperative 4000-Hz ABG ≥20 dB, while 26.7% had a 4000-Hz ABG ≥25 dB. Both ABG closure and AC improvement declined significantly at higher frequencies (all $p<0.001$).

CONCLUSIONS

Substantial high-frequency conductive deficits frequently persist after ossiculoplasty despite conventionally successful outcomes. Current reporting standards may therefore overestimate the completeness of hearing restoration and should consider incorporation of 4000 Hz into routine outcome assessment.

KEYWORDS

ossiculoplasty; high-frequency hearing; air–bone gap; reporting standards; speech-in-noise

OP-041

Preoperative Air–Bone Gap And Disease Duration As Predictors Of Footplate Instability In Stapes Surgery: A Retrospective Cohort Study

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BACKGROUND & AIM

Otosclerosis is a common cause of progressive conductive hearing loss, typically treated with stapes surgery. In earlier disease stages, incomplete fixation of the stapes footplate may predispose to intraoperative instability, including floating footplate or inadvertent avulsion. We hypothesized that a smaller preoperative air–bone gap (ABG) reflects earlier disease and is associated with a higher risk of intraoperative footplate instability.

MATERIAL & METHODS

A retrospective cohort study was conducted including patients undergoing stapes surgery for suspected otosclerosis between 2014 and 2025 at a tertiary referral center. Preoperative audiometric variables, particularly ABG, were analyzed. Disease duration, defined as the interval between diagnosis and surgery, was included as an additional variable. Acoustic reflex data were not consistently available and were excluded. The primary outcome was intraoperative footplate instability, defined as conversion to stapedectomy or documented floating footplate/avulsion. Comparative analyses and logistic regression models were performed. Predictive performance was assessed using receiver operating characteristic (ROC) curves.

RESULTS

A total of 182 procedures were included, of which 32 required stapedectomy. Lower preoperative ABG was associated with stapedectomy in the overall cohort (mean 34.1 vs 38.0 dB; p=0.035), although this finding was not consistent across subgroup analyses. In logistic regression, lower ABG showed a non-significant trend toward increased risk of instability (odds ratio [OR] 0.91 per dB increase; p=0.13). Disease duration was shorter in cases with instability (2.22 vs 3.81 years), without statistical significance (p=0.216). In a combined model, both variables demonstrated non-significant trends (ABG: OR 0.89, p=0.095; duration: OR 0.70, p=0.171), with improved predictive performance (area under the curve [AUC] 0.746 vs 0.635 for ABG alone).

CONCLUSIONS

Lower preoperative ABG and shorter disease duration show consistent but non-significant associations with intraoperative footplate instability. While ABG alone has limited predictive value, combining clinical variables may improve risk stratification. These findings support a multifactorial model of surgical difficulty in otosclerosis and highlight the need for more robust predictive tools.

KEYWORDS

Otosclerosis; stapes surgery; stapedotomy; stapedectomy; air–bone gap; conductive hearing loss; footplate instability; floating footplate; intraoperative complications; disease duration; predictive factors; audiometry; surgical outcomes; retrospective cohort

OP-042

Broadband Noise–Evoked Acoustic Reflex Thresholds As A Marker Of Cochlear Integrity In Individuals With Normal Audiograms

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BACKGROUND & AIM

The acoustic stapedius reflex (ASR) is an involuntary contraction of the stapedius muscle in response to moderate-to-high-intensity sound. Clinically, ASRs aid in the differential diagnosis of conductive, cochlear, retrocochlear, and facial-nerve disorders. Broadband noise (BBN) reflex thresholds are typically lower than pure-tone thresholds in normal-hearing ears by 20 dB, reflecting broad cochlear excitation and neural summation. This BBN advantage is reduced in sensorineural hearing loss, but its status in cochlear synaptopathy or hidden hearing loss with normal audiometric thresholds (250–8000 Hz) remains unclear. This study examined whether the BBN advantage is reduced in such ears.

MATERIAL & METHODS

ASR threshold was analyzed in three groups: normal controls, music students, and symptomatic participants. Thresholds were obtained using pure-tone and BBN elicitors. The primary outcome, AvgDiff, was defined as the average difference between pure-tone and BBN thresholds; positive values indicate the expected BBN advantage, whereas values near zero or negative indicate a reduced or absent advantage. AvgDiff was analyzed using a Bayesian random-intercept linear regression model. Study group was included as a categorical predictor (controls as the reference), with age and sex as covariates, and a participant-level random intercept was included to account for within-subject ear correlations.

RESULTS

The analytic sample included 133 ears from 67 participants: 30 ears from 15 normal controls, 22 ears from 11 music students, and 81 ears from 41 symptomatic participants. The Bayesian model estimated that symptomatic ears had an AvgDiff approximately 7.0 dB lower than controls after adjusting for age and sex and accounting for participant-level clustering. The 95% credible interval was entirely below zero, indicating a 99.3% posterior probability that symptomatic ears had a reduced BBN advantage. The music student group also showed a lower AvgDiff than controls, but the credible interval crossed zero, suggesting a possible reduction with greater uncertainty. The symptomatic group was also lower than that of music students, though the comparison was less certain. The strongest stimulus-specific effect was observed for 2000Diff, where the posterior probability of a negative effect was essentially 100%, indicating a pronounced reduction in BBN advantage at 2000 Hz.

CONCLUSIONS

Using a Bayesian random-intercept regression model, we found strong posterior evidence that symptomatic ears had lower AvgDiff than control ears, consistent with attenuation or loss of the normal BBN advantage. Frequency-specific analysis showed a greater reduction at 2000Diff compared with 500Diff, suggesting that comparing BBN thresholds with 2000 Hz pure-tone acoustic reflex thresholds may be particularly sensitive for detecting reduced BBN advantage. Overall, these findings provide preliminary evidence that reduced BBN acoustic reflex advantage reflects subtle, diffuse cochlear or auditory neural dysfunction not captured by conventional audiometry in individuals with normal hearing thresholds.

KEYWORDS

Acoustic Stapedius Reflex, Acoustic Reflex Threshold (ART), Broadband Noise (BBN), BBN Advantage, AvgDiff, Pure-Tone Elicitors, Hidden Hearing Loss (HHL), Cochlear Synaptopathy, Normal Hearing Thresholds, Bayesian Analysis

OP-043

Evaluation Of Postural Control During Active Symptoms In Individuals With Motion Sickness

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BACKGROUND & AIM

Motion sickness (MS) is associated with sensory conflict and may impair postural control. This study aims to evaluate the effects of rotational stimulation on postural stability using static posturography in individuals with and without MS.

MATERIAL & METHODS

This study was conducted with a total of 71 participants aged between 18 and 40 years. Thirty-five individuals diagnosed with MS according to the criteria of the Bárány Society constituted the MS group, while 36 healthy individuals formed the control group. Static posturography assessments were performed on all participants before and after rotational stimulation. Within static posturography, the Limits of Stability Test (LOS) and the Modified Clinical Test of Sensory Interaction on Balance (mCTSIB) were used. In addition, pure-tone audiometry and spontaneous nystagmus examination were conducted. Rotational stimulation was applied using a standard office chair. Participants were rotated randomly to the right and left at a rate of approximately one revolution every 3 seconds, while simultaneously being instructed to move their heads along the pitch axis (approximately 30° of flexion and extension). This protocol generated cross-coupled vestibular stimulation.

RESULTS

At baseline, no significant differences were found between groups in the LOS parameters, including reaction time, movement velocity, endpoint excursion, and maximum excursion ($p > 0.05$), whereas directional control was significantly higher in the control group ($p = 0.023$). No significant between-group differences were observed in any mCTSIB parameters at baseline ($p > 0.05$). In the post-test assessment, significant differences in favor of the control group were observed in endpoint excursion ($p = 0.008$) and directional control ($p = 0.016$) within the LOS parameters, while no significant differences were found for movement velocity or maximum excursion ($p > 0.05$). Similarly, no significant between-group differences were detected in any mCTSIB post-test parameters.

CONCLUSIONS

Cross-coupled stimulation revealed subtle impairments in specific dynamic postural control parameters in individuals with motion sickness, particularly in Limits of Stability performance, while mCTSIB outcomes remained unaffected. These findings suggest that motion sickness may selectively affect postural control mechanisms under vestibular challenge, and that LOS measures may provide complementary objective information in its evaluation.

KEYWORDS

Static Posturography, Modified Clinical Test of Sensory Interaction on Balance, Limits of Stability Test, Motion Sickness, Conventional Rotational Stimulation.

OP-044

Investigation Of Labyrinthine And Retrolabyrinthine Effects In Patients With Migraine Using Galvanic And Acoustic Stimulated VEMP: A Preliminary Study

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BACKGROUND & AIM

The pathophysiological mechanisms linking migraine and vestibular symptoms remain incompletely understood. Several hypotheses include abnormal neural connectivity, inner ear involvement, and altered central sensory processing. Vestibular abnormalities observed in migraine patients without vertigo suggest that vestibular involvement may be masked by

compensatory mechanisms. Beyond conventional peripheral assessments, reflex-based objective measurements may help reveal this hidden dysfunction. Vestibular Evoked Myogenic Potentials (VEMP) provide reliable evaluation of vestibular reflex pathways. This study aims to investigate vestibular involvement during the interictal phase of migraine and to determine the physiological level of this involvement.

MATERIAL & METHODS

Individuals aged 18–45 years diagnosed with migraine with or without aura according to the International Classification of Headache Disorders-3 (ICHD-3) criteria were recruited irrespective of vestibular complaints. Participants had normal hearing thresholds, Type A tympanograms, and no prior vestibular diagnosis. The migraine cohort was classified according to the presence or absence of vestibular symptoms, and an age- and sex-matched healthy control group was included for comparison.All participants underwent acoustic- and galvanic-stimulated cervical VEMP (cVEMP) testing during the interictal period. Latency, amplitude, and asymmetry ratios were analyzed to evaluate peripheral otolithic responses and retrolabyrinthine vestibular conduction. The Vestibular Migraine Patient Assessment Tool and Handicap Inventory (VM-PATHI) was administered to assess self-reported vestibular symptom severity.The study was designed as a cross-sectional quantitative investigation. As of January 2026, five migraine participants and six healthy controls have been evaluated, and data collection is ongoing.

RESULTS

Preliminary comparisons between migraine participants and the age- and sex-matched healthy control group demonstrated measurable responses in both acoustic- and galvanic-stimulated cVEMP recordings. Migraine participants exhibited reduced amplitudes in both acoustic- and galvanic-stimulated cVEMP responses compared to controls, accompanied by variability in asymmetry ratios. VM-PATHI scores reflected inter-individual differences in perceived vestibular symptom severity. Variability in electrophysiological findings was observed irrespective of reported vestibular complaints, suggesting the presence of subclinical vestibular involvement in migraine patients. Due to the limited sample size, statistical significance has not yet been established, and analyses are ongoing.

CONCLUSIONS

The combined use of acoustic and galvanic VEMP testing may contribute to the differentiation of labyrinthine and retrolabyrinthine vestibular mechanisms in migraine. Preliminary findings indicate the presence of vestibular alterations during the interictal phase, even in individuals without overt vestibular symptoms. Continued data collection is expected to clarify the level of vestibular involvement and to support improved diagnostic approaches and targeted rehabilitation strategies in migraine populations.

KEYWORDS

Migraine, Vestibular Evoked Myogenic Potentials, Galvanic Vestibular Stimulation, Vestibular Function

OP-045

Hearing Difficulty, Rehabilitation Gap, And Functional Impact In The Chilean Population

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BACKGROUND & AIM

Hearing loss is a growing public health concern associated with functional decline and reduced quality of life. However, the magnitude of the rehabilitation gap and its functional impact in the Chilean population have not been comprehensively described. We hypothesized that self-reported hearing difficulty would be associated with reduced functional capacity and lower psychological quality of life, and that a substantial rehabilitation gap would persist among affected individuals.

MATERIAL & METHODS

A cross-sectional study was conducted using data from the National Survey of Quality of Life and Health (ENCAVI). A total of 16,590 participants aged ≥15 years were analyzed using weighted models accounting for complex survey design. Hearing difficulty (independent variable) was defined as self-reported presence (mild, moderate, severe, or profound) versus absence. Hearing aid use and functional capacity score were assessed as outcomes. Logistic and linear regression models were performed, adjusting for age, sex, and educational level.

RESULTS

The national prevalence of hearing difficulty was 12.5% (95% confidence interval [CI] 11.7–13.3), increasing to 40.6% among individuals aged ≥75 years. Among those reporting hearing difficulty, 60.3% used hearing aids, indicating a rehabilitation gap of approximately 40%. Age was significantly associated with hearing aid use (odds ratio [OR] 1.018 per year; 95% CI 1.003–1.033; $p = 0.020$). Individuals with hearing difficulty showed greater functional impairment (mean 32.5 vs. 17.0 points; $p < 0.001$); in adjusted models, the difference remained significant (+12.6 points; $p < 0.001$). Hearing difficulty was associated with a 4.4-point reduction in psychological quality of life ($p < 0.001$), although this association lost significance after adjustment for functional capacity.

CONCLUSIONS

In Chile, hearing difficulty is associated with substantial functional impairment and reduced quality of life, alongside a significant rehabilitation gap. The psychological impact appears to be mediated by functional decline, highlighting the importance of timely auditory rehabilitation strategies.

KEYWORDS

Hearing loss, Rehabilitation gap, Hearing aid use, Functional capacity, Quality of life, Epidemiology, Population-based study, Chile

OP-046

The Effectiveness Of Central Auditory Processing Therapy In Cochlear Implant Users: A Preliminary Study

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BACKGROUND & AIM

The success of Cochlear Implant (CI) surgery is closely related to postoperative auditory rehabilitation processes. In particular, higher-level Central Auditory Processing (CAP) skills, such as distinguishing speech in noisy environments and processing complex auditory stimuli, are often deficient in CI users. This preliminary study aims to evaluate the effects of a structured auditory rehabilitation programme targeting CAP on auditory performance in adult CI users.

MATERIAL & METHODS

This preliminary study used a single-group pre-test-post-test design and included four adult cochlear implant users (two males, two females; age range 28–51). Participants underwent auditory rehabilitation (temporal processing, phoneme discrimination, recognition, and multisensory integration exercises) for a total of 26 weeks, with one session per week. Audiological assessments (hearing thresholds, SRT, SD) and CAP assessments (Frequency Tone Pattern Test, Filter Word Test, Text-to-Question Response Test) were conducted before and after the intervention.

RESULTS

In audiological assessments, a downward trend in hearing thresholds was observed in all cases during the final test (5-15 dB improvement in the 125-8000 Hz range). SRT values decreased from an average of 32.5 dB in the initial test to an average of 25 dB in the final test. In CAP assessments, scores increased in all cases. Frequency Tone Pattern Test scores averaged 13.5 in the initial test and 14.3 in the final test; scores in the Text-to-Question Response Test averaged 8.8 in the initial test and 9.8 in the final test; and scores in the Filter Word Test averaged 0.8 in the initial test and 3.3 in the final test.

CONCLUSIONS

CAP therapy may improve both audiological thresholds and central auditory processing skills in adults with CI. While the decrease in hearing thresholds and SRT values reflects improvement in peripheral hearing performance, the increase in scores on the Frequency Tone Pattern, Word-in-Sentence, and Filter Word tests indicates potential development in higher-level auditory processing skills. Although the results are promising, further studies with larger samples and control groups are needed to validate and generalise the findings. The data from this preliminary study form the basis for our ongoing comprehensive research.

KEYWORDS

Cochlear Implants; Auditory Processing Disorder, Central; Rehabilitation of Hearing Impaired;

OP-047

Smooth Pursuit Test Findings In Patients With BPPV: A Retrospective Study

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BACKGROUND & AIM

Benign paroxysmal positional vertigo (BPPV) is the most common peripheral vestibular disorder characterized by vertigo triggered by head movements. Eye movement assessment is essential for evaluation, and videonystagmography (VNG) is commonly used. The smooth pursuit test, an oculomotor component of VNG, evaluates the ability to smoothly follow a moving target. Although abnormalities are typically linked to central disorders, they may also occur in peripheral vestibular conditions. This study aims to investigate smooth pursuit parameters in BPPV patients and assess their changes following canalith repositioning maneuvers.

MATERIAL & METHODS

This retrospective study included patients aged 18 years and older who presented to the Audiology Department of Koç University Hospital between 2023 and 2025 with complaints of BPPV. Patients with additional neurological or psychiatric

disorders, as well as those outside the age criteria, were excluded. Smooth pursuit test parameters of the patients were retrospectively analyzed using videonystagmography (VNG) recordings.

RESULTS

Reduced pursuit gain values and irregular pursuit movements were observed in patients with BPPV. These alterations were found to vary according to BPPV subtypes. Following canalith repositioning maneuvers, an overall improvement trend in smooth pursuit parameters was observed; however, in some patients, the findings did not fully return to baseline levels.

CONCLUSIONS

The findings indicate that the smooth pursuit test may be affected in BPPV and that vestibular imbalance may transiently alter oculomotor control. The observed improvement after canalith repositioning maneuvers may be related to the restoration of vestibular system balance.

KEYWORDS

Benign paroxysmal positional vertigo (BPPV), Smooth pursuit eye movements, Videonystagmography (VNG), Canalith repositioning maneuvers

OP-048

P300 Latency And Speech-In-Noise Performance In Normal-Hearing Adults: A Preliminary Study

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BACKGROUND & AIM

Speech-in-noise perception relies not only on audibility but also on cortical attention, stimulus discrimination, and working memory. P300 is a cognitive auditory evoked potential that may reflect these processes. This preliminary study tested the hypothesis that poorer speech-in-noise performance would be associated with prolonged P300 latency in normal-hearing adults.

MATERIAL & METHODS

This pilot cross-sectional study included 17 adults aged 18–50 years with pure-tone averages of 25 dB hearing level or better, no neurological or psychiatric diagnosis, and no regular medication use. Speech-in-noise performance was evaluated using the Hearing in Noise Test. Adaptive testing was performed, followed by fixed signal-to-noise ratio conditions at +5, 0, and −5 dB, with speech and noise presented from 0° and fixed-test noise set at 65 dB sound pressure level. P300 responses were recorded using an Intelligent Hearing Systems Smart EP system with binaural /da/–/ba/ oddball stimuli, an 80/20 standard-to-target ratio, 40-ms stimulus duration, 1.1/s rate, and Cz–mastoid montage. P300 latency and amplitude were extracted. Friedman, Wilcoxon, and Spearman correlation analyses were used.

RESULTS

Mean P300 latency was 288 ± 56 ms, and mean P300 amplitude was 14.7 ± 7.5 µV. Hearing in Noise Test performance decreased as the listening condition became more adverse. P300 latency showed a strong negative correlation with speech-in-noise performance at 0 dB signal-to-noise ratio, indicating poorer performance with longer latency, Spearman's rho = −0.870, p = 0.002. Correlations were not significant for adaptive Hearing in Noise Test performance, rho = 0.281, p = 0.464; +5 dB signal-to-noise ratio, rho = −0.252, p = 0.513; or −5 dB signal-to-noise ratio, rho = −0.485, p = 0.186.

CONCLUSIONS

These preliminary findings suggest that P300 latency may be related to speech-in-noise performance, particularly at 0 dB signal-to-noise ratio, where auditory and cognitive demands are balanced. Larger studies with repeated P300 recordings across noise conditions are needed to confirm whether P300 can serve as an objective marker of cognitive-auditory load during speech-in-noise listening.

KEYWORDS

P300; Speech-in-noise perception; Hearing in Noise Test; Cognitive auditory processing; Listening effort; Auditory evoked potentials

OP-049

Comparative Accuracy And Consistency Of Three Large Language Models In Vestibular Audiology: A Test-Retest Study

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BACKGROUND & AIM

Large language models (LLMs) are increasingly used in clinical education and decision support, yet their performance in vestibular audiology remains largely unexamined. This study aimed to compare the accuracy and consistency of three contemporary LLMs on expert-validated vestibular audiology questions and to assess their temporal reliability.

MATERIAL & METHODS

This descriptive, comparative study evaluated three LLMs — ChatGPT-5o (OpenAI), Gemini (Google DeepMind), and Claude Sonnet (Anthropic) — on a 20-item vestibular audiology question bank validated by a five-expert panel (content validity ratio [CVR] ≥ 0.99). Questions spanned five clinical categories: anatomy/physiology, diagnostic tests, disease criteria, treatment/rehabilitation, and advanced test interpretation. Each model was queried twice, four weeks apart (test–retest design), yielding six independent response sets. Responses were scored on accuracy (correspondence with current evidence) and consistency (internal logical coherence) using a five-point Likert rubric by two independent expert raters blinded to model identity. Inter-rater agreement was assessed with weighted Cohen's kappa (κ) and intraclass correlation coefficient [ICC(A,1)]. Model comparisons used the Friedman test with Bonferroni-corrected Wilcoxon signed-rank post-hoc tests (adjusted $\alpha = 0.0167$). Test–retest reliability was evaluated with ICC(A,1).

RESULTS

Inter-rater agreement was substantial ($\kappa = 0.720$; ICC = 0.781). Accuracy differed significantly across models (Friedman $\chi^2(2) = 13.57$, $p = 0.001$). Claude Sonnet achieved the highest accuracy (mean ± SD: 4.29 ± 0.48), outperforming Gemini (3.77 ± 0.47; $p = 0.009$) and ChatGPT-4o (3.58 ± 0.48; $p < 0.001$); ChatGPT-4o and Gemini did not differ ($p = 0.252$). Consistency showed no significant between-model differences ($\chi^2(2) = 4.76$, $p = 0.093$; ChatGPT-4o: 4.01 ± 0.44, Gemini: 4.17 ± 0.36, Claude Sonnet: 4.41 ± 0.48). Test–retest reliability was poor for ChatGPT-4o and Gemini (ICC < 0.31), and moderate only for Claude Sonnet's consistency scores (ICC = 0.513, $p = 0.002$).

CONCLUSIONS

Claude Sonnet demonstrated superior accuracy in vestibular audiology, though none of the models achieved reliably consistent performance across time. The poor test–retest reliability of most models raises concerns about clinical dependability in this specialized domain. Standardized evaluation frameworks are essential before integrating LLMs into vestibular audiology practice.

KEYWORDS

artificial intelligence; large language models; vestibular audiology; inter-rater reliability; test-retest reliability

OP-050

Evaluation Of The Turkish Simplified Matrix Sentence Test - TURSIMAT

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BACKGROUND & AIM

The Turkish Matrix Sentence Test, TURMatrix, was developed to provide precise, internationally comparable assessments of speech intelligibility in the presence of background noise [1]. Using an adaptive procedure, the test determines the speech recognition threshold (SRT) of the patient in background noise. Since the test ideally requires participants to remember five words per sentence, individuals with impaired auditory memory may achieve poorer results that are not attributable to their hearing ability. For this reason, a shortened version of this test—the Turkish Simplified Matrix Test, consisting of 3-word pseudo-sentences (numeral, adjective, object)—was evaluated for use with school-age children.

MATERIAL & METHODS

Evaluation comprised two steps 1) verification of test list equivalence for shortened sentences 2) establishment of reference values for measuring target-SRT 50 or 80% in adults and children, the latter for different age groups. A total of 20 adult native listeners of Turkish (aged between 18 and 48 yrs., median 22 yrs), and 59/60 children (20 each for age groups of 5-6, 7-8, and 9-10 yrs.) participated in this study. All of them had normal hearing (pure-tone thresholds below or equal 15 dB HL at octave frequencies between 0.25 and 8 kHz) . Test list equivalence and reference SRTs were determined by presenting lists of pseudo-sentences and background noise monaurally through headphones. The level of the speech signal was adaptive and varied according to the word score for responses counted in the open-set response format, targeting either 20 and 80% (test list equivalence) or 20, 50 and 80% (reference SRTs).

RESULTS

1) The TURSIMAT test lists can be considered equivalent, and 2) the data for adults yielded a signal-to-noise ratio (SNR) of -7.6 dB for SRT80% and -9.5 dB for SRT50%, as well as an acceptable test-retest reliability. The SRT scores for children were lower (i.e., worse) and more variable than those for adults but improved with increasing age from -3.6 up to -5.1 dB SNR for SRT80%, and from -6.8 up to -7.8 dB SNR for SRT50%.

CONCLUSIONS

The TURSIMAT can now be used as a diagnostic tool for children.

KEYWORDS

SIMAT, simplified matrix sentence test, Turkish, speech reception threshold, speech-in-noise, speech audiometry, children

OP-051

Development Of A Training Software To Improve Speech-In- Noise Perception In The Elderly With Noise-Induced Hearing Loss

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BACKGROUND & AIM

The incidence of noise-induced hearing loss (NIHL) is increasing rapidly worldwide. It has been shown that the long-term exposure to noise leads to permanent hearing loss. There is currently no treatment for NIHL and it is mainly managed by preventive measures. This study aimed to develop a training software to improve speech-in-noise (SIN) perception in the elderly suffering from mild-to-moderate NIHL due to temporal fine structure (TFS) damage.

MATERIAL & METHODS

This is a non-randomized clinical trial conducted on 8 older men aged 60-75 years (Mean age = 68 ± 4.5 years) with mild-to-moderate NIHL at high frequencies (43.75±6.0 dB HL) with at least for five years of work in noisy environment. They received rehabilitation using a researcher-developed training software targeted TFS for five weeks. To assess the efficiency of the training software, the signal-to-noise ratio for 50% correct scores (SNR-50%) was calculated using the word-in-noise test before and after the trial.

RESULTS

The SNR-50% improved significantly in all participants from 13±2.63 dB to 6.10±2.85 dB ($p<0.001$). In the multiple linear regression model, the rehabilitation by the training software predicted 68% of improvement in SNR-50% (coefficient of determination=0.676).

CONCLUSIONS

Rehabilitation by the training software developed based on TFS can improve SIN perception in the elderly with NIHL.

KEYWORDS

Temporal Fine Structure, Envelope, Noise induced hearing loss

OP-052

Auditory Involvement In Autosomal Dominant Alport Syndrome: A Systematic Review

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BACKGROUND & AIM

Autosomal dominant Alport syndrome (ADAS), caused by heterozygous pathogenic variants in COL4A3 or COL4A4 genes, is the most prevalent form of Alport syndrome and is increasingly recognized within the spectrum of collagen IV–related nephropathies. While sensorineural hearing loss is a hallmark of X-linked Alport syndrome, auditory involvement in ADAS appears less frequent and remains poorly characterized.

This study aim to systematically review the available evidence on the prevalence, characteristics, and clinical significance of auditory manifestations in ADAS.

MATERIAL & METHODS

A PRISMA-based systematic review registered in PROSPERO (CRD420261403740) was conducted using PubMed, Scopus, and Web of Science. Studies reporting patients with ADAS and objective auditory assessment were included. Data regarding audiological evaluation, prevalence and characteristics of hearing loss, and relevant genotype-related findings were extracted.

RESULTS

After screening 297 records, 32 full-text articles were assessed for eligibility, and 20 studies were included in the final analysis. Across these studies, objective auditory assessment was available for 316 patients with ADAS, with hearing loss identified in 82 (26%) individuals. When present, hearing loss was predominantly sensorineural and generally mild. Notably, pediatric cohorts showed very low rates of objectively confirmed hearing loss, suggesting that auditory involvement in ADAS tends to occur later in life. Some studies also suggested that auditory involvement may occur independently of renal disease progression. Nevertheless, audiological characterization was highly heterogeneous across studies, with inconsistent reporting of hearing thresholds, progression, and audiometric patterns. Comparative data between ADAS and other forms of Alport syndrome were limited, although available evidence suggested that auditory involvement in ADAS is less frequent and generally milder.

CONCLUSIONS

Auditory involvement in ADAS appears less frequent and generally milder than in X-linked and autosomal recessive Alport syndrome, though the available evidence is limited by heterogeneous study designs and often incomplete audiological assessment. Standardized, prospective studies incorporating systematic audiometric evaluation are needed to better define the prevalence, characteristics, and natural history of hearing loss in ADAS, enabling earlier diagnosis and improved quality of life.

KEYWORDS

Alport Syndrome; Hearing Loss, Sensorineural; Audiometry Hearing Disorders; Collagen Type IV

OP-053

THE DIAGNOSTIC VALUE OF WIDEBAND TYMPANOMETRY IN THE PERIOPERATIVE MANAGEMENT OF ADENOID HYPERTROPHY

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BACKGROUND & AIM

Adenoid hypertrophy, a prevalent pediatric condition, frequently causes otitis media with effusion (OME), often undiagnosed due to subtle symptoms. Although 226 Hz tympanometry is the gold standard for diagnosing OME, its limited sensitivity in early-stage cases impedes timely intervention. Given these diagnostic limitations, there is a pressing need for more sensitive assessment methods. Therefore, this study aims to evaluate wideband tympanometry (WBT) as a diagnostic tool for assessing middle ear function in children with adenoid hypertrophy throughout the perioperative period.

MATERIAL & METHODS

In a prospective study (January 2024–September 2025) at the National Medical Research Center for Otorhinolaryngology, Russia, we enrolled 120 children (median age 6 years [IQR 5–7]). The study group (n=60, 120 ears) had grade II–III adenoid hypertrophy with OME; the control group (n=60, 120 ears) had isolated adenoid hypertrophy. All patients underwent standardized diagnostic evaluation including otomicroscopy, age-appropriate audiometry, 226 Hz tympanometry and wideband tympanometry. Data were analyzed using Mann-Whitney U-tests and Spearman's correlation ($p<0.05$).

RESULTS

Wideband absorbance was significantly reduced in the study group compared to control group ($p<0.05$). The study identified distinct tympanometric patterns differentiating OME from eustachian tube dysfunction, with the latter demonstrating significantly greater differences between absorbance values at peak pressure and ambient pressure (18,50 [13,38; 23,00]), compared to both OME patients (0,00 [0,00; 6,00]) and control group (1,00 [0,00; 4,50]) ($p<0,05$). A characteristic 2500 Hz peak identified in OME patients, and a significant inverse correlation between wideband absorbance and the air-bone gap ($r = -0.505$, $p < 0.01$), further substantiate the method's diagnostic value. Its distinct clinical advantage lies in unique postoperative utility, enabling dynamic assessment of middle ear function and tympanostomy tube patency—unattainable with 226 Hz tympanometry.

CONCLUSIONS

Integrating WBT into the audiological assessment of adenoid hypertrophy enhances diagnostic accuracy for OME, enables objective evaluation of treatment efficacy, and facilitates monitoring of postoperative middle ear recovery.

KEYWORDS

adenoid hypertrophy, otitis media with effusion, wideband tympanometry.

OP-054

Unilateral "Pillow-Like" Sensation In The Ear: Could This Be A Vestibular Schwanoma?

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BACKGROUND & AIM

Vestibular schwannoma is a benign tumor originating from Schwann cells of the vestibulocochlear nerve. Usually, it presents with unilateral sensorineural hearing loss, tinnitus, vestibular disturbances, but early symptoms may be atypical, leading to delayed diagnosis. The aim of this case report is to emphasize how an unusual complaint—a "pillow-like" sensation in the ear—could lead to the detection of more serious diagnosis, such as vestibular schwannoma in a young adult, highlighting the diagnostic relevance of even mild unilateral auditory symptoms.

MATERIAL & METHODS

A 34year old male with no previous otologic disease reported a persistent “pillow-like” sensation in the left ear, along with intermittent tinnitus. Initial audiometry demonstrated mild unilateral sensorineural hearing loss with an air-bone gap of up to 20 dB only at 250 Hz, while tympanometry was normal. Fiberoptic nasopharyngoscopy revealed mild edema around the left Eustachian tube orifice. Although, the patient didn’t report worsening of symptoms, one month later, tonal audiometry showed further deterioration, with a 5–10 dB decrease across most air-conduction frequencies and absence of an air-bone gap. Tympanometry remained unchanged, while stapedial reflexes were nearly absent on the left side. A CT scan of the temporal bones identified a contrast-enhancing mass in the left cerebellopontine angle extending into the internal auditory canal, measuring 17×13× 12 mm, with thinning of bony structures. MRI confirmed CT findings, and the patient was referred to a multidisciplinary team including otologyst and neurosurgeon.

RESULTS

Radiologic and clinical data confirmed the diagnosis of vestibular schwannoma. The multidisciplinary team recommended stereotactic radiosurgery (Gamma Knife). The patient was scheduled for regular follow-up to monitor tumor evolution and treatment response.

CONCLUSIONS

The aim of this case is to highlight that these tumors may initially present with nonspecific or minimal symptoms, such as a pillow-like sensation in the ear, without vestibular disturbances. Progressive unilateral auditory changes, even when mild, warrant prompt imaging. Early identification and multidisciplinary management enable optimized therapeutic strategies and may prevent long-term morbidity.

KEYWORDS

vestibular schwannoma, hearing loss, tinnitus, tumor

OP-055

Utilization Of CROS/Bicros For Auditory Rehabilitation Following Sudden Sensorineural Hearing Loss: A Single Center Retrospective Cohort Study

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BACKGROUND & AIM

Sudden sensorineural hearing loss (SSNHL) is an otologic emergency often causing permanent unilateral deficits that significantly impair quality of life. However, post-SSNHL auditory rehabilitation strategies are poorly defined. This study aims to characterize real-world utilization of CROS (contralateral routing of signal) and BiCROS (bilateral microphone contralateral routing of signal) devices among non-recovering patients to optimize clinical rehabilitation pathways.

MATERIAL & METHODS

This study was a single-center retrospective cohort study of 100 patients between ages of 13 to 50 who presented with an acute onset unilateral sudden sensorineural hearing loss who made non-meaningful recovery and was followed up to 6 weeks post-intratympanic steroid injections to assess rehabilitation decisions from December 31, 2013, to January 31, 2026. Data was extracted from electronic medical records to evaluate the primary endpoint: the decision to purchase or return an amplification device. We used journal logs on the hearing devices to delineate usage.

RESULTS

Median age was 39.5 years (IQR: 13–52; 51.0% female). Thirty-four patients (34.0%) trialed amplification (64.7% CROS; 35.3% conventional), with 79.4% reporting subjective improvement. Final decisions included device purchase (58.8%, n=20), return (26.5%, n=9), or trial extension (14.7%, n=5). Purchasers (median age 42.5) showed balanced sex and laterality of loss. Conversely, those returning devices (median age 35.0) were predominantly female (66.7%) with right-sided loss (55.6%) and a higher frequency of CROS trials (55.6%) versus conventional aids (44.4%). We further report details on usage of these devices.

CONCLUSIONS

This is the first study to investigate the relationship between SSNHL and early utilization of air conduction hearing amplification with modern CROS devices. Results indicate that only a small proportion of patients trial devices. Patients over age 40 who attempt a trial consistently proceed to purchase regardless of sex or laterality, whereas females in their 30s with right-sided loss are less likely to adopt devices. These findings should inform targeted counseling and patient education to optimize early auditory rehabilitation treatment pathways.

KEYWORDS

Sudden sensorineural hearing loss, Auditory rehabilitation, CROS/BiCROS

OP-056

The Impact Of Hearing Loss, Hearing Care And Empowerment In The Workplace

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BACKGROUND & AIM

The relation between hearing loss and employment is well document and in the WHO World Report on Hearing you can read "An association between hearing loss and employment in adults is evident and adults with hearing loss have increased odds of unemployment or underemployment".

The impact of hearing care and empowerment on employment needs to get more attention. Informing and guiding hard of hearing people and their employers on how to be successful at work is a challenge for audiologists, and many other health and social workers.

MATERIAL & METHODS

We developed a survey on this topic, joint with EFHOH (the European Federation of Hard of Hearing People), AEA (European Association of Hearing Aid Professional) and the audiology department of the Thomas University College of Applied Sciences in Antwerp, where we used the International Outcomes Inventory for Hearing Aids (IOI-HA), which we also adapted for Cochlear Implant users (IOI-CI), and questions for hard of hearing people using hearing aids, cochlear implants or other assistive devices on their experiences, needs, solutions, information and support at work. This survey was first evaluated by English native speakers, adjusted and then translated in 10 languages. After proofreading by native speakers of this language, the survey was distributed to all EFHOH and AEA member associations and networks. So far, we received responses from 1170 participants.

RESULTS

95% of the participants state that their hearing aids or cochlear implants were at least moderately worth the trouble, 85% indicated that they improved at least moderately the situations at work, where they wanted to hear better.

95% need to communicate regularly or more at work, and the acoustics at work are in 40% of the cases poor or very poor and in 36% average.

75% experience difficulties to communicate at work, 59% indicate their hearing loss affects their performance at work.

31% reported negative experiences related to exclusion or discrimination at work, and in 82% of the cases, the issue was not resolved or even got worse.

51% responded they were not informed about possible accomodations at work.

CONCLUSIONS

Although hard of hearing people experience that their hearing aids or cochlear implants, improve the situation at work and are worth the trouble, they still face challenges to be successful at work.

More than half of the participants were no informed about the possible support they could receive at work, or had to find it out for themselves.

We need urgently to inform users, employers and audiologists much better, on what it takes or what can help to be more successful at work.

KEYWORDS

Empowerment, Employment, Hearing Care, Burn-out, Inclusion, Discrimination, Hearing Loss, Accommodations,

OP-057

Effects Of Modified Epley And Semont Maneuvers On Residual Dizziness In Patients Diagnosed With Posterior Canal BPPV

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BACKGROUND & AIM

This study aims to evaluate the effects of the Modified Epley Maneuver and the Semont Maneuver on residual dizziness in patients diagnosed with posterior canal benign paroxysmal positional vertigo.

MATERIAL & METHODS

A total of 42 patients were included in the study, with 21 patients in the Epley Group and 21 patients in the Semont Group. The patients were evaluated at the time of diagnosis, and at the first week and first month after repositioning treatment using the Dizziness Handicap Inventory, Vertigo Symptom Scale, Static Subjective Visual Vertical, and Dynamic Subjective Visual Vertical tests.

RESULTS

In both treatment groups, statistically significant reductions were observed in the within-group scores of the Dizziness Handicap Inventory and Vertigo Symptom Scale from baseline to the first-month follow-up ($p<0.001$). No significant

differences were found between the groups at follow-up points regarding residual dizziness (p>0.05). However, in the Epley Group, a statistically significant normalization was detected in the proportion of pathological head tilts on Static Subjective Visual Vertical measurements at the first-month assessment (p<0.05).

CONCLUSIONS

Our findings indicate that while both the Modified Epley and Semont Maneuvers exhibit comparable efficacy in the treatment of posterior canal BPPV. However, the Epley maneuver may provide a superior clinical benefit by potentially reducing the residual dizziness. These findings could guide the the selection of maneuvers in daily clinical practice and will contribute to the literature on the management of residual dizziness.

KEYWORDS

Modified Epley, Semont, residual dizziness, Subjective Visual Vertical, Dizziness Handicap Inventory

OP-058

Side-Dependent Effects Of Single-Sided Hearing Loss On Auditory And Cognitive Processing

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BACKGROUND & AIM

Single-sided hearing loss (SSHL) is a condition that involves not only peripheral auditory dysfunction but also alterations in central auditory processing. Unilateral auditory deprivation has been associated with cortical reorganization and alterations in hemispheric lateralization, which may contribute to side-dependent differences in auditory–cognitive interactions. This study aimed to examine side-dependent differences in auditory and cognitive processing in individuals with SSHL.

MATERIAL & METHODS

The study included 66 participants aged 18–35 years, of whom 44 had SSHL (22 right-sided and 22 left-sided) and 22 were normal-hearing controls. Auditory processing abilities were evaluated electrophysiologically using the P300 auditory event-related potential (ERP) and behaviorally using the Frequency Pattern Test (FPT), Duration Pattern Test (DPT), and Gaps-In-Noise (GIN) test. Cognitive executive abilities were assessed with the Stroop Color–Word Test. Group comparisons were conducted using analysis of variance (ANOVA) followed by post hoc pairwise comparisons.

RESULTS

Participants with SSHL showed significant group differences across all measures. For P300, controls had the shortest latencies and highest amplitudes, the left-sided SSHL group showed intermediate values, and the right-sided group exhibited the longest latencies ($p < 0.05$). On behavioral tests, controls outperformed both SSHL groups on the FPT, DPT, and GIN ($p < 0.05$). Within the SSHL cohort, right-sided group scored lower on the FPT and GIN, whereas left-sided group scored lower on the DPT ($p < 0.05$). Stroop scores were lower in both SSHL groups compared with controls, with no significant difference between right- and left-sided participants ($p > 0.05$).

CONCLUSIONS

These findings indicate that SSHL is associated with alterations in cortical auditory processing, as evidenced by prolonged P300 latencies and reduced amplitudes, reflecting slower auditory discrimination and reduced attentional resource allocation.Right-sided SSHL showed greater deficits in frequency-based temporal ordering and temporal resolution, whereas left-sided SSHL predominantly affected duration-based temporal ordering.Both groups also exhibited reduced executive function relative to controls, suggesting that unilateral hearing loss can impact both auditory and cognitive domains.Together, these results highlight that the side of hearing loss differentially affects cortical and behavioral auditory processing, emphasizing the importance of side-specific assessment and the potential for individualized rehabilitation strategies.

KEYWORDS

Single-sided hearing loss; auditory processing; executive; cognitive

OP-059

Genetic Assessment For Hearing Loss In Adults: A Monocentric Observational Study In A National Reference Center

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BACKGROUND & AIM

Hearing loss (HL) is the most common sensory impairment, impacting 10% of the global population, including 1-3 per 1000 newborns. While the genetic contribution to congenital HL is well established, the role of genetics in adult-onset HL remains under-explored. Genetic testing in adults could lead to earlier diagnoses and therapeutic interventions, but its application is not yet routine. The aim of this study was to evaluate the diagnostic yield of genetic testing in adults with HL and identify predictive factors for a positive genetic diagnosis, enhancing understanding of the genetic contribution to adult-onset HL.

MATERIAL & METHODS

A monocentric, retrospective study was conducted study in a national reference center specializing in hearing loss, including adult patients with HL who underwent genetic assessment between 2017 and 2023. All participants received clinical and audiological evaluations before undergoing genetic testing using targeted gene sequencing or panels of up to 110 HL-related genes. The primary outcome was the identification of pathogenic or likely pathogenic variants in HL-related genes. Genetic variants were classified based on American College of Medical Genetics and Genomics guidelines, with positive results defined as the presence of such variants.

RESULTS

A total of 279 adult patients with HL (mean age 44 years) who completed genetic evaluations were included. Patients with familial relationships to others in the study or who were still undergoing analysis were excluded. Genetic causes of HL were identified in 52% (n=145) of the patients and GJB2 was the most commonly identified gene (22%). Prelingual HL had a higher diagnostic yield (65%) compared to postlingual HL (46%). Positive results were more likely in cases of younger onset, symmetrical, and progressive HL, as well as those with a family history of HL. Postlingual HL was predominantly autosomal dominant, with DIAPH3, TMPRSS3, and COCH among the most frequent genes.

CONCLUSIONS

Genetic testing proves valuable in diagnosing adult HL, particularly in younger patients with symmetrical and progressive HL. This study emphasizes the role of genetic evaluation in adult-onset HL, offering insights that may inform personalized care and potential therapeutic approaches.

KEYWORDS

hearing loss; genetics; postlingual; prelingual

OP-060

The Effect Of Age And Instrumentation On Wideband Acoustic Immittance (WAI)

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BACKGROUND & AIM

Earlier research has shown that age has a significant, frequency-dependent impact on WAI. The majority of these variations have been seen in the mid-to-high frequency range (~2–6 kHz), where older persons often exhibit somewhat lower absorbance. Whether these differences reflect true morphological and anatomical changes in the aging ear, measurement variability across instruments, or a combination of both remains unclear. To the best of our knowledge, however, no direct comparison between two commercially available WAI, Tympstar Pro from GSI and Titan from Interacoustics, has been published. This study's primary objective was to look into how aging and instrumentation affect WAI.

MATERIAL & METHODS

WAI was compared between two studies at the Middle Ear Lab (MEL), University of British Columbia: a younger cohort from the VEMP study and an older cohort from the COVID-19 study. Both cohorts were tested using the Titan Interacoustics and Tympstar Pro. The younger group (n=34; mean age 23 years) had normal hearing, whereas the older group (n=41; mean age 54 years) had varying degrees of sensorineural hearing loss. Absorbance was harmonized across devices and analyzed using a repeated-measures Gaussian marginal model, with ear as the repeated unit and multiple-comparison adjustments applied.

RESULTS

The study group × frequency interaction was significant for the linear and cubic frequency terms. This indicates that the spectral shape of absorbance differed between the VEMP and COVID groups. Instrumentation × frequency terms were not statistically significant, suggesting that Tympstar Pro GSI and Titan Interacoustics produced broadly similar frequency-dependent patterns at the population-average level. The three-way study group × instrumentation × frequency terms were not significant in the robust repeated-measures model, suggesting that the group-related spectral differences were not strongly dependent on the instrument used. Planned post-hoc frequency-band comparisons found no instrumentation differences that survived FDR correction within either study group. In contrast, study-group differences were observed for several Tympstar Pro GSI frequency bands after FDR correction. These differences were frequency-dependent, with the COVID group exhibiting higher absorbance in some lower-frequency bands and the VEMP group exhibiting higher absorbance in several mid-to-high-frequency bands.

CONCLUSIONS

Tympstar Pro GSI and Titan Interacoustics produced comparable mean absorbance estimates, with no significant overall instrumentation effect, supporting the use of shared normative data across systems. Because the COVID group was older and the VEMP group younger, differences should be interpreted as study-group (age-related) effects. The significant study group × frequency interaction indicates that age-related changes in absorbance are frequency-specific, supporting the need for age-stratified norms. This has clinical implications, as reliance on young adult norms may bias interpretation in older adults and affect diagnosis of middle ear conditions such as Otosclerosis.

KEYWORDS
Wideband Acoustic Immittance (WAI) Wideband Absorbance Middle Ear Function Age Effects Adult Aging Instrumentation Comparison Titan Interacoustics Tympstar Pro Normative Data Frequency-Specific Effects Middle Ear Diagnostics Otosclerosis

OP-061

Retrospective Study Of Clinical Histories, Audiometric Tests And APDQ Results Of Children Attending The Auditory Processing Disorder (APD) Glasgow Clinic

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BACKGROUND & AIM

Auditory Processing Disorder (APD) is defined as, "difficulty in listening despite possessing hearing thresholds within the normal limit"(1). APD is believed to affect approximately 7% of American children(2), which is a similar prevalence to ADHD(3). Despite being common, diagnosis remains controversial. Therefore we decided to do an exploratory study into children who attended the Auditory Processing Disorder clinic in Glasgow, to see if we could identify patterns in those who attended.

MATERIAL & METHODS

A retrospective study of children attending the Auditory Processing Disorder Clinic at the Royal Hospital for Children in Glasgow from 2016 to present day. Referral criteria were: aged ≥ 7, resident in Greater Glasgow and Clyde area, normal thresholds on audiometry and APD suspected by educational or health professionals. We analysed clinical history, audiometric tests and the Auditory Processing Disorders Questionnaire (APDQ).

RESULTS

159 children were seen, 65/145 (45%) with a history of otitis media and neurodivergence in 58/130 (45%). APDQ scores were: 31 (28%) were rated High APD Risk, 10 (9%) as APD Risk, 10 (9%) as Combined APD and ADHD Risk and 37 (34%) as Language-Learning and Listening Challenges risk. Dyslexia was found in 39 (57%) of children, Autism was found in 6 (9%) of children and Attention Deficit Hyperactivity Disorder was found in 4 (6%) of children. 14 of the 39 (35.9%) children with a diagnosis of dyslexia were identified as having a Language-Learning and Listening Challenges risk. 0 of the 4 children with a diagnosis of ADHD were identified as having a risk of ADHD. We found no difference in APDQ scores between children with a history of otitis media and those with a neurodivergent diagnosis ($x2= 2.29$, $df= 7$, $p= 0.94$).

CONCLUSIONS

Regardless of children having a neurodivergent condition or history of recurrent otitis media, they have the same primary risk factor pattern generated by the APDQ. It appears that associated neurodiversity is important to consider in APD diagnosis and management. This requires further exploration and study of APDQ results in these subgroups, treatment modalities and outcomes.

KEYWORDS
Auditory Processing Disorder (APD), Neurodivergent Conditions

OP-062

From Eligibility To Implantation: Why Adults Fall Through The Cochlear Implant Care Pathway

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BACKGROUND & AIM

Despite strong evidence supporting cochlear implantation(CI) in adults with severe-to-profound hearing loss, uptake remains low even among eligible candidates. Many adults disengage at different stages of the CI care pathway, from identification and referral to decision-making and implantation. This study aims to identify key patient-, professional-, and system-level factors contributing to attrition across the adult CI pathway, using evidence from the UAE. The findings are intended to inform strategies that improve pathway navigation, timely referrals, and adult cochlear implant uptake, with relevance to global clinical practice.

MATERIAL & METHODS

This study adopts a mixed-methods pathway analysis approach. Primary data were drawn from the IMPLANT-UAE study, involving adults identified as potential CI candidates and examined across multiple stages of the care pathway.Structured questionnaires captured patient-reported barriers related to awareness, stigma, access, cost, and decision-making, complemented by clinician-reported insights on referral and counselling practices. To contextualise the findings, a targeted narrative review of international literature was conducted to map common attrition points within adult CI pathways globally. Barriers were organised using a care-pathway framework spanning identification, referral, candidacy assessment, and implantation. Descriptive and thematic analyses were used to identify patterns of disengagement and convergence between local and global evidence, enabling the development of a pragmatic model highlighting critical drop-off points amenable to intervention.

RESULTS

Analysis revealed substantial attrition across multiple stages of the adult CI care pathway. The most prominent drop-off points occurred prior to referral and during the decision-making phase. Key patient-reported barriers included limited awareness of CI candidacy, stigma associated with implantation, fear of surgery, and financial concerns. Professional-level barriers included delayed referrals, inconsistent counselling practices, and misconceptions regarding adult outcomes. System-level factors such as fragmented pathways and limited structured follow-up further contributed to disengagement. Mapping UAE findings against international literature demonstrated striking convergence in attrition patterns, suggesting that these challenges are not context-specific but globally pervasive. A pathway-based attrition model was developed, highlighting critical stages where targeted audiologist-led interventions could substantially improve adult CI uptake.

CONCLUSIONS

Low adult CI uptake reflects cumulative pathway failures rather than limited clinical benefit. Attrition occurs at identifiable stages, particularly before referral and during decision-making, driven by gaps in awareness, counselling, and care coordination. A shift from eligibility-focused care to proactive, audiologist-led pathway management is needed. Targeted interventions at key drop-off points could substantially improve adult CI uptake, with lessons that are relevant to hearing healthcare systems globally.

KEYWORDS

Cochlear implants; Adult hearing loss; Care pathway; Barriers to uptake; Access to care

OP-063

Audible Contrast Threshold Across Hearing Loss Severity And Long-Term Amplification Effects: Preliminary Outcomes

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BACKGROUND & AIM

Individuals with hearing loss often struggle to understand speech in noise despite appropriate amplification, and there is no objective clinical tool to personalize noise-management settings. The Audible Contrast Threshold (ACT) test quantifies sensitivity to contrast in speech-like modulations and may help address this limitation. This study aims to examine how ACT thresholds vary across different degrees and configurations of hearing loss and to determine whether long-term hearing aid use influences suprathreshold contrast processing.

MATERIAL & METHODS

This clinical observational study included 93 adult's ears: normal-hearing participants (n=12) and individuals with sensorineural hearing loss of varying degrees and configurations (minimal, mild, moderate, and sloping). Hearing-impaired participants were categorized as long-term hearing aid users (≥5 years of regular use) or non-users with at least two years of unaided hearing loss. ACT was administered in a controlled clinical setting. The primary outcome measure was ACT threshold (dB nCL). Independent variables included hearing status, severity, configuration, and amplification history. Group comparisons were conducted using pairwise analyses with Bonferroni correction (α=0.05).

RESULTS

Mean ACT in the normal-hearing group was 1.47 ± 0.98 dB nCL. No significant differences were observed between normal-hearing individuals and very mild hearing loss groups ($p>0.05$). ACT thresholds increased progressively with severity, with moderate hearing loss groups exceeding 6 dB on average. Significant differences were found between normal hearing and mild-to-moderate hearing loss categories after Bonferroni correction ($p\leq0.039$). Across comparable severity levels, long-term hearing aid users demonstrated slightly lower ACT thresholds than non-users. Furthermore, severity-related differences were less pronounced among hearing aid users, whereas unaided participants showed clearer stratification according to hearing loss degree.

CONCLUSIONS

ACT appears sensitive to hearing loss severity beyond very mild impairment. Preliminary findings suggest that long-term amplification may be associated with a stabilizing effect on suprathreshold contrast processing. Establishing normative ACT data may support more individualized noise-management strategies and clinical counseling. Ongoing data collection will further clarify these associations.

KEYWORDS

Audible contrast threshold, Hearing loss, Hearing aid effect, Speech in noise

OP-064

Prevalence And Clinical Characteristics Of Dizziness, Imbalance, And Associated Factors Following Bariatric Surgery: A Cross-Sectional Study

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BACKGROUND & AIM

Bariatric surgery has emerged as an effective intervention for severe obesity; however, post-operative dizziness remains poorly characterized in the literature. This study aimed to determine the prevalence of dizziness, imbalance, and hearing problems following bariatric surgery and to identify associated risk factors.

MATERIAL & METHODS

2.1. Subjects This cross-sectional study was conducted among patients who had undergone bariatric surgery at multiple centers across Saudi Arabia between 2018 and 2024. Participants were recruited through bariatric surgery clinics, patient support groups, and social media platforms dedicated to post-bariatric patients. This recruitment strategy, while facilitating access to a diverse sample, introduces important methodological considerations. Recruitment through specialized clinics and support groups may have preferentially captured patients experiencing ongoing post-operative concerns. Similarly, social media recruitment may have attracted symptomatic individuals motivated to participate in research addressing their health issues.

RESULTS

3.5. Associations Between Dizziness and Other Related Symptoms Chi-square tests revealed significant associations between dizziness and other outcomes. Dizziness was strongly associated with imbalance (chi-square = 14.325, df = 1, p = 0.0002), with 46.6% of dizzy patients also reporting imbalance compared to only 8.8% of non-dizzy patients. Dizziness was also significantly associated with falls (chi-square = 7.085, df = 1, p = 0.008), with 25.9% of dizzy patients reporting falls compared to 2.9% of non-dizzy patients. The association between dizziness and hearing problems did not reach statistical significance (chi-square = 0.507, df = 1, p = 0.477) (Table 4).

CONCLUSIONS

In conclusion, post-surgery complications, particularly dizziness, are highly prevalent following bariatric surgery and demonstrate a significant dose–response relationship with the magnitude of weight loss. However, the 77.3% prevalence should be interpreted cautiously due to potential selection bias, response bias, and the broad definition of dizziness encompassing both vestibular and non-vestibular etiologies. The strong associations between dizziness and functional outcomes, including imbalance and falls, underscore the clinical importance of these symptoms. Enhanced awareness, systematic screening, and appropriate management integrated into comprehensive post-bariatric care to optimize patient outcomes and quality of life.

KEYWORDS

eywords: bariatric surgery; dizziness; vertigo; balance disorders; weight loss; postoperative complications

OP-065

Comparison Of Satisfaction And ACT Scores In Hearing Aid Users With And Without Bluetooth Features

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BACKGROUND & AIM

Age-related hearing loss is frequently associated with reduced temporal processing abilities and increased listening effort, particularly in noisy environments. Direct audio streaming via Bluetooth technology may enhance signal-to-noise ratio (SNR) and reduce reverberation effects, potentially improving speech perception and subjective listening experience in older hearing aid users.

MATERIAL & METHODS

This prospective, randomized, cross-over study included 30 adults aged 60–80 years with mild-to-moderate bilateral sensorineural hearing loss who had been using bilateral hearing aids for at least six months. Participants were evaluated Speech-in-noise performance was assessed using the Audible Contrast Threshold Test. Subjective outcomes were measured using the International Outcome Inventory for Hearing Aid (IOI-HA) and Satisfaction with Amplification in Daily Life.Statistical analyses (SADL) were conducted using repeated-measures ANOVA, and effect sizes were calculated.

RESULTS

Preliminary findings demonstrated significantly higher speech recognition scores in the Bluetooth condition, particularly in noisy settings (p < 0.05). The most pronounced benefit was observed in participants with poorer baseline temporal processing performance. Subjective ratings of speech quality and overall satisfaction were significantly improved with Bluetooth streaming, while perceived listening effort was significantly reduced (p < 0.05).

CONCLUSIONS

Direct Bluetooth transmission appears to provide a measurable advantage in challenging listening conditions and may partially compensate for age-related temporal processing deficits. These findings suggest that beyond improving sound clarity, Bluetooth streaming may reduce central auditory processing load, supporting its clinical relevance in auditory rehabilitation for older adults.

KEYWORDS

Bluethooth, Audible Contrast Threshold Test, Hearing Aid, Sensorineural Hearing Loss

OP-066

Can Electrical Hearing Maintain Speech Performance In The Presence Of Cochlear Microphonic Positivity? Evidence From Performance-Intensity Function

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BACKGROUND & AIM

This study investigated the presence of rollover phenomenon using the performance-intensity (PI) function in cochlear implant (CI) users and examined its relationship with cochlear microphonic (CM) responses, an electrophysiological marker of auditory neuropathy spectrum disorder (ANSD). It was hypothesized that the rollover ratio would be higher in CM-positive cases.

MATERIAL & METHODS

In this prospective observational study (Ethics Approval No: 2025/029), participants were divided into two groups based on the presence of polarity-dependent CM in preoperative auditory brainstem response (ABR) recordings: CM-positive (n = 10) and CM-negative (n = 12). The PI function was obtained in free field using monosyllabic word lists presented at five intensity levels above the speech reception threshold (SRT +10 to +50 dB SL). The rollover index (RI) was calculated from the minimum and maximum word recognition scores, and RI ≥ 0.35 was accepted as rollover. Between-group comparisons were performed using independent samples t-tests and chi-square tests. The relationship between RI and audiological variables was analyzed using Spearman correlation analysis ($p < 0.05$).

RESULTS

No significant differences were observed between groups in speech recognition scores across presentation levels ($p > 0.05$). However, RI was significantly higher in the CM-positive group ($p = 0.021$). Rollover was observed only in the CM-positive group (30%) and was not detected in the CM-negative group ($\chi^2 = 4.168$; $p = 0.041$). Weak negative correlations were found between RI and pure-tone averages as well as frequency thresholds; however, these associations were not statistically significant ($p > 0.05$).

CONCLUSIONS

Rollover was observed in some CI users and was associated with the presence of cochlear microphonic responses. Although performance deterioration at higher presentation levels was noted in CM-positive individuals, the absence of this decline in the majority of participants (70%) suggests that speech performance can be maintained under CI stimulation. While CM presence may represent an electrophysiological characteristic associated with ANSD, it is not a standalone diagnostic indicator. These findings demonstrate that the PI function may exhibit heterogeneous patterns in CI users.

KEYWORDS

Cochlear implant, Cochlear microphonic, Performance-intensity function, Rollover

OP-067

Screening Of Auditory Development Of Preterm Children At 18-30 Months Of Age: A Cross-Sectional Study

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BACKGROUND & AIM

Background: Children born preterm are at increased risk for auditory and other developmental delays.

Objectives: This research paper aimed to study the effectiveness and feasibility of using the LittlEARS auditory questionnaire (LEAQ) to screen for the development of pre-verbal auditory skills in preterm children aged 18 and 30 months, with the purpose of early detection of any hearing problems or speech delays.

MATERIAL & METHODS

Forty-seven children born preterm (study group) and 42 age-matched full-term peers (control group) had auditory skills assessment using the validated Arabic version of the parent-based LEAQ, administered by phone, regardless of whether newborn hearing screening was completed and/or its result.

RESULTS

Percentages of children who didn't achieve age-expected auditory milestones were 21% for preterm group and 7% for full-term group. A statistically significant correlation was found between age and total LEAQ scores (Spearman rho = 0.449, p=0.002) and between expected and total scores (Spearman rho = 0.462, p=0.001) in the study group. Neither gestational age nor gender had a significant impact on the total scores for preterm children. Wilcoxon W tests revealed a significant difference between the medians of total and expected scores in the preterm group (p<0.001), but not in the full-term group (p=0.768). However, the Mann Whitney U test showed no significant difference in LEAQ scores compared with the full-term group (p=0.065).

CONCLUSIONS

The LittlEARS auditory questionnaire is feasible and suitable for assessing of age-dependent early auditory milestones in preterm children and helpful in identifying who is at risk.

KEYWORDS

Auditory Skills, Auditory Development, Hearing, Prematurity, Preterm, Screening

OP-068

Hearing Screening Among Individuals Aged 60 Years And Older In Eskişehir: A Cross-Sectional Study

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BACKGROUND & AIM

Although hearing loss is common among elderly individuals, it is often not diagnosed in the early stages and may negatively affect quality of life. Community-based hearing screening programs are important for the early detection of hearing loss and the identification of potential risk factors. The aim of this study was to determine the prevalence of hearing loss among individuals aged 60 years and older living in the city center of Eskişehir, to evaluate potential risk factors associated with hearing loss, and to highlight the importance of community-based hearing screening for early diagnosis.

MATERIAL & METHODS

This study presents preliminary results from an ongoing cross-sectional hearing screening study conducted at the Otorhinolaryngology outpatient clinic of Eskişehir Osmangazi University Faculty of Medicine. Individuals aged 60 years and older who presented with complaints other than hearing loss were included. A brief questionnaire including demographic characteristics and potential risk factors was administered to the participants. Following the otologic examination, hearing screening was performed using otoacoustic emission (OAE) testing. Individuals who obtained a refer result in the screening test underwent pure tone audiometry for confirmatory evaluation. The prevalence of hearing loss was assessed based on the obtained data. One ear from a participant with previously diagnosed hearing loss who was using a hearing aid was excluded from the analysis.

RESULTS

A total of 154 individuals (53 males and 101 females) were included in the study. A total of 307 ears were evaluated during screening. A refer result was obtained in 93 individuals (60.4%) and in 158 ears (51.5%) on otoacoustic emission testing. All of these individuals underwent pure tone audiometry for further evaluation. Audiometric assessment revealed very mild hearing loss in 74 ears (46.8%), mild hearing loss in 37 ears (23.4%), and moderate hearing loss in 8 ears (5.1%) among the 158 ears with refer results, while hearing thresholds were within normal limits in 39 ears (24.7%).

CONCLUSIONS

The findings of this study indicate that hearing loss is highly prevalent in the elderly population. Community-based hearing screening programs may play an important role in the early detection of hearing loss and in timely referral for appropriate rehabilitation.

KEYWORDS

Hearing loss; Hearing screening; Elderly population; Audiology; Prevalence

OP-069

Extended High-Frequency Hearing Declines With Age Despite Normal Conventional Audiograms

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BACKGROUND & AIM

Conventional pure-tone audiometry between 250–8000 Hz has long been the gold standard for assessing hearing, based on its assumed contribution to speech recognition. However, emerging evidence suggests that extended high frequencies (EHF; 9–16 kHz) are more sensitive to early auditory changes associated with noise exposure and aging. Age-related auditory decline may therefore be detectable in the EHF range even when conventional thresholds remain within normal limits. The aim of this study was to determine whether EHF testing improves the detection of age-related differences among individuals with clinically normal hearing in the conventional frequency range.

MATERIAL & METHODS

This cross-sectional study included 1,240 ears with normal conventional hearing (PTA4 at 0.5, 1, 2, and 4 kHz < 25 dB HL), tested between 2015 and 2024 in a private practice using an automated Békésy method. The sample comprised 434 ears from individuals aged 18–39 years, 564 ears from those aged 40–59 years, and 242 ears from those aged 60 years and older. Mean ages were 30.7 ± 5.9, 49.7 ± 5.6, and 65.5 ± 4.7 years, respectively. Pure-tone thresholds from 250 Hz to 16 kHz were compared across age groups. Frequency-specific differences were evaluated using omnibus group comparisons with false discovery rate correction. Predictive modeling was conducted to distinguish older (≥60 years) from younger (18–39 years) ears using conventional frequencies, extended high frequencies, and combined models, with performance assessed via cross-validated ROC analysis. A sensitivity analysis using a stricter ≤20 dB HL criterion yielded similar results.

RESULTS

ROC analysis demonstrated that hearing thresholds could accurately distinguish older from younger ears, even within a clinically normal-hearing sample. A model based on conventional frequencies alone yielded an AUROC of 0.907, indicating good discrimination. In contrast, a model using extended high frequencies (EHF) alone performed substantially better, with an AUROC of 0.971, indicating superior sensitivity to age-related auditory changes. Although thresholds at conventional frequencies showed statistically significant differences across age groups, these values largely remained within the clinically defined normal range (≤ 25 dB HL), limiting their impact on routine clinical classification. In comparison, EHF thresholds demonstrated marked age-related deterioration, providing greater separation between age groups. These findings suggest that EHF audiometry captures early auditory changes associated with aging that are not reflected in conventional-frequency thresholds.

CONCLUSIONS

Taken together, these findings indicate that a clinically normal hearing at conventional frequencies does not necessarily reflect the absence of age-related auditory change. Significant deterioration is already evident in the EHF range, where thresholds show clear age-related separation even before conventional pure-tone averages exceed the clinical boundary for hearing loss. These results suggest that reliance on conventional audiometry alone may underestimate early auditory decline. EHF audiometry provides a more sensitive measure of early age-related changes and may offer important clinical value for identifying subtle auditory deterioration before it becomes apparent within the conventional frequency range.

KEYWORDS

Extended high-frequency audiometry; Age-related hearing loss; Conventional audiometry; Normal hearing; Receiver operating characteristic (ROC); Auditory aging; Pure-tone thresholds

OP-070

Music Listening Habits And Sound Intolerance In Relation To Listening Fatigue In Young Adults: A Cross-Sectional Study

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BACKGROUND & AIM

Listening-related fatigue is the subjective tiredness arising from sustained effortful listening. It has been characterised predominantly in adults with hearing loss. However, recreational sound exposure is common in young populations through daily headphone music use. The World Health Organization estimates that more than one billion young people aged 12 to 35 are at risk from unsafe listening practices. Evidence linking these exposures to subjective fatigue outcomes in young adults without self-reported hearing loss remains sparse. This study examined whether daily headphone music duration, perceived music loudness, and self-reported loud-sound annoyance are independently associated with listening-related fatigue in a young-adult sample.

MATERIAL & METHODS

This cross-sectional online survey enrolled 346 adults aged 18 years or older. After exclusion of seven participants reporting hearing loss, 339 were analysed. Listening-related fatigue was assessed using the Listening Fatigue Scale (LFS), a 24-item Turkish-validated instrument developed by Şahin (2024). The scale comprises Social-Emotional (7 items), Physical (7 items), and Cognitive (10 items) subscales. Items were scored from 0 (Never) to 4 (Always), and subscale and total scores were computed as item means. Predictors of interest were daily headphone music duration (hours per day), self-rated music

loudness (0 to 10), and loud-sound annoyance (0 to 10). Age, gender, and sleep quality were included as covariates. The primary analysis used fractional-logit regression to accommodate the bounded LFS outcome and substantial floor effects. Linear regression and heteroscedasticity-consistent standard errors served as sensitivity analyses. Internal consistency was re-estimated in the present sample.

RESULTS

Mean age was 20.1 years (SD 1.26), with 76% female. Mean daily headphone music duration was 2.8 hours (SD 3.2). Cronbach's α was high (Total 0.97). LFS scores were low (mean 0.84/4, median 0.67) with a marked floor effect (21% exact zeros for Total, 27 to 30% for subscales). Headphone music duration predicted higher fatigue in the primary fractional-logit model (exp[β] = 1.04 per hour, 95% CI 1.00 to 1.09, p = .034). Loud-sound annoyance was the strongest predictor (exp[β] = 1.09 per unit, 95% CI 1.04 to 1.15, p < .001). Music loudness was not associated with fatigue (p = .124). Subscale models showed similar patterns, with loud-sound annoyance most consistent. Under HC3 robust standard errors the headphone-duration effect became marginal (p = .082), whereas loud-sound annoyance remained robust (p < .001). The duration × loudness interaction was non-significant (p = .37).

CONCLUSIONS

In this young-adult sample without self-reported hearing loss, listening-related fatigue was generally low but identifiable, with marked floor effects supporting the use of fractional-logit modelling. Daily headphone music duration showed a small positive association with listening fatigue that attenuated under robust inference, whereas self-rated music loudness showed no clear association. Loud-sound annoyance was the most consistent and strongest predictor across model specifications and subscales. These findings suggest that self-reported auditory sensitivity, rather than recreational music habits alone, may be the dominant correlate of listening-related fatigue in young adults.

KEYWORDS

listening fatigue, Listening Fatigue Scale, recreational noise exposure, headphone music, loud-sound annoyance, auditory sensitivity, young adults

OP-071

When Pass Doesn’t Mean Clear: Long-Tearm Outcomes In Newborns With Refer TEOAE And Pass AABR

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BACKGROUND & AIM

The universal neonatal hearing screening program aims to identify children with congenital hearing loss. Early identification and intervention are crucial for improving language outcomes. The two-stage screening protocol involves testing newborns who fail the Otoacoustic Emissions (OAEs) with Automatic Auditory Brainstem Responses (AABR). Infants who pass the AABR after failing the OAEs receive a Pass result. Adding AABR reduces false positives and unnecessary clinic referrals, but its effect on false negatives remains underexplored. This study estimates the incidence of long-term auditory problems at five years in children who failed OAEs but passed AABR.

MATERIAL & METHODS

Between November 2011 and December 2019, 16,574 newborns underwent hearing screening. Of these, 75 (0.45%) failed Transient Evoked Otoacoustic Emissions (TEOAE) but passed AABR. According to the Tuscany Region Neonatal Hearing Screening protocol, all infants failing twice the first-stage TEOAE or at risk for auditory neuropathy underwent second-stage AABR screening. All infants failing TEOAE were referred for follow-up, even if they passed AABR. At age five, these 75 children were assessed using behavioral audiometry to determine long-term auditory outcomes.

RESULTS

Among the 75 newborns, 44 (58.7%) had no risk factors for auditory issues, while 31 (41.3%) had risk factors such as family history (n=1), ototoxic drugs (n=12, 16%), cleft palate (n=1), Down syndrome (n=3), and Small for Gestational Age (n=1). Prematurity was observed in 23 (30.6%): 3 (13%) extremely preterm, 4 (17.4%) very preterm, and 16 (69.6%) moderate-to-late preterm. Neonatal Intensive Care Unit admission occurred in 9 (12%). Bilateral TEOAE failure was observed in 34 (45.3%), and unilateral in 41 (54.7%). Long-term auditory results will be discussed, with a focus on the proportion of newborns presenting some degree of hearing loss, without risk factors for late onset or progressive or acquired hearing loss.

CONCLUSIONS

Findings will clarify the proportion of children with hearing loss who would have been missed if screening was considered a pass at birth. These results may inform follow-up strategies for newborns passing AABR but failing TEOAE.

KEYWORDS

Newborn hearing screening, Transient Evoked Otoacoustic Emissions (TEOAE), Automatic Auditory Brainstem Response (AABR), False negatives, Long-term follow-up

OP-072

Evaluation Of Middle Ear Functions With Wideband Tympanometry In Adult Hearing Aid Users

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BACKGROUND & AIM

The present study aimed to assess middle ear function in adult hearing aid (HA) users with sensorineural hearing loss (SNHL) using wideband tympanometry (WBT) and to examine the effects of WBT-derived parameters and hearing loss severity on hearing aid adherence.

MATERIAL & METHODS

49 adult patients (mean age: 59.8 ± 13.2) with moderate and severe SNHL who had been using HAs for at least 6 months were included in the study. Patients were stratified according to daily HA use into two groups: users for <12 hours/day, and users for ≥12 hours/day. 40 individuals (mean age: 56.4 ± 6.9) with a similar average age and no hearing loss were included in the study as the control group. Middle ear function was evaluated using the WBT over a frequency range of 226–8000 Hz. Key WBT parameters, including absorbance, resonance frequency, and compliance, were analyzed.

RESULTS

A statistically significant difference was observed in compliance at 1000 Hz and resonance frequency between patients using HAs for ≥12 hours/day and those using them for <12 hours/day (p: 0.04; p: 0.04, respectively). There was a significant negative correlation between HA usage duration and both compliance (ρ: −0.43; p < 0.01) and absorbance at 500–1000 Hz (ρ: - 0.3; p: 0.04). In contrast, HA usage duration was positively correlated with resonance frequency (ρ: 0.36; p: 0.01). Furthermore, individuals with severe hearing loss exhibited significantly higher device adherence compared with those with moderate hearing loss (p: 0.04).

CONCLUSIONS

Wideband tympanometry enables a comprehensive evaluation of middle ear mechanics in adult HA users and may contribute to the optimization of individualized amplification strategies. For patients with low hearing aid adherence, fitting based on their WBT values may increase the daily usage time of their hearing aids; further research is needed on this topic.

KEYWORDS

Wide band tympanometry, hearing loss, hearing aid adherence, hearing aid.

OP-073

Feasibility Of Rapid Cortical Auditory Evoked Potentials Using The Sofi Hearing Assessment (R&D Version) System In Pediatric Populations

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BACKGROUND & AIM

Early and accurate detection of hearing loss is paramount for pediatric populations. While behavioral pure-tone audiometry (PTA) remains the clinical gold standard, it relies heavily on active patient cooperation, which is often difficult to obtain in young children. Rapid Cortical Auditory Evoked Potentials (Rapid-CAEP®) presents a novel, objective method to estimate hearing thresholds utilizing short electroencephalography (EEG) recordings. The objective of this study is to assess the absolute errors between hearing thresholds obtained with rapid-CAEP and PTA on a pediatric population of normal and impaired hearing.

MATERIAL & METHODS

42 children (aged 2-14 years; n=20 with normal hearing [≤20 dB HL] and n=22 with mild-to-moderate sensorineural hearing loss) underwent behavioral PTA and two 12-minute Rapid-CAEP® sessions (test-retest) utilizing the 8-channel R&D Sofi EEG system. Thresholds were estimated bilaterally at 500, 1000, 2000, and 4000 Hz. Age-specific stimulus rates were applied (2.5 Hz for <12 years; 5 Hz for ≥12 years). Data quality was strictly controlled; EEG sessions yielding a cross validation Canonical Correlation Analysis score < 0.1 were systematically excluded from the analysis.

RESULTS

The Rapid-CAEP® system yielded a median absolute error of 10 dB across all four tested frequencies compared to behavioral PTA. Indicating its potential clinical utility, 71.8% to 81.5% of the estimated thresholds (depending on the frequency) fell within a ≤15 dB margin of the behavioral PTA thresholds. The mean Pearson correlation of the CAEP between test-retest sessions was 0.94 (0.012 SEM).

CONCLUSIONS

These findings highlight a promising consistency between objective Rapid-CAEP® thresholds and behavioral responses, confirming its validity in pediatric cohorts. Furthermore, Rapid-CAEP shows potential as a reliable and time-efficient clinical tool, particularly for children who are unable to provide consistent behavioral feedback. While overall accuracy is high, factors such as participant fatigue, age-related effects, and transducer differences might have contributed to the variability and outliers observed in some of the results.

KEYWORDS

Cortical Auditory Evoked Potentials; Pediatric Audiology; Objective Hearing Assessment; Feasibility

OP-074

The Challenge Of A Mature Final Diagnosis Of Hearing Loss Severity And Early Cochlear Implantation

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BACKGROUND & AIM

Despite the recent trend of cochlear implantation (CI) at the age of six or even four months is prevalent in many centers around the world, clinicians should be cautious because perinatal risk factors of auditory neuropathy and/or delayed maturation carry the possibility of reversible hearing loss, yielding better auditory performance at the age of one year. The purpose of this study is to raise awareness that early CI may not be universal for all patients. In addition, we specify the factors to be considered in the pre-operative evaluation of CI in infants younger than one year.

MATERIAL & METHODS

This study describes four cases provisionally diagnosed with severe to profound sensorineural hearing loss that were presented to the CI clinic to determine candidacy for implantation. Two cases had histories of prematurity, one had Down syndrome, and one had a family history of hearing loss.

RESULTS

None of the study cases were candidates for CI, as they had varying degrees of hearing improvement.

CONCLUSIONS

Although early CI may yield better auditory performance, the final diagnosis should be made only after repeated subjective and objective measurements as well as family feedback on the child's auditory performance, especially in preterm children. Early auditory brainstem response (ABR) prior to the age of one year in children with cognitive, neurologic, or developmental comorbidities should be interpreted with caution, as ABR "alone" could not accurately represent the child's true hearing ability in this patient population.

KEYWORDS

Auditory neuropathy; Cochlear implantation; Delayed maturation and auditory brainstem response.

OP-075

Investigating Parental Perceptions And Cultural Beliefs About Hearing Loss In Children: A Key To Strengthening Hearing Health Systems In Ghana

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BACKGROUND & AIM

Hearing loss (HL) in children is a public health concern. Despite its prevalence, HL remains poorly understood with misconceptions about its causes and consequences. An exploration of parental understanding, beliefs and perceived causes of HL in children may help in addressing the knowledge gaps and misconceptions surrounding it.

The aim of this study was to explore parental understanding, beliefs and perceived causes of HL in children.

MATERIAL & METHODS

This was a cross-sectional study among parents/guardians of pre-school children in selected schools around Korle Bu Teaching Hospital, Ghana. IBM SPSS version 21.0 was used for the data analysis. The demographic characteristics of the participants were analysed using descriptive statistics. Perceived causes of HL were presented in percentages on a frequency distribution table. An interpretive content analysis of the parents' understanding of HL in children and traditional beliefs about HL in children were examined and analysed to identify themes from the interviews.

RESULTS

A total of 465 parents with an average age of 34.4±4.6 years participated in the study. Most (90.8 %) were females. Perceived causes of HL among preschool children were; congenital causes, childhood infections/illness, ear infections, birth injuries and

maternal alcohol/drug abuse. The following themes demonstrated participants understanding of HL in children; partial or total inability to hear, reduced ability to comprehend given instructions and communicate, inability to respond to verbal information and difficulty with perceiving and differentiating different sounds. Perceived traditional beliefs about the causes of HL in children were; eating fishhead during pregnancy, adultery in pregnancy, pregnant woman eating snails, bewitchment by ancestral/evil spirits and hereditary.

CONCLUSIONS

Hearing loss in children is attributed to both biological and sociocultural factors, with parental understanding influenced by clinical knowledge, functional interpretation, and strongly held traditional beliefs.

KEYWORDS

Hearing loss in children, cultural beliefs, perceived causes of hearing loss, prevalence

OP-076

The Role Of Nystagmus Characteristics During The Epley Maneuver In Evaluating Treatment Success

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BACKGROUND & AIM

Benign Paroxysmal Positional Vertigo (BPPV), primarily affecting the posterior semicircular canal (P-BPPV), is the leading cause of peripheral vestibular vertigo. While typically managed via the Epley maneuver, real-time success prediction remains challenging. This study evaluates the prognostic value of nystagmus parameters recorded via videonystagmography (VNG) using VNG goggles during the fourth position (P4) of the Epley maneuver. The aim was to determine if nystagmus presence or elimination at P4 immediately predicts treatment efficacy.

MATERIAL & METHODS

This prospective, descriptive, and analytical observational study included 90 voluntary participants (59 females, 31 males) diagnosed with P-BPPV who met the inclusion criteria. Diagnostic Dix-Hallpike tests were performed, and patients underwent the Epley maneuver within the same session. Eye movements were monitored in real-time during the Epley maneuver using VNG goggles, and head positions were tracked with VORTEQ IMU sensors; low-amplitude nystagmus, often undetectable via bedside observation, was objectively recorded. Treatment efficacy was subjectively evaluated using the Dizziness Handicap Inventory (DHI) and the Numerical Rating Scale (NRS).

RESULTS

Recovery was achieved in 84% of participants (n=76) with a single maneuver. The absence of nystagmus at P4 predicted success with a sensitivity of 97.6% for right P-BPPV and 100% for left P-BPPV. Conversely, all participants (100%) exhibiting reversed nystagmus (i.e., opposite to that expected for the affected canal during the Dix–Hallpike test) or downbeat nystagmus at P4 experienced treatment failure. Statistical analyses revealed that immediate nystagmus elimination at P4 increased the probability of full recovery approximately 66-fold. DHI (from 57 to 0) and NRS (from 8 to 0) scores significantly decreased following treatment ($p < 0.001$).

CONCLUSIONS

This study demonstrates that nystagmus responses at the P4 stage of the Epley maneuver strongly predict treatment success. The absence of nystagmus at P4 is associated with successful outcomes. If nystagmus persists, immediate repetition of the maneuver is recommended. These findings indicate that nystagmus monitoring is a real-time prognostic marker with high predictive value.

KEYWORDS

Benign paroxysmal positional vertigo, Epley maneuver, nystagmus, videonystagmography, prognosis, quality of life.

OP-077

Features Of War-Related Hearing Loss Diagnostics

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BACKGROUND & AIM

The ongoing Russian war against Ukraine has led to a significant increase in auditory trauma among both military personnel and civilians. Blast-related injuries, prolonged exposure to high-intensity impulse noise (gunfire, artillery), and psychological trauma create a complex clinical profile of hearing loss. The aim of this study is to analyze the clinical features of war-related hearing disorders observed at our specialized Hearing Centre and to identify key diagnostic challenges in this patient population.

MATERIAL & METHODS

We conducted a retrospective analysis of patients who were consulted at the Hearing Centre after February 24th 2022 and presented with subjective hearing complaints following exposure to war-related acoustic trauma. Diagnostic protocols included pure-tone audiometry, tympanometry, distortion product otoacoustic emissions (DPOAE), and auditory brainstem response (ABR) when indicated. Data regarding symptom onset, mechanism of injury (e.g., blast wave vs. chronic noise exposure), and comorbidities such as post-traumatic stress disorder (PTSD) were evaluated.

RESULTS

The patient cohort exhibited a high prevalence of high-frequency sensorineural hearing loss and bilateral tinnitus. A significant portion of patients presented with mixed hearing loss and tympanic membrane perforation. We observed a correlation between the intensity of blast exposure and the severity of threshold shifts. The diagnostic process was frequently complicated by the presence of concurrent traumatic brain injury (TBI) and stress-related psychological symptoms.

CONCLUSIONS

Diagnostics for war-related hearing loss requires a multidimensional approach beyond standard audiometry. Our findings emphasize that clinicians must be prepared to identify non-traditional signs of auditory injury, particularly in patients exposed to high-pressure blasts. Early and comprehensive assessment, including objective measures of cochlear and neural function, is critical for effective management. Addressing these "silent" injuries is vital for the long-term rehabilitation and quality of life of patients affected by the Russian war against Ukraine.

KEYWORDS

Acoustic Trauma, Sensorineural Hearing Loss, Blast Injury, Hearing Testing, Auditory Diagnostics

OP-078

Impact Of Cisplatin-Induced Hearing Loss On Health-Related Quality Of Life: A Prospective Cohort Study

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BACKGROUND & AIM

Cancer claims approximately 8.2 million lives worldwide and this number is set to double to 17.5 million by 2050. In South Africa the lifetime risk of cancer is estimated to be 1 in 8 among males and about 1 in 9 females. Cisplatin, a common chemotherapy drug used for treatment of various types of cancer, is associated with many adverse effects, including hearing loss. This study aimed to determine the impact of cisplatin-induced hearing loss on health-related quality (HRQoL) of life in patients undergoing cancer treatment.

MATERIAL & METHODS

A prospective cohort design was used to follow-up patients undergoing high dose cisplatin chemotherapy at Groote School Hospital, Cape Town, South Africa. Patients' hearing thresholds were prospectively monitored using pure tone audiometry (0.25 to 8 KHz) and HRQoL was assessed using both the Short Form – 36 (SF-36) and the Abbreviated Profile for Hearing Aid Benefit (APHAB) questionnaires. Descriptive and inferential statistics were used to analyse the data.

RESULTS

A significant decline in hearing thresholds was correlated with a decline in role-physical ($p = 0.006$) vitality ($p = 0.011$) and social functioning ($p = 0.016$) domains scores post-treatment. A significant decline in hearing was also significantly correlated to significant difficulty with ease of communication sub-scale of the APHAB ($p = 0.046$) and with increased challenges in reverberation post-treatment ($p = 0.022$).

CONCLUSIONS

Decline in pure tone hearing thresholds was significantly associated with a decline in health-related quality of life.

KEYWORDS

Cisplatin, hearing loss, health-related quality of life

OP-079

Impact Of Surgical Approach And Electrode Type On Middle Ear Mechanics In Pediatric And Adult Cochlear Implant Recipients: A Wideband Tympanometry Study

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BACKGROUND & AIM

Cochlear implantation may alter middle ear biomechanics through changes in cochlear impedance and postoperative tissue response. Wideband tympanometry enables frequency-specific assessment of these biomechanical changes. The aim of this study was to evaluate frequency-dependent changes in middle ear mechanics following cochlear implantation using wideband tympanometry and to investigate the influence of electrode type, surgical approach, and age group.

MATERIAL & METHODS

This retrospective study included 52 cochlear implant recipients (30 pediatric, 22 adult). Wideband tympanometry (226–8000 Hz) was performed bilaterally. Absorbance values were compared between implanted and contralateral ears, across electrode types, and between round window and cochleostomy approaches using appropriate statistical analyses.

RESULTS

Implanted ears demonstrated lower absorbance values compared to contralateral ears, particularly in the low-frequency range. Statistically significant differences were observed only at specific frequency bands, with significant findings at 324 Hz and 3175 Hz in pediatric patients and 408 Hz in adults. In pediatric patients, significant frequency-specific differences were identified between electrode types, whereas no significant electrode-related differences were observed in adults. Surgical approach analysis demonstrated limited frequency-specific differences, with higher absorbance values in the cochleostomy group at 1260 Hz in pediatric patients and in the round window group at 8000 Hz in adults.

CONCLUSIONS

Cochlear implantation is associated with frequency-dependent alterations in middle ear mechanics, predominantly reflected as reduced low-frequency absorbance. These findings suggest a stiffness-dominant biomechanical effect, with a more pronounced and variable response in pediatric patients. Wideband tympanometry may serve as a valuable non-invasive tool for detecting postoperative biomechanical changes and guiding individualized surgical and postoperative management strategies.

KEYWORDS

Cochlear implantation; Wideband tympanometry; Acoustic absorbance; Middle ear mechanics

OP-080

Speech Understanding With The BHM Contact Forte Bone Conduction System In Conductive Hearing Loss

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BACKGROUND & AIM

The Contact Forte system from BHM Inc (Grafenschachen, Austria). is a non-implantable bone conduction device allowing different wearing options. Our aim was to evaluate the audiological performance of two of its wearing options—an adhesive adapter and headband—worn unilaterally and bilaterally.

MATERIAL & METHODS

Both ears of 15 subjects with normal hearing were occluded to simulate a bilateral conductive hearing loss. The average hearing threshold became 45dB HL (500 to 4000 Hz). Measurements were performed in unaided conditions, with Contact Forte devices (unilateral and bilateral), with a headband, and with the self-adhesive wearing option. Speech understanding was measured in quiet (Freiburg words) at 50 and 65 dB and in noise (OLSA) in a diffuse noise field.

RESULTS

The self-adhesive adapter option resulted in a mean improvement in free sound field hearing thresholds of 16.3 dB for unilateral fitting and 19.1 dB for bilateral fitting. With the headband, the thresholds were, on average, better by 1.0 dB. Word understanding in quiet improved by 58 % to 75 % and was slightly better with the headband (3 %) and with two devices (5%). In background noise, speech understanding from the front was improved by an average of 2.8 dB. When speech was presented from the contralateral side, speech understanding deteriorated slightly by -0.8 dB with the unilateral fitting, whereas bilateral fitting led to an improvement of +4.2 dB. In noise, there was no significant difference between the headband and the self-adhesive adapter.

CONCLUSIONS

Significant improvements in speech understanding in quiet and noise were found, both with the headband and with the self-adhesive adapter. Using a bilateral fitting can improve speech understanding in noise.

KEYWORDS

Bone conduction, non.implntable, speech understanding, speech in noise, conductive hearing loss

OP-081

How Do Digital Competence And Institutional Support Influence Tele-Audiology Practice Among Audiology Professionals?

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BACKGROUND & AIM

While tele-audiology is increasingly used in audiology services, limited research has examined the combined role of digital competence and perceived organizational support in shaping professional attitudes. This study aimed to investigate factors influencing audiology professionals' attitudes toward tele-audiology and to assess the mediating role of digital competence.

MATERIAL & METHODS

This cross-sectional study included 247 hearing health professionals (163 audiologists and 84 audiometrists) working in clinical, academic, rehabilitation, and hearing aid centers across Türkiye. The mean age was 26.95 ± 4.99 years, 75.3% were female, and approximately half held a bachelor's degree. Participants were recruited using snowball sampling, and data were collected online via Google Forms. Data collection instruments included a Demographic Information Form, the Digital Competence Scale (DCS), the Survey of Perceived Organizational Support (SPOS), and PAESRUT, a researcher-developed questionnaire based on the literature and expert opinion; its psychometric properties have not yet been established. Descriptive statistics, correlation analyses, and group comparisons were conducted, and mediation was tested using the HAYES PROCESS macro (Model 4) with 5,000 bootstrap resamples (95% CI).

RESULTS

Approximately 31.6% of participants had prior tele-audiology experience. Tele-audiology knowledge ($p = 0.007$), professional competence/self-confidence ($p = 0.001$), and total PAESRUT scores ($p = 0.049$) differed significantly according to years of professional experience. By educational level, only tele-audiology knowledge scores differed significantly ($p = 0.013$), with higher scores among postgraduates. Participants with tele-audiology experience scored significantly higher across all PAESRUT subscales and total scores ($p < 0.001$). Age showed low but significant positive correlations with tele-audiology knowledge ($r = 0.149$, $p = 0.019$) and professional competence/self-confidence ($r = 0.160$, $p = 0.012$). Mediation analysis indicated that digital competence significantly mediated the relationship between perceived organizational support and total PAESRUT scores.

CONCLUSIONS

Tele-audiology experience and professional seniority were the strongest determinants of positive attitudes and perceived professional competence. The mediating role of digital competence suggests that sustainable tele-audiology adoption requires organizational support alongside targeted digital skills training. Accordingly, structured in-service training and mentorship in clinical settings, together with the integration of tele-audiology and digital health into educational curricula, may enhance long-term and effective practice.

KEYWORDS

Audiologists, Digital competence, Organizational support, Proffesional attitudes, Tele-audiology

OP-082

Establishing Normative Data For The Acoustic Reflex Latency Test In Normal-Hearing Individuals

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BACKGROUND & AIM

The Acoustic Reflex Latency Test (ARLT) is an objective otoneurological diagnostic tool that determines the time interval between the onset of an intense auditory stimulus and the initial impedance change resulting from the contraction of the stapedius muscle. For ARLT to be utilized as a standard and reliable method in clinical practice, there is a need for normative values that precisely define the boundaries of normal responses. The aim of this study is to establish a large-scale, age- and device-sensitive normative database specific to our clinic, using data obtained from normal-hearing individuals across different age groups.

MATERIAL & METHODS

Acoustic Reflex Latency Test (ARLT) measurements were conducted using the GSI TympStar Pro clinical tympanometer. The study evaluated normative data from 335 normal-hearing individuals (206 females, 129 males; mean age: 38.52 years). Participants were categorized into five age groups (18–25, 25–35, 35–45, 45–55, and 55–70 years) to analyze the effects of age on latency parameters. ARLT was performed across four frequencies (500 Hz, 1000 Hz, 2000 Hz, and 4000 Hz). The analyzed parameters included P1, P2, P3, and P4 latencies, alongside dynamic waveform properties, specifically Rise time and Fall time.

RESULTS

Statistical analysis showed no significant differences between the right and left ears, and likewise, no significant differences were found across the different age groups for all tested frequencies and latency parameters ($p > 0.05$), indicating that these normative data can be universally utilized across all normal-hearing age categories. The mean normative latency values were: P1 = 90.01 ms (SD: 38.85), P2 = 254.74 ms (SD: 101.59), P3 = 142.63 ms (SD: 45.25), and P4 = 312.48 ms (SD: 99.71). For the dynamic characteristics of the waveform, the mean rise time was 172.50 ms (SD: 91.19) and the mean fall time was 177.05 ms (SD: 84.02).

CONCLUSIONS

This study establishes a comprehensive normative database for ARLT across a wide age spectrum. The findings demonstrate that the acoustic reflex arc maintains symmetric and simultaneous neural transmission in healthy individuals. The established P1–P4 durations and rise/fall times serve as a reliable clinical reference framework, essential for accurately interpreting reflex delays or amplitude reductions in neurodegenerative, retrocochlear, or neuromuscular pathologies.

KEYWORDS
Acoustic Reflex Latency Test (ARLT), Normative data, Stapedius muscle, Stapedius reflex

OP-083

School-Based Hearing Screening Conducted By Teachers Using A Localized Mobile Application.

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BACKGROUND & AIM

Background: Pediatric hearing loss is a significant, often invisible handicap that can severely impair speech development and lead to declining academic performance. In resource-limited settings, routine screening is frequently hindered by a critical shortage of audiologists and equipment that is ill-suited for non-native English speakers. Schoolteachers represent a vital, untapped resource for early detection if provided with appropriate tools. This study evaluates a school-based hearing screening results conducted by teachers using the Preschool Audiometry Screening System–Pro (PASS-Pro), a localized application developed by National Electronics and Computer Technology Center, Thailand.

MATERIAL & METHODS

Methods: A retrospective study was conducted during the 2023 academic year across three primary schools in Chiang Mai. Teachers completed a standard workshop training before performing hearing screenings on 4th-to-6th-grade students. Ambient noise levels during testing were monitored using a sound level meter application.

RESULTS

Results: A total of 656 students successfully underwent hearing screening. The program demonstrated high efficiency, with a mean testing time per student of 70.6 ± 9.6 seconds. The screening revealed a unilateral referral (fail) rate of 6.2% and a bilateral referral rate of 1.7%. Despite the non-clinical school environment, the mean ambient noise level during testing was maintained at 43.05 ± 5.05 dB, which falls within acceptable limits for screening purposes.

CONCLUSIONS

Conclusion: Teacher-led, app-based screening is a time-efficient and accessible strategy for early hearing loss detection in school-aged children. This model provides a scalable solution to increase screening coverage in developing countries facing shortages of audiologists.

KEYWORDS
hearing screening, teacher, student, elementary school, application-based

OP-084

RECORDING OTOACOUSTIC EMISSIONS (OAE) WITH ADAPTIVE NOISE CANCELLATION (ANC) - FINDINGS FROM CLINICAL APPLICATION IN NEWBORN HEARING SCREENING

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BACKGROUND & AIM

Otoacoustic emissions (OAEs) are low-level sounds of cochlear origin, which can be recorded by a sensitive microphone fitted into the ear canal. Measurements are difficult in environments with higher ambient noise levels, as even a well-fitting probe cannot prevent external noise from entering the ear canal and masking the low-level OAE response.

The aim of the study was to record OAEs in subjects with normal hearing under noisy environmental conditions in order to evaluate the performance of the ANC algorithm.

MATERIAL & METHODS

To compensate for this, we have developed an ear probe that has an additional microphone to pick up noise outside the ear canal. An adaptive noise cancellation (ANC) algorithm filters out external noise and subtracts it from the internal signal, resulting in an improved signal-to-noise ratio (SNR) and a shorter test time without affecting the OAE response. The ANC algorithm has been implemented on our QSCREEN hearing screener for measuring Transient Evoked Otoacoustic Emissions (TEOAE) and Distortion Product Otoacoustic emissions (DPOAE).

RESULTS

The results show that the use of ANC makes testing in noisy environments up to 20 times faster than testing with a conventional single-microphone ear probe. In noisy conditions of around 70 dBA, over 70% of initial overall “refer” changed to “pass” results after applying the ANC.

CONCLUSIONS

The benefits of ANC include: (1.) reduced number of false positives, i.e., an improvement of specificity; (2.) shorter test time, and (3.) a possibility of performing the screening of cochlea function based on OAE tests in adverse environmental conditions, e.g., in the neonatal ward, at bedside, in pediatric practices, or in schools.

KEYWORDS

DPOAE, TEOAE, OAE, Adaptive Noise Cancellation

OP-085

The Trend Of Audiologic Risk Factors, Comparing Study In NICU Settings, Albania

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BACKGROUND & AIM

This study aims to assess the evolving impact of audiological risk factors on neonates admitted to NICUs in Albania over time

MATERIAL & METHODS

To enable comparison, this study focused on neonates admitted to the Neonatal Intensive Care Units (NICUs) of the two maternity hospitals in Tirana during the period 2018–2019. As fully equipped NICUs are available only in Tirana, the findings can be considered broadly representative of the national situation. Data from a similar study conducted in 2006–2007 were used for comparison. Both study periods spanned two years, with an approximate 10-year interval between them.

RESULTS

The dominant risk factors in the study population were prematurity, NICU stay, the use of ototoxic medication, low birth weight, hyperbilirubinemia and mechanical ventilation.

CONCLUSIONS

There has been a shift in the distribution of risk factors in the Albanian Neonatal population; premature birth is becoming more prominent than previously. The second most significant risk factor remains the length of stay in the NICU.The use of ototoxic medications continues to carry significant weight as a risk factor. Improved prenatal monitoring and adjustments to antimicrobial therapy are essential for reducing exposure to these risks.

KEYWORDS

universal neonatal hearing screening, audiological risk factors, NICU, ,low birth, aminoglycosides.

OP-086

Spatial Hearing In Elite Esports Athletes: Auditory Localization Under Visual Occlusion

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BACKGROUND & AIM

Spatial hearing is crucial for orienting toward behaviorally significant sounds; however, quantifying its limits under naturalistic high-pressure settings remains challenging. Elite first-person shooter esports athletes offer a distinctive framework for examining auditory localization in virtual acoustic environments. We hypothesized that geometric visual occlusion would increase horizontal localization error during responses to enemy footsteps, while motor initiation speed would remain preserved.

MATERIAL & METHODS

This study analyzed high-frequency telemetry from professional Counter-Strike 2 matches involving top-ranked teams. Server-side demo files were parsed at 64 Hz to extract player position, view angle, movement, visibility, and enemy footstep events. After excluding trials with major auditory or visual confounders, unstable pre-stimulus movement, anticipatory reactions, and delayed responses, 2,475 auditory-dominant occluded events and 106 visible control events were included. The main outcome was horizontal localization error 200 ms after reaction onset. Secondary outcomes were reaction time, front-back confusion, sector effects, angular velocity, and differences across five competitive roles. Geometric visibility checks classified events as occluded or visible.

RESULTS

Visual occlusion significantly reduced spatial accuracy. Mean localization error was higher in auditory-dominant occluded events than in visible controls (52.7 ± 45.1° vs 37.3 ± 42.3°; $p < 0.001$). Front-back confusion occurred more frequently during occluded events (19.8% vs 13.2%). In the occluded condition, rear-hemifield sources caused more errors than frontal sources ($p < 0.001$), in line with cone-of-confusion effects. In contrast, reaction time was similar between occluded and visible events (291 ± 115 ms vs 284 ± 128 ms), and peak angular velocity did not differ significantly ($p = 0.732$). Localization performance was homogeneous across competitive roles ($p = 0.178$).

CONCLUSIONS

Elite esports athletes can react to visually occluded sound sources as quickly as to visible targets, but they localize them less accurately, especially when the sound comes from behind. This suggests that the main limitation is not delayed motor response, but reduced spatial precision when vision is unavailable. Professional esports telemetry may therefore offer an innovative and naturalistic approach for studying spatial hearing in virtual acoustic environments.

KEYWORDS

Esports, spatial hearing, sound localization

OP-087

Cleft Plate And Hearing Loss

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BACKGROUND & AIM

This study was conducted to investigate the prevalence and types of hearing loss in patients with cleft palate. There is general consensus among official sources that the prevalence of hearing loss is higher in the cleft palate population compared to the non-cleft population. In general, hearing impairment is more frequently observed in children with cleft palate than in adults with the same condition. Some studies have provided data suggesting a possible association between the type of cleft and the incidence of cleft-related hearing loss.

MATERIAL & METHODS

In this descriptive cross-sectional study, 64 infants and young children (aged 0–4 years) with cleft palate were evaluated at Mofid Children's Hospital. Hearing status was assessed using tympanometry, Distortion Product Otoacoustic Emissions (DPOAE), and Auditory Brainstem Response (ABR) tests. ABR is a reliable tool for detecting hearing loss in newborns by measuring the electrical responses of the auditory pathway to brief acoustic stimuli. In this study, two electrodes were placed on the mastoid processes behind the ears and one on the upper forehead using conductive gel. The recorded electrical activity from the forehead was compared with the activity from the stimulated ear. Auditory evoked potentials were analyzed based on response latency following the stimulus.

RESULTS

The results showed that 52 of the participants had conductive hearing loss, which was directly associated with Eustachian tube dysfunction and otitis media. The prevalence of conductive hearing loss was significantly higher in comparison to sensorineural or mixed hearing loss in this group ($p < 0.05$).

CONCLUSIONS

The high prevalence of conductive hearing loss in patients with cleft palate highlights the necessity of regular hearing screening and follow-up in this population. Early diagnosis, along with appropriate therapeutic and rehabilitative interventions, can improve quality of life and help prevent speech and communication difficulties in these individuals.

KEYWORDS

• Cleft Palate • Conductive Hearing Loss • Hearing Screening • Eustachian Tube Dysfunction • Otitis Media • Auditory Brainstem Response (ABR) • Pediatric Audiology

OP-088

Prevalence And Clinical Course Of Multi-Canal Benign Paroxysmal Positional Vertigo: A Retrospective Comparative Study

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BACKGROUND & AIM

Benign Paroxysmal Positional Vertigo (BPPV) is one of the most common peripheral disorders of the vestibular system. Although the majority of patients present with involvement of a single semicircular canal, multi-canal BPPV—defined as the simultaneous involvement of more than one canal—leads to more complex clinical findings and treatment processes. The aim of this study was to determine the frequency of multi-canal involvement in patients with BPPV and to compare the clinical course of these patients with those diagnosed with single-canal BPPV.

MATERIAL & METHODS

In this retrospective study, medical records of a total of 304 patients who presented for vestibular evaluation within the past year were reviewed. Patients were classified into three groups based on their diagnosis: normal group (n=64), single-canal BPPV group (n=198), and multi-canal BPPV group (n=42). Demographic characteristics, positional test findings, distribution of affected canals, applied repositioning maneuvers, and follow-up outcomes were evaluated for all patients. The diagnosis of BPPV was established based on characteristic nystagmus findings obtained during Dix-Hallpike and supine roll tests within the videonystagmography test battery.

RESULTS

Among the 304 patients included in the study, 240 were diagnosed with BPPV. Of these, 198 patients (82.5%) had single-canal involvement, while 42 patients (17.5%) exhibited multi-canal involvement. The most common pattern in the multi-canal BPPV group was the coexistence of posterior and horizontal canal involvement. The mean number of treatment sessions was higher in the multi-canal BPPV group compared to the single-canal group. Similarly, the follow-up duration was significantly longer in the multi-canal group ($p<0.001$). Although the rate of recovery after the first maneuver was lower in the multi-canal group, the overall treatment success was high in both groups. A history of previous BPPV episodes was more frequent in the multi-canal BPPV group compared to the single-canal group. No significant differences were found between the groups in terms of age and gender distribution.

CONCLUSIONS

In our study, multi-canal BPPV accounted for 17% of all BPPV cases. Multi-canal involvement was found to be more common, particularly in patients with a history of previous BPPV episodes and those presenting with prolonged symptoms. Furthermore, the higher recurrence rates observed in multi-canal BPPV suggest that these patients require closer follow-up. The absence of significant differences in age and gender indicates that multi-canal involvement may be more closely associated with the clinical course of the disease rather than demographic factors.

KEYWORDS

Benign Paroxysmal Positional Vertigo (BPPV), Multi-Canal BPPV, Vestibular Disorders, Repositioning Maneuvers

OP-089

Agreement And Diagnostic Performance Of Mimi Hearing Test Versus Screening And Pure-Tone Audiometry In Normal-Hearing Subjects

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BACKGROUND & AIM

Mobile applications for hearing assessment represent low-cost alternatives for population-based screening. However, their agreement with pure-tone audiometry (gold standard) and their performance under environmental noise conditions require validation. We hypothesized that the Mimi Hearing Test would demonstrate acceptable agreement and high diagnostic accuracy in silent conditions, but reduced performance in the presence of background noise.

MATERIAL & METHODS

A cross-sectional comparative study was conducted in 60 adults with confirmed normal hearing. Frequency-specific thresholds (250–8000 Hz) and pure-tone average (PTA; 500–1000–2000 Hz) were analyzed. In 0 dB background noise, 60 subjects were evaluated; under 70 dB environmental noise with an attenuator, 49 participants were assessed; and under 50 dB with an attenuator, 27 subjects were tested. Agreement by threshold was evaluated using the intraclass correlation coefficient (ICC2, absolute agreement) and Bland–Altman analysis. Diagnostic performance for PTA classification (normal hearing vs. hearing loss) was assessed using quadratic weighted Kappa, sensitivity, specificity, accuracy, and McNemar test.

RESULTS

At 0 dB noise, the conventional screening audiometer showed higher agreement for PTA (right ear ICC2 = 0.82; left ear ICC2 = 0.55) compared to Mimi (right ear ICC2 = 0.42; left ear ICC2 = 0.36), with lower variability (limits of agreement ±5.6 dB vs. ±14 dB). Mimi demonstrated low systematic bias (−2.48 to +0.34 dB). In silent conditions, Mimi showed high diagnostic accuracy (accuracy right ear = 0.98; left ear = 1.00). However, at 70 and 50 dB environmental noise, accuracy decreased markedly (0.02–0.07), with specificity approaching zero ($p < 0.001$ vs. 0 dB).

CONCLUSIONS

In normal-hearing subjects, the Mimi Hearing Test demonstrated high diagnostic accuracy in silent conditions with low bias compared to pure-tone audiometry, although with greater variability and lower threshold agreement than a conventional screening audiometer. Performance deteriorated significantly in the presence of environmental noise (50–70 dB), mainly due to increased false positives. Mimi may be a useful screening tool under controlled acoustic conditions but is not interchangeable with diagnostic audiometry and requires strict noise control protocols for community implementation.

KEYWORDS

Mimi Hearing Test, Pure-tone audiometry, Hearing screening, Diagnostic accuracy, Intraclass correlation coefficient, Environmental noise, Bland–Altman analysis, Hearing assessment validation

OP-090

Clinical And Audiological Evaluation Of Huppke–Brendel Syndrome, A Rare Genetic Disorder

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BACKGROUND & AIM

Huppke–Brendel syndrome (HBS) is a rare autosomal recessive neurodevelopmental disorder caused by mutations in the SLC33A1 gene. It is clinically characterized by bilateral congenital cataracts, sensorineural hearing loss, and developmental delay. Due to the limited number of reported cases, audiological findings remain insufficiently described. This study aims to present the clinical and audiological findings of a patient diagnosed with HBS.

MATERIAL & METHODS

A 15-month-old male patient who passed bilateral newborn hearing screening but was referred for further evaluation due to risk factors was included. He was born at 37 weeks of gestation with a birth weight of 3500 g, and parental consanguinity was reported. Ophthalmological evaluation revealed visual impairment, and surgery for congenital cataracts was performed. Subsequent genetic analysis confirmed HBS, with both parents identified as carriers. Clinical evaluation revealed hypotonia, feeding difficulties, inability to tolerate solid foods, lack of independent sitting, and absence of head control. Audiological assessment included otoacoustic emissions, acoustic immittance measurements, and auditory brainstem response (ABR) testing.

RESULTS

Immittance measurements revealed Type A tympanograms bilaterally. Acoustic reflex testing showed ipsilateral reflexes in the right ear at 500 and 1000 Hz. Contralateral reflexes in the right ear were present at 500 Hz. In the left ear, ipsilateral reflexes were present at 500 Hz while contralateral reflexes were absent at all frequencies.

Transient evoked otoacoustic emissions (TEOAEs) were absent bilaterally.

In ABR testing using click stimuli, wave V was obtained at 60 dB nHL in the right ear and 70 dB nHL in the left ear, with abnormal intensity–latency functions. In tone-burst ABR evaluation, wave V was recorded at 60 dB nHL at 500 Hz and 75 dB nHL at 2000 Hz in the right ear. In the left ear, wave V was obtained at 60 dB nHL at 500 Hz, while no wave V was detected at 2000 Hz at 90 dB nHL.

These findings indicate bilateral moderately severe sensorineural hearing loss.

CONCLUSIONS

Based on the audiological evaluation findings, hearing aid–based auditory rehabilitation was recommended.The family was informed about the auditory rehabilitation process and follow-up protocol.

KEYWORDS

Huppke–Brendel syndrome , Rare genetic disorders, Hearing loss, Hearing aids

OP-091

QUALITY CRITERIA IN NEWBORN HEARING SCREENING - FOUR IDENTICAL PROJECT APPROACHES - FOUR DIFFERENT OUTCOMES

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BACKGROUND & AIM

Results from four identically implemented neonatal hearing screening projects (referred to as A, B, C and D) are presented. All projects show different results. Even when standards such as the specificity of a test method are used, the results vary widely.

MATERIAL & METHODS

In all four projects, screening strategy, training courses, choice of methods, local conditions and the measuring devices used were identical. All projects also provided a tracking office with automated data transmission to a central server, complete with a tracking supervisor responsible for this data and ensuring continuous quality assurance measures.

Each project was supervised and managed by external experts. Statistical results were compared and evaluated.

RESULTS

Despite comparable conditions, the outcome of the screening differs significantly. When considering the TEOAE measurements alone, a different test specificity was found for each of the projects. The collection rates, failed rates and the effort per baby show how differently the projects developed.

Project A (n=21,636); Project B (n=15,853); Project C (n=9,268); Project D (n=3,996)

Specificity of TEAOE measurements:

97.8% (A); 92.6% (B); 94.4% (C); 85.7% (D)

Transmitted patients, compared to birth rate:

89.2% (A); 37.3% (B); 15.0% (C); 96.0% (D)

Transmitted and tested patients:

99.8% (A); 96.5% (B); 99.9% (C); 99.3% (D)

Primary screening failed:

1.3% (A); 6.4% (B); 15.6% (C); 23.4% (D)

TEOAE tests per patient (average):

2.2 (A); 2.8 (B); 2.7 (C); 3.4 (D)

CONCLUSIONS

These figures demonstrate that there must be other reasons why projects can develop so differently. The permanent monitoring of a screening program is therefore of crucial importance. "Soft skills" of program supervisors, ongoing quality control and constant feedback for motivation are all very important factors to ensure the success of a hearing screening program.

KEYWORDS

Newborn Hearing Screening, Quality Control

OP-092

Intratympanal Application Of Corticosteroids For Meniere Disease Treatment

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BACKGROUND & AIM

Meniere Disease is still with unknown etiopatogenesis and still without strictly defined therapeutic protocol. Meniere Disease is characterized with three symptoms – rotatory vertigo, tinnitus in the ear and fluctuating hearing reduction. High frequency of Meniere Disease atacs leads to persistent vertigo and significant sensorineural hearing loss.

MATERIAL & METHODS

Randomized controlled study on patients with definitive and probable Meniere Diasease , divided in two groups. First group 30 patients with intervention – Intratympanal application of amp. Dexamethason 4mg /1 ml with injecting in posterior inferior quadrant of tympanal membrane, once a week/ 3 applications, under local anesthesia. Second group consists of 30 patinets without intervention. All patients are with signed Informed consent for including in the study.

Study is performed at ORL department at General City Hospital ,,8-th September "- Skopje, North Macedonia with an ethical approval by Ethical Committee.

RESULTS

All patients included in the study were examined with audio-vestibular testings -TLA, tympanometry, caloric test, VNG , tinnitus evaluation, filled Tinnitus Handicap Inventory, Dizziness Handicap Inventory and individual questionnaire were preformed before intratimpanal application of Dexamethason, and followed in a period of 1, 3 and 6 months after intervention.

Distribution by gender, age, profession and results from blood count and biochemistry analyse were statisticaly analized.

CONCLUSIONS

Intratympanal application of amp.Dexamethason 4 mg /1 ml, once a week in period of three weeks is reducing the frequency of Meniere Disease atacs, improves tinnitus, reduces SNHL. Procedure of intratympanal application is safe with minimal local pain and side effects.

KEYWORDS

Meniere Disease, intratympanal application, Dexamtehasone, Corticosteroids, tinnitus , SNHL

OP-093

Evaluation Of Clinical Factors Associated With Auditory Brainstem Response Maturation In Children Aged 0–48 Months: A Retrospective Study

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BACKGROUND & AIM

Hearing is essential for speech, language, and cognitive development during early childhood. Auditory Brainstem Response (ABR/BERA) is widely used for the objective evaluation of hearing thresholds and auditory pathway maturation in infants and young children. Several neonatal risk factors, including NICU admission and hyperbilirubinemia, may affect auditory maturation and prolong ABR latencies. This study aimed to evaluate the relationship between clinical risk factors, newborn hearing screening outcomes, and ABR Wave V latencies in children aged 0–48 months.

MATERIAL & METHODS

This retrospective study included 242 children aged 0–48 months who underwent Auditory Brainstem Response (ABR) testing between August 2025 and April 2026. Clinical risk factors, newborn hearing screening results, and Wave V latencies at 15 dB

and 35 dB were evaluated. Correlations between age and ABR latencies were analyzed using Spearman correlation analysis, while group comparisons were performed using non-parametric tests. Logistic regression analysis was used to assess the effect of risk factors on newborn hearing screening outcomes. A p-value <0.05 was considered statistically significant.

RESULTS

A total of 242 children aged between 0 and 48 months were included in the study. A progressive decrease in 35 dB Wave V latency was observed with increasing age, with the highest values detected in the 0–6 month group. Spearman correlation analysis demonstrated a significant negative correlation between age and 35 dB Wave V latency (rho = -0.404, p < 0.001). Significant differences in Wave V latencies were also observed among age groups (p < 0.001). Children who failed newborn hearing screening showed significantly prolonged 35 dB Wave V latencies compared to those who passed the screening (p = 0.017). In addition, clinical risk factors were significantly associated with newborn hearing screening failure (p < 0.001). Prolonged 15 dB Wave V latencies were similarly observed in children with risk factors and failed screening results.

CONCLUSIONS

In the present study, Wave V latency significantly decreased with increasing age in children aged 0–48 months, supporting progressive auditory pathway maturation during early childhood. Children, failed newborn hearing screening demonstrated prolonged Wave V latencies, suggesting delayed auditory maturation even without significant peripheral hearing loss (1–3). In addition, risk factors such as NICU admission and hyperbilirubinemia were significantly associated with newborn hearing screening failure. Previous studies have shown that hyperbilirubinemia may exert neurotoxic effects on the auditory brainstem and prolong ABR latencies (4). Despite its retrospective singlecenter design, the relatively large pediatric population increased the clinical value of the study.

KEYWORDS

Auditory maturation, ABR Wave V,Newborn hearing screening

OP-094

Assessment Of Otolith Functions In Individuals With Motion Sickness

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BACKGROUND & AIM

Motion sickness (MS) is characterized by dizziness, nausea, and postural instability resulting from sensory conflict among the vestibular, visual, and proprioceptive systems. The contribution of the otolith organs and vestibulo-ocular system to MS pathophysiology remains incompletely understood. This study aimed to evaluate vestibular function in individuals with MS by assessing otolithic mechanisms and vestibulo-ocular responses and comparing the findings with healthy controls.

MATERIAL & METHODS

This prospective study was conducted between June 2025 and January 2026 at the Audiology Unit of İnönü University Turgut Özal Medical Center. Ethical approval was obtained from the Scientific Research Ethics Committee of İnönü University Health Sciences (Approval No. 2025/7905), and written informed consent was obtained from all participants. Forty-five individuals with MS and 45 age- and sex-matched healthy controls (18–50 years) were included. Participants underwent cervical vestibular evoked myogenic potential (cVEMP), ocular vestibular evoked myogenic potential (oVEMP), video ocular counter-roll (vOCR), and static and dynamic subjective visual vertical (SVV) and subjective visual horizontal (SVH) assessments. Test parameters were compared between groups.

RESULTS

cVEMP and oVEMP asymmetry ratios were significantly higher in the MS group than in controls (p<0.05). Significant group differences were observed in right, left, and mean cVEMP amplitudes (p<0.05). oVEMP measurements demonstrated shorter latencies and longer interlatency values in individuals with MS (p<0.05). All SVV angle measurements differed significantly between groups (p<0.05), whereas significant differences in SVH were observed at −30°, −20°, −10°, and +30° (p<0.05). Dynamic SVV and SVH testing revealed greater perceptual deviations in the MS group (p<0.05). Higher vOCR gain values and asymmetry were also identified in individuals with MS (p<0.05).

CONCLUSIONS

The findings suggest that MS is a multifaceted vestibular disorder characterized by impaired integration among otolith function, vestibulo-ocular reflexes, and perceptual systems of verticality and horizontality. VEMP and vOCR findings indicate otolith-related asymmetry, temporal irregularities, and hyperresponsive vestibular patterns. Although central compensation appears partially preserved, it becomes insufficient under dynamic conditions, leading to increased perceptual deviations. Overall, MS may represent a complex clinical condition associated with otolith-dominant dysfunction and impaired vestibulo-ocular integration under sensory loading conditions.

KEYWORDS

Motion sickness, ocular counter roll, otolith assessment, subjective visual vertical, subjective visual horizontal, VEMP

OP-095

Investigation Of Medial Olivocochlear Efferent Modulation In Individuals With Different Tinnitus Pitches

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BACKGROUND & AIM

Subjective tinnitus is the perception of sound in the absence of external acoustic stimulation and may originate from any level of the afferent and/or efferent auditory pathways.While most previous studies have focused on high-frequency tinnitus perception, evidence regarding individuals with tinnitus centered in the mid-frequency region remains limited. Accordingly, this study aimed to investigate medial olivocochlear (MOC) efferent modulation, indexed by contralateral suppression (CS) of transient-evoked otoacoustic emissions (TEOAEs),in normal-hearing adults with tinnitus centered within the 1–4 kHz range, a functionally critical region of the auditory system that encompasses speech-relevant acoustic information and corresponds to frequencies of maximal auditory sensitivity.

MATERIAL & METHODS

Fifty-six adults (18–40 years) with normal hearing were allocated into four groups (n = 14 each): three tinnitus groups based on tinnitus pitch ranges—Group 1 (1–2 kHz), Group 2 (2–3 kHz), Group 3 (3–4 kHz)—and a control group (no tinnitus). Tinnitus perception severity was assessed using the Tinnitus Handicap Inventory (THI). MOC modulation was measured via CS of TEOAEs at 1, 1.5, 2, 3, and 4 kHz using a 65 dB peSPL TEOAE stimulus with 65 dB SPL broadband noise. Recordings employed a dual-probe, linear-mode protocol (Otodynamics ILO292-II). Statistical analyses were performed using ANOVA followed by post-hoc comparisons.

RESULTS

The mean tinnitus pitch was 1478.69 ± 319.12 Hz for Group 1, 2741.92 ± 213.41 Hz for Group 2, and 3754.61 ± 239.36 Hz for Group 3. THI scores did not differ significantly among tinnitus groups (Group 1: 38.23 ± 12.39; Group 2: 40.19 ± 12.79; Group 3: 41.23 ± 13.28 ; $F(2, 39) = 0.32$, $p = 0.73$). TEOAE amplitudes and contralateral suppression were significantly reduced in all tinnitus groups compared to controls at all tested frequencies (all $p < 0.05$), whereas no significant differences were observed among tinnitus groups at any frequency (all $p > 0.05$).

CONCLUSIONS

The findings suggest that individuals with normal hearing who perceive tinnitus in the mid-frequency range may exhibit alterations in cochlear output and MOC efferent modulation compared with those without tinnitus.Despite the distribution of tinnitus percepts across different mid-frequency bands,the absence of significant differences among tinnitus subgroups suggests that the observed changes in cochlear output and MOC modulation may reflect a common mechanism independent of tinnitus pitch.These alterations in MOC modulation may be associated with peripheral contributions related to reduced TEOAE responses and/or may reflect independent efferent regulatory processes.Further studies are required to understand these mechanisms and clarify their clinical implications.

KEYWORDS

Tinnitus; TEOAE; MOC; efferent; contralateral supression

OP-096

INDUSTRIAL DEAFNESS IN NIGERIA: A SILENT SCOUGE-SYSTEMATIC REVIEW

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BACKGROUND & AIM

Industrial Deafness also known as Occupational Deafness is the general term for Noise Induced Hearing Loss resulting from one or two things: from working in a noisy environment for a prolonged period of time without adequate hearing protection or following acoustic trauma caused by a one-off exposure to extremely high levels of noise.

The term, silent scourge is actually an irony because it has to do with the effect of loud sounds at the workplace and its long - lasting effects.

MATERIAL & METHODS

A search was conducted on databases like PubMed, African Journals online (AJOL) and Cochrane library using key words 'Nigeria', 'Noise Induced Hearing Loss' Occupational Hearing Loss and Hearing Conservation.

RESULTS

Most studies came from Southern Nigeria, North Central or North Western Nigeria. Industrial deafness can be caused by a one-time exposure to an intense impulse sound and such as an explosion or by conscious exposure to loud sounds over an extended period of time such as noise. Research suggests that significant noise induced hearing loss usually develops another or more years of exposure.Prevalence appears to be on the rise from all the studies reviewed, a rise from 9.1% to 40.9% was noted in glass factory workers (Okolugbo 2020). Ighorodje et al in a 9 year study found all subjects in a saw mill suffered.

Risk groups: Textile worker (Osibogun et al 2000). Cement factory (Chukuma 2020 and Nasiiru et al 2006), Power plant and flour mills (Mgbe et al 2021) and Music Industry (Ologe et al 2007).

CONCLUSIONS

Work still needs to be done to educate the Nigerian populace in prevention of Industrial deafness. Labor, safety, Health and welfare bill was passed in Nigeria in 2012 and there is no evidence that it has been updated and reviewed.

In Nigeria there is limited capacity to enforce safety laws by monitoring agencies due to severe budgetary constraints. There is also the need to improve capacity. Labor unions are hamstrung to ensure that workers' rights are protected.

KEYWORDS

Industrial deafness, Nigeria, Noise Induced Hearing loss, Occupational Hearing loss, Hearing Conservation

OP-097

How Work Sector And Experience Moderate The Effects Of Hopelessness And Burnout On Audiologists' Work-Life Quality?

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BACKGROUND & AIM

The aim of this study was to examine the effects of hopelessness and burnout on audiologists' work-related quality of life and job satisfaction, and to evaluate the moderating roles of work sector and experience in these relationships.

MATERIAL & METHODS

An analytic cross-sectional study employing moderationanalyses based on PROCESS Model 1. A total of 167 audiologists(102 in hearing aid, 65 in rehabilitation centers; aged 22–45 years) completed a demographic form and four scales: Beck HopelessnessScale, Job Satisfaction Scale, Burnout Questionnaire, Quality of Work Life Scale for Healthcare Professionals. Data were collectedface-to-face and online. Analyses were performed in SPSS 27.0 using PROCESS Model 1 to examine the moderating effects of work sector (hearing aid/rehabilitation) and work experience(≤24/>24 months). Statistical significance was determined usingbootstrapped confidence intervals (5000 resamples, 95% CI) withp<0.05.

RESULTS

Hopelessness showed no significant main effect on work-related quality of life (p=0.224) or job satisfaction (p=0.143), and its interactions with work sector and experience were non-significant. However, among audiologists with more than 24 months of experience, higher hopelessness was associated with lower work-related quality of life (β=-0.833, p=0.034). Greater hopelessness also predicted lower job satisfaction in both experience groups, remaining significant only among those working in hearing aid centers.Burnout was a stronger predictor, showing significant negative associations with both work-related quality of life and job satisfaction. Although work experience did not significantly moderate these relationships, burnout reduced job satisfaction in both experience groups and lowered work-related quality of life among those with ≤24 months of experience. Work sector significantly moderated burnout effects, with audiologists in hearing aid centers experiencing more pronounced declines than those in rehabilitation centers.

CONCLUSIONS

The findings suggest that burnout is the keydeterminant of professional well-being among audiologists. Thefirst 24 months of practice constitute a critical period in whichburnout more strongly impairs work-related quality of life and jobsatisfaction, particularly in high-pressure commercial environmentssuch as hearing aid centers. These results underscore the need fororganizational strategies to reduce burnout and to support early-career audiologists working under intensified sectoral demands.

KEYWORDS

Job satisfaction, burnout, moderation analysis, quality of work life, work experience, working sector

OP-098

Exploring The Relationship Between Noise Acceptance And Tinnitus Distress

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BACKGROUND & AIM

This study explores the relationship between noise acceptance levels and tinnitus distress, focusing on individuals with chronic non-pulsatile tinnitus and normal hearing. Given the neurological overlap between tinnitus perception and noise suppression mechanisms, we hypothesized that increased tinnitus distress correlates with reduced noise acceptance.

MATERIAL & METHODS

28 individuals with tinnitus and 17 normal-hearing controls participated. The tinnitus group was categorized into bothersome and non-bothersome tinnitus based on Tinnitus Handicap Inventory (THI) scores. Psychoacoustic assessments, psychometric evaluations, and the Acceptable Noise Level (ANL) test were conducted. ANL, Background Noise Level (BNL), and Most

Comfortable Listening Level (MCL) were compared across groups, and correlations between ANL scores and tinnitus distress measures were analyzed.

RESULTS

Individuals with bothersome tinnitus exhibited significantly higher ANL scores than non-bothersome tinnitus and normal-hearing controls ($p < 0.001$). BNL was significantly lower in the bothersome tinnitus group than in the control group ($p = 0.001$), whereas MCL did not differ significantly across groups. A positive correlation was found between ANL and THI scores ($r = 0.51$, $p = 0.005$), suggesting that greater tinnitus distress is associated with lower noise acceptance. No significant correlation was observed between ANL and psychoacoustic characteristics of tinnitus.

CONCLUSIONS

The findings indicate that individuals with bothersome tinnitus have reduced noise acceptance, likely due to deficits in central inhibitory mechanisms. The relationship between ANL and tinnitus distress supports the hypothesis that top-down noise suppression deficits contribute to tinnitus perception and its bothersomeness. These results underscore the importance of considering noise acceptance in tinnitus rehabilitation strategies.

KEYWORDS

Tinnitus; Bothersome Tinnitus; Non-Bothersome Tinnitus; Acceptable Noise Level Test

COCHLEAR IMPLANTS AND IMPLANTABLE DEVICES

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OP-099

Frequency-To-Place Mismatch Does Not Predict Cochlear Implant Speech Outcomes

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BACKGROUND & AIM

Tonotopic alignment between cochlear implant electrode position and assigned stimulation frequency is considered a potentially modifiable determinant of cochlear implant performance. We hypothesized that greater frequency-to-place mismatch, reflecting discordance between intracochlear electrode location and fitting-software frequency allocation, would be associated with poorer postoperative speech perception. This study aimed to evaluate whether anatomical, surgical, and frequency-allocation parameters predict hearing outcomes after cochlear implantation.

MATERIAL & METHODS

This retrospective single-center cohort study included 69 postlingually deafened cochlear implant recipients implanted with MED-EL lateral wall electrode arrays at a tertiary otorhinolaryngology center. All subjects underwent preoperative and postoperative high-resolution computed tomography and OTOPLAN-based analysis. Forty-nine ears had complete electrode insertion and 20 had incomplete insertion. Cochlear duct length, electrode angular insertion depth, age at implantation, duration of severe hearing loss, surgical approach to the cochlea, and frequency-to-place mismatch were evaluated. Mismatch was calculated between predicted preoperative and postoperative electrode frequencies, and between postoperative electrode frequencies and MAESTRO default fitting values, expressed in Hertz and semitones. Audiological outcomes at ≥12 months after activation included sound field audiometry, Slovak Speech Audiometry in noise, and monosyllabic word recognition in noise. Analyses included Wilcoxon signed-rank tests, Mann–Whitney U tests, Kruskal–Wallis tests, correlation analyses, and multivariable linear regression.

RESULTS

Preoperative OTOPLAN predictions significantly overestimated postoperative electrode frequencies from E12 to E2, with the largest discrepancies basally; E1 showed no significant difference. Postoperative electrode frequencies were significantly higher than MAESTRO preset frequencies for all electrodes (all $p<0.001$). In complete insertions, the largest absolute mismatch was basal, with E12 showing a median mismatch of 3199 Hz, whereas the largest semitone mismatch was apical, with E1 showing a median mismatch of 18.3 semitones. Organ of Corti-based mapping produced less mismatch than Spiral Ganglion-based mapping ($p<0.001$). Angular insertion depth was the strongest predictor of semitone mismatch ($\beta\approx-0.96$, $p<0.001$), whereas cochlear duct length, age, and surgical approach were not significant predictors. Frequency-to-place mismatch did not correlate with postoperative speech or sound field audiometry outcomes. The only significant clinical predictor of poorer

performance was longer duration of severe hearing loss, associated with lower monosyllabic word recognition in noise (ρ=−0.293, p=0.041).

CONCLUSIONS

Frequency-to-place mismatch was systematic and strongly dependent on electrode insertion depth, but it did not predict speech audiometry or aided hearing outcomes 12 months after cochlear implantation. These findings do not support a measurable clinical benefit of frequency-matched stimulation in this cohort and suggest that auditory deprivation duration remains a more relevant prognostic factor. Further prospective studies are needed to refine anatomy-based fitting strategies and identify patients who may benefit from individualized frequency allocation.

KEYWORDS

Cochlear implants; frequency-to-place mismatch; angular insertion depth; cochlear duct length; anatomy-based fitting; speech audiometry

OP-100

Not Just An Electrode Insertion: What Should You Know About Cochlear Parameters

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BACKGROUND & AIM

Recently developed otological planning software (OTOPLAN) allows surgeons to directly measure cochlear parameters. The objective was to determine the A-value reported in the literature, to assess the accuracy of the A-value measurement and to evaluate a novel cochlear measurement C – value in distinguishing malformed cochlea and to compare the cochlear parameters measured using the OTOPLAN by a neurotologist and those measured on the PACS by another independent neurotologist. The secondary aim was to determine the A-value reported in the literature, to assess the accuracy of the A-value measurement and to evaluate a novel cochlear measurement in distinguishing malformed cochlea.

MATERIAL & METHODS

In this retrospective descriptive study, a total of 127 human ears were investigated. the 3D Slicer segmentation software was used to confirm of the cochlear morphology. Then by HRCT was performed, and OTOPLAN was used to measure the cochlear parameters A,B,H Values. All measured parameters were statistically analyzed. Finally, more investigation done for the A-value and novel C-value measurement were evaluated as predictors of inner ear malformation type.

RESULTS

There was no significant difference between the A-value measured on the PACS and that on the OTOPLAN by the two independent neurotologists. Both A- and B-values, which were measured using the OTOPLAN, showed a high positive correlation to the CDL. However, the B-value showed a stronger correlation to the CDL than the A-value. The A-values of the normal cochleae compared to the cochleae with cochlear hypoplasia, incomplete partition (IP) type I, -type II, and -type III were significantly different. The A-value does not predict the C-value. The C-values of the normal cochleae compared to the cochleae with IP type I and IP type III were significantly different.

CONCLUSIONS

The new OTOPLAN tool could enable ontological surgeons to independently perform appropriate preoperative planning, including electrode visualization. Moreover, the cochlear width (B) has a strong correlation to the CDL. Thus, we suggest using the combination of A and B to accurately estimate the CDL rather than using one of them. The A-value is different in normal vs. malformed cochleae. The novel C-value could be used to predict malformed anatomy, although it does not distinguish all malformation types.

KEYWORDS

Cochlear morphology, cochlear duct length

OP-101

Extracochlear Electrode Looping and Cochlear Implant Electrode Migration

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BACKGROUND & AIM

Electrode migration is a rare but clinically significant complication following cochlear implantation (CI), potentially resulting in deterioration of auditory performance and the need for revision surgery. The during CI surgery is the creation of an extracochlear electrode loop, which may reduce mechanical tension on the electrode array. The present study aimed to evaluate the association between extracochlear electrode looping and the occurrence of postoperative electrode migration. We hypothesized that the absence of an extracochlear electrode loop would be associated with a higher rate of electrode migration.

MATERIAL & METHODS

This retrospective observational study included CI recipients with available postoperative imaging and operative documentation sufficient to determine electrode loop status. A total of 143 patients were analyzed, consisting of all migration cases identified over the study period combined with cochlear implant recipients operated within the last 1.5 years. Patients were categorized according to the presence or absence of an extracochlear electrode loop. Electrode migration, defined radiologically as postoperative displacement of the intracochlear electrode array, was the primary outcome measure. Categorical variables were analyzed using Fisher's exact test due to the low incidence of migration events. Effect size was estimated using odds ratios (OR) and Cramer's V. Statistical significance was defined as $p < 0.05$.

RESULTS

Among 143 cochlear implant recipients, electrode migration was observed in 13 patients (9.1%). Migration occurred in 4 of 86 patients (4.7%) with an extracochlear electrode loop, compared with 9 of 57 patients (15.8%) without a loop. The absence of an extracochlear electrode loop was significantly associated with a higher rate of electrode migration (Fisher's exact test, $p = 0.035$). The presence of an extracochlear loop was associated with lower odds of migration (OR ≈ 0.26). The effect size indicated a small-to-moderate association (Cramer's V = 0.19).

CONCLUSIONS

Extracochlear electrode looping was significantly associated with a lower incidence of cochlear implant electrode migration in this retrospective cohort. Although causality cannot be inferred, these findings suggest that extracochlear looping may represent a simple surgical technique associated with improved electrode stability.

KEYWORDS

Cochlear implant, electode array, loop, migration

OP-102

Evaluation Of Performance Of Piezoelectric Bone Conduction Device

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BACKGROUND & AIM

Optimal implant position for the Osia® OSI300 piezoelectric bone conduction device (Cochlear Ltd, Sydney, Australia) across varying indications and mastoid conditions lacks consensus. This cadaveric study aims to evaluate the performance of the OSI300 across different implant locations and mastoid conditions using Laser Doppler Vibrometry (LDV).

MATERIAL & METHODS

In four fresh-frozen human cadaveric heads, the OSI300 was implanted at three location A) mastoid area, B) retrosigmoid area, and C) temporal area. To simulate clinical situation, the device was driven by standard clinical fitting software. Ipsilateral and contralateral cochlear promontory (CP) vibrations were measured using LDV under both intact mastoid and post-mastoidectomy condition. A difference of > 5 dB between conditions was established as the threshold for clinically significance.

RESULTS

In intact mastoid condition, location A significantly outperformed location B and C ipsilateral CP vibrations across most frequencies. In contralateral side, location A achieved higher CP vibration at lower frequencies but exhibited significant Transcranial Attenuation (TA) up to 7.1, 14.6 and 17.7 dB at 1.5, 3.0 and 6.0 kHz. Conversely, location B maintained a stable transcranial transmission profile while location C exhibited significant TA only at 6.0 kHz. Following mastoidectomy, ipsilateral CP vibrations showed no clinically significant difference (> 5 dB) compared to intact mastoid condition. Similary, post-mastoidectomy contralateral CP vibration and TA measurements revealed no clinically significant difference when compared to intact mastoid state.

CONCLUSIONS

Location A is the optimal implant location for ipsilateral conductive and mixed hearing losses in intact mastoid condition. Location B overcomes high-frequency transcranial attenuation seen at other sites, emerging as the optimal placement for contralatearl routing of signal in Single-Sided Deafness (SSD). Performing mastoidectomy does not clinically disrupt CP vibration profiles.

KEYWORDS

Piezoelectric bone conduction device, bone conduction device, laser doppler vibrometry, single-sided deafness, mastoidectomy

OP-103

Factors Associated With Ehealth Literacy In Adult Cochlear Implant Users: A Preliminary Study

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BACKGROUND & AIM

Introduction (Background & Aim): Health information is increasingly delivered through digital channels, yet little is known about how effectively adult cochlear implant (CI) users engage with online health resources. eHealth literacy, the capacity to seek, understand, and appraise health information from electronic sources, may be particularly salient in this population. We aimed to examine eHealth literacy in adult CI users and its associations with sociodemographic, communication, and audiological factors. We hypothesized that eHealth literacy in adult cochlear implant users would vary according to demographic characteristics, particularly those related to communication abilities.

MATERIAL & METHODS

Material & Methods: This preliminary cross-sectional study was conducted at the Department of Audiology, Faculty of Health Sciences, Gazi University, Ankara, Turkey. Forty-four adult CI users aged 18 to 64 years (mean 40.75 ± 16.32; 17 women, 27 men) were enrolled. Hearing loss was prenatal in 18 and postnatal in 26; CI use was unilateral in 33 (14 left, 19 right; 12 with a contralateral conventional hearing aid, i.e. bimodal) and bilateral in 11. The eHealth Literacy Scale (eHEALS) was administered, and its total score was the primary outcome. Examined factors included educational level, communication modality (spoken language only, sign language only, or both), use of assistive devices, and auditory rehabilitation status. After assessing normality with the Shapiro–Wilk test, two-group comparisons used the Mann–Whitney U test and multi-group comparisons the Kruskal–Wallis test, with $p < 0.05$ considered significant.

RESULTS

Results: eHealth literacy scores did not differ significantly by educational level ($p > 0.05$). In contrast, assistive device users scored significantly higher than non-users ($p < 0.05$). Scores also differed significantly by communication modality, participants using both spoken and sign language differing from those using spoken language only or sign language only ($p < 0.05$). Likewise, participants currently receiving auditory rehabilitation differed significantly from those not receiving it ($p < 0.05$).

CONCLUSIONS

Conclusions: In this preliminary sample, eHealth literacy among adult CI users was independent of educational level but significantly associated with assistive device use, communication modality, and auditory rehabilitation history. These findings suggest that communication and rehabilitation profiles, rather than formal education, shape digital health competence in this population and may inform targeted support.

KEYWORDS

Cochlear implant, eHEALS, Conventional hearing aid, Auditory rehabilitation

OP-104

Long-Term Safety And Efficacy Of The Bonebridge BCI 601: A Decade Of Experience With Active Transcutaneous Bone Conduction

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BACKGROUND & AIM

The MED-EL Bonebridge® (BB) BCI 601 represents a significant advancement in auditory rehabilitation technology, as it is the first active transcutaneous bone conduction implant to be introduced. It has been developed to address conductive and mixed hearing loss, as well as single-sided deafness, with the objective of providing audiological benefits that are not associated with the complications that are commonly encountered with traditional devices. However, there remains a paucity of comprehensive long-term clinical data over the entire expected lifespan.

MATERIAL & METHODS

The objective of this retrospective multicentre study was to verify the long-term safety and audiological performance of the Bonebridge® BCI 601 implant, with a minimum follow-up of five years and an extension of nearly eleven years post-implantation.

RESULTS

Audiological and safety data from 186 implanted ears (151 adults, mean age 40 years; 35 children, aged 5-17 years) were retrospectively analysed across four clinical centres in Germany and Austria. Audiometric evaluations encompassed pure-tone average (PTA4) thresholds, sound field hearing thresholds, and speech perception (word recognition scores, WRS). Device safety was appraised through the documentation of complications, explantation rates, and survival analyses (Kaplan-Meier method).

CONCLUSIONS

The Bonebridge® system demonstrated significant long-term audiological improvements. After at least five years, hearing thresholds improved by 23.44 dB in adults and 27.69 dB in children. Speech understanding increased markedly (adults: +58.22%, children: +80.00%). Bone conduction thresholds remained stable, indicating preserved inner ear function. Overall complication rates were low. Implant survival reached 89.4% at ten years, with technical failures accounting for only 2.5% of cases. These findings confirm the long-term safety and effectiveness of the system.

KEYWORDS

Boneberidge, Retrospektive Analysis, Safety, Bone conduction implant

OP-105

Restoring Sound Localization In Single-Sided Deafness Through Cochlear Implantation: A Meta- Analysis

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BACKGROUND & AIM

Single-sided deafness impairs sound localization, reducing quality of life and spatial awareness. Cochlear implantation has emerged as a promising intervention, yet the magnitude of benefit and influence of rehabilitation factors remain unclear. This systematic review and meta-analysis examined localization outcomes after cochlear implantation in single-sided deafness.

MATERIAL & METHODS

Multiple databases were searched from their earliest available records to February 2025 for studies reporting quantitative localization outcomes in cochlear implant recipients with single-sided deafness. The primary outcome was a reduction in root mean square (RMS) localization error. A random-effects meta-analysis was performed, with subgroup analyses by age, etiology, and rehabilitation factors.

RESULTS

Forty studies (667 participants) met the inclusion criteria. Cochlear implantation significantly improved localization, with a pooled RMS error reduction of 20.8 degrees (95% CI: 17.9-23.7 degrees, $P < 0.001$; $I2 = 94.2\%$). Younger patients achieved greater gains (42.4 degrees for ≤ 50 y vs. 15.8 degrees for > 55 y, $P = 0.032$), as did those with sudden sensorineural hearing loss compared with Ménière's disease (23.5 vs. 11.3 degrees, $P = 0.018$). Structured rehabilitation was associated with larger improvements than standard care (26.1 ± 8.2 degrees vs. 18.4 ± 7.6 degrees, Cohen's $d = 0.977$; $P < 0.01$). Earlier activation (≤ 21 d) and high daily use (≥ 10 h) were associated with the most favorable outcomes.

CONCLUSIONS

Cochlear implantation provides clinically meaningful localization improvements in single-sided deafness, though performance remains below normal hearing levels. Outcomes are optimized by structured rehabilitation, earlier activation, and consistent device use. These findings support cochlear implantation as an effective intervention and inform evidence-based rehabilitation strategies.

KEYWORDS

Auditory rehabilitation, Cochlear implantation, Single-sided deafness, Sound localization

OP-106

Reliability Of Angular Insertion Depth Assessment After Cochlear Implantation: Postoperative Imaging Versus Combined Pre-/Postoperative Image Fusion

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BACKGROUND & AIM

Angular insertion depth (aDOI) of the electrode array is a key parameter for tonotopic electrode positioning and anatomy-based fitting after cochlear implantation. aDOI can be derived from postoperative imaging alone or from postoperative imaging fused with preoperative data, but it remains unclear how closely these approaches agree and how robust the assessment is against variability in defining the cochlear reference axis. We aimed to compare aDOI from postoperative imaging only versus pre-/postoperative fusion in MED-EL recipients using a tablet-based planning software, and to explore whether an automated approach to the reference axis can reduce differences in the calculated angles.

MATERIAL & METHODS

Retrospective, monocentric analysis of MED-EL recipients implanted with FLEX24, FLEX26, FLEX28 and FLEXSOFT arrays. For each electrode, insertion angles were determined for all twelve contacts (apical contact 1 to basal contact 12) within the same tablet-based planning software, using two methods: (a) postoperative imaging only and (b) postoperative imaging fused with preoperative imaging, with automatic cochlea detection. An automated adjustment of the cochlear reference axis was

additionally applied to both datasets and evaluated as a secondary analysis. Insertion angle profiles were compared between methods across contacts and electrode types.

RESULTS

Insertion angle profiles were broadly comparable between both methods across all electrode types. Mean per-contact differences between postoperative-only and fusion-based assessment were small at group level (approximately 1.5°, maximum about 3.4°), largest at apical and mid-array contacts and near-identical basally. Differences in the calculated angles were more pronounced for some electrode types and influenced the assessment; dedicated computational adjustment of the reference axis reduced these differences and improved consistency between methods, at least within our cohort. Patient-level agreement statistics are currently being analysed.

CONCLUSIONS

Insertion angle profiles were broadly comparable between both methods across all electrode types. Mean per-contact differences between postoperative-only and fusion-based assessment were small at group level (approximately 1.5°, maximum about 3.4°), largest at apical and mid-array contacts and near-identical basally. Differences in the calculated angles were more pronounced for some electrode types and influenced the assessment; dedicated computational adjustment of the reference axis reduced these differences and improved consistency between methods, at least within our cohort. Patient-level agreement statistics are currently being analysed.

KEYWORDS

Cochlear implantation, Angular insertion depth, Postoperative imaging, Anatomy-based fitting

OP-107

CONTRAINDICATIONS FOR COCHLEAR IMPLANTS IN CHILDREN WITH POOR AUDITORY PERFORMANCE WITH HEARING AIDS. WHEN AND WHY?

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BACKGROUND & AIM

Cochlear implantation in children has been performed within Brazil's public healthcare system for several years. However, outcomes related to auditory skills and oral language development remain inferior to those reported in developed countries. In our population, only 36% of implanted children use oral language as their primary mode of communication. In response, a pre–cochlear implant evaluation program was reorganized over the past two years to improve candidate selection by integrating audiological, socioeconomic, and pediatric neurological factors. This study aimed to identify patients with audiological indications who were deemed unsuitable for cochlear implantation and to analyze the reasons for contraindication.

MATERIAL & METHODS

A prospective cohort study was conducted through the review of medical records and audiological assessments of 297 pediatric patients initially evaluated for cochlear implantation. All patients underwent multidisciplinary assessments including speech therapy, social work, and psychological evaluation to determine surgical eligibility. Variables analyzed included age at first consultation, etiology of hearing loss, and time to surgery. Patients considered unsuitable were classified into five categories: social, technical, follow-up-related, neurological, and low adherence to pre-implant therapies.

RESULTS

Among the 297 evaluated patients, 68 (22.9%) met audiological criteria for cochlear implantation. Of these, 35 (51.5%) underwent implantation, 17 (25.0%) were contraindicated, and 16 (23.5%) remained under evaluation. The mean age at implantation was 20.94 months, with a mean time to surgery of 5.94 months. Patients deemed unsuitable had a significantly higher mean age of 35 months (95% CI: −25.23 to −2.88 months; p = 0.015). Contraindications were attributed to low adherence to pre-implant therapies in 7 patients (41.2%), social factors in 4 (23.5%), follow-up issues in 4 (23.5%), and neurological conditions in 2 (11.8%).

CONCLUSIONS

Cochlear implant candidacy assessment must extend beyond audiological thresholds, incorporating socioeconomic context, family support, and adherence capacity. Multidisciplinary evaluation is essential to optimize outcomes and ensure appropriate use of cochlear implantation within public healthcare systems.

KEYWORDS

Contraindication of Cochlear Implant; Cochlear Implant.

OP-108

Cochlear Implantation Using An Exoscope: An Anatomical–Technical Case Series From Peru

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[1]*Detecta Clínica*

BACKGROUND & AIM

The surgical microscope remains the standard visualization tool in cochlear implantation. However, the exoscope has emerged as an alternative platform that may enhance shared visualization and ergonomics. Evidence regarding its use in cochlear implantation remains limited, particularly in Latin America. This study aims to describe the anatomical–technical characteristics and intraoperative findings of cochlear implantation performed exclusively using an exoscope in a Peruvian tertiary center.

MATERIAL & METHODS

An observational descriptive case series was conducted including 23 cochlear implantation procedures performed in 21 patients (2 bilateral cases). All surgeries were carried out using an exoscope as the sole visualization system. Variables analyzed included demographic characteristics, etiology and onset of hearing loss, surgical approach, STH anatomical classification, operative time, electrode insertion grade, impedance measurements, and intraoperative neural response. Exploratory bivariate analysis was performed using Fisher's exact test and Student's t-test.

RESULTS

The cohort was predominantly pediatric (73.9%), with congenital (69.6%) and prelingual (69.6%) hearing loss as the most frequent etiologies. Most procedures were primary implantations (95.7%), and the round window approach was used in 82.6% of cases. The mean operative time was 161.7 ± 27.5 minutes. Complete electrode insertion was achieved in 87.0% of procedures, with normal impedance values in all cases. Neural response was detectable in 78.3% and weak but detectable in the remaining cases. A highly significant association was identified between STH anatomical classification and surgical approach ($p = 0.0001$), with STH III cases predominantly managed via cochleostomy, whereas STH I–IIa cases were treated exclusively through the round window. No significant associations were observed between STH classification and neural response ($p = 0.615$), between surgical approach and operative time ($p = 0.411$), or between prominent crest and electrode insertion ($p = 1.000$).

CONCLUSIONS

This series demonstrates that exoscope-assisted cochlear implantation is a technically feasible approach, with intraoperative outcomes comparable to those reported internationally. In the absence of previous national evidence, these findings provide initial data supporting the use of the exoscope as a valid alternative to the surgical microscope in cochlear implantation and justify future comparative and multicenter studies.

KEYWORDS

Cochlear Implantation; Cochlear Implants; Exoscope; Otosurgery; Sensorineural Hearing Loss.

OP-109

Automatic Segmentation With Synchrotron Imaging & Deep Learning – Implications For Cochlear Implantation

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BACKGROUND & AIM

Variations in cochlear morphology have significant implications for scalar size, round window size, and tonotopic distributions. Previous efforts to perform automatic cochlear segmentation in clinical scans have been limited by histologic artefacts and poor soft-tissue contrast in micro-CT scans used for ground truth data. Understanding the relationship between cochlear morphology, cochlear tonotopy, and round window size can aid in achieving atraumatic and individualized cochlear implantation. Synchrotron radiation phase-contrast imaging (SR-PCI) enables the visualization of micro-anatomy in intact cadaveric cochleae. This work aimed to develop a multi-resolution cochlear predictive model on pre-operative clinical scans, using SR-PCI as the ground truth data.

MATERIAL & METHODS

One hundred and eight cadaveric cochleae were scanned with SR-PCI and various clinical scanner resolutions, protocols, and manufacturers. In each SR-PCI scan, ground truth segmentations (i.e. delineations) were obtained of the scala tympani, scala vestibuli, and round window. An ensemble deep learning algorithm, combining 5 trained networks, was developed to obtain segmentations and anatomical measurements in clinical scans at each angular location. Automatic segmentation was performed on 500 pre-operative clinical CT scans from four different countries, and qualitative segmentation viability was confirmed. Additionally paired pre- and post-operative cochlear implant recipient scans to analyze electrode location relative to the scalar segmentations and assess round window size in relation to electrode choice and surgical technique.

RESULTS

Automatic segmentations from the cadaveric clinical scans achieved a mean Dice similarity coefficient of 0.9 for all segmentation structures when compared to the SR-PCI ground truth segmentations. The network successfully segmented all non-pathologic clinically diagnostic scans. In the automatic segmentations obtained from post-operative patient scans, round window size, cochlear volume, and translocation rates were assessed at each contact.

CONCLUSIONS

Accurate automatic cochlear segmentation and measurement of both cadaveric and patient clinical scans have been achieved when compared to SR-PCI data. Each measurement obtained has provided insight into cochlear variability and the relationship between cochlear scalar and round window geometry for planning and individualization purposes.

KEYWORDS

Automatic segmentation; Deep learning; Synchrotron imaging; Clinical Application

OP-110

Intraoperative Surgical And Audiological Outcomes Of Cochlear Implantation In Children With Inner Ear Malformations

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BACKGROUND & AIM

To evaluate intraoperative audiological parameters and surgical features of cochlear implantation (CI) in children with Enlarged Vestibular Aqueduct (EVA) and Incomplete Partition Type II (IP-II).

MATERIAL & METHODS

A retrospective analysis was conducted in children aged 1–4 years who underwent unilateral cochlear implantation in 2025 at the ENT Department of the Republican Specialized Scientific and Practical Medical Center of Pediatrics. A total of 339 patients underwent surgery, including 13 children with EVA and 27 with IP-II. All patients underwent intraoperative audiological monitoring, including impedance telemetry, ART, ESRT, and, when necessary, eABR, as well as postoperative temporal bone CT imaging (0.6–0.7 mm slices). Standard and Medium electrode arrays were used.

RESULTS

Among patients with EVA, a “gusher” phenomenon was observed in 6 cases; cochleostomy was performed in all children. All patients received a Standard electrode array.In the IP-II group, “gusher” occurred in 17 patients, while cochleostomy was required in 2 cases. In 96% of patients, a Medium electrode array was used.Impedance values were within normal limits (0.8–1.2 qu) in 97% of children. ESRT responses were recorded on electrodes 2, 6, and 11 at a stimulation level of 35 qu. One patient with IP-II demonstrated high impedance values (10.29 kΩ) and absence of ART/ESRT responses. Postoperative CT confirmed extracochlear placement of electrodes 11 and 12, correlating with the intraoperative findings. In two EVA patients with absent ART responses, positive eABR responses were obtained.

CONCLUSIONS

Cochlear implantation in children with EVA and IP-II is safe and effective when the electrode array is selected individually. Intraoperative audiological monitoring combined with postoperative CT control enables timely detection of electrode misplacement and improves the prognosis of successful auditory-verbal rehabilitation.

KEYWORDS

cochlear implantation; EVA; IP-II; intraoperative monitoring; inner ear malformations.

OP-111

Professional Outcomes And Perceived Stigma Among Cochlear Implant Users.

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BACKGROUND & AIM

Evidence on the educational and occupational outcomes of individuals with hearing loss and cochlear implants (CI) is limited. In particular, little is known about how CI users experience their professional life and whether they perceive stigma related to hearing loss or CI use. This study aims to evaluate the influence of hearing loss and CI treatment on professional life, including education and work, and to explore perceived stigma among CI users.

MATERIAL & METHODS

This multicentre, prospective observational study will include CI users aged 16–80 years with at least six months of CI experience. Participants complete a patient-reported outcome questionnaire on work/career and stigma, as well as the WHO-5 Well-Being Index and the Speech, Spatial and Qualities of Hearing Scale.

RESULTS

Data collection is ongoing. Results will be presented at IFOS 2026

CONCLUSIONS

The study will provide insights into professional experiences and perceived stigma among CI users and may help improve counselling and support for CI users in educational and professional contexts.

KEYWORDS

Cochlear Implant, Work, Education, Stigma, Professional life, Hearing loss

OP-112

An EABR Paradigm For Assessing Inner Ear Malformations In Cochlear Implantation

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BACKGROUND & AIM

To evaluate a novel intraoperative eABR paradigm in children with IEM and compare the findings with those from children with normal inner ear anatomy.

MATERIAL & METHODS

Nineteen cochlear implant candidates (11 with IEM, 8 with normal anatomy) underwent implantation following comprehensive preoperative imaging and audiological evaluation. Under general anesthesia, intraoperative eABR was recorded using three stimulation paradigms, namely: external promontory (ePEABR), internal promontory (iPEABR), and intracochlear (iEABR). The presence, latency, amplitude, and threshold of Waves III and V were analyzed.

RESULTS

ePEABR responses were observed in 45.5% of IEM and 37.5% of normal cases, with elevated thresholds and frequent artifacts. iPEABR responses were detected in all patients, showing consistent latency patterns. iEABR elicited robust responses in all pateints . Latencies shortened and amplitudes increased as stimulation approached the cochlear nerve.

CONCLUSIONS

Intraoperative iPEABR is feasible and provides valuable objective information on auditory pathway function in children with IEM, supporting surgical decision-making during cochlear implantation.

KEYWORDS

Cochlear implant; electric auditory brainstem response; inner ear malformation, cochleovestibular nerve; intraoperative monitoring; pediatric hearing loss.

OP-113

Hearing NeuroprosthesisIn Children With Inner Ear Malformations And Cochlear Nerve Deficiency

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BACKGROUND & AIM

The aim of the study is twofold. Firstly, to know if it is possible to implant children with inner ear congenital anomalies, considering the approach and type of the electrode. Secondly, to know what is a long-time outcome of surgery, from the point of view of electrophysiology, hearing and speech.

MATERIAL & METHODS

There were 13 children with inner ear anomalies and/or cochlear nerve deficiency (CND) implanted in a time period 2014 – 2020. The average age in the surgery was 4 years 1 months. Four children were implanted bilaterally, the rest unilaterally. There was one revision surgery in one patient. Types of anomalies included IP-1 3x, IP-2 4x, IP-3 1x, common cavity 2x, hypoplastic cochlea 1x, CND 2x. Some of the children had additional syndromology, like Charge and Waardenburg.

RESULTS

Implanted children were evaluated by speech and hearing tests (Categories of Auditory Performance, CAP, Motol Speech Scale, MSS) and by electrophysiology (neural response telemetry). As expected, the results are worse than in implanted peers with normal cochleas.

CONCLUSIONS

Children with congenital malformation of the inner ear should not be excluded from the implantation programme, since the implantation has a positive impact on their communication skills and quality of life, in spite of the fact there is a difference in speech production and perception compared with their peers with physiological cochleas. Surgery wise, the implantation is possible even in malformed inner ears.

KEYWORDS

Inner Ear Malformations, Cochlear Implants, Cochlear Nerve Deficiency

OP-114

Auditory Implants: Patients' Perspective For Future Improvement

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BACKGROUND & AIM

Implantable hearing devices are indicated for those who are not suitable for conventional hearing aids. However a diverse array of percutaneous and transcutaneous options have been introduced over the last 25 years needing complex and confusing decision trees based more on hearing types rather than patient choice. Informed choice driven by patient led prioritisation will shape future development of such devices.

MATERIAL & METHODS

Initial questionnaire design was undertaken in conjunction with a expert patient user group of six implant patients. This study included 60 patients who had received implantable acoustic hearing solutions. Data was collected prospectively via a postal questionnaire. Two versions of the questionnaire were sent out according to the type of implanted device. Those with a transcutaneous device received vT questionnaire whilst those with a percutaneous device received vP questionnaire A Likert scale of 1 to 10 was used for patients to rank their priorities (1 being highest and 10 being lowest). All were asked to prioritise Battery life, Connectivity, Control switches, Design aesthetics, Head wear compatibility, Output power, Visibility, Water resistance, Wireless accessories. The vT questionnaire had an additional questionnaire on MRI compatibility whilst the vP questionnaire had an additional question about Aftercare.

RESULTS

A total of 60 patients were included. Those with a transcutaneous device (vT questionnaire) [n=35; Carina (9), Osia (10) and BAHA attract (16)]. Those with a percutaneous device vP questionnaire [n= 25 ; BAHA connect (22) Oticon Ponto (3)]. The overall response rate was 71.43%, The output power of the device was the highest priority in both groups. For vP group had a close second priority for water resistance whilst MRI compatibility was the third priority. Battery life, Design aesthetics and Control switch were the next priorities for both, Connectivity and streaming were much lower down the list.

CONCLUSIONS

Patient choice in device selection and design helps guide product refinement. The top priority for patients with implantable hearing solutions remains power optimum output, water resistance and MRI compatibility.

KEYWORDS

Implantable Hearing Device – Deafness- Carina- BAHA- Osia- Bone conduction

OP-115

Holistic Assessment Of Cochlear Implant Outcomes Using The International Classification Of Functioning Disability And Health Model: Data Analysis Of A Longitudinal Prospective Multicenter Study

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BACKGROUND & AIM

Cochlear implantation is the primary treatment for severe-to-profound hearing loss, but adult adoption is low despite evidence of improved speech recognition and quality of life. Most outcome measures focus narrowly on hearing, neglecting broader impacts on daily functioning, communication, and participation. The International Classification of Functioning, Disability, and Health (ICF) provides a multidimensional framework to evaluate these outcomes. This study aimed to investigate the evolution of Cochlear Implant (CI) outcomes using the ICF-based CI outcome assessment protocol (CI-ICF).

MATERIAL & METHODS

The raw data of a prospective, longitudinal, multicenter study assessing ICF was analyzed. In total, 72 CI candidates were assessed before and six months after cochlear implantation using CI-ICF protocol. The following assessment tools were used: (1) the Work Rehabilitation Questionnaire (WORQ) revised for CI users, (2) the Abbreviated Profile of Hearing Aid Benefit (APHAB), (3) the Audio Processor Satisfaction Questionnaire (APSQ), (4) the Speech, Spatial, and Qualities of Hearing

Questionnaire with 12 items (SSQ12), (5) the Hearing Implant Sound Quality Index 19 (HISQUI19), (6) the Nijmegen Cochlear Implant Questionnaire (NCIQ) (7) pure tone audiometry, (8) speech audiometry in quiet and in noise, and (9) sound localization.

RESULTS

There was a significant improvement of speech discrimination in quiet ($p = 0.015$; $p < 0.001$) and in noise ($p = 0.041$; $p < 0.001$), sound detection (PTA4; $p < 0.001$), tinnitus (WORQ question 7; $p = 0.026$), listening (HISQUI19 total score; $p < 0.001$), communicating with – receiving – spoken messages (APHAB total score; $p < 0.001$), conversation (WORQ question 11; $p < 0.001$), family relationships (WORQ question 14; $p < 0.001$), community life (WORQ question 13; $p = 0.019$), the NCIQ total score ($p < 0.001$) and all NCIQ subdomain scores ($p < 0.001$). Sound localization measured with the SSQ12 Spatial subdomain score significantly improved ($p < 0.001$), while the psychometric sound localization test results did not. There was no significant subjective deterioration of vestibular functioning and lack of substantial change in sound aversiveness. CI users reported a high level of implant satisfaction after implantation.

CONCLUSIONS

This study highlights the positive impact of cochlear implantation on auditory performance, communication, and subjective well-being. The CI-ICF protocol provides a holistic and comprehensive view of the evolution of CI outcomes by not only covering body functions and structures outcomes, but also including results concerning activities and participation as well as environmental factors.

KEYWORDS

ICF model, Cochlear Implant, Quality of Life, Participation, Daily functioning, Communication

OP-116

Influence Of Scala Tympani Volume On Electrode Insertion Tactic

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BACKGROUND & AIM

Individual anatomic variations of the spiral canal are examined before cochlear implantation with the use of temporal bone CT and inner ear MRI. Cochlear duct length and volume as well as angular insertion depth are measured to select optimal electrode length and provide atraumatic insertion avoiding electrode kinking or incomplete insertion. This approach enhances the residual hearing preservation and minimizes risk of vestibular complications in the follow-up period.

Objective: to examine the individual variations in scala tympani volume and to determine its influence of on the electrode choice and insertion tactic in patients without congenital or acquired inner ear pathology.

MATERIAL & METHODS

60 consecutive patients aged from 7 months to 73 years who underwent cochlear implantation in St. Petersburg ENT Research Institute. They didn't have neither cochlear malformations nor acquired inner ear pathology according to the temporal bone CT and inner ear MRI. 69% of patients were children. Scala tympani volume was measured with the use of automated cochlea 3d segmentation.

RESULTS

Scala tympani volume varied from 35,096 mm3 to 51,521 mm3 with average meaning 42,405 mm3. In 23 cases scala tympani volume was in the interval of 41,6 mm3 and 44,9 mm3, in 11 patients - between 38,3 mm3 and 41,6 mm3 as well as 44,9 mm3 and 48,2 mm3. 8 patients presented with 35 mm3 – 38,3 mm3 scala tympani volume, while 7 – with 48,2 mm3 – 51,5 mm3. In cases of the smallest scala tympani volumes the full insertion of the standard-length electrode could not be achieved.

CONCLUSIONS

Measurements of the scala tympani volume can be a helpful tool for electrode selection and atraumatic insertion tactic optimization.

KEYWORDS

Cochlear implantation, scala tympani volume, electrode insertion, cochlea segmentation

OP-117

Real-Time Cochlear Insertion Angle: Correlation And Agreement Between Intraoperative Telemetry And Postoperative Standard Radiography

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BACKGROUND & AIM

The emergence of intraoperative telemetry techniques based on the analysis of trans-impedance matrix profiles offers promising new perspectives. These approaches enable real-time estimation of Angular insertion depth (AID), potentially allowing optimization of electrode positioning while the patient is still in the operating room.

The primary objective of this study was to quantify and analyze the correlation between the insertion angle measured by intraoperative telemetry and that obtained through postoperative standard skull radiography, in order to determine to what extent these two methods may be considered interchangeable, complementary, or hierarchically applicable in routine clinical practice.

MATERIAL & METHODS

The study population consisted of 22 patients who underwent cochlear implantation and met the established audiometric and medical criteria according to current recommendations.

Telemetry-based estimation of AID was carried out intraoperatively, immediately after complete insertion of the electrode array, using algorithms derived from trans-impedance matrix profile analysis.

Postoperative AID was measured on modified Stenvers radiographic views. Angular measurements were independently performed by two operators.

Agreement between the two measurement methods was assessed using three statistical analyses: Pearson's correlation coefficient (r) and Lin's concordance correlation coefficient . The threshold for statistical significance was set at $p < 0.05$.

RESULTS

Analysis of the angular measurements obtained by the two methods revealed very similar mean values.

The mean absolute difference between the two methods was therefore 5.9°.

Evaluation of the relationship between the two measurement techniques demonstrated excellent correlation. Pearson's correlation coefficient reached $r = 0.96$, indicating a very strong linear association between telemetry-based and radiographic measurements. This finding was confirmed by Lin's concordance correlation coefficient (CCC = 0.96), which incorporates both correlation and accuracy.

The statistical significance of this correlation was exceptionally high, with a p-value < 0.01, confirming the robustness of the observed relationship.

CONCLUSIONS

These findings support a complementary and combined use of both modalities: intraoperative telemetry as a real-time screening tool for detecting electrode misplacement or aberrant insertions, enabling immediate correction during surgery; and postoperative standard radiography as an accessible, cost-effective, and low-radiation confirmation method, particularly valuable when systematic access to CT imaging is limited.

KEYWORDS

cochlear implant, angular insertion depth, telemetry

OP-118

Clinical Evaluation Of The OTODRIVE/OTOARM (MED-EL, Innsbruck, Austria) Robotic-Assisted System In Cochlear Implantation: Workflow Integration And Impedance Dynamics

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BACKGROUND & AIM

Cochlear implantation (CI) is the gold standard for severe sensorineural hearing loss, with increasing emphasis on preserving intracochlear structures and residual hearing. Manual electrode insertion is inherently limited by human hand tremor and inconsistent mechanical force, which can lead to insertion trauma. Robotic-assisted motorized insertion tools (MITs), such as the OTODRIVE/OTOARM system, have been developed to provide slow, continuous, and highly controlled electrode advancement to mitigate these risks.

MATERIAL & METHODS

We conducted a clinical evaluation of the OTODRIVE/OTOARM system in a prospective cohort of 26 adult patients (mean age 70, range 22–88, f :16, m : 10) since December 2024. The series included six cases of partial hearing loss using Flex 24 (n=4) and Flex 28 (n=2) electrodes. All other cases were implanted with a Flex 28. Surgical workflow integration and postoperative impedance dynamics were assessed. Impedance analysis was performed using a linear mixed model—incorporating electrode position, intraoperative impedance, and age as fixed effects—and compared against a matched retrospective cohort of manual insertions.

RESULTS

Integration of the MIT into the surgical routine was feasible without major workflow disruptions. All 26 robot-assisted insertions were successful. In particular, no resistance was observed for insertion of the most apical electrodes, which can occur in manual insertion.

Regarding hearing preservation, residual hearing was successfully maintained in 100% of the six cases where partial hearing loss was present preoperatively, further supporting the atraumatic nature of the motorized insertion. A highly significant effect of the insertion method on impedance stabilization was observed ($p < 10\text{-}5$); the impedance decay was significantly steeper for the OTODRIVE group (slope = 0.25) compared to the manual group (slope = 0.56), with a significant slope difference of -0.31 (95% CI: -0.43 to -0.20). While apical electrodes (1–4) exhibited higher postoperative impedances across both groups, no significant effect of age was observed on these electrophysiological outcomes.

CONCLUSIONS

MIT-assisted cochlear implantation using the OTODRIVE/OTOARM system is clinically feasible and demonstrates a superior stabilization of postoperative impedances compared to manual insertion. This steeper impedance decay suggests a more controlled, atraumatic electrode-tissue interface. To optimize the surgical workflow, we propose a technical modification for the loading and unlocking of the electrode array: the use of a drape clamp to stabilize the forceps during these critical transitions. This refinement enhances the mechanical reliability of the coupling process and reduces the risk of unintended electrode displacement.

KEYWORDS

cochlear implantation, hearing preservation, motorized insertion tool (MIT), robotic assisted surgery, impedance

OP-119

Nasalance And Articulation Proficiency In Children With Cochlear Implants: A Comparative Study Using Praat-Assisted Nasometry

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BACKGROUND & AIM

To compare nasalance profiles across bilateral cochlear implant (BCI), unilateral and bimodal CI (UCI/bimodal), hearing aid (HA), and normal-hearing (NH) control groups using the Praat-Assisted Nasalance Meter (PANM), and to examine relationships with speech proficiency and audiometric performance.

MATERIAL & METHODS

The study adopted a cross-sectional design with prospective data collection. Eighty-five children aged 3–12 years (BCI n=22, UCI/bimodal n=20, HA n=21, NH n=22) were evaluated. Nasalance was measured using PANM during sustained vowels (/a/, /m/, /i/) and six syllable repetition tasks (open and closed nostril conditions). Oral-nasal difference scores served as indicators of velopharyngeal function. Articulation was assessed using the Turkish Articulation-Phonology Test (SST-SET). Flexible fiberoptic nasopharyngoscopy confirmed absence of structural velopharyngeal insufficiency in all device users. Group comparisons used Kruskal-Wallis H test with Bonferroni-corrected Mann-Whitney U tests. Spearman correlation coefficients examined relationships between nasalance, speech, and audiometric variables.

RESULTS

All hearing-impaired groups demonstrated significantly higher oral syllable nasalance and open-closed difference scores compared to NH peers ($p<0.05$–$p<0.001$). The HA group showed the most pronounced elevation for /papapa/ and /kakaka/ (vs. NH: $p<0.001$, Bonferroni-corrected). The BCI group exhibited significantly higher /i/ vowel nasalance compared to both UCI/bimodal ($p=0.021$) and HA groups ($p=0.033$). Using NH internal reference thresholds (mean + 2SD), high nasalance prevalence was: BCI 68.2%, UCI/bimodal 47.4%, HA 71.4%, NH 13.6% ($\chi^2=18.46$, $p<0.001$). Using adult thresholds (>25%), prevalence estimates were lower: BCI 27.3%, UCI/bimodal 10.0%, HA 4.8%, NH 0% ($\chi^2=9.83$, $p=0.020$). Sex-specific analysis revealed higher prevalence in females. All hearing-impaired groups performed significantly lower than NH children on SST z-scores and correct consonant percentage ($p<0.001$). Nasalance scores did not correlate with age at implantation, device use duration, or aided thresholds; however, /a/ nasalance correlated negatively with SST z-score ($\rho=-0.331$, $p=0.009$).

CONCLUSIONS

Children using cochlear implants and hearing aids exhibit elevated nasalance and increased velopharyngeal dysfunction prevalence compared to normal-hearing peers. The BCI-specific elevation in /i/ nasalance may be partially explained by the additional low-frequency acoustic feedback provided in bimodal fitting. The lack of correlation between nasalance anomalies and device experience variables suggests that resonance control depends on separate mechanisms requiring targeted intervention beyond standard auditory-verbal rehabilitation.

KEYWORDS

cochlear implant; nasalance; velopharyngeal function; hearing aid; bimodal fitting; PANM; resonance disorder; pediatric

OP-120

Detection Of Electrode Tip Fold-Over In Cochlear Implantation

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BACKGROUND & AIM

Cochlear implantation is the surgical procedure for severe-to-profound sensorineural hearing loss. Precise electrode placement within the scala tympani and absence of tip fold-over (TFO) are paramount for optimal auditory rehabilitation. TFO can cause electrode dysfunction, degraded auditory performance, and revision surgery. Current routine intraoperative electrophysiological assessments demonstrate limited sensitivity in definitive detection of malposition. While intraoperative fluoroscopy is advantageous, postoperative CT is frequently necessitated in suspicious cases. Consequently, there is a critical need for robust intraoperative detection modalities. This prospective study evaluates the diagnostic potential of integrating conventional electrophysiological tests with SmartNav data for reliable TFO detection.

MATERIAL & METHODS

This prospective observational study is conducted at the Selçuk University Faculty of Medicine, Department of Otorhinolaryngology, following ethical approval (2025/217). The study comprises 50 patients, aged 1–75 years, undergoing implantation with Cochlear® CI522 devices. Following standard surgery, measurements are completed primarily with SmartNav (Insertion velocity, Placement Check, Impedance, ESRT, and AutoNRT). To validate SmartNav's reliability, routine assessments and TFO-specific measurements (TIM and SOE) are subsequently performed using Custom Sound EP software. The reliability of both methodologies in detecting TFO is evaluated by comparing results with the gold standard: postoperative radiological imaging. Furthermore, measurement durations are analyzed to assess potential anesthetic exposure risks. Postoperative electrode positioning is verified using transorbital radiographs, with CT for suspicious cases. Any intraoperative findings suggestive of TFO derived from SmartNav or Custom Sound are cross-verified with radiological data for definitive confirmation.

RESULTS

To date, 25 insertions were performed across 17 patients (23 ears). Preliminary results included 17 patients (9 males, 8 females) with a mean age of 15.7 years (range: 1.2–52). Mean duration for SmartNav system assessments was 1 minute 39 seconds, while Custom Sound TIM test mean duration was 1 minute 44 seconds. Regarding the SoE test, which is NRT-dependent and requires an experienced audiologist for interpretation, the mean duration for two separate electrodes (11th and 16th) was 3 minutes 1 second. Tip fold-over (TFO) was detected at a rate of 8.7% (n=2/23). In these cases, a 100% correlation was observed between SmartNav findings and intraoperative radiological data. In contrast, the TIM test identified TFO in only one case, yielding normal findings in the second. In this inconsistent case, SOE detected TFO at the 11th electrode but not at the 16th.

CONCLUSIONS

According to preliminary findings, the SmartNav system successfully identifies electrode tip fold-over (TFO), demonstrating superior diagnostic performance compared to the conventional Trans-Impedance Matrix (TIM) test. While procedural durations were comparable, the Spread of Excitation (SoE) test—despite similar sensitivity—presents clinical feasibility limitations due to dependence on experienced audiologists and mandatory Neural Response Telemetry (NRT). Considering risks of radiation exposure, additional costs, and potential secondary surgeries in undetected cases, SmartNav can mitigate these adverse outcomes. SmartNav emerges as a prominent diagnostic tool enhancing cochlear implantation safety by minimizing misdiagnosis risk. However, these preliminary results require further large-scale confirmation.

KEYWORDS

Cochlear Implants, Hearing Tests, Implanted Electrodes, Revision Surgery, Sensorineural Hearing Loss

OP-121

Cochlear Implant Functionality And Outcome In Patients With Inner Ear Malformation

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BACKGROUND & AIM

Sensorineural hearing loss affects approximately 0.35% of Saudi newborns. Cochlear implantation improves speech, language, cognitive, and intellectual abilities in hearing-impaired children. Outcomes are influenced by factors including age at implantation, duration of hearing loss, inner ear anatomy, auditory nerve physiology, neurodevelopmental disorders, psychosocial support, and postoperative follow-up compliance. Around 20% of patients have inner ear malformations, requiring careful perioperative planning. The electrically evoked compound action potential (eCAP) objectively assesses cochlear implant functionality by measuring spiral ganglion neural responses. This study aimed to determine incidence of inner ear malformations and compare cochlear implant and speech outcomes in affected and unaffected patients.

MATERIAL & METHODS

Retrospective cohort study at KFSHDfrom 2011–2022

•Approved by Institutional Review Board (IRB)

•Inclusion/ Prelingual pediatric patients with SNHL who had undergone bilateral CI

•Exclusion/ (1)Patients who had language before CI(post lingual SNHL). (2) patients who did not attend the required postsurgical speech therapy rehabilitation at our center. (3) who had intellectual disabilities.

All patients underwent CT and MRI of the temporal bone

•During all CI procedures, our audiologists measured eCAP in response to the electrical stimulation given. The results were categorized into either measured (gave full or partial response) or none measured (no response).

•The CAP and SIR ratings were determined regularly during each visit . CAP and SIR assessments conducted within the 12-month post-implantation period were used in this study

Statistical analysis

•The data were analyzed using the Statistical Packages for Software Sciences (SPSS) version 26 software program . A p-value of less than 0.05 was considered statistically significant.

RESULTS

A total of sixty-five pediatric patients underwent bilateral cochlear implantation, with a mean implantation age of twenty-nine months. The eCAP was measured bilaterally in ninety-five point four percent of patients. The mean CAP and SIR scores were four point three two and two point four two, respectively. Eleven patients, representing sixteen point nine percent, had cochlear abnormalities, with Mondini deformity being the most common abnormality, found in seven patients. There was no statistically significant relationship between cochlear anatomy and eCAP, with a p-value greater than zero point zero five. Although patients with abnormal cochleae had lower CAP and SIR scores, the difference was not statistically significant.

CONCLUSIONS

•cochlear functionality represented by eCAP is similar in normal patients to the functionality in patients with cochlear abnormalities.

• speech and audiological outcomes one year after implantation were comparable in both groups.

•early implantation is strongly advised for cochlear implant users, even those with inner ear malformations

KEYWORDS

Sensorineural hearing loss, cochlear implantation, inner ear malformations, eCAP, speech outcomes, audiological performance.

OP-122

Air Along The Enlarged Vestibular Aqueduct After Cochlear Implantation In Incomplete Partition Type II: The Reverse-Pathway Sign

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BACKGROUND & AIM

Incomplete partition type II (classic Mondini malformation) is defined by a cystic cochlear apex, mild vestibular dilation, and an enlarged vestibular aqueduct (EVA). EVA may act as a third window and as a pathway for cerebrospinal fluid pressure transmission, explaining intraoperative pulsation, oozing, or gusher during cochlear implantation, yet postoperative imaging correlates are limited. We aimed to report a postoperative CT pattern—air in the vestibule with continuous extension along the entire EVA after cochlear implantation in IP-II—and to propose it as the “reverse-pathway sign,” supporting a pressure-transmission model and aiding counseling and surgical planning.

MATERIAL & METHODS

We performed a descriptive case-series review of intraoperative findings and postoperative high-resolution temporal bone CT in two patients with progressive sensorineural hearing loss and a radiologic diagnosis of incomplete partition type II (classic Mondini malformation) with enlarged vestibular aqueduct (EVA). Preoperative imaging was reviewed to confirm the malformation pattern. Cochlear implantation was carried out using a round-window approach, and intraoperative events suggestive of altered labyrinthine hydrodynamics (e.g., perilymphatic oozing after round-window opening and resistance to electrode advancement) were documented. Postoperative CT studies were analyzed for pneumolabyrinth and for the distribution of air within the vestibule and along the endolymphatic pathway, specifically assessing whether air tracked continuously through the full course of the EVA on the implanted side.

RESULTS

Both patients underwent cochlear implantation with a MED-EL FORM 24 electrode array. Intraoperatively, persistent perilymphatic oozing after round-window opening and resistance to electrode advancement were observed, suggesting altered labyrinthine hydrodynamics related to the malformation. Postoperative high-resolution CT demonstrated pneumolabyrinth, with air in the vestibule and continuous air tracking along the full course of the enlarged vestibular aqueduct on the implanted side, matching the pattern proposed as the “reverse-pathway sign.” In Case 2, this finding was absent contralaterally, where insertion proceeded without resistance, supporting an association between the imaging sign, EVA anatomy, and the intraoperative behavior encountered during implantation.

CONCLUSIONS

The reverse-pathway sign—postoperative CT pneumolabyrinth with vestibular air and continuous air tracking along the full enlarged vestibular aqueduct (EVA) after cochlear implantation in incomplete partition type II (classic Mondini)—provides an objective imaging correlate of an EVA-mediated pressure-transmission mechanism. It supports the concept that the EVA is a hydrodynamically functional conduit, not merely an anatomic variant. After intracochlear intervention, reverse air propagation may reveal the physiologic route, indicating a postoperative shift in inner-ear hydrodynamic equilibrium and helping explain intraoperative findings such as persistent oozing and insertion resistance.

KEYWORDS

1. Cochlear Implants 2. Communication 3. Counseling 4. Tomography

OP-123

Shape Of The Cochlear Basal Turn: An Indicator For An Optimal Electrode-To-Modiolus Proximity With Precurved Electrode Type

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BACKGROUND & AIM

The authors, to the best of their knowledge, are unaware of any prior studies that report specifically on the shape of the cochlear basal turn by measuring the cochlear parameters and its implications on the electrode-to-modiolus proximity with CI electrode array types. The objectives of this study was to determine the shape of cochlear basal turn through basic cochlear parameters measurement. The secondary aim was to overlay an image of the precurved electrode array on top of the three-dimensional (3D) image of the cochlea to determine which shape of the cochlear basal turn gives optimal electrode-to-modiolus proximity.

MATERIAL & METHODS

Computed tomography (CT) preoperative image-data sets of 117 ears were made available for the measurements of cochlear parameters retrospectively. Three-dimensional slicer was used in the visualization and measurement of cochlear parameters from both 3D and 2D (2-dimensional) images of the inner ear. Cochlear parameters including basal turn diameter (A), width of the basal turn (B), and cochlear height (H) were measured from the appropriate planes. B/A ratio was made to investigate which ratios correspond to round and elliptical shape of the cochlear basal turn.

RESULTS

The cochlear size as measured by A value ranged between 7.4 mm and 10 mm. The B value and the cochlear height (H) showed a weak positive linear relation with A value. The ratio between the B and A values anything above or below 0.75 could be an indicator for a more round- or elliptical shaped cochlear basal turn, respectively. One sized/shaped commercially available precurved electrode array would not offer a tight electrode-to-modiolus in the cochlea that has an elliptical shaped basal turn as identified by the B/A ratio of <0.75.

CONCLUSIONS

Accurate measurement of cochlear parameters adds value to the overall understanding of the cochlear geometry before a cochlear implantation procedure. The shape of cochlear basal turn could have clinical implications when comes to electrode-to-modiolus

KEYWORDS

shape of cochlear basal turn

OP-124

The Chronological Evolution Of Cochlear Implant Contraindications: A Comprehensive Review

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BACKGROUND & AIM

Frequency-to-place mismatch in cochlear implants (CIs) may influence auditory and speech outcomes, yet its impact on pediatric patients remains underexplored. This study aims to assess the impact of mismatch on hearing and speech outcomes.

MATERIAL & METHODS

In this retrospective study, the actual angular insertion depth and frequency of each electrode contact were derived. The difference between the tonotopic and default frequency was used to estimate the mismatch. The impact of this mismatch on auditory and speech outcomes was assessed in pediatric CI users.

RESULTS

This study included 89 implanted ears of young children. The analysis revealed a significant difference between default and actual postoperative electrode frequencies, with greater mismatches observed in shorter electrode arrays. A weak but significant correlation was observed between mismatch and SF-AT, while no clear trends were found in other outcome

measures. Patients with lower mismatches tended to perform better, while those with mismatches exceeding 7 semitones showed slightly lower—though non-significant—speech performance. However, a significant difference was observed in SIR, favoring the lower mismatch group.

CONCLUSIONS

Children with <7 semitones of mismatch showed better, though non-significant, outcomes across multiple measures—including SDS, CAP, and SF-AT—and a significant difference in SIR. Despite no significant linear correlations overall, these findings suggest that specific mismatch levels may still influence outcomes after three years of CI use. Future studies should explore early post-activation effects and assess whether tonotopic-based mapping improves speech perception and overall auditory performance in young CI users.

KEYWORDS

pediatrics, cochlear implant, frequency-to-place mismatch, hearing, speech, outcomes

OP-125

PREDICTING CSF LEAK DURING COCHLEAR IMPLANTATION IN PATIENTS WITH ENLARGED VESTIBULAR AQUEDUCT

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BACKGROUND & AIM

Enlarged vestibular aqueduct (EVA) is a common inner ear malformation often associated with congenital hearing loss. Despite advances in diagnosis, challenges remain in accurately assessing aqueductal parameters and predicting surgical risks like intraoperative CSF leak. While CT and MRI are standard for EVA detection, traditional linear measurements may be insufficient. Emerging evidence supports three-dimensional visualization and volumetric analysis for more precise morphological assessment and reduced diagnostic errors. Consequently, our objective was defined as evaluating a method for predicting intraoperative CSF leak in EVA patients using three-dimensional volumetry.

MATERIAL & METHODS

Materials and Methods: A retrospective study of 30 patients with isolated enlarged vestibular aqueduct (cochlear implant recipients). The mean age was 7±4 years. Based on high-resolution CT data of the temporal bones, three-dimensional modeling and volumetry of the vestibular aqueduct were performed using 3D Slicer software. Statistical analysis was carried out using StatTech v. 4.1.7 software.

RESULTS

We found a statistically significant correlation between the probability of developing intraoperative CSF leak and the volume of the vestibular aqueduct, where a larger volume (>30mm^3) was associated with a higher probability of CSF leak (p=0.034).

CONCLUSIONS

3D volumetry of the vestibular aqueduct is a more accurate predictor of intraoperative CSF leak compared to standard linear measurements. Incorporating this method into the preoperative protocol allows for risk stratification of patients and advance planning of the surgical strategy (selection of the implant electrode type and method for sealing the round window) to prevent complications.

KEYWORDS

Cochlear impantation, CSF leak, inner ear malformation, enlarged vestibular aqueduct, EVA

OP-126

Outcomes Of Cochlear Implantation In Patients With Inner Ear Malformations: A Retrospective Study

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BACKGROUND & AIM

Cochlear implants are electrically stimulating systems for the auditory nerve that are used in individuals with severe and/or profound sensorineural hearing loss who do not benefit from the conventional amplification. The aim of this study was to discuss the surgical challenges, types of inner ear anomalies, intraoperative and postoperative complications, and postoperative audiological outcomes in patients with inner ear anomalies who underwent cochlear implantation surgery at Başakşehir Çam ve Sakura City Hospital and Istanbul Training and Research Hospital.

MATERIAL & METHODS

A retrospective study was conducted by reviewing the medical records of 97 patients who underwent cochlear implantation between 2015 and 2026 at Başakşehir Çam and Sakura City Hospital and Istanbul Training and Research Hospital; in whom inner ear anomalies were identified on preoperative radiological evaluation. The classification of inner ear anomalies was based on preoperative radiological imaging findings. Surgical difficulties during cochlear implant in these patients were identified and evaluated. Postoperative complications were classified as minor and major. Minor complications resolved with

minimal treatment, whereas major complications required additional surgical intervention. In addition, postoperative audiological outcomes were evaluated in 68 of this 97 patients. Free-field hearing thresholds were analyzed as audiological parameters. Free-field hearing thresholds were classified according to hearing level as normal (0–25 dB HL), mild (26–40 dB HL), moderate (41–55 dB HL), moderately severe (56–70 dB HL), severe (71–90 dB HL), and profound (>90 dB HL) hearing loss.

RESULTS

The 97 patients with inner ear anomalies, 46(47.42%) were female and 51(52.58%) were male. Types of inner ear malformation and their frequencies were: incomplete partition type I 9(9.27%) patients; incomplete partition type II (mondini deformitiy) 49(50.51%), incomplete partition type III 4(4.12%), common cavity 15(15.4%), cochlear hypoplasia 13(13.4%), cochlear nerve hypoplasia 3(3.09%), cochlear nerve aplasia 1(1.03%), labyrinthitis ossificans 4(4.12%) and hypoplasia of the modiolus 1(1.03%) patients.Surgical difficulties encountered: anomalies of the facial nerve 6(6.18%), the incus–stapes block is located more inferiorly than expected 1(1.03%), rudimentary stapedius muscle 1(1.03%).Complications occurred in 86(88.6%) patients. Minor complications occurred in 71(73.1%) patients, which included otitis media(12.7%), facial palsy(1.16%), vertigo(2.32%), intraoperative cerebrospinal fluid (CSF) gusher(48.8%), hematoma(13.9%) and chorda tympani nerve injury(2.32%). Major complications occurred in 15(15.4%) patients. These included device failure(13.3%), device migration(26.6%), perforation of the tympanic membrane(53.3%) and misplaced electrodes(6.6%).Our postoperative audiological results showed that the most common category was mild hearing loss 50(73.5%) patients.

CONCLUSIONS

This study reveals which types of inner ear anomalies are more frequently encountered in patients with severe sensorineural hearing loss accompanied by inner ear malformations and the anatomical difficulties that may be encountered during surgery. In addition, this study shows that the postoperative complication rate after cochlear implantation in the anomalies inner ear is at a level that cannot be ignored and that the presence of malformation in inner ear may also negatively affect postoperative hearing results.

KEYWORDS

İnner ear anomalies, sensorineural hearing loss, surgical complications, cochlear implants, postoperative audiological results

OP-127

Cochlear Implant Candidacy Evaluation In Elderly

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BACKGROUND & AIM

In Russia, as in most countries worldwide, the population is aging. Hearing loss is one of the most common sensory deficits in elderly. Cochlear implantation in elderly with severe to profound hearing loss is in the focus of attention. Since CI in elderly is not only a surgical procedure, but a system of measures requiring the cooperation between physicians of various specializations, psychological and pedagogical support;its effectiveness largely depends on high-quality evaluation, strict data analysis, taking into account the indications/contraindications.

MATERIAL & METHODS

The retrospective study was conducted at the Federal State Budgetary Institution "National Medical Research Center for Otorhinolaryngology" of the FMBA of Russia, Moscow, (Director Daikhes N.A.) from January 2021 to December 2025; 491 case histories were analyzed. During this period, 97 patients over 60 years old were considered as candidates for CI. All patients underwent a comprehensive audiological examination (including vestibular function assessment), imaging (CT temporal bone, MRI scan including cochlear, auditory nerves and internal acoustic canals), assessment of general health, cognitive function (MMSE, MoCa, Mini-Cog), and fitness for anesthesia.

RESULTS

Ninety-five (98%) patients over 60 years old received their cochlear implant. The center's medical commission declined cochlear implantation for two study participants due to the presence of comorbidities in the acute stage.

CONCLUSIONS

In structure of total amount of cochlear implantations among adults (489 cases) which were held at the Center in the period from January 2021 to December 2025 the elderly accounted for 19.4% (95 patients). There is a trend toward an increasing number of cochlear implantations in this age group from year to year. Age, as the sole contraindication for cochlear implantation, should not be considered, as the elderly population is highly heterogeneous.

KEYWORDS

Cochlear implantation, candidacy, elderly

OP-128

Feasibility Of Stapedius Reflex Detection Via Middle Ear Pressure Monitoring

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BACKGROUND & AIM

The stapedius reflex (SR) is a bilateral protective response of the auditory system to intense acoustic stimuli and is commonly used as an objective measure in cochlear implant (CI) fitting. Current SR detection methods rely on impedance audiometry, which requires tympanometry equipment and in-clinic sessions. This study hypothesized that SR-related pressure changes could be detected directly within the middle ear using a pressure transducer, enabling future integration into CI systems.

MATERIAL & METHODS

This prospective, observational feasibility study included 11 adult patients undergoing tympanotomy for transtympanic corticosteroid injection. A pressure transducer was inserted into the middle ear, and contralateral acoustic stimulation was delivered using a tympanometry device. ECG-synchronized stimulation and a custom filtering algorithm were used to suppress heartbeat-induced artifacts, enhancing signal clarity. Reflex detection was assessed across 32 frequency-intensity combinations (500–4000 Hz, 80–110 dB). Reflexes were classified based on signal morphology and changes to stimulation intensity.

RESULTS

Middle ear pressure changes consistent with SR were detected in 62.5% (20/32) of measurements. In 25% (8/32), no reflexes were elicited, and none were detected, while in only 12.5% (4/32), reflexes were detected by tympanometry but not by the pressure sensor. When considering only measurements where a reflex was elicited (n=24), the detection success rate was 83.3%. The method showed comparable threshold sensitivity to tympanometry, with minimal average differences (<1 dB).

CONCLUSIONS

This study demonstrates the feasibility of detecting SR via middle ear pressure monitoring. The method correctly identified reflex presence in 83.3% of cases and offers a promising pathway for integrating objective reflex detection into CI systems. Such integration could enable more frequent, remote, and user-independent fitting, particularly benefiting patients with limited communication abilities, such as infants or individuals with cognitive impairments.

KEYWORDS

Cochlea implant fitting, stapedius reflex

OP-129

Cochlear Implant: The Impact Of Proximity On Facial Nerve Stimulation

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BACKGROUND & AIM

To investigate the association between facial nerve stimulation (FNS) and the distance from the labyrinthine segment of the facial nerve (LSFN) to the upper basal turn of the cochlea (UBTC) in cochlear implant recipients, and to develop a predictive nomogram incorporating anatomical, surgical, and intraoperative factors.

MATERIAL & METHODS

This retrospective cohort study included 94 ears from 73 patients with normal cochlear anatomy. Patients were divided into facial nerve stimulation (FNS) (n = 48) and control (n = 46) groups. Preoperative measurements were obtained using OTOPLAN® software (MED-EL, Innsbruck, Austria), including cochlear-facial nerve distance, cochlear dimensions, and electrode insertion angle. Cochlear duct length, predicted scala tympani volume, and basal turn shape were calculated from the previous values. Intraoperative impedance and compound action potentials were recorded. Logistic regression identified independent risk factors, and a predictive nomogram was developed and validated using receiver operating characteristic (ROC) analysis.

RESULTS

Shorter cochlear-facial distance (CFD) (mean 0.5 mm in FNS group vs. 0.8 mm in controls, $p < 0.001$), lower B-value and basal impedance, and the use of specific electrode types were independently associated with increased FNS risk. A good specificity and positive predictive value were observed when using CFD to predict FNS (89.1%, and 80.8, respectively). However, the sensitivity was low (43.8%). On the other hand, using the suggestedl nomogram demonstrated superior predictive

accuracy (AUC = 0.85) compared to CFD alone (AUC = 0.72; p < 0.001), with high specificity (87.0%), sensitivity (72.9%) and positive predictive value (85.4%).

CONCLUSIONS

Facial nerve stimulation following cochlear implantation is strongly associated with reduced CFD, specific cochlear morphologies, and intraoperative factors. Thedeveloped nomogram improves risk prediction over single-variable models and may aid in preoperative planning and personalized surgical decision-making

KEYWORDS

Cochlear implant , Facial Nerve , Facial nerve stimulation, cochlear, labyrinthine segment

OP-130

Measuring The Angular Insertion Depth Of Cochlear Implant Electrode Array From The Plane X-Ray

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BACKGROUND & AIM

Background: Cochlear implant (CI) angular insertion depth is important information. It reports the anatomical position of the electrode inside the cochlea to know how deep the electrode array is.

Objective: This work aims to investigate a simple method to measure the angular insertion depth (AID) after cochlear implantation using the postoperative routine plane X-ray. This work also reports the AID of a single electrode array among patients from different populations implanted at the same clinic.

MATERIAL & METHODS

The routine post-operative skull x-ray was used to measure the AID. Stenverse view was utilized and three reference lines were used. The measurements were done retrospectively for patients who underwent CI surgery by one surgeon and one electrode array.

RESULTS

Thirty-six CI ears for patients were studied, all of whom were classified according to their geographical regions into 30.6% South Asians (including Afghans, Bangladeshis, Indians & Pakistanis), 13.9% East Africans (including Comorian & Sudanese) and 55.6% Middle Eastern (including Emiratis, Egyptians, Syrians & Palestinians). About 66.7% of them were males and 33.3% were females. Their mean age at implantation was 5.8 ± 7.5 years old. About 36.1% were left-sided cochlear insertion, while the remaining 63.9% were right-sided. The measured mean AID was 527.2 ± 68.6 degrees.

CONCLUSIONS

While the slandered medical imaging modality to determine the AID is the CT scan, this study confirms that the postoperative X-ray could be used efficiently as well. X-rays are less costly, easier to access, more comfortable for patients, and provide substantially less radiation. While the slandered medical imaging modality to determine the AID is the CT scan, this study confirms that the postoperative X-ray could be used efficiently as well. X-rays are less costly, easier to access, more comfortable for patients, and provide substantially less radiation.

KEYWORDS

Cochlear implant, imaging, Angular insertion depth, plane X-ray

OP-131

Early Activation Satisfaction: Single-Unit Cochlear Implant Processors

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BACKGROUND & AIM

The successful rehabilitation of children with cochlear implants (CIs) is highly dependent on consistent device use. Early activation within the first days after implantation is a safe and feasible option with conventional behind-the-ear (BTE) processors. However, the literature lacks studies on early activation with single-unit off-the-ear (OTE) audio processors.

Aim: To evaluate the safety, magnet retention, audiological performance, and satisfaction with the single-unit processors after early activation.

MATERIAL & METHODS

Methodology: This cross-sectional retrospective chart review study assessed ten pediatric CI users fitted with the Rondo sound-processor. The magnet power use was documented. Outcomes were measured using objective audiological measures (pure-tone audiometry) and validated parent-report questionnaires: the 12-item Speech, Spatial and Qualities of Hearing Scale (SSQ12), and the Audio Processor Satisfaction Questionnaire (APSQ).

RESULTS

Results: Successful early fitting with 2- and 3-processor configurations was achieved in all 25 cochlear implants; nine used the standard magnet power setting of 3, and one used a setting of 2. Aided sound-field thresholds indicated good audibility across the frequency spectrum. Questionnaire results showed high levels of auditory development, improved hearing quality, and significant parental satisfaction, particularly regarding the device's ease of use, comfort, and cosmetic appeal.

CONCLUSIONS

Conclusion: Using a single-unit audio processor is a feasible and effective option for early activation in very young children and adults with cochlear implants. It delivers sufficient auditory performance while addressing practical challenges associated with BTE processors, resulting in high parental acceptance and satisfaction. This may support consistent device use, which is critical for optimal language development.

KEYWORDS

Keywords: cochlear implant, audio-processor, pediatric, adults, magnet retention, green cochlea, sustainability

OP-132

Familial Incomplete Partition Type II Due To Homozygous SLC26A4 (Pendrin) Mutation In Five Siblings: Comparative Audiological Outcomes Of Cochlear Implantation And Hearing Aids

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BACKGROUND & AIM

Incomplete partition type II (IP-2) is a common inner ear malformation frequently associated with pathogenic variants of the SLC26A4 (pendrin) gene. Although affected siblings may share identical genetic and radiological features, auditory outcomes following different rehabilitation strategies may vary considerably. This study presents a sibling case series with homozygous SLC26A4 mutations and uniform IP-2 anatomy, comparing audiological outcomes after cochlear implantation (CI) and hearing aid (HA) rehabilitation, with particular emphasis on changes in pure-tone averages (PTA).

MATERIAL & METHODS

Five siblings born to consanguineous parents were included. All patients carried a homozygous SLC26A4 mutation and demonstrated the characteristic radiological features of IP-2. Three siblings underwent bilateral cochlear implantation, while two were rehabilitated with bilateral hearing aids. Audiological outcomes were evaluated using pure-tone averages measured before rehabilitation and at the 12-month follow-up.

RESULTS

All patients presented with bilateral severe-to-profound sensorineural hearing loss pre-rehabilitation. In the CI group, preoperative PTA values exceeding 100 dB improved consistently to the moderate hearing loss range (35–55 dB) at 12 months. In contrast, the HA group demonstrated more limited and heterogeneous PTA improvement, with post-rehabilitation values remaining in the moderate-to-severe range. Overall, post-rehabilitation audiological assessment revealed more favorable hearing thresholds than initially anticipated, particularly in CI recipients.

CONCLUSIONS

Despite identical homozygous SLC26A4 mutations and uniform IP-2 anatomy, post-rehabilitation hearing outcomes differed according to the rehabilitation modality. Cochlear implantation resulted in consistent and clinically meaningful improvement in PTA, whereas hearing aid outcomes were variable. The observed improvement in hearing thresholds suggests that auditory performance may be better than initially expected, emphasizing the importance of careful post-rehabilitation evaluation before considering revision interventions and highlighting the need for individualized management strategies in SLC26A4-related inner ear malformations

KEYWORDS

SLC26A4, pendrin mutation, incomplete partition type II, cochlear implantation, hearing aids, pure-tone average

OP-133

10-Year Results Of Minimal-Invasive Cochlear Implantation With The Bremen Approach

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BACKGROUND & AIM

Assessment of long-term results in minimally-invasive Cochlear Implantation with the Bremen Approach at Diako Bremen ENT clinic

MATERIAL & METHODS

Retrospective study surveying 150 minimal-invasively performed Cochlear Implantation (CI) operations with 156 devices employing the Bremen Approach (BA) over a ten year period. This includes primary and revision surgeries. Assessment of

surgical parameters, audiological outcome, implant failure, general patient features, complications. Multivariate analysis have been performed.

RESULTS

For BA mean extent of skin incision was 29.7 (+ 2,3)mm. Median size of mastoidektomies was 11×12 mm found significantly smaller in females. Median duration of operation was found to be 80 mins. Side of implantation had no significant influence. BMI> 25 had a statistic significant impact on operation time. Improvement of both hearing threshold (4PTA) and speech recognition was significant (p<0,001). Overall complication rate was 10.7% after 24 hrs. and 8% after 4 weeks. Most prevalent symptom was transient vertigo. There was no implant specific clinical complication observed. No tip fold- over occured. Implant failures showed distinctly device specific characteristics. For revision surgeries no statistically significant correlation was found for parameters such as duration of surgery, age, BMI and gender.

CONCLUSIONS

The BA is a surgical concept that proved over ten years to be a safe , reliable and cost-effective adjunct to conventional surgical approaches. It requires no special surgical equipment and precautions other than applied in conventional CI surgery. As a minimally-invasive approach BA is a viable alternative to costly high-end approaches in health systems that face budget constraints and/or limitations in surgical equipment.

KEYWORDS

Minimally invasive Cochlear Implantation, Bremen approach, Ten year results

OP-134

No More Dressing After Cochlear Implantation: Exposing Benefits And Simplifying Care

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BACKGROUND & AIM

Mastoid pressure dressings have long been believed to reduce the risk of hematoma and seroma. However, recent studies suggest that these dressings may be unnecessary after uncomplicated middle ear and mastoid surgeries, as they do not appear to improve patient outcomes. Therefore, this study aimed to evaluate the role of mastoid pressure dressings in preventing postoperative complications following cochlear implant surgery.

MATERIAL & METHODS

The present retrospective cohort study included 127 cochlear implant recipients, divided into two groups: 64 patients who underwent cochlear implant surgery with head dressing and 63 patients who underwent the cochlear implant surgery without head dressing. Medical records were reviewed, and relevant clinical data were collected and analyzed to compare postoperative outcomes between the two groups.

RESULTS

The mean age of the patients was 14.9 ± 14.4 years, with 59.8% male and 40.2% female. A statistically significant difference was observed between the groups in the incidence of infection (P = 0.03) and focal skin necrosis (P = 0.03), both of which were higher among patients with head dressings. However, no statistically significant differences were found between the groups in terms of overall postoperative complications, hematoma, edema, wound dehiscence, or keloid scar.

CONCLUSIONS

This study found no evidence supporting the routine use of mastoid pressure dressings to prevent complications following cochlear implant surgery. Conversely, their use was associated with a higher incidence of infection and focal skin necrosis. Therefore, the application of mastoid pressure dressing should be individualized based on specific clinical circumstances rather than applied routinely.

KEYWORDS

Cochlear Implantation, Compression Bandages, Ear, Mastoid, Complications, Postoperative Care

OP-135

Where Do We Go From “Hear”? Factors Impacting Outcomes In CI Rehabilitation-From Language To Cognition. The Saudi Experience.

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BACKGROUND & AIM

Hearing loss (HL) is one of the most prevalent sensory impairment globally and the most common congenital abnormality in the Kingdom of Saudi Arabia (KSA), affecting 1-2% of school-aged children. Newborn Hearing Screening (NHS) programs, advances in hearing technology, and evidence-based habilitation models, transformed the developmental outcomes for children with HL.

Approximately 90% of infants with HL are born to hearing parents driving the majority of families at King Fahad University Hospital (KFUH) to elect early cochlear implantation (CI) and enrolling in listening and spoken language (LSL) habilitation. Auditory-Verbal therapy (AVT) is the LSL program adopted in our cochlear implant program.

MATERIAL & METHODS

This study examines the longitudinal outcomes of KFUH Cochlear Implant program, established in 2009. Through an evaluation of over 400 cases, parental surveys, and literature, this research assesses the impact of NHS initiated in 2012 at KFUH and implemented nationally in 2016 on intervention timelines, clinical rationale for implementing AVT, AVT strategies and their effectiveness in parental commitment, proficiency, self-efficacy, and parental language input. Moreover, to associate these factors with auditory, speech-language, neurocognitive, academic, and social outcomes for children with CIs.

RESULTS

Key findings highlight the pivotal role of early identification and intervention and proper access to sound, with the average age of CI decreasing to 1.8 years. Parental factors including active parental involvement, supported by targeted AVT coaching, emerged as a critical factor impacting self-efficacy and effective integration of strategies and language model with the child influencing language skills and educational performance with 67% of children with CI achieving mainstream education placement, close to global benchmarks. Additionally, five key AVT strategies employed by 80% of parents demonstrated significant efficacy in daily habilitation practices.

CONCLUSIONS

This study underscores the pivotal role of early identification, timely intervention, and a collaborative partnership between AVT practitioners, parents, and children to achieve age-appropriate communication skills, academic success, and enhanced quality of life for CI recipients in Saudi Arabia.

KEYWORDS

NHS, Auditory-Verbal Therapy, cochlear implant, parental factors, KFUH clinics, language skills, educational outcome

OP-136

Effects Of The Vestibulocochlear Implant On Balance And Gait In Bilateral Vestibulopathy

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BACKGROUND & AIM

Bilateral vestibulopathy (BVP) often leads to common gait and balance issues, increasing the risk of falls due to impaired spatial orientation and postural stability. The vestibular implant is a neuroprosthesis that offers a promising treatment option for patients with severe bilateral vestibulopathy. This study aims to assess the impact of different prosthetic vestibular stimulation modes on gait and balance outcomes in patients with vestibulocochlear implants.

MATERIAL & METHODS

The VertiGo! trial is a prospective, nonrandomized, single-center cohort study. The trial includes nine patients with severe BVP who demonstrated inadequate compensation despite conventional treatment. Nine patients received the VCI and were extensively tested in four testing weeks, the first providing reference data (no VCI stimulation) followed by different stimulation modes: (A) baseline stimulation combined with head motion-modulated stimulation, (B) reduced baseline stimulation combined with head motion-modulated stimulation, and (C) only baseline stimulation, without modulation. For the gait and balance assessments, patients walked at 0.6m/s, 0.8m/s, and 1.0m/s on an instrumented treadmill integrated in a 6-DoF motion platform. Five walking conditions were evaluated: unperturbed walking in both lit and dark environments, along with three sizes of pseudorandom mediolateral platform sway perturbations. Coefficients of variation (CoV) were analyzed using 3D motion capture data for step time, step length, double support time and step width. Patients also completed the Mini-BESTest each week.

RESULTS

Step time, length and double support time CoV consistently reduced with increasing walking speeds across all walking conditions whereas step width CoV increased with increasing walking speeds across all walking conditions. Larger perturbations increased CoV consistently. The CoV in the reference mode and stimulation modes A, B and C varied across patients for all gait parameters with no consistent effect for any one stimulation mode. Darkness usually increased CoV but no clear effect of a specific stimulation mode in darkness was found. In the Mini-BESTest, at least one stimulation condition total score was higher than the reference total score for 6 of 9 patients but these were distributed across the different stimulation modes.

CONCLUSIONS

Walking speed, perturbation conditions, and stimulation modes significantly influence gait stability and balance performance. While specific stimulation modes may provide slight advantages in acute stimulation by minimizing variability and enhancing stability under challenging conditions, individual responses exhibit considerable variability. The findings emphasize the importance of tailored stimulation modes and comprehensive gait analysis in optimizing interventions for this population.

KEYWORDS

Bilateral vestibulopathy, gait, vestibular implant

OP-137

Detection Of Cell Layer On Cochlear Implants (CI) For Long-Term Monitoring Of Stimulation Efficiency

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BACKGROUND & AIM

Cochlear implants (CIs) are effective neural prostheses for restoring hearing in individuals with sensorineural hearing loss. However, implantation can trigger an immune response leading to fibrosis within the cochlea, which reduces stimulation efficiency and may result in suboptimal clinical outcomes. Electrochemical Impedance Spectroscopy (EIS) provides a powerful tool to assess CI functionality during and after implantation. Despite this, its potential for analyzing electrical properties, detecting fibrotic cell layers, and distinguishing between cell types remains unutilize. This study aims to develop and validate an equivalent electrical circuit (EEC) model capable of reliably detecting cell layer formation on CI electrode arrays.

MATERIAL & METHODS

The cell layer experiments demonstrated a clear increase in impedance across the mid and high frequency range as cell layer formed on the CI electrodes. The presence of a cellular layer led to measurable changes in the electrical response, indicating altered electrode–tissue interface properties. Notably, impedance values returned to baseline after electrode cleaning, confirming that the observed increase was due to the presence of the cell layer. These impedance changes were consistently observed across different electrode types, suggesting that cell layer formation has a reproducible and significant impact on electrode behaviour.

RESULTS

The cell layer experiments demonstrated a clear increase in impedance across the mid and high frequency range as cell layer formed on the CI electrodes. The presence of a cellular layer led to measurable changes in the electrical response, indicating altered electrode–tissue interface properties. Notably, impedance values returned to baseline after electrode cleaning, confirming that the observed increase was due to the presence of the cell layer.

CONCLUSIONS

Our findings confirm that cell layer formation on CI electrodes leads to a measurable increase in impedance. EIS is therefore a promising, sensitive and non-invasive approach for detecting and monitoring cell layer formation on CI electrodes. This approach may support improved assessment of device condition and provide insights into biological responses that influence long-term implant performance.

KEYWORDS

Cochlear implant, Modelling, Fibrosis

OP-138

Using Cortical Auditory-Evoked Potentials To Assess The Benefits Of Aural Rehabilitation In Adult Cochlear Implant Users

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BACKGROUND & AIM

Outcomes following cochlear implantation vary considerably, with some adult cochlear implant (CI) users demonstrating persistently poor speech perception despite appropriate device programming. This study investigated whether structured aural rehabilitation improves speech perception in long-term CI users and whether these behavioural changes are reflected in cortical auditory-evoked potential (CAEP) responses.

MATERIAL & METHODS

Adult unilateral CI users with post-lingual bilateral hearing loss or single-sided deafness participated in a clinician-directed Aural Rehabilitation Program (ARP) incorporating structured auditory training over 10 weeks. Participants completed weekly one-hour sessions and underwent repeated assessments at baseline and 10-week intervals. Speech perception in quiet was

assessed using CNC words under implant-alone and binaural listening conditions. Electrically evoked CAEP (eCAEP) responses were analysed using P1-N1-P2 latency and amplitude measures.

RESULTS

Significant improvements in speech perception were observed following rehabilitation. Participants receiving ARP demonstrated higher CNC scores compared with controls across listening conditions. Improvements were maintained longitudinally. No significant changes were observed in eCAEP latency or amplitude measures following rehabilitation.

CONCLUSIONS

Structured auditory rehabilitation improves speech perception outcomes in adult long-term CI users with poor baseline performance. While neurophysiological changes were not identified using eCAEP measures, behavioural findings support integration of targeted auditory rehabilitation into routine CI clinical care.

KEYWORDS

aCAEP, mapping verification, auditory training

OP-139

Impact Of Patient-Specific 3D-Printed Temporal Bone Models On Cognitive Load In Cochlear Implant Surgery: A Randomized Controlled Trial

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BACKGROUND & AIM

Patient-specific 3D printed temporal bone models increasingly support surgery, but robust evidence characterizing their intraoperative effect is lacking. To determine if intraoperative inspection of patient-specific 3D-printed TB models, as supplement to standard imaging, affects the cognitive load of surgeons during cochlear implantation (CI).

MATERIAL & METHODS

Randomized, controlled clinical trial of consecutive adult primary CI surgeries from September to December 2025 at a large CI center. Seven attending surgeons and five trainee surgeons (two fellows and three senior residents) participated. Cases were randomized 1:1 to current standard with surgical planning based on review of preoperative computed tomography and/or magnetic resonance imaging (controls) or to current standard plus additional intraoperative 3D-printed model inspection during surgery (intervention).

The primary outcome was intraoperative cognitive load measured using the Surgery Task Load Index (Surg-TLX). Linear mixed-effects models for repeated measures were used. Secondary outcomes included ratings of model anatomy, utility, and user experience (Schlegel questionnaire) and subjective reports of predicted and unpredicted intraoperative challenges.

RESULTS

Forty patients were included in the analysis. Attending surgeons reported lower mean overall cognitive load with 3D models vs controls (3.8 [95% CI, 3.0–4.7] vs 5.5 [95% CI, 4.7–6.4]; P<0.01), primarily driven by reduced physical fatigue (P=0.01). Residents reported higher overall load (7.2 [95% CI, 5.8–8.7] vs 4.8 [95% CI, 3.6–6.1]; P=0.02), with higher mental fatigue (P=0.01) and physical fatigue (P<0.001). Fellows reported no difference in overall cognitive load (8.2 [95% CI, 6.7–9.6] vs 8.0 [95% CI, 6.1–9.9]; P = 0.88) but reported lower case complexity (P=0.02) offset by higher physical fatigue (P=0.04).

Models were generally viewed as accurate, practically useful in the operating room, especially for selective use. Utility was strongest for trainee education and case-specific decision support such as anticipating difficulty and clarifying boundaries.

CONCLUSIONS

The clinical impact of intraoperative 3D-printed models is significantly modulated by surgical experience. For experts, these models served as a high-fidelity reference that facilitated cognitive offloading. Conversely, for residents, intraoperative models were found to increase mental effort. Selective implementation is recommended to align these tools with the surgeon's position along the novice-to-expert continuum and optimize both operative efficiency and surgical training.

KEYWORDS

Cochlear implant; Temporal bone; 3D print; patient-specific; Randomized Clinical Control Trial; Cognitive Load;

OP-140

Impacts Of COVID-19 Pandemic On Daily Communication & Speech Development Of Paediatric Cochlear Implant Patients

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BACKGROUND & AIM

The optimal hearing outcomes and speech acquisition of children with cochlear implants (CI) rely heavily on age of implant and post-implant aural rehabilitation and speech training. Face masks, social distancing, online communication, and such like became the new normal during the COVID-19 pandemic. We would like to explore the effects of the COVID-19 pandemic on daily communication and speech development of CI children, and whether they could be salvaged by an intensive speech training course.

MATERIAL & METHODS

Subjects

- Cantonese-speaking paediatric patients with prelingual deafness, who received CI & rehabilitation sessions during the COVID-19 pandemic and paired, age-matched control group with normal hearing

Methods

- Modified APHAB evaluates the hearing experience under mask-off versus mask-on situations in 4 subscales - communication under quiet, noisy & reverberated environment, and hearing discomfort
- COVID-19 questionnaire evaluates impacts of face masks, virtual communication and anti-epidemic measures
- Intensive speech training course consists of 10 weekly personalized sessions hosted by 2 speech therapists, with parental observership and suggested home training plans after each sessionPre- & post-course speech assessment on speech perception, oral language comprehension & expression and speech production
- Post-course parental questionnaire on perceived improvement of children's language performance and overall course satisfaction

RESULTS

CI children experience more significant communication challenges with face masks under quiet and noisy environment. COVID-19 pandemic caused significantly greater impacts to CI children in terms of communication and speech development, with the use of face masks being the key contributor. Anti-epidemic measures least affect CI children among all measures

~50% participants showed measurable grade improvement in speech assessment. Parental questionnaire reveals high perceived effectiveness and satisfaction, suggesting noticeable improvement in everyday conversations. The course improves home training of participants, including both learning proactiveness and duration.

CONCLUSIONS

COVID-19 pandemic has brought negative impacts to daily communication and speech development specifically to CI children, with the use of face masks being the key contributor. In case of the next pandemic, anti-epidemic measures, e.g. social distancing & partition boards, could be a modality of infection control to balance with the communication needs of CI children.

Intensive speech training course could be a concurrent/ post-pandemic speech rehabilitation measures to improve everyday communication of CI children.

KEYWORDS

paediatric cochlear implantation, speech rehabilitation, COVID-19, communication challenges, speech-language outcomes

OP-141

Can A Single A-Value Replace Anatomy-Based Planning? Comparative Evaluation Of Alexiades–Jolly Formula And OTOPLAN For Cochlear Duct Length Estimation

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BACKGROUND & AIM

To evaluate the agreement between CDL measurements obtained using the Alexiades–Jolly formula and OTOPLAN in cochlear implant candidates undergoing preoperative imaging.

MATERIAL & METHODS

A retrospective observational study was conducted in cochlear implant candidates with normal cochlear anatomy who underwent preoperative high-resolution computed tomography of the temporal bone at a tertiary referral otology center. The cochlear basal turn A-value was measured using multiplanar reconstruction in the cochlear view, and CDL was calculated using the Alexiades–Jolly formula. OTOPLAN-based CDL measurements were independently obtained using anatomy-based cochlear reconstruction at the level of the Organ of Corti/basilar membrane.

Measurements were performed independently by two blinded observers. Intermethod agreement was assessed using intraclass correlation coefficient and Bland–Altman analysis. Secondary analyses included interobserver reliability and assessment of the potential impact of measurement differences on electrode array selection and insertion planning.

RESULTS

Preliminary analysis demonstrated strong overall agreement between formula-based and anatomy-based CDL estimation methods. OTOPLAN measurements demonstrated improved reproducibility with lower interobserver variability. Although the two methods showed close correlation in the majority of cases, greater discrepancies were observed in cochleae

demonstrating increased anatomical variability. In a subset of patients, differences between the two methods were sufficient to potentially influence electrode selection and predicted insertion depth.

CONCLUSIONS

The Alexiades–Jolly formula demonstrates good agreement with OTOPLAN for routine cochlear duct length estimation in cochlear implant candidates and may serve as a practical surrogate in resource-limited settings. However, anatomy-based planning using OTOPLAN may provide a more individualized assessment in anatomically variable cochleae and in cases where precision electrode selection is critical. Further studies correlating imaging-derived CDL measurements with intraoperative and audiological outcomes are warranted.

KEYWORDS

Cochlear implantation; Auditory brainstem implantation; Vestibular dysfunction; VEMP; Cerebellar flocculus;.

OP-142

The Effect Of Early Activation Of Cochlear Implantation On Adults Psychological Status: A Case-Control Study

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BACKGROUND & AIM

Introduction: Adult cochlear implantation (CI) is becoming more concerned to the otology service since about 50% of adults over 60 years of age complain of hearing loss. Early activation of CI has been proposed recently and is now performed in most high-volume CI centers.

Objective: This study aims to evaluate the psychological effect of early activation of CI in adult population.

MATERIAL & METHODS

Our trained psychologist on CI patients will be using a pre-validated Beck depression inventory questionnaire, Patient Health Questionnaire 9-item depression scale (PHQ-9), and 7-item Generalized Anxiety Disorder scale (GAD-7). We will compare the results of these questionnaires between adults who had unilateral or bilateral CI, and patients with early or late fitting. We will also analyze factors related to the success of CI in these patients and whether they had an impact on the questionnaire results.

RESULTS

Data analysis is currently underway, and results will be presented at the time of the conference.

CONCLUSIONS

Data analysis is currently underway, and results will be presented at the time of the conference.

KEYWORDS

Cochlear implant, early activation, hearing loss, depression, anxiety

OP-143

Early Outcomes Of Cochlear Implantation In Single-Sided Deafness: Discrepancy Between Psychoacoustic Performance And Patient-Reported Spatial Benefit

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BACKGROUND & AIM

Cochlear implantation (CI) has emerged as an effective treatment for single-sided deafness (SSD), restoring elements of binaural hearing and improving communication in challenging environments. Although postoperative gains in subjective satisfaction are well documented, the mechanisms linking psychoacoustic recovery—particularly sound localization—to patient-reported benefit remain unclear. Prior research has generally demonstrated overall improvements, yet few studies have examined the dissociation between objective localization accuracy and perceived spatial benefit. This study investigated early audiological and subjective outcomes in SSD CI users, focusing on how localization performance contributes to patient-reported improvements across different listening domains.

MATERIAL & METHODS

This retrospective study included 55 adults with SSD who underwent cochlear implantation. Ear-specific speech perception was assessed through direct audio streaming to isolate the implanted ear. Subjective outcomes were measured using the Korean versions of the Speech, Spatial, and Qualities of Hearing Scale (K-SSQ) and the Abbreviated Profile of Hearing Aid Benefit (APHAB). A subset of 20 patients completed standardized sound localization testing in a controlled acoustic booth. Correlation analyses were performed to evaluate relationships among deafness duration, changes in localization accuracy, and subjective improvements across questionnaire domains. Deafness duration within this predominantly short-duration cohort (mean 3.09 years) was additionally examined as a potential predictor of outcome variability.

RESULTS

Postoperatively, ear-specific speech perception improved markedly from 0% to consistent open-set recognition across the cohort. Subjective outcomes demonstrated significant benefit, with K-SSQ Spatial scores increasing from 59 ± 36 to 84 ± 35 ($p < 0.05$), accompanied by notable improvements in Speech and Qualities domains. Localization accuracy improved in the 20-patient subset, and correlation analyses revealed domain-specific associations: greater localization improvement significantly correlated with gains in K-SSQ Speech ($\rho = 0.53$, $p = 0.017$) and Qualities ($\rho = 0.49$, $p = 0.029$), but not with K-SSQ Spatial improvement ($\rho = 0.18$, $p = 0.46$). This dissociation suggests that patients who achieved better booth-measured localization perceived clearer speech and improved sound quality, yet their subjective spatial impressions were not directly aligned with objective localization accuracy. Deafness duration—within a predominantly short-duration cohort—did not significantly predict postoperative audiological or subjective outcomes.

CONCLUSIONS

Cochlear implantation for SSD yields robust improvements in speech perception and overall listening satisfaction. The key finding is the dissociation between objective localization gains and subjective spatial benefit: localization improvement predicted better Speech and Qualities scores, but not Spatial scores. This pattern suggests that early subjective benefit is driven mainly by restored audibility, head-shadow reduction, and improved interaural level difference cues, rather than precise interaural time difference processing required for complex spatial tasks. CI therefore provides meaningful functional relief and enhanced listening comfort in daily life, even when fine-grained spatial accuracy remains limited.

KEYWORDS

Cochlear implant; Single-sided deafness; Localization; Patient-reported outcomes; Speech perception

OP-144

Evaluation Of Remote Programming Of Cochlear Implants Under Challenging Conditions

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BACKGROUND & AIM

Since the COVID pandemic, the adoption of telemedicine in cochlear implant (CI) care has accelerated significantly. Two modalities have been implemented: synchronous remote fitting, which replicates real time programming sessions with the patient and clinician connected at the same time, and asynchronous remote monitoring, which provides fitting through digital platforms that can be carried out in different places and at different times. The aim of this study was to assess the safety, and clinical value of both synchronous and asynchronous remote monitoring, and to explore how these strategies support continuity of care, and early detection of technical issues.

MATERIAL & METHODS

Synchronous remote fitting was performed using the standard MAESTRO fitting software operated by expert clinicians via a secure web service, with a local assistant supporting the CI user. Satisfaction and technical performance were evaluated through online questionnaires for both clinicians and users.

Asynchronous monitoring involved CI users employing the HearCare app to check implant integrity, audio processor status, and daily usage. Clinicians reviewed automated alerts and remote diagnostic reports, and users completed a usability questionnaire. Changes in the fitting maps were done when necessary via MAESTRO software, managing the same parameters as in a face-to-face session, the patient received the new fitting in their app and they can upload it in the audio processor.

RESULTS

55 questionnaires were collected from CI users and 45 from programmers in the synchronous evaluation. Users reported high satisfaction (mean 8.1/10), and clinicians rated compliance at 9.3/10, with 95% satisfied and all would recommend the procedure. Technical performance was robust (mean score for audio quality, video quality, internet connection and server access were 8.8, 8.0, 8.7 and 9.0, respectively), with minimal delays (only in 16% of the sessions) or interruptions (in 19%) and session duration comparable to face-to-face sessions. No patients required additional scheduling.

CONCLUSIONS

Synchronous remote fitting and asynchronous digital monitoring form complementary pillars of modern CI telehealth. Moreover, the asynchronous remote monitoring allows more autonomy and does not rely on scheduled appointments. Real time adjustments and continuous surveillance together enhance safety, autonomy, and access, reinforcing the potential of telemedicine in diverse CI populations.

KEYWORDS

Cochlear implants Telemedicine Remote fitting Remote monitoring Digital health

OP-145

Flap Complications After Cochlear Implant

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[1]*Tripoli University Hospital;* [2]*Tripoli Central Hospital*

BACKGROUND & AIM

To report complications related to the flap around cochlear implants and to discuss the possible causes and treatment options.

MATERIAL & METHODS

This is a retrospective review of 264 of cochlear implant of pediatric and adult patients operated in our center during the period from April 2013 to April 2021, with review of complications related to flap around the implant, complications are divided into minor and major complications

Minor complications include skin infection, wound dehiscence without exposure of the implant, wound seroma and hematoma. Major complications include flap necrosis and implant extrusion.

RESULTS

Among 264 cochlear implant recipient 10 cases of seroma and/or hematoma, 9 of them treated with aspiration and one by surgical evacuation, compression and I/V antibiotics and they recovered completely, 7 cases of wound infection, delayed wound healing and wound dehiscence without exposure of the implant treated with daily dressing, debridement and intravenous antibiotics. 2 patients suffered with flap necrosis and extrusion of the implant, one of them presented after 3 years of surgery, treated with transposition of the implant, secured with a vascularized peri-cranial flap based upon temporalis muscle and rotation skin flap, the other patient presented 2 weeks after surgery and ended with explantation.

CONCLUSIONS

Complications related to flap in CI are considered uncommon with incidence of 7 %. In our study, only 0.75% of them are major complication.

We consider the age, sex and preceding upper respiratory tract infection with acute otitis media and head trauma as possible related factors in these complications. Management of complications of CI should start with prevention and early detection and treatment of any wound infection, hematoma, and seroma.

KEYWORDS

Flap; cochlear; implant; complications

OP-146

Pediatric Cochlear Implantation: The Impact Of Frequency-To-Place Mismatch After A Three-Year Follow-Up

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BACKGROUND & AIM

Frequency-to-place mismatch in cochlear implants (CIs) may influence auditory and speech outcomes, yet its impact on pediatric patients remains underexplored. This study aims to assess the impact of frequency-to-place mismatch on hearing and speech outcomes.

MATERIAL & METHODS

In this retrospective study, the angular insertion depth and center frequency of each electrode contact were derived. The difference between the tonotopic and default frequency was used to estimate the mismatch. The impact of this mismatch on auditory and speech outcomes was assessed in pediatric CI users.

RESULTS

This study included 89 implanted ears of young children. The analysis revealed a significant difference between default and postoperative electrode frequencies, with greater mismatches observed in shorter electrode arrays. A weak but significant correlation was observed between mismatch and sound field-aided thresholds (SF-AT), while no clear trends were found in other outcome measures. Patients with lower mismatches tended to perform better, while those with mismatches exceeding 7 semitones showed slightly lower—though non-significant—speech performance. However, a significant difference was observed in SIR, favoring the lower mismatch group.

CONCLUSIONS

Children with <7 semitones of fequency-to-place mismatch showed better, though non-significant, outcomes across multiple measures—including SDS, CAP, and SF-AT—and a significant difference in SIR. Despite no significant linear correla-

tions overall, these findings suggest that specific mismatch levels may still influence outcomes after three years of CI use. Future studies should investigate whether tonotopic- based mapping improves speech perception and overall auditory performance in young CI users.

KEYWORDS
pediatrics, cochlear implant, frequency-to-place mismatch, hearing, speech, outcomes

OP-147

Using Cortical Auditory Evoked Potentials In Middle Ear And Bone Conduction Implant Users: An Objective Method To Optimise The Fitting

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BACKGROUND & AIM

CAEP has successfully been used for cochlear implant verification and optimisation. The study aimed to investigate whether cortical auditory evoked potential (CAEP) measures could be used to optimise middle ear implant (MEI) and bone conduction implant (BCI) fitting, with the goal of improving hearing outcomes in adults.

MATERIAL & METHODS

CAEPs were recorded from electrodes Cz and Fz in response to three speech tokens (/U/, /A/ and /SCH/) presented in sound field. Decision (response present or response absent) was assisted by statistical criterions (Hotelling's T2 statistical test) and confirmed by visual inspection of the waveforms. Optimisation was performed only when current clinical setting did not elicit a CAEP response. Hearing outcomes were measured as pre- and post-optimisation pure tone averaged aided thresholds (PTA4) as well as adaptive speech in noise scores.

RESULTS

Of the 14 participants, three did not need optimisation, two could not be optimised, and seven were successfully optimised using CAEP measurement. Univariate and multivariate analysis showed significant differences pre- and post-optimisation for middle and high frequency (i.e., /A/ and /SCH/) tokens. No difference was recorded for the low frequency speech token /U/. Optimised settings resulted in an overall improved speech perception in noise score (M(SD) = 5.11(4.24) SNR) and an improvement in PTA4 (M(SD) = 11.25(7.9) dB) pre- minus post-optimisation. An overall high degree of satisfaction with the procedure was observed.

CONCLUSIONS

These preliminary findings demonstrated that middle and high frequency tokens could be successfully optimised using CAEPs, resulting on significant improvement in hearing performance. Our results provide preliminary evidence supporting the use of CAEPs for optimisation of MEI and BCI adult users' fitting.

KEYWORDS
CAEP, bone conduction implant, middle ear implant

OP-148

Our Experience With Power Stapes Vibroplasty In Patients With Otosclerosis

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BACKGROUND & AIM

Otosclerosis is a common cause of progressive conductive hearing loss resulting from abnormal bone remodeling, particularly involving the stapes footplate. Conventional management includes hearing aids or surgical procedures such as stapedotomy or stapedectomy to restore ossicular chain mobility. An alternative approach is power stapes vibroplasty, a form of active middle ear implantation. This technique combines stapes surgery with an active transducer, such as the Vibrant Soundbridge system. The floating mass transducer is coupled to the incus following stapedotomy, thereby augmenting or bypassing impaired ossicular mechanics to improve vibratory stimulation of the inner ear.

MATERIAL & METHODS

A retrospective chart review was conducted to identify all power stapes vibroplasty cases and assess the post operative outcome.

RESULTS

The average preoperative air bone gap (for 0.5; 1; 2; 3kHz) i.e. was 28.9 dB and reduced to 11.6 dB after surgery, yielding an average improvement of 17.3 dB (SD +/- 11 dB). After activation of the VSB, speech perception in quiet at 65 dB SPL improved on average by 33% at 65 dB SPL and by 56% at 80 dB SPL, respectively.

CONCLUSIONS

Power Stapes vibroplasty is a safe and effective treatment option for patients suffering from otosclerosis.

KEYWORDS

Power Stapes; Active Middle Ear Implant; Stapedotomy; Otosclerosis

OP-149

Five-Year Cognitive Follow-Up After Cochlear Implantation In Older Adults With Severe Or Profound Hearing Loss: A Prospective Cohort Study

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BACKGROUND & AIM

Hearing loss is a major modifiable risk factor for cognitive decline and dementia in older adults. Cochlear implantation improves auditory function and quality of life in individuals with severe-to-profound hearing loss, but long-term cognitive trajectories after implantation remain insufficiently characterized. This study aimed to evaluate longitudinal changes in cognitive functioning, assessed with the Repeatable Battery for the Assessment of Neuropsychological Status for Hearing-Impaired Individuals (RBANS-H), over five years following cochlear implantation in older adults with severe-to-profound hearing loss.

MATERIAL & METHODS

In this prospective cohort study, a consecutive sample of 104 older adults (mean [SD] age at baseline, 69 [8.7] years; 53% male) with postlingual bilateral severe-to-profound hearing loss, who received a unilateral cochlear implant (CI) was enrolled between April 2015 and July 2025 at the Antwerp University Hospital. Participants were assessed preoperatively and annually for five years. Cognitive function was measured using RBANS-H. Secondary outcomes included health-related quality of life (HRQoL), speech perception in quiet and in noise, and vestibular function.

RESULTS

Global RBANS-H cognitive scores significantly improved during the first year after implantation and remained stable over the subsequent four years. Memory domains showed early postoperative gains, whereas attention and language remained stable and visuospatial performance declined over time. Participants at risk for mild cognitive impairment preoperatively (RBANS-H total score ≤16th percentile preoperatively: n = 37) showed relatively larger early improvements, particularly in attention, and only two participants progressed to dementia over five years. HRQoL and speech perception improved significantly after implantation and remained elevated throughout follow-up, while vestibular function remained unchanged.

CONCLUSIONS

Cochlear implantation in older adults with severe-to-profound hearing loss is associated with early increases in cognitive RBANS-H scores, followed by five-year stabilization, alongside sustained improvements in HRQoL and speech perception. These findings suggest that timely intervention may help preserve cognitive and psychosocial functioning, though further research is needed.

KEYWORDS

Cochlear Implant, Cognition, Mild Cognitive Impairment, Health-related Quality of Life

OP-150

OSIA System In A Large Case Series: Indications, Surgical And Complications Management.

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KEYWORDS

None

OP-151

Successful Hearing Rehabilitation With The Fully Implantable Cochlear Implant TICI

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BACKGROUND & AIM

The fully implantable cochlear implant 'Total Implantable Cochlear Implant' (TICI) represents a revolutionary new development. It combines the stimulation implant, microphone and signal processing unit, enabling hearing without external

components. As part of a multicentre European study, five patients underwent TICI treatment at the University ENT Clinic in Würzburg.

MATERIAL & METHODS

The patient group comprised two women and three men aged 48 ± 20 years. The preoperative PTA4 was 95.25 ± 7.02 dB HL and monosyllable comprehension with a hearing aid was 12 ± 21% (65 dB SPL).

RESULTS

The duration of the operation was 136 ± 7.1 min. There were no intraoperative or postoperative complications. All patients were treated with a FlexSoft electrode. The insertion angle of the apical electrode contact was 652 ± 54°, which corresponds to a frequency of 216 ± 60 Hz. At the 6-month follow-up, patients achieved a free-field threshold of 32.5 ± 3.9 dB SPL, monosyllabic word recognition at 65 dB HL of 69.0% ± 18.5% and an SRT of 0.87 ± 5.34 at 65 dB SNR in the OSLA. The patients reported perceiving the body's own background noise, but after the initial fittings, they no longer found it disturbing; in some cases, they even found it pleasant and natural.

CONCLUSIONS

These results show that TICI is a safe form of treatment. The high effectiveness of the system is particularly evident in its excellent speech comprehension. The approximate doubling of the operating time can be considered acceptable, taking into account the implantation of several components. The developed system thus represents a significant positive advancement in the field of cochlear implants.

KEYWORDS

Totally implantable cochlear Implant, TICI

OP-152

The Effect Of Cochlear Implantation On Auditory Gain, Sensory Reorganization, And Quality Of Life: 6-Month Follow-Up Results In Postlingual Adults

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BACKGROUND & AIM

In individuals with postlingual hearing loss, cochlear implantation (CI) aims to trigger changes at the cortical level by restoring auditory input and improving quality of life. The aim of this study is to examine the changes in objective auditory thresholds, auditory perception performance, sensory processing strategies, and quality of life in postlingual adults who underwent CI.

MATERIAL & METHODS

The study included 18 postlingual adult patients diagnosed with bilateral very severe sensorineural hearing loss. Preoperative (with hearing aid) and postoperative 6-month (with cochlear implant) data of the patients were evaluated using free-field hearing thresholds, the Speech, Spatial and Qualities of Hearing Scale (SSQ), the SF-36 Quality of Life Scale, and the Adult/Adolescent Sensory Profile. The Wilcoxon Signed-Rank Test was used in the analyses.

RESULTS

A significant improvement in favor of CI was detected in all frequencies (250-6000 Hz) at free-field thresholds ($p<0.001$). A statistically significant increase was recorded in all sub-dimensions of the SSQ ($p<0.001$). While significant improvements were detected in the Social Functioning, Physical Role, and Emotional Role Difficulty dimensions of the SF-36 scale ($p<0.05$); the change in sensory processing dimensions remained limited, and a significant difference was observed only in Sensory Sensitivity scores ($p=0.029$).

CONCLUSIONS

Our study shows that cochlear implantation significantly improves auditory performance and quality of social life in postlingual adults. Despite the dramatic increase in auditory perception, the more limited change in sensory processing strategies suggests that cortical reorganization and sensory habits established in the postlingual period follow a slower adaptation process. It was concluded that neural plasticity, which begins with the restoration of auditory input, may require follow-up and rehabilitation lasting longer than 6 months to fully reflect in complex sensory integration processes.

KEYWORDS

Cochlear Implant, Postlingual Hearing Loss, Quality of Life, Sensory Processing, Sensory Reorganization

OP-153

Cochlear Implant Fixation: Evolution Of The Techniques – Current Options

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BACKGROUND & AIM

Cochlear implants have undergone progressive technological and design evolution. With time, they became slimmer and easier to insert under a subperiosteal pocket. However, fixing the implant and or the electrode in place varies among surgeons, with a wide range of options.

MATERIAL & METHODS

We reviewed 66 consecutive surgeries and examined the fixation technique used, duration of implantation, presence of craniofacial abnormality, history of trauma to the head post-implantation, changes in implant function, and evidence of implant or electrode migration.

RESULTS

all implants were placed in a tight subperiosteal pocket, had a drilled bed with an anterior elevated edge, 15% were fixed by a suture, and in 34.8% bone dust was used to fix the redundant electrode. Three patients had head trauma. One resulted in a device malfunction, though there was no displacement. The device needed to be replaced. The other 2 patients had displacement of the device after trauma; one had no symptoms, but the other one started having discomfort wearing the processor.

CONCLUSIONS

A tight subperiosteal pocket with a drilled bony bed (even a limited one) provides stability for the cochlear implant. Adding a suture seems unnecessary. Adding bone dust might further stabilize the implant and the redundant electrodes, which could help prevent pulling on the electrodes in case of trauma, but its usefulness needs to be further explored.

KEYWORDS

cochlear implants, drilled bed, subperiosteal pocket, trauma, implant migration

OP-154

Effects Of Cochlear Implantation On Audiological Outcomes And Quality Of Life: A Comparison Of Geriatric And Adult Patients

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BACKGROUND & AIM

As the geriatric population increases, the impact of hearing loss is becoming more significant. The aim of this study was to examine the complication rates during and after cochlear implantation in geriatrc patients, to evaluate the effects on auditory outcomes and quality of life, and to reveal the differences by comparing these results with the adult patient group.

MATERIAL & METHODS

In this retrospective study, 19 patients aged 65 years and older with postlingual hearing loss who underwent unilateral cochlear implantation at Dokuz Eylul University between 2009 and 2023 and 20 adult patients aged 18-64 years were analysed to compare the results with these patients. Patient characteristics, such as age at implantation, time elapsed after surgery, time since the onset of hearing loss, time since the development of total or profound sensorineural hearing loss, preoperative hearing aid use, Complications, daily implant usage time were analyzed. Audiological results including preoperative pure tone audiometry thresholds, postoperative free field thresholds, preoperative and postoperative speech reception thresholds, and postoperative matrix test results in silence and noise were compared between the groups. Additionally, Nijmegen Cochlear Implantation Questionnaire outcomes, administered both before and after surgery, were evaluated to assess the effect of cochlear implantation on quality of life.

RESULTS

Outcomes of cochlear implantation were compared between patients aged 18-64 and $\geq$65 years. Baseline characteristics (duration of hearing aid use and total hearing loss), daily implant use, and surgical complication rates showed no significant differences between groups ($p>0.05$). Both cohorts exhibited significant postoperative improvements in audiological measurements and Nijmegen Cochlear Implant Questionnaire (NCIQ) scores ($p<0.001$). When the age groups were compared, there were no significant differences in overall audiological improvement, matrix test in noise, or any of the NCIQ subdomains —including basic sound perception, speech production, activity, social interaction, self-esteem, and advanced sound perception ($p>0.05$). Overall, there was no significant difference in the effect of surgery and improvement in quality of life between the age groups. Ultimately, overall surgical efficacy and general outcomes of cochlear implantation did not differ significantly between the two age groups.

CONCLUSIONS

Cochlear implantation in elderly patients resulted in significant improvements in hearing levels and quality of life. Complication rates were low, and the auditory and psychosocial results suggest that elderly patients benefit from CI as much as adults.

KEYWORDS

Cochlear Implant, Elderly Patients, Hearing Loss, Quality of Life

OP-155

Anatomy-Based Spacing: A Novel Concept In Cochlear Implant Electrode Design

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BACKGROUND & AIM

Using anatomy-based fitting, we can determine the place-specific map with individualized center frequencies for each electrode contact that is a closer match to the natural pitch-place of the cochlea. The primary objective of this study is to evaluate the tonal presentation across the electrode array and to calculate the semitone difference between each adjacent pair of contacts according to their anatomy-based map. The secondary objective is to determine the distancing of the contacts that would result in an equal semitone difference with a uniform tonal presentation.

MATERIAL & METHODS

Anatomy-based electrode spacing was determined by dividing the frequency range of the anatomy-based array frequency coverage into equal semitonal distances. After determining the frequencies that would result in equal semitonal distances, the corrected Greenwood equation was used to determine the spacing of each pair of adjacent electrodes.

RESULTS

A total of 167 ears were included in this retrospective study. The frequencies across the electrode arrays were found to be unequally presented. The semitonal condensations were higher in the apical inter-contact spaces compared to the basal inter-contact spaces, being 3.0–2.3 semitones/mm (Kruskal Wallis test, $p<0.000$). The anatomy-based spacing of the electrode contacts was larger in the basal inter-contact spaces compared to the apical inter-contact spaces, ranging from 1.92 to 1.48 mm.

CONCLUSIONS

In conclusion, the current electrode designs do not have uniform tonal representation throughout the electrode array. There is a more condensed tonal presentation in the apical electrodes than in the basal electrodes, resulting in a lower tonal resolution in the apical region.

KEYWORDS

Cochlear implant, frequency-to-place mismatch, frequency, anatomy-based, organ of corti

OP-156

Hearing Rehabilitation With Cochlear Implantation In Postmeningitis, -Labyrinthitis Deafness

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BACKGROUND & AIM

Purulent labyrinthitis and meningitis are both potentially life-threatening diseases that require acute care w antibiotics, surgery and often intensive care. A common residual symptom is profound sensorineural hearing loss. Fibrosis and ossification of the cochlea caused by the inflammation may prevent patients from undergoing hearing rehabilitation with cochlear implantation and may hinder postoperative rehabilitation.

MATERIAL & METHODS

We retrospectively worked up the cases of patients with severe to profound hearing loss after bacterial meningitis and labyrinthitis.between January 2023 and October 2025 in the Department of Oto-Rhino-Laryngology, Head and Neck Surgery, Semmelweis University, Budapest, Hungary. Results of imaging (CT and MRI), eligibility to cochlear implantation, intraoperative findings and postoperative rehabilitation results were evaluated.

RESULTS

13 patients were included (7 labyrinthitis, 6 meningitis), 10 adults and 3 children. Preoperative imaging confirmed ossification in the cochlea in 5 cases, with different extent. Succesful cochlear implantation was performed in 8 cases (2 bilateral and 6 unilateral). Based on the postoperative PCCT scan,all implanted cases were fully inserted. In 2 cases of the 5 non-implanted patients surgery was contraindicated due to extensive ossification, one patient refused implantation and 2 turned out intraoperatively to be non-implantable due to extensive intracochlear fibrosis without ossification. In 2 cases intraoperative NRT measurements showed no electric response therefore rehabilitation was unsuccessful. Postoperative rehabilitation results were overall inferior to non-meningitis and non-labyrinthitis cases.

CONCLUSIONS

Rehabilitation of severe hearing loss caused by meningitis can pose a number of challenges for clinicians among other things in regards to CI. A critical point in care is the urgent referral of patients to a cochlear implantation center as soon as possible after a serious, life-threatening condition. In our data set the success rate of postop hearing rehabilitation is doubtful even after a succesful electrode insertion.

KEYWORDS

Post-meningitis, -labyrinthitis deafness, cochlear implantation, rehabilitation

OP-157

Hearing Outcomes And Quality Of Life After Implantation With The Sentio System

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BACKGROUND & AIM

Active transcutaneous bone conduction implant systems have been proven a useful solution for patients with conductive or mixed hearing loss (CHL/MHL), or single-sided deafness (SSD). Sentio is the most recent system on the market, introduced 2024. It has a low profile and compact design without compromising sound quality.

MATERIAL & METHODS

The Sentio System was evaluated in a prospective, multicenter clinical study including 51 patients implanted with the Sentio Ti implant and fitted with the Sentio 1 sound processor. Participants were followed for up to 24 months, with ten scheduled follow-up visits. Outcome measures included changes in hearing thresholds, speech understanding in quiet and in noise, and patient-reported benefits assessed using validated questionnaires covering hearing performance and quality of life. Safety was assessed by monitoring device- and surgery-related incidents and adverse events throughout the study period.

RESULTS

Compared with the unaided condition, Sentio resulted in clear improvements in hearing performance, with a mean improvement in pure-tone average (PTA4) of 32.8 dB and an increase in speech understanding from 46% to 98% in quiet. When compared with a preoperative non-surgical solution (Ponto on Softband), additional improvements were observed, including a 7.2 dB improvement in PTA4 and a 2.9 dB improvement in speech understanding in noise.

Patient-reported outcomes showed a high perceived benefit, with 100% reported improvement by the Speech, Spatial and Qualities of Hearing Scale, along with 97% reported improvements in quality of life by the Glasgow Benefit Inventory. Surgeries were uneventful and there were no serious or unexpected incidents or adverse events related to the system or the surgical procedure.

CONCLUSIONS

The Sentio System is an effective treatment that provides meaningful and clinically relevant improvements in hearing performance for patients with CHL, MHL, and SSD. Excellent patient-reported outcomes can be expected, including improved perceived hearing ability and quality of life. Few and mild complications indicate a favorable safety profile, supporting the Sentio System as an effective and safe active transcutaneous bone conduction treatment option.

KEYWORDS

Bone Conduction, Active transcutaneous, implantable device

OP-158

Predictors And Behavioral Correlates Of Speech-In-Noise Performance In Cochlear Implant Users: A Real-World Datalogging Analysis

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BACKGROUND & AIM

To examine how real-world cochlear implant (CI) use—quantified through objective datalogging—relates to speech-in-noise performance, with specific focus on bilateral symmetry, daily usage patterns, and exposure to different listening environments.

MATERIAL & METHODS

Retrospective cross-sectional study of 32 CI users (51 ears) at a tertiary referral center. Datalogging from newer-generation processors provided daily usage hours and time spent in quiet, noise, and music environments. Speech-in-noise performance was assessed using AzBio sentences at 60 dB SPL. Analyses included paired comparisons, correlation testing, quadratic modeling, and multiple regression, with sensitivity analyses to assess robustness.

RESULTS

Among 17 bilateral users, speech-in-noise performance showed excellent interaural agreement (ICC = 0.871) with no significant left–right differences. Daily usage hours demonstrated a significant negative linear association with speech-in-noise performance ($r = -0.453$, $p = 0.004$) and a significant quadratic term ($p = 0.030$), indicating an inverted-U relationship. Optimal performance occurred at approximately 8–10 hours/day, with poorer outcomes at both lower and higher usage levels. Listening environment exposure was strongly associated with performance (model $R^2 = 0.850$). Time spent in quiet showed the strongest negative association ($\beta = -1.07$), followed by music ($\beta = -1.48$) and noise ($\beta = -0.81$), with all predictors remaining significant after sensitivity analyses.

CONCLUSIONS

Real-world CI outcomes are shaped not only by total daily wear time but also by the diversity of listening environments. Moderate daily use appears optimal for speech-in-noise performance, whereas excessive quiet exposure may reflect listening avoidance or limited auditory challenge. These findings support a more nuanced interpretation of datalogging metrics in clinical practice, emphasizing the importance of both quantity and quality of auditory experience.

KEYWORDS

cochlear implant, datalog, listening enviroment

OP-159

Clinical Outcomes And Implementation Challenges Of Remote Cochlear Implant Programming

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BACKGROUND & AIM

Remote cochlear implant (CI) programming has emerged as a tele-audiology solution to improve access, continuity, and follow-up care for CI recipients. While international interest is increasing, evidence on clinical effectiveness, patient experience, and real-world feasibility remains fragmented. This study aims to synthesise existing evidence on remote CI programming and to evaluate its clinical feasibility with relevance to post-implant care models globally.

MATERIAL & METHODS

Remote CI programming was implemented as part of routine follow-up within a d CI service, and a feasibility assessment was undertaken to evaluate technical performance, workflow integration, clinician experience, and patient acceptance. In parallel, a systematic review of the literature was conducted on remote CI programming. Outcomes of interest included audiological performance, patient satisfaction, and service delivery feasibility. Findings from the local implementation and the literature were synthesised thematically.

RESULTS

Local implementation demonstrated that remote CIprogramming was technically feasible and well accepted within routine follow-up care. Sessions were completed successfully without major technical failures, and both patients and clinicians reported high satisfaction, particularly due to reduced travel burden and improved appointment flexibility. Findings from the systematic review were concordant with the local experience, showing audiological outcomes comparable to in-person programming for speech perception and device optimisation. Across studies, patient satisfaction was consistently high. However, recurrent challenges were identified, including variability in programming protocols, connectivity limitations, infrastructure requirements, and the need for clinician training.

CONCLUSIONS

Remote CI programming is a feasible and clinically effective adjunct to conventional post-implant care. The current study demonstrated successful integration into routine follow-up with high patient and clinician acceptance, consistent with international evidence showing comparable audiological outcomes to in-person programming. While not a replacement for face-to-face mapping, hybrid care models can enhance continuity and access. Standardised protocols, clinician training, and robust digital infrastructure are required for safe and scalable implementation.

KEYWORDS

Cochlear implants; Remote programming; Post-implant care; Hybrid care models

OP-160

Integration Of Otoplan And Intraoperative Navigation To Improve Safety In Challenging Cases Of Bonebridge Surgery

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BACKGROUND & AIM

The second-generation Bonebridge is increasingly used in patients with conductive or mixed hearing loss. Preoperative imaging often reveals limited areas of sufficient bone thickness, in which the floating mass transducer and fixation screws can be safely

and completely implanted. Inadequate positioning may increase the risk of dural or vascular injury. The latest version of Otoplan enables not only assessment of bone thickness but also virtual implantation with export of a patient-specific implant model. The combination of digital planning and intraoperative navigation may improve surgical precision and safety.

MATERIAL & METHODS

Patients underwent Bonebridge implantation following preoperative planning with Otoplan. Prior to intraoperative cone-beam CT (CBCT), three marker screws were inserted for navigation registration. The imaging data were imported into Otoplan to define the optimal implant position through virtual placement. A model of the planned Bonebridge position was then exported. Both the CBCT data and the implant model were transferred to an electromagnetic navigation system. The marker screws were used for accurate registration, allowing real-time projection of the planned implant position onto the patient during surgery. Implantation was subsequently performed according to the navigated guidance.

RESULTS

At all planned screw positions, bone thickness was sufficient, confirming the feasibility and precision of the method. No dural injury or surgery-related complications occurred. The workflow enabled accurate transfer of the virtual plan to the intraoperative setting.

CONCLUSIONS

Preoperative Bonebridge planning with Otoplan, combined with model export and navigation-guided intraoperative projection, represents a practical and precise surgical adjunct. This integrated approach has the potential to enhance reliability and safety of Bonebridge implantation in patients with challenging anatomies like limited temporal bone thickness.

KEYWORDS

Bonebridge Navigation Virtual Planning

OP-161

Fibrous Hydrogel Interface For High-Resolution In-Ear Ecochg Recording

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BACKGROUND & AIM

Extracochlear Electrocochleography (ECochG) remains limited by unstable tympanic-membrane (TM) contact and high electrode–tissue impedance, compromising recording fidelity. We developed a fibrous in-ear ECochG electrode (ECochGel) designed to conformally interface with the TM for high-stability auditory electrophysiological monitoring without the need for conductive pastes or mechanical fixation.

MATERIAL & METHODS

Hydrogel-coated fiber electrodes were fabricated and characterized for morphology, phase transition, mechanical compliance, and impedance properties, using commercial conductive paste as control. Biocompatibility was assessed via fibroblast culture and fluorescence viability assays. In vivo ECochG recordings were obtained in anesthetized SD rats by placing ECochGel or control paste onto the TM, and tone-evoked cochlear potentials were recorded using a clinical-compatible electrophysiology platform. Cochlear tissues and major organs were examined histologically to evaluate local tissue response and systemic biosafety.

RESULTS

ECochGel exhibited thermoreactive sol–gel transition that enabled rapid in-situ fixation onto the TM surface with uniform coverage and stable adhesion. Mechanical compliance allowed the hydrogel to accommodate TM micro-vibrations without wrinkling or delamination. The ionic conductive matrix supported low interface impedance and enhanced signal coupling. In vivo, ECochGel achieved improved ECochG waveform clarity and reduced recording thresholds across multiple tone frequencies compared with control electrodes, indicating superior bioelectrical transduction efficiency. Histological examination confirmed preserved cochlear tissue integrity with no inflammatory infiltration or epithelial disruption, and major organs showed no pathological abnormalities.

CONCLUSIONS

ECochGel provides a non-invasive, mechanically compliant, and biocompatible interface for ECochG recording, yielding enhanced signal fidelity and stable TM adhesion. These findings support the potential of hydrogel-based peripheral auditory electrodes as a translatable platform for electrophysiological diagnostics and intraoperative otologic monitoring.

KEYWORDS

ECochG, Conductive hydrogel, Fibrous electrode interface, In-ear device

OP-162

Advances In Cochlear Implantation : Robotized Electrode-Array Insertion Under Fluoroscopy.

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BACKGROUND & AIM

Refinement in cochlear implantation (CI) currently makes it possible to better preserve residual hearing. Robotized-electrode-array (EA) insertion is a seducing mean as it allows for a steady insertion as slow as <1 mm/sec. We aimed at checking the efficacy of a robotized-EA vs. manual insertion, and to confirm the usefulness of fluoroscopy.

MATERIAL & METHODS

The hearing outcome of patients with an attempt of hearing preservation (HP) with a robotized-EA insertion from 2022-2024 in our tertiary ENT University Center, using the RobOtol® (Collin SA, Paris , France) was compared to a contemporary manually implanted cohort. All EA-insertions were achieved at low speed <1mm/sec. HP was defined in all cases with a postoperative measurable hearing <90 dB HL on 250 Hz and/or 500 Hz. We noted he use of fluoroscopy and its influence on CI. Comparisons used a Mann and Whitney test or a CHI-square test, with p≤0.05 considered significant.

RESULTS

Group M consisted of 24 manually implanted patients (16 women; 56+/-17 y.o.). Group R consisted of robotized implanted patients (24 subjects, 14 women ; 64+/-14 y.o.) Twelve of them were also implanted under fluoroscopy, with a robotized cone-beam C-arm (Siemens Ziego ®, Germany) and remote EA-insertion, the surgeon driving the CI from behind a leathered screen. All EAs were straight ones. At one year, hearing preservation rate was better in Group R (71% vs.62.5%) with an mean hearing loss of 25+/-19 dB (250 Hz) vs. 30+/-26 dB (250 Hz) (non significant). Fluoroscopy helped for real time detection and correction of one tip-foldover.

CONCLUSIONS

This series shows a better tendency of hearing preservation in Group R at one year. The non-significant difference between groups may point to a mandatory slow-speed EA-insertion whatever the technique. This series also confirms the advantage of fluoroscopy during CI, that can be achieved from a remote X-ray protected position.

KEYWORDS

Cochlear implantation; Hearing preservation; Robotized implantation; fluoroscopy

OP-163

Intraoperative ABR In Vibrant Soundbridge Surgery: Influence Of Bone-Conduction Thresholds

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BACKGROUND & AIM

Vibrant Soundbridge (VSB) has shown effective hearing rehabilitation for patients with conductive, mixed, orsensorineural hearing loss. However, optimal floating mass transducer (FMT) coupling is critical for device performance.This study investigates the utility of intraoperative auditory brainstem response (ABR) for assessing coupling efficiency andguiding surgical decision-making, particularly in patients with normal bone conduction. (PDF) Intraoperative ABR in Vibrant Soundbridge Surgery: Influence of Bone-Conduction Thresholds. Available from: https://www.researchgate.net/publication/404141307_Intraoperative_ABR_in_Vibrant_Soundbridge_Surgery_Influence_of_Bone-Conduction_Thresholds#fullTextFileContent [accessed May 13 2026].

MATERIAL & METHODS

This retrospective cohort study included VSB patients with complete audiometric data. Coupling efficiency wasassessed by comparing postoperative Vibrogram and intraoperative ABR thresholds with preoperative bone conduction (BCpre-op) thresholds (PTA3 at 1, 2, and 4 kHz). Segmented regression with breakpoint estimation was used to model the rela-tionship between BC pre-op and ABR thresholds, accounting for variability at lower BC values. (PDF) Intraoperative ABR in Vibrant Soundbridge Surgery: Influence of Bone-Conduction Thresholds. Available from: https://www.researchgate.net/publication/404141307_Intraoperative_ABR_in_Vibrant_Soundbridge_Surgery_Influence_of_Bone-Conduction_Thresholds#fullTextFileContent [accessed May 13 2026].

RESULTS

Thirty-six patients (mean age 23 ± 18 years) were evaluated. Postoperative functional gain averaged 32.6 ± 11.9dB HL, with speech discrimination improvement by 22.3 ± 10.1%. ABR thresholds correlated moderately with Vibrogramthresholds ($r = 0.481$, $p = 0.003$). Vibrogram–BC differences (mean = 15.9 ± 13.3 dB) were consistently lower than ABR–BC(mean = 34.8 ± 14.8 dB; $t(34) = 8.74$, $p < 0.001$). Segmented regression identified a breakpoint at 18.3 dB (SE = 7.1). Belowthis value, the slope was

non-significant (-0.21, p = 0.483), and mean ABR–BC difference was 39.84 dB. In contrast, abovethis value, a proportional relationship was observed (slope = 0.659) with difference of 21.67 dB (PDF) Intraoperative ABR in Vibrant Soundbridge Surgery: Influence of Bone-Conduction Thresholds. Available from: https://www.researchgate.net/publication/404141307_Intraoperative_ABR_in_Vibrant_Soundbridge_Surgery_Influence_of_Bone-Conduction_Thresholds#fullTextFileContent [accessed May 13 2026].

CONCLUSIONS

Intraoperative ABR provides adjunctive physiological information that may inform surgical judgment. How -ever, its interpretation should account for preoperative BC thresholds, particularly in patients with normal BC levels. (PDF) Intraoperative ABR in Vibrant Soundbridge Surgery: Influence of Bone-Conduction Thresholds. Available from: https://www.researchgate.net/publication/404141307_Intraoperative_ABR_in_Vibrant_Soundbridge_Surgery_Influence_of_Bone-Conduction_Thresholds#fullTextFileContent [accessed May 13 2026].

KEYWORDS

Vibrant soundbridge · VSB · ABR · Coupling · Intraoperative

OP-164

Do Cochlear Dimensions Affect The Surgical Decision In Cochlear Implantation?

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BACKGROUND & AIM

Cochlear malformations represent a heterogeneous group of inner ear anomalies that may influence surgical strategy and outcomes in cochlear implantation. Preoperative imaging plays a crucial role in identifying anatomical variations and guiding implant selection. The relationship between cochlear dimensions, cochlear volume, and surgical decision-making remains an important topic in otologic practice. To evaluate cochlear dimensions and volume in patients undergoing cochlear implantation and to analyze correlations between cochlear malformations, morphometric parameters, and surgical approach.

MATERIAL & METHODS

A retrospective study was conducted on 100 patients who underwent cochlear implantation between 2012–2024 at the ENT Clinic of the Emergency Clinical County Hospital Târgu Mureș. Preoperative temporal bone CT scans were analyzed using RadiAnt DICOM Viewer. Cochlear height (mid-modiolar section) and basal turn width were measured bilaterally. Cochlear volume was calculated using the conical approximation formula: $V = (\pi R^2 h)/3$. Statistical analysis was performed using GraphPad Prism 10 (t-test, ANOVA). Patients were stratified by age (children, adolescents, adults), gender, and presence/absence of cochlear malformations.

RESULTS

No statistically significant differences were found between right and left cochlear volumes in non-malformed ears (p=0.2197) or malformed ears (p=0.5310). Additionally, no significant differences were observed between malformed and non-malformed cochleae (right: p=0.2622; left: p=0.2371). Cochlear width and height showed no significant laterality differences in either normal or malformed groups. Age and gender based analyses did not demonstrate consistent statistically significant volumetric variations. Surgical approach selection was primarily influenced by anatomical particularities rather than volumetric differences alone.

CONCLUSIONS

Cochlear volume does not significantly differ between sides or between malformed and non-malformed cochleae in implanted patients. Surgical decision-making in cochlear implantation should rely on comprehensive anatomical evaluation rather than volumetric parameters alone. Detailed preoperative imaging remains essential for optimal implant selection and surgical planning.

KEYWORDS

cochlear implantation, cochlear malformations, cochlear dimensions,

OP-165

Hearing Outcomes And Complications Of Cochlear Implantation In Patients With Cochlear Ossification: A Systematic Review And Meta- Analysis

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BACKGROUND & AIM

Background

Cochlear implantation, the primary treatment for severe to profound hearing loss, relies critically on proper electrode array design and insertion.
Objectives
This systematic review and meta-analysis examined the complications, and hearing outcomes of cochlear implantation in ossified cochleae, compared them with those in non-ossified cases, and explored management strategies to enhance surgical success and patient outcomes.

MATERIAL & METHODS

Methods: A comprehensive literature search was conducted using the PubMed, Scopus, Web of Science, and Cochrane Library databases, following the PRISMA guidelines. We used the following broad search strategy: Ossified OR ossification and cochlear AND implantation or implant. Two independent investigators screened titles, abstracts, and full texts, and extracted data. A total of 20 studies and 971 patients were included.

RESULTS

Results
Post-implantation and intraoperative complications had pooled incidence rates of 13.48% and 7.2%, respectively. Complete electrode insertion was successful in 82.2% of cases, whilepartial insertion occurred in 22.6%. Hearing performance outcomes were significantly better for patients without ossification (SMD = 0.35, p=0.005), although word and sentence scores showed no significant differences.

CONCLUSIONS

Conclusion: Despite adaptations such as modified drilling and electrode arrays, hearing outcomes were inferior compared to non-ossified cochleae in addition to the risk of complications associated with the procedure. These findings underscore the need for continued research to improve outcomes in this patient population and have important implications for surgical planning and patient counseling

KEYWORDS

Keywords: Cochlear, Ossification, Hearing, Complications, Implantation

OP-166

Qualitative Assessment Of Quality And Readability Of Patient-Directed Arabic Online-Resources For Cochlear Implants In Children

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BACKGROUND & AIM

This study aimed to assess the readability and quality of various websites providing information on cochlear implantation in children in the Arabic language.

MATERIAL & METHODS

Cross-Sectional Online Search. We conducted searches in the Arabic language using the three most popular search engines, Yahoo, Google, and Bing, to search for the topics of "cochlear implant" and "cochlear implant in children." The information quality was evaluated through the DISCERN tool, while readability was examined using the OSMAN readability tool, which incorporated two readability metrics: the Automated Readability Index and the LIX score.

RESULTS

In a study of 50 websites, the median DISCERN quality score was 38 (with an interquartile range [IQR] of 29-46), suggesting poor quality. Out of the 50 websites evaluated, only ten were deemed to be of good quality. The median readability ARI score was 8th grade (interquartile range [IQR], 6-9), which is considered above the level of the general population. Certain websites were found to be at or below the suggested 6th-grade reading proficiency level. The median LIX score was 69 (interquartile range [IQR], 64-71), indicating that the text is very difficult. There was no correlation between readability and the DISCERN score.

CONCLUSIONS

Our results suggest that the majority of websites offering information on cochlear implants for children in Arabic exhibit varying levels of quality and are composed in a language surpassing the general population's reading ability. Developers should focus on improving the readability of their online content to ensure that the average reader can understand and benefit from the information.

KEYWORDS
readability, quality, Cochlear implant, online information, Arabic language.

OP-167

Cochlear Implant's Battery Consumption In Different Type Of Electrode Array And Time Of Activation

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BACKGROUND & AIM

There are factors that have been proven to impact the outcomes of the cochlear implant such as age of implantation, pre speech recognition, pre language level and duration of deafness. The effectiveness of cochlear implantation is affected by different factors including timings of activation (early Vs later), and electrode placement (perimodular Vs lateral wall electrodes) which offers potential benefits in auditory performance.This paper aims to evaluate the effect of the electrodes array placement on the cochlea and the effect of device activation time on the battery consumption of the cochlear implant device.

MATERIAL & METHODS

It is retrospective study of 40 participants (58 ears) who are already agreed to go into Cochlear implant surgery. All Subject who received cochlear implant were included to the study except cases with Inner ear anomalies, or if it is a revision case. Participants were divided to two groups based on electrode placement either in lateral wall or pre-modiolar insertion and based on time of device activation either early or late activation time. The battery lifespan was measured among these groups one months, three months, 6 months and one year after device activation. Battery lifespan was measured through the calculation of the battery estimation in Custom Sound PRO software

RESULTS

There are no difference in battery consumption between early and late activation time , however; pre-modiolar electrode had longer life span compare to lateral wall electrodes in different battery types.

CONCLUSIONS

Pre-modiolar electrodes consume lass battery compare to lateral wall electrodes

KEYWORDS

Cochlear Implant -Premodiolar Electrodes- Lateral Wall Electrodes

OP-168

Sequential Bilateral Cochlear Implantation In Prelingual Adolescents With A Long Interval Between Surgeries

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BACKGROUND & AIM

The prelingual adolescents has a risk of failure to use CI on the 2nd ear (CI2) and low result after sequential bilateral cochlear implantation with a long interval after first CI (CI1).

The aim of the study. The development of an algorithm for follow-up support of adolescents after sequential bilateral cochlear implantation with a long interval between surgeries.

MATERIAL & METHODS

Subjects. 40 prelingual adolescents aged 10-16 years (mean age 13.5±3.1 years), implanted in one ear before age 3 years. The period after the first surgery was 8-15 years (9.3±4.4 years). 12 patients used a hearing aid (HA) on opposite ear after 1-st surgery.

Method. The CAP II, SIR scale, EARS battery, questionnaires were used for the assessment preoperatively, in 3, 6, 12 months after switch on CI2 processor. For 10 days after the switch on CI2 processor, patients wore only CI2 for 3-5 hours a day and had speech therapist's sessions with CI2 in auditory-visual paradigm and only by listening. The teenagers were taught self-auditory training and with parents using special materials, ReDi App (MedEl) and continued auditory training with CI2 at home for 3-12 months.

RESULTS

2 patients were denied the CI2 surgery because of low efficiency of CI1. The CI2 surgery was postponed due to lack of motivation in 2 patients. In 3, 6, 12 months after switch on CI2 processor all teenagers constantly wore C2 with CI1. After 6 months the auditory performance with CI2 reached CI1 level in patients who used HA. After 12 months, the level of auditory perception with CI2 approached the CI1 level in 60% of patients. For 40% of patients, auditory performance with CI2 reached level 7-9 (CAP II) but was lower than at CI1, primarily due to low phoneme recognition and slow auditory processing.

CONCLUSIONS

The motivation for CI2, realistic expectations and regular auditory training with CI2 during 3-12 months are necessary for a successful sequential bilateral cochlear implantation with long interval between surgeries in prelingual adolescents. The patients who worn HA after CI1 adapt more quickly to CI2, use of CI1+CI2, achieve a high level of listening skills with CI2.

KEYWORDS

Cochlear implantation, sequential bilateral cochlear implantation, prelingual adolescents

OP-169

Conversion To Active Transcutaneous OSIA Implant From Preexisting Implants

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BACKGROUND & AIM

Bone Conduction Implants (BCI) have become a stable and reliable option for hearing rehabilitation in patients where conventional hearing are unsuitable or inadequate. However there may be occasional need for conversion from one design to another due to complications of patient preferences. We explored the backgrounds and outcomes in these cases and discuss the various consideration needed in undertaking these procedures.

MATERIAL & METHODS

This study included patients who needed their preexisting BCI removed and replaced by another variety. These included those moving from either the percutaneous or the passive transcutaneous option to the newer active transcutaneous Osia implant. Consideration was needed for any change in hearing thresholds, previous soft tissue thinning and current state of scalp and surrounding tissue, need for further surgery or MRI scans in future.

RESULTS

A total of 21 patients were included. Three needed removal of their BAHA Attract implants whilst the rest were percutaneous devices. The percutaneous abutments were removed in clinic allowing the skin puncture site to heal in 4 weeks before undertaking the conversion surgery. The 'Sheffield S' incision was used in all these cases. The preexisting fixture was utilized in 7 cases. It the others a new fixture was used with careful planning to avoid the Osia transducer contacting the old fixture. In case of the Attract implants, the original fixture was reused in two cases with slight realignment of the Osia implant to about 45 degrees from the vertical. A transverse incision across the waist of the implant was used in these cases.

CONCLUSIONS

Patients using BCIs can easily and safely migrated from percutaneous to transcutaneous options and vice versa within the same across product range depending on their individual circumstances and prefernces.

KEYWORDS

Implantable Hearing Device, Deafness; BAHA; Attract; Osia; Bone conduction implants

OP-170

Cochlear Implantation In Patients With Chronic Otitis Media.

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BACKGROUND & AIM

Worldwide, the incidence of chronic otitis media is 4.76 cases (from 1.7 to 9.4) per 1,000 population (or 31 million cases per year), of which 22.6% are children under 5 years of age. Chronic otitis media can be either the cause of severe hearing loss, up to deafness, or can be combined with profound sensorineural hearing loss. Currently, there is no generally recognized algorithm for the management of patients with chronic otitis media and profound sensorineural hearing loss.

MATERIAL & METHODS

A retrospective analysis included 52 patients who underwent cochlear implantation in St. Petersburg ENT and Speech Research Institute from 2014 to 2025 with profound sensorineural hearing loss and chronic otitis media.

RESULTS

In patients whose otomicroscopy revealed a defect in the pars tensa of the eardrum and the absence of an exacerbation at the time of surgery, tympanoplasty with cochlear implantation was performed simultaneously. The patients with epitympanitis, who had no surgical interventions on the implanted ear, underwent CI in one or two stages depending on the middle ear condition. During the surgery, cholesteatoma was detected in two patients: a patient with a history of antromastoidectomy in the implanted ear, and a patient with epitympanitis without a historyof ear surgery. In the latter, CI was performed in two stages. All patients underwent otomicroscopy 1 month and 6 months after surgery. The CT scans were obtained in 1,5 – 2-year period. No postoperative complications were found in any of the patients. The results of auditory-speech rehabilitation were comparable with the results of patients who did not have chronic purulent otitis media.

CONCLUSIONS

Performing cochlear implantation and middle ear surgery in one stage is especially important for patients with chronic otitis media and profound sensorineural hearing loss and can be considered as a technique to accelerate auditory and speech rehabilitation.

KEYWORDS

cochlear implantation, chronic otitis media, profound sensorineural hearing loss

OP-171

Outcomes And Future Directions Of The Pediatric Cochlear Implant Program In Kuwait

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BACKGROUND & AIM

The cochlear implant (CI) program in Kuwait began in 2001 and has significantly impacted children with severe to profound hearing loss who did not benefit from hearing aids. This study reviews the data of children who received cochlear implants between 2001 and 2024. The average age at implantation was 3.86 years, showing that many children received early intervention.

MATERIAL & METHODS

Most of the children (95%) had severe to profound sensorineural hearing loss (SNHL). Right-sided implantation was more common (63.3%) than left-sided (34.5%), while a small number (2.3%) received bilateral implants. Over the years, the program has expanded to include children with moderately severe SNHL and more bilateral implantations, in line with global clinical practices.

After implantation, hearing thresholds improved significantly. About 90% of children reached hearing levels within 45 dB, allowing them to detect most everyday sounds. Following consistent speech therapy, 58.8% of children developed speech and became post-lingual, meaning they acquired language after implantation. These children showed good progress in communication and academic skills, often catching up with their hearing peers.

However, 21.2% of children remained pre-lingual, primarily due to a lack of follow-up and limited access to speech therapy. This highlights the importance of continuous care after implantation, including regular audiological assessments, proper device programming (mapping), and speech-language therapy.

RESULTS

Overall, the cochlear implant program in Kuwait has been a successful national health initiative. It has significantly improved hearing, speech development, and quality of life for many children with hearing loss. Continued follow-up and rehabilitation remain key factors for long-term succe

CONCLUSIONS

Looking ahead, the program aims to further reduce the age of implantation to maximize language outcomes, expand newborn hearing screening efforts, and improve access to multidisciplinary rehabilitation services across the country. It also plans to increase the number of bilateral implantations and explore advanced technologies, such as electro-acoustic stimulation, remote fitting, and objective measures for fitting and follow-up. These steps ensure that all eligible children in Kuwait receive timely, effective, and comprehensive hearing care.

KEYWORDS

Kuwait Paediatric ci program, ci program , Paediatric ci ,

OP-172

Synchrotron-Based Trauma Assessment Of Robotic Electrode Insertions In Cochlear Implantation

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BACKGROUND & AIM

Minimizing intraoperative trauma during cochlear implant electrode insertion is crucial for preserving residual hearing. Manual insertions are subject to variability due to surgeon experience and anatomical differences, often leading to inconsistent outcomes. Robotic-assisted systems have been developed to improve insertion precision and reduce trauma. This study evaluates the safety and efficacy of the OTODRIVE® system for cochlear implant electrode insertion.

MATERIAL & METHODS

Fifteen cadaveric human temporal bones were implanted with a variety of electrodes (FLEX26, FLEX28, FLEXSOFT, FLEX34) and inner ear catheter (INCAT). The OTODRIVE system was used to maintain a constant insertion speed of 0.1 mm/s. The samples were subsequently imaged using synchrotron radiation phase-contrast imaging (SR-PCI) to assess intracochlear trauma. Parameters such as linear and angular insertion depths, and cochlear coverage were measured. The presence of trauma was analyzed using a trauma evaluation plot.

RESULTS

The average linear insertion depth was 24.8 ± 3.5 mm, and the average angular insertion depth was 527 ± 81°. Cochlear coverage was 74 ± 7%. Only one case of partial scala media translocation and two cases of basilar membrane elevation were observed, with no instances of severe trauma such as tip fold-over, scala vestibuli translocation or osseous spiral lamina fracture.

CONCLUSIONS

The findings indicate that the OTODRIVE system enables consistent and controlled electrode placement while minimizing trauma to cochlear structures, suggesting its potential to enhance hearing preservation outcomes. Preliminary clinical data will be presented.

KEYWORDS

Hearing and structural preservation, robotic electrode insertion, trauma

OP-173

The Stapes Head Coupler: A Novel, Low-Profile Solution For Optimized Vibroplasty Outcomes

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BACKGROUND & AIM

Vibroplasty using active middle ear implants, such as the Vibrant Soundbridge®, typically requires secure and space-efficient coupling to the ossicular chain. Existing coupling methods to the stapes head present limitations, particularly due to their vertical alignment and height, complicating procedures in anatomically restricted or previously operated middle ears In order to address these challenges, the novel Stapes Head Coupler was developed, featuring a significantly reduced functional height and enhanced flexibility for positioning. The objective of this retrospective study was to evaluate the surgical practicality, audiological effectiveness, and safety profile of the newly developed SH Coupler in patients undergoing VSB implantation.

MATERIAL & METHODS

A retrospective analysis was conducted on 12 patients (mean age: 43.1 years; range: 18–64) who underwent vibroplasty using the SH Coupler. The surgical placement of the Floating Mass Transducer (FMT) was performed by attaching it laterally onto the stapes head, with the orientation being directed either towards the promontory or the facial nerve. Audiological outcomes were assessed preoperatively and postoperatively by measuring auditory brainstem responses (ABR), sound field thresholds, vibrograms, and speech perception (Freiburg monosyllabic word test).

RESULTS

All SH Coupler implantations achieved stable fixation of the FMT, as confirmed intraoperatively by ABR thresholds that were consistent with preoperative bone conduction thresholds (mean intraoperative ABR: 30.8 dB nHL). Postoperative audiometric evaluations demonstrated significant functional gains, with mean improvements in free-field thresholds of 35.1 dB. Speech recognition exhibited a significant enhancement, rising from 5.8% preoperatively to 58.8% postoperatively at 65 dB SPL. It is of particular significance that no deterioration in bone conduction thresholds was observed, thereby reinforcing the safety of the coupling technique.

CONCLUSIONS

The SH Coupler has been developed to provide a safe, effective and versatile coupling solution for vibroplasty, especially in anatomically challenging cases. The device's low-profile configuration has been demonstrated to enhance surgical flexibility and yield audiological outcomes that are comparable to, or in some cases superior to, those of conventional coupling methods. This finding supports the integration of the device into standard vibroplasty practice.

KEYWORDS

VSB, SH Coupler, Vibropalsty

OP-174

Music Therapy For CI Users: A New Concept Centered On Anatomy-Based Fitting

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BACKGROUND & AIM

For the past 10 years, the ENT Department at the University Clinic St. Pölten, Austria, has incorporated music therapy (MT) into a multidisciplinary rehabilitation program for cochlear implant (CI) recipients. As medicine increasingly emphasizes personalized treatment, the importance of individualized approaches has grown. In audiology, the variety of sensorineural hearing loss cases has driven the development of advanced technologies that enable anatomy-based fitting (ABF) strategies for cochlear implants and speech processors. This study evaluates ABF effects on audiological outcomes, with particular focus on

music therapy, comparing ABF with conventional fitting methods regarding music perception, sound quality, and speech recognition.

MATERIAL & METHODS

All patients over 18 years of age with single-sided deafness or asymmetrical sensorineural hearing loss who received cochlear implants between 2024 and 2025 were included. Participants were divided into two groups: (1) ABF group, utilizing digital radiological imaging and frequency channel detection, and (2) non-ABF group, using standardized logarithmic frequency mapping. Both fitting strategies were applied during the initial CI activation. Outcomes were evaluated at 3 and 6 months post-activation through speech recognition tests (CVC monosyllables), structured music perception assessments, and sound quality questionnaires.

RESULTS

A total of 40 patients were tested, with 20 participants in the ABF fitting group and 20 in the non-ABF fitting group. Results will be presented comparing speech recognition performance, music perception, and reported sound quality satisfaction between the two groups.

CONCLUSIONS

Anatomy-based fitting may promote a more natural integration of music perception in CI users and highlights the crucial role of music therapy in the rehabilitation of CI recipients.

KEYWORDS

CI - Rehabilitation - ABF - Music Therapy

OP-175

Audiological Benefits And Performance Improvements Of Bone Conduction Hearing Implantation In Patients With Single Sided Deafness

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BACKGROUND & AIM

The aim of this study is to determine the auditory and functional impact of a bone-conduction hearing implant in patients with unilateral hearing loss, with particular attention to speech perception, and subjective benefit over time.

MATERIAL & METHODS

Ten patients aged between 7 and 50 years old with single-sided hearing loss who fulfilled audiological candidacy criteria were prospectively enrolled. All patients were evaluated before and after implantation. The assessment battery included pure-tone thresholds, speech recognition testing in quiet, speech recognition testing in noise and standardized patient-reported outcome questionnaires.

RESULTS

All study subjects showed improvements in speech test results in all conditions tested.

Word recognition score in quiet improved by 70% after surgery (normal ear plugged).

The overall score of the hearing-in-noise test was improved 6 months after surgery. The median total scores of SSQ questionnaires demonstrated benefits in speech (+3 [1.64, 4.56]), quality of hearing (+1.38 [0.35, 2.40]) and spatial hearing (+1,83 [0.12, 3.55]).

CONCLUSIONS

Bone conduction hearing implant provides enough auditory benefits and performance improvements for hearing impaired patients

KEYWORDS

bone conduction hearing implant, single sided deafness

OP-176

Our Experience With The Vibrant Soundbridge Middle Ear Implant At A Large Teaching Hospital: Patient-Reported Outcomes And Clinical Insights

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BACKGROUND & AIM

Active middle ear implants (MEIs) represent a significant advancement in hearing rehabilitation for patients who are unable to wear conventional hearing aids. We review our 15 year experience of developing MEI surgery, emphasising patient-reported outcome measures (PROMs) to evaluate efficacy and satisfaction.

MATERIAL & METHODS

Retrospective review of adult patients referred for consideration of MEI between 2010 to 2025. The Medel Vibrant Soundbridge was implanted in all cases. Audiology and PROMs were analysed using validated questionnaires; Speech, Spatial and Qualities of Hearing Scale (SSQ12) and the Glasgow Benefit Inventory (GBI).

RESULTS

Our experience in developing the MEI service and improving referrals and patient engagement will be discussed. 67 referrals were received between 2010 and 2025 of which 31 ears (further 3 awaiting surgery) received MEIs. These include 10 bilateral cases. 90% of MEI surgeries were undertaken in the last 6 years. 22% of patients did not engage with the assessment. In 31% of cases MEI was not recommended. 9 (13%) cases are currently being assessed. Age at implantation 22 to 78 years. Aetiologies included sensorineural (75%) and mixed (25%) hearing loss. Audiometric improvement was seen in all but 1 patient. PROMs showed significant improvement overall in hearing and quality of life.

CONCLUSIONS

Our 15-year experience underscores MEIs as a reliable option for hearing restoration when hearing aids are not an option. Careful patient selection is important to mitigate risks. In future we will be expanding the indications for MEI as our experience and confidence increases.

KEYWORDS

Middle ear implant, Vibrant Soundbridge, Implantable hearing device

OP-177

Medium Term Experience Of Over 125 New Active Transcutaneous Piezoelectric Osia® Bone Conduction Implant

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BACKGROUND & AIM

The Osia® System is an active transcutaneous osseointegrated bone conduction implant utilising a piezoelectric transducer. The Osia 2 was introduced following an initial multicentre trial of the Gen1 device for which outcome data is being collected and evaluated routinely.

MATERIAL & METHODS

Data were collected prospectively on 125 consecutive cases of Osia® Systems that were implanted over 5 years. The clinical, surgical and audiological outcomes were collected prosprectively. The key finding are presented here.

RESULTS

125 Osia® devices were implanted in 106 patients during the five-year period. The implantation was bilateral in 19 patients. The male to female ratio was 77: 39 and the mean age of recipients was 54 years (age range 26yr - 76yr). The mean duration of surgery was 35.5 min (range 30min-55min). The most commonly used incision was the 'Sheffield S' incision 88%. Other incisions included 'C' or 'J' shaped or transverse across the waist of the device. A scalp pocket was fashioned in 35 cases . Bone polishing was undertaken in 22 cases and the actuator was recessed in 15 cases. The surgery involved conversion to active transcutaneous solution in 21 cases. Twelve complications were observed, none of which were device-related. Three devices were explanted due to wound breakdown from patient related factors. The average gain in conductive and mixed hearing loss was 32dB.

CONCLUSIONS

The piezoelectric active transcutaneous Osia® System is a stable, safe and effective implantable solution for hearing loss. There is good gain especially in the high-frequency, low complication rates and excellent patient satisfaction.

KEYWORDS

Osia, Hearing loss; Conductive and mixed hearing loss; Single-sided deafness; BAHA; Bone Conduction Hearing Implant

OP-178

Objective Measure Of VSB Coupling Quality Using Intraoperative ABR

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BACKGROUND & AIM

Vibrant Soundbridge outcomes depend greatly on the quality of floating mass transducer coupling. Intraoperative assessment, however, is often based on subjective surgical judgment. This study aimed to develop an objective intraoperative measure of coupling quality using auditory brainstem response and to evaluate its ability to predict postoperative audiological outcome.

MATERIAL & METHODS

This prospective study included 10 patients undergoing Vibrant Soundbridge implantation. Intraoperative auditory brainstem response was measured using the AcoustiAP system. A novel Coupling Quality Index (CQI) was developed as the difference between the estimated intraoperative ABR threshold, corrected using a center-derived correction factor, and the preoperative bone conduction PTA4. The CQI was then evaluated for its ability to distinguish good from loose coupling and its association with postoperative Vibrogram PTA4.

RESULTS

At a CQI cut-off of 22.6 dB, the index showed 70% sensitivity and 90% specificity in differentiating good from loose coupling, with an AUC of 0.74 (95% CI 0.51–0.97). Median CQI values were significantly lower in good coupling than in loose coupling (24.3 ± 14 vs. 38.8 ± 18.2 dB; $p < 0.001$). Intraoperative ABR threshold also showed a significant positive correlation with postoperative Vibrogram PTA4 ($r = 0.63$; $p = 0.039$).

CONCLUSIONS

The Coupling Quality Index provides a practical and quantifiable intraoperative measure of Vibrant Soundbridge coupling quality. It may support surgical decision-making, improve standardization of coupling assessment, and help optimize postoperative audiological outcomes.

KEYWORDS

Vibrant Soundbridge, intraoperative ABR, coupling quality index, middle ear implant, hearing implants

OP-179

Effects Of Early Test Termination In A German Matrix Speech Test In Noise In Cochlear Implant Recipients

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BACKGROUND & AIM

Speech reception thresholds (SRTs) in noise can be estimated with speech in noise tests using adaptive procedures. The most frequently used class of tests for this purpose are matrix-tests, which are available in several languages. Since these tests are time-consuming, it is preferable to use as few trials as possible to identify reliable results. Our aim was to investigate the effect of early termination.

MATERIAL & METHODS

We retrospectively evaluated clinical records of matrix sentence tests from cochlear implant patients (N = 789 tests) and simulations thereof to investigate the effect of a premature test termination on SRT assessment. In addition, the adaptive test data were fitted with a psychometric function to the test track to determine its reliability.

RESULTS

Terminating the clinical tests after 20 trials instead of 30 trials would have shortened the testing time by 1.4 minutes on average. The deviation of the two SRTs was 1 dB or higher in 7.9 % of the tests. For clinical data and simulation results, the deviation increased with increasing SRTs. Fitting a psychometric function resulted in accurate thresholds which correlated very well with the conventionally calculated results (intra-class correlation coefficient (ICC) = 0.99).

CONCLUSIONS

The agreement of the test results after 20 and after 30 trials is high and for the majority of the tested patients trials 20 trials would have produced reliable results. However, clinical data and simulation results agree that for poor performing listeners the deviations can become considerable. We therefore recommend the reduction of the number of trials only for listeners with a relatively good speech understanding, i.e. achieving negative SRTs in the first 20 test items.

KEYWORDS

Speech in noise, cochlear implants, reproducibility, SRT

OP-180

Professional And User-Reported Outcomes Of Percutaneous And Active Transcutaneous Bone Anchored Hearing Systems Across Clinical Contexts

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BACKGROUND & AIM

Bone Anchored Hearing Systems (BAHS) have demonstrated favorable clinical benefits in both pediatric and adult populations across non-surgical, percutaneous, and transcutaneous forms. There is a somewhat limited understanding of user reported subjective performance and professional satisfaction across different devices.

MATERIAL & METHODS

The research question is explored in three sub-studies: (1) a pediatric survey evaluating Ponto sound processors worn on a non-surgical solution, e.g., softband; (2) a cross-sectional survey assessing subjective performance and satisfaction with percutaneous Ponto sound processors in adults; and (3) two surveys designed to assess performance, usability, and comparative experiences across percutaneous and transcutaneous BAHS, for audiologists and surgeons.

Participants included parents of pediatric users (1), adult users (2), and surgeons and audiologists experienced with BAHS (3).

Outcomes included questionnaires such as the Parental Evaluation of Aural/Oral Performance of Children (PEACH), Glasgow Children's Benefit Inventory (GCBI), International Outcome Inventory for Hearing Aids (IOI-HA), and structured usability and comparative surveys (3).

RESULTS

In study 1, parents of 64 pediatric Ponto Softband users reported good hearing performance (mean PEACH score 76.7%) and positive quality-of-life impacts (mean GCBI +38.3).

In Study 2, 153 adult percutaneous Ponto users reported high overall satisfaction (mean IOI-HA total score 4.0/5), strongest for daily use (mean 4.51) and satisfaction (mean 4.39), with higher scores for newer Ponto sound processor models compared with older generations.

Study 3 included 126 audiologists and 86 surgeons from 15 countries. Audiologists reported the greatest satisfaction with both Ponto and Sentio on fitting software, sound quality, ease of use, reliability, and frequency of feedback. Surgeons preferred the Sentio system for quickest surgical duration and in cases of compromised bone quality/quantity, smaller heads, cosmetic outcomes, fastest skin healing, and overall ease of surgical placement as compared with other available devices.

CONCLUSIONS

Across pediatric, adult, and professional perspectives, BAHS in general, and Ponto and Sentio in particular, demonstrate favorable subjective performance, satisfaction, and quality-of-life benefits. Data from audiologists and surgeons across the globe further support patient-reported outcomes within real-world clinical practice. Taken together, the Ponto and Sentio Systems can be considered highly successful treatment options for conductive, mixed, and single-sided hearing losses.

KEYWORDS

Bone conduction, implantable device, BAHS

OP-181

Patient-Specific Basal Turn Analysis For Atraumatic Cochlear Implantation

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BACKGROUND & AIM

Preservation of intracochlear structures depends on cochlear anatomy. Conventional 2D DICOM orientation may misestimate A-value and CDL, increasing scalar translocation risk. 3D segmentation enables true basal turn visualization, and the C-value represents a clinically relevant safety parameter for electrode insertion.

MATERIAL & METHODS

A retrospective radiological study included computed tomography (CT) scans of 112 ears with normal inner ear anatomy for cochlear size analysis and 1932 scans for evaluation of anatomical variability and malformations. DICOM datasets were analyzed using OTOPLAN® and 3D Slicer software. 3D segmentation of the fluid-filled inner ear was performed using fixed grayscale thresholds. The oblique coronal plane was aligned to the basal turn using the 3D model as a spatial reference. A- and B-values were measured according to Escudé. Cochlear shape was determined by the B/A ratio. The C-value (effective straight segment from round window to lateral wall tangential to the inner wall) was calculated and correlated with the A-value using linear regression (95% confidence level). Outcome measures included measurement reliability, cochlear shape distribution, C-value range, and its relationship to electrode insertion safety.

RESULTS

3D segmentation enabled rapid and reproducible identification of the true basal turn in all anatomical types and facilitated visualization of the cochlear nerve and scala tympani ossification. The A-value ranged from 8.04 to 10.03 mm (mean 9.03 mm). Round basal turn configuration was observed in 48% and elliptical in 52%. The C-value ranged from 6.7 to 9.6 mm (mean 8.3 mm) and showed strong linear correlation with the A-value ($r = 0.87$; $r^2 = 0.757$; $p < 0.001$), being on average 0.7–0.8 mm shorter. Fixed electrode safety markers corresponded only to the mean cochlear size, indicating a mismatch in extreme anatomies.

CONCLUSIONS

3D segmentation provides a reliable method for patient-specific cochlear basal turn assessment and improves the accuracy of pre-operative measurements. The C-value represents a practical safety metric for predicting the point at which the electrode tip encounters the lateral wall and may help reduce scalar translocation, particularly with pre-curved arrays. Personalized, measurement-driven planning is essential for atraumatic cochlear implantation.

KEYWORDS
Cochlear implantation; Cochlear anatomy; A-value; B-value; Cochlear duct length (CDL); Scalar translocation; Tip fold-over; Patient-specific preoperative planning; 3D segmentation; 3D Slicer; Oblique coronal view;Structure preservation.

OP-182

Effect Of Changing The Input Dynamic Range On The Speech Performance Of Cochlear Implant Patients

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BACKGROUND & AIM

Background: Compression is an essential function of the Cochlear Implant (CI) processor as it transforms acoustical amplitudes into electrical amplitudes. IDR is defined as the difference between T (threshold) and MCL (most comfortable level) on individual electrodes as the MCL parameter for every channel indicates the highest degree of stimulation, while still feeling comfortable.

Maplaw Compression factor is the definition of a compression curve, in Medel CI processors, that maps stimulation intensities to sound intensities as it varies between soft sounds and loud sounds.

Aim: Study the effect of changing IDR on the patient's speech performance in quiet and noise.

MATERIAL & METHODS

The study included 30 patients who were older than 3 years old and have been using Med-El CI for at least 2 years.

Four new experimental maps which were T level locked to 10% of the MCL level and maplaw 500, T level locked to 10% of the MCL level and maplaw 750, T level locked to 20% of the MCL level and maplaw 500 and T level locked to 20% of the MCL level and maplaw 750 have been tested both in quiet and noise after applying each map for a week.

RESULTS

The results show that there was no statistically significant difference between the four maps in speech discrimination scores but maps with T level locked to 20% showed less deterioration of the speech discrimination score with decreasing SNR from +10 to 0 dB and most of the cases in the study preferred maps with maplaw 750, this finding indicated the effect of increasing the compression on the speech clarity.

CONCLUSIONS

Changing IDR can affect speech perception which is also influenced by other factors as presence of noise, onset of HL, difference of patient’s language age, duration of phoniatric training and number of active electrodes of the implant. Using T level locked to 20% of MCL instead of T level locked to 10% can help cases with understanding difficulties in noise. Most of this study cases preferred the maps with T level locked to 10% or 20% of the MCL level and maplaw 750 as they receive the speech clearer.

KEYWORDS
CI Input dynamic range, Maplaw, speech performance in CI.

OP-183

Durable Zwitterionic Hydrogel Thin Film Coatings Of Cochlear Implant Electrode Arrays Reduce Intracochlear Inflammation And Electrode Impedance

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BACKGROUND & AIM

Implantation of electrode arrays into the cochlea triggers an inflammatory, foreign body response (FBR) to the implanted biomaterials, resulting in fibrosis and increased electrode impedance. Using reporter mouse models, we demonstrate that these responses create an ectopic lymphoid structure involving neoangiogenesis, neolymphogenesis, and recruitment of activated lymphocytes and mononuclear phagocytes in the scala tympani. The data reveal a robust lymphatic network and adaptive immune responses in the cochlea. Here we explore the ability of highly lubricious anti-fouling surface properties of zwitterionic hydrogel systems to mitigate biofouling and the FBR to cochlear implant biomaterials.

MATERIAL & METHODS

To provide the highly favorable surface properties of zwitterionic systems to electrode array biomaterials, we developed tunable processes to simultaneously photograft and polymerize permanent zwitterionic (carboxybetaine methacrylate, CBMA and sulfobetaine methacrylate, SBMA) hydrogel thin film coatings (10-100 µm) to cochlear implant electrode arrays. We used dynamic mechanical analysis, tribometry, protein and cell adhesion assays, and histological and electrophysiological methods to assess the mechanical, electrophysiological and biological responses to zwitterionic thin film coatings.

RESULTS

Using in vitro, mouse, and sheep models, we find that these coatings are robust and durable. The coatings dramatically reduce surface friction, force of insertion, protein and cell adhesion, and the inflammatory FBR. Further, these coatings significantly reduce electrode impedance even prior to implantation, likely due to enhanced current flow at the electrode interface. This reduction in impedance persists throughout a 6 month implantation in sheep. Histological and 3D Xray microscopy analysis reveal significantly decreased cellular infiltration, macrophage infiltration, fibrotic tissue deposition, and neoossification in cochleae with zwitterionic-coated implants compared to uncoated controls.

CONCLUSIONS

Durable, thin film zwitterionic coatings offer the potential to enhance cochlear implant performance by reducing insertional trauma, mitigating chronic inflammation and fibrosis, and enhancing the electrode:tissue interface.

KEYWORDS

cochlear implant, inflammation, impedance, zwitterion, electrode array, insertion force,

OP-184

Experimental Study: Stimulation Of The Facial Nerve In Cases Of Hormonal And Systemic Disorders.

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BACKGROUND & AIM

Facial nerve stimulation (FNS) may occur in cochlear implant users during the switching of a speech processor (SP) or during its usage. This complication is multifactorial and also has an unpredictable onset of occurrence. Otological studies often require the use of experimental models. Guinea pigs and rats are traditionally the main biomodels because they are easy to handle and their temporal bone anatomy is similar to that of humans. Objective: to share the results of the facial nerve stimulation experiment on hormone-induced otospongiosis in laboratory animals.

MATERIAL & METHODS

A hypothesis has been put forward about hormonal changes or systemic disorders leading to the relative otospongiosis of cochlea and to the manifistation of FNS. In this regard, the first experiment was conducted on 20 guinea pigs (10 experimental group, 10 control group) with the injection of 4 mg of estrogen weekly for 5 weeks. The resulting changes were recorded on otoacoustic emission (OAE) and CT scans of guinea pigs, as a result of which animals were selected for the CI. The second experiment was conducted on 20 rats (10 experimental group, 10 control group) with the injection of 0,1 ml of Freund's full adjuvant and 100 mkg of collagen weekly for 3 weeks. The resulting changes were recorded on otoacoustic emission (OAE) and CT scans of rats. Both experiments were completed with a histological examination of the inner ear.

RESULTS

in 3 months after the first dose of estrogen OAE was negative in 8/10 cases in the guinea pigs. Initial signs of otospongiosis in the area of the tympanic bull and cochlea were revealed on OAE and on CT scans of guinea pigs. During the CI FNS was noted at lower levels of stimulation than in the control group. The same changes were registered in rats after 7 months, but there were no chance to perform CI in this group.

CONCLUSIONS

hormonal changes and systemic disorders are factors that increase the risk of FNS in a CI patient during usage of SP. FNS correction techniques and changes in program settings allows to improve the quality of auditory and speech rehabilitation

KEYWORDS

experiment study, facial nerve stimulation, cochlear implantation, hormonal changes, systemic disorders

OP-185

A Guide For Adult Cochlear Implantation Practice: A Consensus Paper

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BACKGROUND & AIM

Adult cochlear implant candidates are a large proportion of the total candidates. The aim of this study is to develop an evidence-based guide regarding adult cochlear implantation in Saudi Arabia that is supported by consensus agreement of the experts in the field.

MATERIAL & METHODS

In this study a task force of experts was involved to determine the important aspects of cochlear implantation practice in adults. The task force discussion guided a literature review, which resulted in drafting the provisional statements. A modified Delphi method was then utilized to determine the agreement level for these statements within the SORL Society cochlear implant practitioners, including audiologists and otologists.

RESULTS

This study started with fifteen preliminary statements that, after core committee meetings and one round of voting, resulted in formulating twenty final statements. The final statements reached an average of 95.9% agreement level (+/-4.6%). Two statements did not reach consensus with agreement levels of 77% and 70%.

CONCLUSIONS

This consensus paper presents the most agreed-upon practice for adult cochlear implantation in adults in Saudi Arabia. The high agreement levels among cochlear implant practitioners reflect a strong endorsement of the formulated statements, underscoring their relevance and applicability in real-world settings. This guide will serve as a valuable resource for clinicians, aiming to standardize practices and improve outcomes for adult cochlear implant candidates. Future efforts should focus on the integration of emerging evidence to adapt this guide to the practice of cochlear implantation.

KEYWORDS

Adult, Cochlear Implant, Utelization

OP-186

Smart Selection: A Clinical Algorithm For Optimizing Bone Conduction Implant Choice

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BACKGROUND & AIM

The selection of bone conduction hearing implants requires a structured and patient-centered approach due to the heterogeneity of clinical indications and individual characteristics. This study presents the development of a clinical decision-making flowchart designed to guide healthcare professionals in choosing the most appropriate bone conduction implant for different patient profiles.

MATERIAL & METHODS

The methodology involved a review of current clinical guidelines and evidence, combined with expert consensus from multidisciplinary teams in otology and audiology. The resulting decision tree aims to standardize clinical practice, reduce variability in implant selection, and improve patient outcomes.

RESULTS

The proposed organigram integrates key variables, including age, type and degree of hearing loss (conductive, mixed, or single-sided deafness), anatomical considerations, skin condition, comorbidities, and patient preferences. It also incorporates audiological criteria, radiological findings, and surgical feasibility to ensure a comprehensive evaluation. Special attention is given to differentiating between percutaneous and transcutaneous systems, as well as active versus passive devices.

Preliminary validation suggests that the use of this structured approach enhances decision consistency and facilitates shared decision-making with patients. Ultimately, this organigram serves as a practical tool to optimize individualized treatment strategies in bone conduction hearing rehabilitation.

CONCLUSIONS

This flow-chart is helpfull as a decision maker for doctors and patients. Further research is encouraged to validate its effectiveness across diverse clinical settings and populations.

KEYWORDS

bone conduction implant, hearing loss

OP-187

Investigation Of Language And Auditory Skills In Bilateral Sequential And Simultaneous Cochlear Implantation

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BACKGROUND & AIM

This study aims to investigate the language and auditory skills of children undergoing sequential and simultaneous bilateral cochlear implantation. Auditory and language skills of the patients were analyzed for statistical differences between groups and among subgroups within the sequential group, and the findings were compared with existing literature.

MATERIAL & METHODS

The study included 47 children who underwent cochlear implantation at the Department of Otorhinolaryngology, Gazi University. All implantations (either the first implant in sequential cases or both implants) were performed before the age of 4.

Among the patients, 19 were female and 28 were male, with ages ranging from 2 to 15 years. The patients were divided into two main groups: those who received bilateral simultaneous cochlear implants and those who received sequential cochlear implants. Additionally, the sequential implant group was further subdivided into three subgroups. Group A consisted of patients with an interval of less than 2 years between the two implants, Group B 2–4 years, and Group C more than 4 years between implants. Patients with inner ear anomalies were excluded from the study. SRT(dB), SD(%) scores were analyzed and auditory Perception Test (CAPT) was used to assess the auditory perception skills of the children.

RESULTS

No statistically significant differences were observed between the simultaneous and sequential groups for right and left ear SRT (dB). Similarly, within both the simultaneous and sequential groups, right and left ear SRT (dB) values did not differ significantly. In the sequential group, comparison of the first and second implanted ears showed no significant difference in SRT (dB), whereas SD (%) was significantly higher in the first implanted ear than in the second ($p = 0.002$). Upon subgroup analysis of the sequential group, SRT values in the second implanted ear of Group C were significantly higher than those in Groups A and B. Conversely, SD scores in the second implanted ear of Group C were significantly lower than in Groups A and B. These findings indicate comparable auditory thresholds between ears overall, but lower speech discrimination in the second implanted ear, particularly in patients with a longer interval between implants.

CONCLUSIONS

No significant differences were observed between the simultaneous and sequential groups in SRT and SD scores. However, in the sequential group, SD scores were significantly lower in the second implanted ear compared to the first. Patients with an interval of more than 4 years between implants showed significantly poorer SRT and SD scores in the second implant relative to the first and to other subgroups. A significant difference was also found between groups in receptive language skills, with longer intervals associated with poorer outcomes. These results highlight the impact of delayed sequential implantation on auditory and language development.

KEYWORDS

Simultaneous implantation, Sequential implantation, Auditory skills, Language skills

OP-188

Establishing A Comprehensive National Auditory Implant Registry In Japan: Initial Findings From 2023–2024

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BACKGROUND & AIM

Auditory implants, including cochlear implants (CIs), active middle ear implants (AMEIs), and bone conduction implants (BCIs), represent rapidly evolving treatment options for hearing loss. While several countries have established CI registries, no comprehensive national registry covering all auditory implant types had previously been reported. In 2023, the Japan Otological Society launched a nationwide electronic data capture (EDC) registry encompassing CIs, AMEIs, and BCIs, replacing the former paper-based CI reporting system. This study aimed to describe the establishment and initial findings of this registry, including patient demographics, surgical trends, and data completeness.

MATERIAL & METHODS

A web-based EDC system (Viedoc®) was implemented across facilities authorized to perform auditory implant surgeries in Japan. Between January 2023 and December 2024, data were voluntarily submitted by participating institutions. Collected variables included patient demographics, implant type, surgery details, preoperative hearing thresholds, etiology of hearing loss, and device manufacturer information. Patients were classified as pediatric (<18 years) or adult (≥18 years). Pure tone averages (PTAs) were calculated using a four-frequency weighted formula. Registry completeness was assessed by comparison with Japan's National Database of Health Insurance Claims (NDB).

RESULTS

A total of 1,809 patients from 104 facilities were analyzed, comprising 1,723 CI and 86 AMEI/BCI cases. Among 605 pediatric CI recipients, 10% were implanted under 1 year and 30% at 1 year of age. Among adult CI recipients, 271 were aged ≥75 years. Simultaneous bilateral CI was performed in 265 patients, including 175 children. Better ear thresholds <90 dB HL were observed in 33% of adults and 29% of children. Unknown etiology accounted for 39.6% of cases, while hereditary deafness was the most common known cause (24.5%). CI registry completeness reached 73% compared with NDB data.

CONCLUSIONS

This is the first comprehensive national auditory implant registry report including CIs, AMEIs, and BCIs. The registry demonstrated reliable nationwide data capture and revealed important trends, including increasing early-age and bilateral implantation, broader hearing threshold criteria, and a high proportion of unknown etiologies. These findings support evidence-based policymaking and the continued development of auditory implant medicine in Japan.

KEYWORDS

Auditory implant, Cochlear implant, National registry, Japan, Epidemiology

OP-189

Cochlear Implant Outcomes In Elderly Adults In A Low/Middle-Income Country

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BACKGROUND & AIM

Currently, hearing loss is a public health matters affecting over 466 million people in the world. With the aging population, the prevalence of hearing loss is increasing; one-third of adults older than 65 years experiences a disabling hearing loss. In Colombia the prevalence of hearing loss in older adults is estimated at 31.73% and hearing rehabilitation-only at 14.35%, these adults likely have hearing loss of a severity that would meet CI candidacy criteria. With aim to review our experience with CI in older adult over last 30 years, focusing on impact of CI on speech recognition.

MATERIAL & METHODS

A retrospective cohort study identifying all adults aged > 60 years who received cochlear implant from 1995 to 2025. The primary outcome measure compared pure tone threshold and free-field disyllabic speech scores in silence at 65 dB SPL available both preoperatively and 1-month, 6-months and 1 year post-CI activation.

RESULTS

Fifty adults aged > 60 years (mean 68.8 yr, 64% men) received cochlear implant from 1995 to 2025. All patients had improved after CI from a mean pre-CI pure tone threshold score of 105 dB HL (SD 20.7) improving to 29.3 dB HL (SD 9.4) after implantation ($p < 0.001$). Progressed from mean free-field speech scores at 65 dB SPL of 0.8% (SD 5.4) pre-CI to a score of 58.2% (SD 39.3), 73.5% (SD 29.9) and 82.6% (SD 19.9) in the implanted ear at 1-month, 6-months and 1 year post-activation respectively ($p < 0.001$).

CONCLUSIONS

Cochlear implantation in older adults can receive significant improvement in pure tone threshold and speech recognition, with similarity results in patients < 60 years. Older adults should not be dismissed as potential cochlear implant candidates.

KEYWORDS

Cochlear implant, Older Adults, Speech recognition

OP-190

Redefining Verification In Pediatric Cochlear Implantation: AI-Driven, Radiation-Free Paradigm Integrated With Clinical Profiling In A Diverse Anatolian And Refugee Cohort

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BACKGROUND & AIM

We aimed to develop a Machine Learning model combining preoperative MRI metrics (nerve/IAC diameter) and intraoperative telemetry to predict insertion success. Uniquely, this study validates a "Radiation-Free Protocol" across a genetically diverse pediatric cohort including refugees and patients from seven Anatolian regions to demonstrate that AI can render routine post-op X-rays obsolete while ensuring patient safety globally

MATERIAL & METHODS

Methods: This retrospective study analyzed 38 pediatric cochlear implant recipients (representing diverse Anatolian and refugee backgrounds). We performed high-dimensional data extraction covering four domains:

- Clinical & Audiological: Qualitative data including etiology, consanguinity, device usage logs (compliance), and ABR asymmetry were encoded into numerical vectors to enable machine learning processing.
- 3D Anatomical Modeling: Using a U-Net deep learning pipeline on CTs, we extracted patient-specific metrics (Scala Tympani volume, Cochlear Duct Length, A-value), correlated with MRI-based Cochlear Nerve/IAC diameters.
- Telemetry: Channel-specific Impedance and ECAP thresholds. Ground Truth: Post-operative X-rays were evaluated by senior surgeons in a blinded, anonymized manner to establish unbiased insertion status. Computation: Leveraging a

cloud-based Google Colab environment to demonstrate accessible AI innovation, a Random Forest Classifier was trained via Leave-One-Out Cross-Validation (LOOCV).

RESULTS

The Random Forest model achieved a remarkable prediction accuracy of 92.11% in verifying electrode insertion against the ground truth of blinded surgeon reviews. Feature importance analysis revealed a distinct hierarchy in predictors: Intra-operative Average Impedance emerged as the most critical determinant (~35% weight), acting as a reliable proxy for electrode-tissue interface status. This was followed significantly by anatomical constraints: IAC Diameter (~29%) and Cochlear Nerve Diameter (~24%). Crucially, despite the high prevalence of consanguinity and varying etiologies in our diverse Anatolian and refugee cohort, the model demonstrated robust generalization, showing no performance degradation across different sociodemographic or device-brand subgroups.

CONCLUSIONS

This study proposes a paradigm shift: replacing "radiological confirmation" with "computational verification." Our AI model obviates the need for post-operative X-rays, thereby sparing children from ionizing radiation and the physical distress of immediate imaging during anesthesia recovery. Furthermore, by successfully integrating deep learning with soft-tissue (MRI) and telemetry data, this research paves the way for an "MRI-Only Preoperative Workflow," challenging the necessity of CT scans entirely. Validated across a sociodemographically complex cohort (high consanguinity, refugee background), this protocol offers a robust, humane, and globally applicable standard for the future of otology.

KEYWORDS

Pediatric Cochlear Implantation , Artificial Intelligence , Radiation Safety , Global Diversity , Innovation

OP-191

Cochlear Implantation In Case Of Severe Sensorineural Hearing Loss

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BACKGROUND & AIM

Cochlear implantation (CI) is an effective mean to rehabilitate severe to profound sensorineural hearing loss (SNHL), with a very good functional outcome. However, hearing outcome is most often globally analyzed, whatever the preoperative hearing loss (severe or profound). Knowing that numerous patients are reluctant to accept CI when classic hearing aids help them more or less understand their surroundings, we aimed to compare the hearing outcome and satisfaction of two groups of cochlear recipients, with either a preoperative severe or profound SNHL.

MATERIAL & METHODS

In this retrospective study, patients with severe preoperative SNHL (group S) implanted from 2017-2023 in our department were compared to a contemporary cohort of implanted patients with preoperative profound SNHL (group P). Pure tonal audiograms (PTA) were collected, as well as the monosyllabic-word speech discrimination score at 60 dB SPL (SDS) and their maximum dissyllabic-word intelligibility score (MIS). Their level of global satisfaction was also compared. Comparisons were made with either a t-test or a CHI-square test, with p≤0;05 considered significant.

RESULTS

There were 93 recipients, 104 implanted ears, 49 women; 68 patients (57+/-20 y.o., 80 ears) in group P, and 23 patients (57+/-21 y.o., 24 ears) in group S. Cochlear implants had all straight electrode-arrays. There were no significant differences in PTA (Group S: 32+/-9 dB HL; Group P: 35+/-16 dB HL), nor in SDS (Group S: 54%+/-3%; Group P: 42+/-3 dB HL) but in MIS (Group S: 85.5%+/-20%; Group P: 68%+/-32%; p<0.02). Group S had a better satisfaction level (p<0.01).

CONCLUSIONS

CI in adults with severe SNHL likely offers a better functional outcome than in profound SNHL, inciting to an earlier as possible CI.

KEYWORDS

Cochlear implantation; severe sensorineural hearing loss; hearing outcome; satisfaction

OP-192

Age Is Not A Barrier: Audiometric Outcomes And Quality Of Life After Cochlear Implantation In The Elderly

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BACKGROUND & AIM

Cochlear implantation represents a major advancement by restoring functional auditory perception. Beyond objective measures, the assessment of quality of life (QoL) has emerged as a central outcome. Specific questionnaires, such as the CIQOL,

allow for a comprehensive evaluation of the real-life impact of implantation. However, post-implantation outcomes show substantial interindividual variability, highlighting the importance of identifying factors influencing these differences.

The aim of the study was to identify thoses factors and evaluate the real-life impact of cochlear implantation among elderly.

MATERIAL & METHODS

Fourty-four patients aged with bilateral sensorineural hearing loss who fulfilled audiological candidacy criteria were enrolled. All patients were evaluated before and after implantation. The assessment battery included pure-tone thresholds, speech recognition testing in quiet, and standardized patient-reported outcome questionnaires (CIQOL-35)

RESULTS

CIQOL-35 assessment demonstrated a significant overall improvement in quality of life after cochlear implantation ($p < 0.05$). All dimensions improved, with the greatest gains observed in "Environmental "), followed by "Emotional" and "Communication". Analysis of factors influencing post-implantation quality of life revealed a significant negative correlation with age at implantation and a significant decrease in CIQOL35 scores among patients reporting postoperative tinnitus.

CONCLUSIONS

Cochlear implantation in elderly patients provides significant improvements in both hearing performance and quality of life. In our study, audiometric outcomes in older adults were comparable to those observed in younger patients, suggesting that advanced age alone should not be considered a limiting factor for cochlear implantation. These findings support the broader use of cochlear implants in the elderly population and highlight the importance of considering candidacy based on functional needs rather than chronological age.

KEYWORDS

cochlear implant, elderly, quality of life, hearing outcome

OP-193

Comparison Of Cochlear Implant Efficacy In Pre- Versus Postsynaptic Auditory Neuropathy: A Systematic Review

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BACKGROUND & AIM

Background: Etiological factors affecting outcomes of cochlear implants (Cis) are known; however, a direct comparison of efficacy based on lesion location is needed. We aimed to systematically examine the current evidence to compare the effectiveness of CIs in patients with presynaptic versus postsynaptic neuropathy.

MATERIAL & METHODS

Methods: A comprehensive literature search was conducted across multiple databases, including MEDLINE (via PubMed), Embase, CENTRAL, Web of Science, Scopus, CINAHL, and PsycINFO. Studies were selected based on their examination of CI efficacy in patients with auditory neuropathy spectrum disorder, distinguishing between pre- and postsynaptic lesions using genetic markers or electrophysiological assessments

RESULTS

Results: Analysis of seven studies consistently highlighted the importance of etiological diagnosis in predicting CI outcomes. Genetic mutations were correlated with more favorable CI outcomes, emphasizing the role of genetic etiology. Electrophysiological measures also proved useful in assessing auditory function, further emphasizing the value of detailed diagnostics

CONCLUSIONS

Conclusion: Etiological factors generally influence CI outcomes; however, the success varies between pre- and postsynaptic neuropathies. Integrating genetic and electrophysiological diagnostics is crucial for predicting CI performance, suggesting a need for personalized approaches in evaluating CI candidates for more targeted and effective auditory rehabilitation.

KEYWORDS

CI outcomes; auditory neuropathy spectrum disorder; cochlear implants; electrophysiology; genetic etiology; postsynaptic; presynaptic.

OP-194

Spatial Analysis Of Electrode- Proximity To-Lateral Wall And Its Impact On ECAP Latencies: An OTOPLAN Version 6-Based Study

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BACKGROUND & AIM

Precise electrode positioning is crucial cochlear implant outcomes, however the relationship between electrode-to-lateral wall distance and neural response timing remains understudied. This study investigated the correlation between lateral wall proximity and electrically evoked compound action potential (ECAP) latencies using OTOPLAN Version 6.

MATERIAL & METHODS

This retrospective cohort study analyzed 44 patients with lateral wall cochlear implants over two years. High-resolution cone beam computed tomography images were processed using OTOPLAN Version 6.0 to measure electrode-to-lateral wall distances. ECAP latencies were recorded immediately postoperatively and at six-month and 12-month follow-ups. Correlation analyses looked for distance-latency relationships at overall, channel-specific, and regional levels using Pearson correlation coefficients.

RESULTS

Electrode distances ranged from 1.91mm (basal) to 3.60mm (apical), with corresponding ECAP latencies from 7.90ms to 14.82ms. Overall analysis (n=174 electrode-ear pairs) revealed a significant positive correlation (r=+0.29, P-value<0.001). Channel-level analysis demonstrated a strong monotonic relationship (r=+0.76, P-value=0.004), with individual ear correlations averaging r=+0.41. Regional analysis showed the middle cochlear region (electrodes 5-8) mainlydrove this effect (r=+0.34, P-value= 0.0096), while basal and apical regions showed no significant correlation.

CONCLUSIONS

Greater electrode-to-lateral wall distance correlated with longer ECAP latencies, especially in the middle cochlear region. The temporal stability of the distance-latency relationship supports sustained programming strategies without frequent re-evaluation, while the demonstrated independence from impedance measurements validates separate optimization strategies for electrode positioning and programming parameters.

KEYWORDS

ECAP; OTOPLAN; Lateral Wall Proximity; Cochlea; Electrode-to-lateral Wall Distance

OP-195

Effect Of Electrode Array And Surgical Approach On Structure And Hearing Preservation In Cochlear Implantation: A Randomized Controlled Trial

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BACKGROUND & AIM

To assess the effect of electrode array model, lateral wall and Mid-Scala, and surgical approach, via the round window or cochleostomy on structure and hearing preservation after cochlear implantation surgery.

MATERIAL & METHODS

Forty-eight adults with sensorineural hearing loss receiving a cochlear implant were included between 2020 and 2025 in a tertiary referral center in The Netherlands. Participants were eligible with any degree of residual hearing. According to randomization, participants underwent cochlear implantation of a lateral wall or perimodiolar array via round window or cochleostomy approach. Outcomes were structure preservation based on preoperative high resolution computed tomography and postoperative cone beam computed tomography images and hearing preservation based on pure tone thresholds from before implantation and at six months.

RESULTS

36/48 (75%) of arrays were in the scala tympani. The lateral wall + round window group showed no scalar translocation (0%), both the lateral wall + cochleostomy and perimodiolar + cochleostomy groups showed scalar translocation in 2/12 (17%) and the perimodiolar + round window group showed scalar translocation in 6/12 (50%), with a significant difference between the four interventional groups (P = 0.02). Median hearing preservation across participants was 24%, and was similar in all groups (lateral wall + round window: 26%, lateral wall + cochleostomy: 42%, perimodiolar + round window: 22%, perimodiolar + cochleostomy: 6%; P = 0.23). Median hearing preservation was similar in all degrees of trauma (no trauma: 18%, potential trauma: 28%, scalar translocation: 16%; P = 0.49). Minimal hearing preservation was seen in all degrees of trauma.

CONCLUSIONS

The least traumatic insertion is achieved with lateral wall arrays implanted via a direct round window approach. Non-mechanical factors may contribute to the loss of residual hearing.

KEYWORDS

Cochlear Implantation, Lateral wall array, Perimodiolar array, Cochleostomy, Electrode Array Model, Surgical Approach, Structure Preservation, Hearing Preservation, Insertional Trauma, Randomized Controlled Trial

OP-196

Auditory And Functional Outcomes Of Cochlear Implantation In Single-Sided Deafness: A Single-Center Retrospective Study

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BACKGROUND & AIM

The primary aim of this study was to retrospectively evaluate the outcomes of cochlear implantation in patients with single-sided deafness (SSD).

MATERIAL & METHODS

The data of 13 patients who underwent cochlear implantation for single-sided deafness (SSD) between August 2012 and December 2025 were included in the study. During routine postoperative follow-up visits, the patients were evaluated using a visual analog scale (VAS) in terms of sound localization, changes in hearing and speech understanding in noisy environments, overall quality of life, and tinnitus. In addition, preoperative and postoperative hearing outcomes were documented by audiometry.

RESULTS

Of the patients included in the study, 9 were female and 4 were male. Among the 13 patients, data from 11 patients who attended routine follow-up visits were evaluated. The mean preoperative VAS score for sound localization was 0.72, whereas the mean postoperative VAS score increased to 5.72. Regarding hearing and speech understanding in noisy environments, the mean preoperative VAS score was 0.9, while the mean postoperative VAS score was 4.54. The mean preoperative VAS score for overall quality of life was 1.54, which increased to 7.54 postoperatively. Only two patients had preoperative tinnitus; tinnitus completely resolved in one patient after cochlear implantation, while no improvement was observed in the other. In postoperative audiometric evaluation on the implanted side, the mean hearing threshold was 46.36 dB and the mean speech discrimination score was 31.63. In addition, two patients were found not to be actively using their cochlear implants.

CONCLUSIONS

The importance of unilateral hearing loss has been increasingly recognized in recent years, the search for effective treatment options is ongoing. Especially in the pediatric age group, unilateral hearing loss may have negative effects on educational performance; moreover, difficulties in sound localization, speech understanding in noisy environments, tinnitus, and reduced quality of life are among the most common complaints in these patients. Since there is still no clear consensus on the optimal treatment approach and the number of patients treated in individual centers remains limited, we believe that sharing clinical experience and knowledge on this subject is of great importance.

KEYWORDS

Cochlear Implant, Deafness, Visual Analog Scales, Audiometries

OP-197

Computed Tomography Predictors Of Round Window Visibility During Cochlear Implantation

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BACKGROUND & AIM

Round window (RW) electrode insertion is widely regarded as a minimally traumatic route in cochlear implantation (CI) and has been associated with improved preservation of residual hearing. Nevertheless, RW membrane exposure after posterior tympanotomy can be unexpectedly limited in a clinically meaningful subset of cases, potentially prolonging bony work, increasing manipulation, and prompting unplanned escalation to extended RW approaches or cochleostomy. A reproducible, computed tomography (CT)-guided method to anticipate limited RW visibility could strengthen preoperative counseling, optimize operative setup, and standardize intraoperative decision-making. This study aimed to estimate round window membrane visibility using high-resolution temporal CT measurements.

MATERIAL & METHODS

We performed a retrospective cohort study of 52 implanted ears in 41 patients who underwent CI by a single surgeon (January 2019–March 2023). Intraoperative RW visibility was classified according to the St. Thomas Hospital Classification using high-

definition operative videos reviewed by two experienced CI surgeons on two occasions separated by a two-week interval. Ears were categorized as favorable RW visibility (Type I–IIa) versus limited RW visibility (Type IIb–III). Preoperative high-resolution temporal bone CT DICOM datasets were analyzed in OsiriX MD. A neuroradiologist conducted six predefined radiologic measurements twice with a two-week interval; mean values were used for final analyses (external auditory canal angle, cochlear basal turn–midline angle, facial recess width, facial nerve position, RW niche angle, and modified facial recess distance). Group comparisons, multivariable modeling, and ROC analyses were undertaken to identify clinically applicable predictors.

RESULTS

Of 52 ears, 23 (44.2%) demonstrated favorable RW visibility and 29 (55.8%) had limited RW visibility. Groups did not differ significantly in age, sex, or operated side. RW niche angle differed between groups (p=0.045). In logistic regression, cochlear basal turn–midline angle (per-unit decrease) and modified facial recess distance (per-unit increase) were associated with limited RW visibility (p=0.038 and p=0.029, respectively). ROC analysis demonstrated significant discriminatory performance for modified facial recess distance (p=0.023).

CONCLUSIONS

Selected preoperative CT measurements—particularly RW niche angle and modified facial recess distance—may help anticipate limited RW visibility during CI and facilitate a pre-defined operative strategy (exposure optimization, targeted overhang drilling, readiness for endoscopic assistance, and explicit criteria for extended RW or alternative cochleostomy). The proposed workflow emphasizes practicality through standardized landmarks and repeated-measure methodology, while acknowledging the inherent limitations of retrospective ear-level analyses and underscoring the need for multicenter external validation.

KEYWORDS

cochlear implantation; computed tomography; round window membrane

OP-198

Toward A Better Understanding Of Intracochlear Environment: Insights From Trans-Impedance Matrix Analysis In Cochlear Implant Recipients

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BACKGROUND & AIM

The effectiveness of cochlear implants depends on the proper positioning and functioning of the electrodes. The trans-impedance matrix (TIM) explores the electrode–tissue interface. The objectives of this study was to explore TIM profiles in a real-world cohort of cochlear implant recipients and assess their relationship with electrode array positioning and speech perception skills.

MATERIAL & METHODS

This monocentric retrospective study included 117 adult cochlear implant recipients. TIM measurements were performed during routine follow-up, more than six months after implantation. TIM data were summarized using multiple indicators reflecting global impedance levels and spatial variability, then analyzed using principal component analysis (PCA) and clustering. The first two principal components explained 90% of the total variance.

Scalar position was assessed using postoperative CBCT imaging. Associations between TIM profiles and scalar position, electrode type, speech perception skills, and duration of implant use were evaluated using non-parametric statistical tests with correction for multiple comparisons.

RESULTS

Distinct TIM profiles were identified, highlighting variability in intracochlear electrical field distribution across patients. A significant association was observed in 107 patients between the presence of local minima on TIMs and positioning anomalies detected on CBCT (p=0.0106; Fisher's exact test). However, no statistically significant link was found between the clusters (PCA method) and the positioning of the electrode array in 117 patients (p = 0.48). Electrode design was significantly associated with TIM patterns, suggesting an impact of electrode characteristics on electrical field propagation within the cochlea (p = 0,014). In a subgroup of 64 patients, no statistically significant association was found between the clusters (PCA method) and the speech perception score or data logging.

CONCLUSIONS

In conclusion, TIM analysis provides a complementary, objective perspective on the intracochlear environment. Electrode design appears to be a key factor influencing electrical field distribution within the cochlea. Further multicentric and longitudinal studies are warranted to better define their role in clinical practice.

KEYWORDS

Cochlear implant, objective measurements

OP-199

ROBOTIC SURGERY OF CI IN CHILDREN: OUTCOMES AND PERSPECTIVES

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BACKGROUND & AIM

Cochlear implantation is currently the therapeutic target for children with severe profound sensorineural hearing loss where the benefit of conventional hearing aids is poor or absent. As described in the literature, cochlear implant surgery must be a "soft surgery". The basic principle of the surgical approach is to be delicate and atraumatic in order to limit possible damage to the inner ear. At the CRR of cochlear implants of the Santobono-Pausilipon hospital in Naples, the use of robotic surgery for cochlear implants has been introduced. An observational study was performed on the audiological outcomes in patients operated with Robotic Surgery.

MATERIAL & METHODS

The aim of the study is to evaluate the short- and long-term results obtained in the audiological field in robot-assisted pediatric implantology. 12 children with bilateral sensorineural hearing loss operated between 2023 and 2024 with robotic surgery were analyzed (11 bilateral cochlear implants and 1 unilateral due to anatomical conditions unfavorable to the use of the robotic arm).

RESULTS

The results of our study showed longer times in the robotic intervention 148.12 +/- 28.18 compared to 108.6 +/- 25.20 min of manual surgery. However, our analyses showed reduced intracochlear trauma and preservation of residual hearing assessed with electrocochleography performed after the intervention and one month after the intervention. Furthermore, post-intervention telemetries and prosthetic fittings performed in the first year had better results compared to the control group that performed traditional surgery.

CONCLUSIONS

In conclusion, robotic surgery in the pediatric field has currently shown evidence of reduction of fibrotic damage at the cochlear level, trauma to the vestibular system and ability to preserve residual hearing in the patient, therefore, with the aforementioned results an improvement in the outcomes of cochlear implant surgery is expected in the near future.

KEYWORDS

robotic surgery in CI in pediatric surgery

OP-200

Satisfaction Level Of Users Of Cochlea Implants In Libya

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BACKGROUND & AIM

Cochlear implants (CIs) are transformative neural prostheses, but traditional success metrics often rely on objective audiological scores that fail to capture a user's daily lived experience with their audioprocessor. This study evaluates the satisfaction level and functional quality of life (QoL) of post childhood Cochlear Implants users in Libya. The primary aim is to evaluate the quality of life (QoL) across physical, psychological, and social domains.

MATERIAL & METHODS

This cross-sectional study included 107 CI users aged ≥15 years. QoL was assessed using the 35-item Cochlear Implant Quality of Life (CIQOL-35) questionnaire. Negatively worded items were reverse-scored before analysis to ensure consistent interpretation. Descriptive statistics and Pearson correlation analyses were performed.

RESULTS

The mean age was 22.42 ± 10.15 years; 51.4% were male and 48.6% female. Participants aged 15–19 years constituted 52.3% of the sample. The physical domain achieved the highest mean score (71.8% ± 10.8%), with advanced sound perception scoring highest (83.8%). In contrast, the Speech Production and Listening Effort subdomain showed the lowest score (45.0%), indicating persistent listening fatigue despite successful auditory restoration. Media interaction demonstrated favorable outcomes (79.0%), whereas social avoidance remained relatively high, with a score of 51.6%, suggesting ongoing communication-related challenges. A strong positive correlation was observed between physical functioning and social integration ($r = 0.81$, $p < 0.01$).

CONCLUSIONS

Cochlear implantation substantially improves physical aspects of QoL; however, listening effort and communication-related fatigue continue to limit social participation. Long-term rehabilitation, including auditory-verbal therapy, optimized processor programming, and ongoing auditory support, is essential to maximize functional outcomes and social reintegration in adolescent and adult CI users.

KEYWORDS
Quality of Life, Cochlear Implant; CIQOL-35 Profile; Patient-Reported Outcome Measures (PROMs)

OP-201

Pre-Operative And Post-Activation Anxiety, Depression, And Hopelessness Levels In Parents Of Children Undergoing Cochlear Implantation

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BACKGROUND & AIM

Cochlear implantation is widely recognized as one of the most effective treatment approaches for children with severe-to-profound hearing loss.Childhood hearing loss may affect not only the child's communication and language development but also the psychological well-being of parents. Although the literature indicates that parents of children with hearing loss may experience an increased psychological burden, studies from Türkiye that comparatively examine the pre-operative and post-activation periods remain scarce.This study aimed to assess levels of anxiety,depression, and hopelessness in parents of children undergoing cochlear implantation at two time points-before surgery and after device activation-and to examine differences according to parental gender.

MATERIAL & METHODS

The study included mothers (n=36) and fathers (n=32) of children scheduled for cochlear implantation, comprising a total of 68 parents. The majority of families had a nuclear family structure (79.5%), and the primary caregiver was most commonly the mother (89.7%). Data were collected using the Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI), and Beck Hopelessness Scale (BHS). Assessments were conducted at two time points: pre-operatively and at approximately one month following device activation. The one-month post-activation assessment time was selected to capture parents' early psychological adjustment to the implantation process. Data distribution was evaluated using the Shapiro–Wilk test. Based on data distribution characteristics, paired-samples t-tests or Wilcoxon signed-rank tests were applied for pre- and post-activation comparisons. Between-group comparisons of mothers and fathers were conducted using the Mann–Whitney U test, as normality assumptions were not met for any of the variables. A p-value of < 0.05 was considered statistically significant.

RESULTS

Among mothers, a statistically significant reduction was observed only in anxiety scores following activation (BAI: 14.03 ± 11.72 to 7.88 ± 9.58; $p = 0.001$, $r = 0.57$). No statistically significant changes were detected in depression or hopelessness scores ($p = 0.126$; $p = 0.545$, respectively). Among fathers, statistically significant reductions were identified across all three measures following activation (anxiety: $p = 0.047$, $r = 0.38$; depression: $p = 0.045$, $d = 0.40$; hopelessness: $p = 0.008$, $d = 0.55$). Between-group comparisons revealed that mothers had significantly higher anxiety and depression scores than fathers at both time points ($p < 0.001$). No significant difference between groups was observed with respect to hopelessness scores at either assessment.

CONCLUSIONS

The findings suggest positive changes in parental psychological well-being following cochlear implant activation; however, the nature and extent of these improvements differ between mothers and fathers. The persistence of psychological burden in mothers following activation underscores the importance of targeted psychosocial support for this group. The results suggest that parental support programs integrated into the cochlear implant process should be tailored to the distinct needs of mothers and fathers. Future studies with larger samples and longitudinal follow-up are warranted to further substantiate these findings.

KEYWORDS

Cochlear implant; parental psychology, anxiety, depression, hopelessness

OP-202

The Impact Of Bone-Anchored Hearing Systems On Patients' Quality Of Life

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BACKGROUND & AIM

The aim of this study is to evaluate the effects of bone-anchored hearing system (BAHS) on hearing gain and quality of life of patients.

MATERIAL & METHODS

This retrospective study included patients aged 18-70 years who underwent BAHS implantation. Preoperative and postoperative hearing results were compared. The World Health Organization Quality of Life Scale, Speech Perception Scale,

Spatial Perception Scale, Hearing Quality Scale, and Chronic Otitis Media Questionnaire 12 questionnaire were used to assess patients' quality of life. The data obtained were compared statistically using benefit analysis.

RESULTS

A total of 15 patients who agreed to participate were included in the study. In the preoperative and postoperative audiological results, significant improvements were observed at all frequencies (p=0.001). A significant reduction in free field thresholds was observed. A statistically significant improvement in quality of life scores was observed (p<0.022). The COMQ12 scores decreased significantly from 1.93 ± 0.84 to 0.86 ± 0.57 (p < 0.001), indicating a reduction in the severity of chronic otitis media symptoms and their impact on quality of life.

CONCLUSIONS

BAHS provides significant improvements in both quality of life and free field hearing thresholds when used in the required indications. These findings support the use of BAHS as a viable treatment option for patients with conductive or mixed hearing loss.

KEYWORDS

Bone-anchored hearing aid, Quality of life, World Health Organization Quality of Life Scale, Speech Perception and Spatial Perception Hearing Quality Scale, Chronic Otitis Media Questionnaire 12, COMQ12 scale.

OP-203

Test Electrode-Based Method Of Measuring The Achievable Electrode Insertion Depth In Cochlear Implantation.

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BACKGROUND & AIM

Processing the optimal length of electrodes for cochlear implants (Cis) is vital for achieving maximum effectiveness, and the results tend to differ between the preoperative radiological estimations and the depth reached at the time of surgery.

MATERIAL & METHODS

This study evaluates the feasibility of using a flexible insertion test electrode with colored depth markers to determine the practically achievable electrode insertion depth before CI electrode placement. The study was conducted at a tertiary center and included patients with inner ear anomalies, reimplantation cases, and profound deafness with no residual hearing. A custom insertion test electrode, 31.5 mm long, was inserted into the scala tympani (ST) to assess cochlear lumen accessibility. Standard CI surgical procedures were followed, including impedance field telemetry testing and evoked compound action potential measurements.

RESULTS

Ten patients (11 ears), aged 1 to 29, met the inclusion criteria. The test electrodes achieved radial depth real-time determination, allowing the surgeons to tailor the electrode lengths to fit the most applicable depth for implantation. This advancement mitigated incomplete insertion and improved preoperative planning

CONCLUSIONS

In the context of these findings, this research describes a new approach for setting the limits of electrode selection that minimizes the complications of electrode instability during cochlear implantation. These findings point to the insertion of test electrodes to achieve greater accuracy in surgery and, consequently, better outcomes for patients with cochlear implants

KEYWORDS

Cochlear implantation, complete insertion, test electrodes, complications, planning.

OP-204

Effect Of Baseline Stimulation On Vestibular Responses In Human Vestibular Implant Recipients

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BACKGROUND & AIM

Unilateral vestibular implants require baseline stimulation to encode bidirectional head motion. However, baseline activation reduces the dynamic range available for excitation and may affect overall performance. This study evaluated how baseline stimulation influences vestibular responses evoked by electrical modulation in humans.

MATERIAL & METHODS

Ten patients with bilateral vestibulopathy participated in the VertiGO! trial. Each received a vestibulo-cochlear implant with three semicircular canal electrodes. Electrical stimulation was delivered as biphasic pulse trains, either without baseline or with a continuous baseline set at 50% of the individual dynamic range. Eye movements were recorded using video-oculography and quantified as peak eye velocity (PEV) and misalignment angle. Test-retest reliability was excellent (ICC = 0.96 for PEV, 0.82 for angle).

RESULTS

Baseline stimulation did not consistently alter the upper comfort limit. It enabled bidirectional percepts and eye movements but reduced response magnitudes. Excitatory PEVs decreased by 34% compared with stimulation without baseline, while inhibitory PEVs reached only 7% of this maximum. Excitatory responses were eight times stronger than inhibitory responses. Misalignment angles were comparable across conditions, indicating preserved response direction.

CONCLUSIONS

Baseline stimulation allows bidirectional encoding but reduces total response capacity. Inhibitory responses remain weak, and overall output is dominated by excitation. For optimal fitting of unilateral vestibular implants, lower baseline levels should be considered to preserve functional response magnitude. Bilateral implantation may ultimately offer superior bidirectional sensitivity without compromising excitatory strength

KEYWORDS

vestibular implant, vestibular prosthesis, bilateral vestibulopathy

OP-205

Long-Term Outcomes Of Cochlear Implantation In Adult And Pediatric Patients With Genetic Deafness

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BACKGROUND & AIM

Cochlear implantation (CI) is now clearly established for severe-to-profound hearing loss (HL) rehabilitation. Genetic etiology remains the leading cause of hearing loss among implanted patients, and may be a potential determinant of CI outcomes. The aim of this study was to describe CI outcomes in a pediatric and adult population with genetic HL depending on gene and pathogenic mechanism.

MATERIAL & METHODS

This retrospective monocentric study, conducted in a national reference center, included 102 implanted patients with a genetic confirmed HL. The population was divided in 40 patients for the pediatric group – with 20 patients bilaterally implanted resulting in 60 ears – and 62 for the adult group – with 29 patients bilaterally implanted resulting in 92 ears –. Genetic diagnosis described 28 mutated genes, classified into 7 pathogenic mechanisms. Auditory performances were assessed regarding speech perception in silence (Fournier list) and in noise (MBAA words) at 60 dB SPL. Communication was evaluated with the CAP score, and quality of life with the APHAB score. Analyses were performed to compare auditory performances regarding the gene and pathogenic mechanism.

RESULTS

The two most frequently implicated genes were GJB2 (35% and 19% in the pediatric and adult group, respectively) and SLC26A4 (35% and 10% in the pediatric and adult group, respectively). In the pediatric population, At the last available assessment (13±1.0 years), mean speech perception was 83±2.9% in silence and 74±5.3% in noise. In the adult population, mean follow-up duration was 5±0.5 years. Auditory performances, communication and quality of life showed a significant improvement as early as 3 months after CI, this improvement being significant up to 11 years after CI. Mean speech perception 1 year after CI was 69±3.4% in silence and 53±5.0% in noise. The part of patients able to use phone with a known listener (CAP≥7) was 64% at 1 year after CI. No significant difference was observed, both in the pediatric and adult population, depending on the gene and the pathogenic mechanism.

CONCLUSIONS

CI outcomes in patients with a genetic HL are similar, if not superior in the adult population, compared with patients with non-genetic HL. These results remain consistent regardless the implicated gene or the underlying pathogenic mechanism, and thereby fail to explain the interindividual variability observed in CI outcomes.

KEYWORDS

cochlear implants; hearing loss, sensorineural; genetic testing; auditory outcomes; quality of life

OP-206

Building Anatomy Based Maps: Combining The Impedance And Pre-Op CT

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BACKGROUND & AIM

Anatomy-based fitting (ABF) in cochlear implantation utilizes pre-operative imaging to create individualized tonotopic frequency maps using OTOPLAN. This study aimed to assess the accuracy of pre-operative predictions by comparing them with post-operative imaging findings and to explore a correction strategy based on basal electrode positioning.

MATERIAL & METHODS

A retrospective analysis was conducted on 27 adult ears implanted with MED-EL FLEX28 or FORM24 electrode arrays. Predicted angular insertion depths (AID) and corresponding frequency allocations from pre-operative planning were compared with measurements obtained from post-operative CT scans across all electrode contacts (C1–C12). A deviation of ±7 semitones was considered clinically acceptable. Intraoperative impedance telemetry was evaluated for its ability to confirm electrode insertion. A correction approach was developed and applied.

RESULTS

The mean absolute frequency error (MAFE) ranged from 2.8 to 3.0 semitones, remaining within the predefined clinical threshold. Four ears (16.7%) demonstrated at least one electrode exceeding ±7 semitones. A significant correlation was observed between basal electrode position and apical prediction error ($r = 0.52$, $p = 0.010$). Intraoperative impedance telemetry showed a 100% positive predictive value for identifying intracochlear placement, but a false-negative rate of 11.1% was noted at the basal electrode. Application of the correction method reduced MAFE to 2.5–2.6 semitones and decreased the outlier rate to 8.3%.

CONCLUSIONS

Pre-operative planning using OTOPLAN yields clinically acceptable frequency mapping in most cases. Incorporating a basal electrode–based adjustment improves accuracy and reduces variability. While impedance telemetry is useful for confirming electrode placement, it should be interpreted alongside imaging data.

KEYWORDS

Cochlear implant; anatomy-based fitting; OTOPLAN;

OP-207

Cochlear Implantation In The Presence Of Otitis Media With Effusion: Postoperative Risks And Functional Outcomes

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BACKGROUND & AIM

This study aimed to evaluate the clinical characteristics, causes of readmission, postoperative com plications, and auditory outcomes of pediatric patients in whom otitis media with effusion (OME) was detected during cochlear implant (CI) surgery.

MATERIAL & METHODS

This retrospective study reviewed medical records and audiological follow-up data of 461 ears from 243 patients who underwent CI surgery. Postoperative complications were analyzed in the entire cohort. For audiological outcome analysis, 25 ears with intraoperatively detected OME were compared with 25 randomly selected ears without OME and with similar clinical characteristics to ensure balanced group sizes and reduce potential confounding. Appropriate parametric tests were applied, and effect sizes were calculated using Cohen's d and Cram´ er's V.

RESULTS

There were no significant differences between the OME and control groups regarding age or gender distribution ($p > 0.05$). Pure-tone average and most audiological parameters did not differ significantly between groups. However, the Speech Recognition Threshold (SRT) was significantly lower in the OME group compared with the control group ($p = 0.012$, $d = 0.741$). Postoperative infection occurred more frequently in ears with OME than in those without (12.0% vs. 2.5%), and this difference was statistically significant ($p = 0.035$).

CONCLUSIONS

Although the presence of OME during CI surgery is associated with an increased risk of postoperative infection, the clinical effect size is limited. OME does not appear to adversely affect overall auditory perfor mance. With appropriate perioperative management and follow-up, OME should not be considered an absolute contraindication for cochlear implantation in pediatric patients.

KEYWORDS
Cochlear implant, Otitis media with effusion, Complication, Auditory performance

OP-208

Customised Frequency Mapping And Basal Electrode Optimisation In Adult Cochlear Implant Users: A Prospective Crossover Study

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BACKGROUND & AIM

Cochlear implants (CIs) provide substantial auditory benefit for individuals with severe-to-profound hearing loss; however, variability in outcomes persists despite advances in electrode design, surgery, and programming. Increasing evidence indicates that electrode position, particularly in the basal region, influences perceptual experience. Standard clinical frequency maps use fixed allocation tables that do not account for individual cochlear anatomy, potentially contributing to frequency-to-place mismatch and perceptual distortion. Anatomically informed programming with selective basal electrode optimisation may improve listening quality. We hypothesised that an imaging-guided customised frequency map (CFM) with targeted basal electrode deactivation would improve perceived sound quality without compromising auditory outcomes.

MATERIAL & METHODS

This prospective within-subject crossover study included 47 adult CI recipients (12 single-sided deafness, 35 bilateral deafness) implanted at a tertiary referral centre using 35 perimodiolar and 12 lateral wall electrode arrays. Participants were tested approximately 8 weeks after device switch-on and underwent sequential evaluation with a standard clinical map and a CFM during a single 1.5-hour session without acclimatisation. The CFM was derived from postoperative computed tomography imaging using the Stakhovskaya tonotopic model to estimate electrode frequency position. Basal electrode optimisation identified the electrode closest to 7438 Hz as the center upper frequency boundary, with more basal contacts deactivated to reduce frequency-to-place mismatch. Outcomes included consonant–vowel–consonant word and phoneme recognition, speech recognition threshold (SRT), spectral-temporo discrimination task (STDT) performance, global Likert ratings, and map preference. Paired statistical comparisons evaluated differences between mapping conditions, and exploratory analyses examined associations among electrode positioning, basal mismatch, electrode deactivation, and auditory performance.

RESULTS

Word and phoneme recognition scores were higher with the standard clinical mapping; however, the magnitude of the difference was modest, with mean absolute differences of approximately 9% between conditions ($p<0.01$). SRT and STDT did not differ between maps (all $p>0.05$). Subjective preference and voice-quality composite scores were comparable (mean difference 0.57, 95% confidence interval −0.32 to 1.46; $p=0.20$). Basal frequency mismatch significantly predicted electrode deactivation ($p=0.01$; Figures 1–2). On average, three electrodes per participant were deactivated (range 0–8). Four participants demonstrated anatomical alignment without basal mismatch and required no electrode deactivation. One participant was excluded due to a software-related programming issue during testing. Importantly, selective basal electrode deactivation was not associated with reduced speech perception, SRT, or STDT outcomes, indicating no detrimental acute auditory effect. Qualitative patient feedback suggested more natural sound perception with reduced listening effort using the CFM, particularly among single-sided deafness participants.

CONCLUSIONS

Imaging-guided customised frequency mapping with selective basal electrode deactivation was feasible within routine clinical programming and did not adversely affect objective speech outcomes. Formal subjective measures did not differ between maps in this acute setting, although qualitative patient impressions suggested perceptual differences requiring further study. These findings support anatomically informed programming and highlight the potential importance of basal electrode positioning. Future work should evaluate real-world listening outcomes and explore combined surgical and programming strategies to optimise CI performance.

KEYWORDS
Cochlear implant; Frequency allocation; Tonotopy; Electrode positioning; Basal electrode optimisation

OP-209

Thirty Years Of Cochlear Implant Revision Surgery: Indications, Management And Outcomes At A Single Tertiary Centre

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BACKGROUND & AIM

Cochlear implant revision surgery is performed for various reasons including device failure, wound complications, and electrode problems. Device failure has been reported as the most common indication in the literature, accounting for more than half of all revision cases. However, data from different centres show considerable variation. In this study, we present our

30-year single-centre experience with cochlear implant revision surgery and compare our indications, surgical management, and outcomes with the existing literature.

MATERIAL & METHODS

We retrospectively reviewed 1,359 patients who received primary cochlear implants at our centre between 1995 and 2025. A total of 54 patients required revision surgery. We recorded patient age, sex, time to revision, presenting complaint, fixation technique, electrode insertion approach, revision indication, and surgical outcome. Fisher exact test and Mann-Whitney U test were used for statistical analysis.

RESULTS

The overall revision rate was 3.97% (54/1,359). Thirty-one patients were female (57.4%) and 42 were paediatric (77.8%), with a median implantation age of 3.0 years. The mean time to revision was 29.8 months (median: 24.0; range: 0.1–132 months). Unlike most reports in the literature, implant exposure was the most common indication for revision surgery (n=28; 51.9%), followed by device failure (n=11; 20.4%) and electrode malposition (n=5; 9.3%). The presenting complaint clearly reflected the underlying cause: 96.4% of exposure cases presented with wound infection or discharge, while all device failure cases presented with hearing loss ($p < 0.001$). Classical bone well fixation was associated with a higher rate of implant exposure compared to subperiosteal pocket fixation (59.5% vs 25.0%; OR=4.41; 95% CI: 1.04–18.71; p=0.051). Device salvage was achieved in 51.9% and most revisions were completed in a single operation (74.1%).

CONCLUSIONS

Cochlear implant revision surgery carries a distinct aetiology profile that varies significantly across centres. In our experience, wound-related complications — not device failure — represent the primary driver of revision, and fixation technique is the most important modifiable factor. Careful selection of the receiver-stimulator fixation method at the time of primary implantation may substantially reduce long-term revision risk. Surgeons should be aware that the presenting complaint reliably guides the diagnosis, and that device salvage is achievable in the majority of cases without explantation.

KEYWORDS

Cochlear implantation; Revision surgery; Implant exposure; Fixation technique; Device failure

OP-210

Using Caeps To Verify CI Map And Improve Hearing Outcome

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BACKGROUND & AIM

Background: The current standard programming of hearing implants relies heavily on subjective feedback from patients to determine the Threshold (T) and Most Comfortable Levels (C/MCL). However, subjective responses may not be reliable, especially in patients with cognitive impairments, non-English speakers, or children. Objective tools like CAEPs have the potential to eliminate subjectivity and expedite the creation of optimal maps for better hearing outcomes.

Objectives: This study aimed to explore whether acoustic cortical auditory evoked potential (aCAEP) measures could validate cochlear implant (CI) maps and enhance auditory outcomes in adults with single-sided deafness (SSD) or bilateral hearing loss.

MATERIAL & METHODS

aCAEPs were measired in CI recipients using speech tokens (/m/, /g/, /t/, /s/). If aCAEP responses were absent for any speech tokens, the CI map was adjusted and CAEP measures were repeated. Speech testing occurred before and after CAEP-guided map adjustments.

RESULTS

The study included 67 SSD-CI and 108 unilateral CI users. Initially, all CIs were mapped based on subjective loudness perception. Of these, 37% of the users exhibited CAEP responses for all four speech tokens and were considered optimised from the outset. However, 63% lacked a CAEP response for at least one token, leading to CI map adjustments. These adjustments enabled CAEP responses for all four speech tokens in 31 of the individuals. Speech perception significantly improved in both quiet and noisy environments following eCAEP-based adjustments.

CONCLUSIONS

The study successfully employed aCAEP recordings to validate CI mapping and enhance speech outcomes in CI users. This objective tool shows promise in mitigating the limitations associated with subjective feedback and improving the efficiency and effectiveness of CI mapping.

KEYWORDS

aCAEP, mapping verification, hearing outcomes

OP-211

Sustainability In The Healthcare Environment

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BACKGROUND & AIM

We are facing a climate crisis. Our greenhouse gas (GHG) emission has spiked by 12% from 2010 to 2019. We have had an increase in temperature of 1.1°C between 2011 and 2020. Healthcare is the fifth largest producer of GHG. A Health Care Without Harm (HCWH) report found that high-income countries have exceptionally high levels of health-related carbon emissions. The U.S. contributed 27%, China with 17%, the European Union with 12%, Japan with 5%, Russia with 4%, India, Brazil, South Korea, Canada, and Australia each contributing 2%, and the remaining 25% coming from other countries.

MATERIAL & METHODS

This presentation will consider the impact of healthcare, particularly for cochlear implantation, on sustainability. This paper will focus on two things. Part one is a review of healthcare and sustainability literature. This will include reviewing the Sustainable Development Goals (SDG) goals from the United Nations, defining and setting up a Green Team, and what is being done in the healthcare environment. Part two is a survey of health professionals to ascertain what they currently do and where they could go in the future. Most literature on sustainability on healthcare are review articles. The survey here will provide evidence of what people are doing.

RESULTS

Data from members of the HEARRING group will be reviewed and analysed according to their focus on sustainability. Their ideas for the future will also be reported on. This will link in with the review, which will show us what we can do to contribute to planetary health. Examples of this will be creating a GreenTeam, and developing ideas based on applicable SDGs.

CONCLUSIONS

Every drop creates an ocean. What we do personally and in our professional environment will make a difference to us, and to those who come after us. Health professionals will know what SDGs are. They will know how to create a Green Team. They will understand the impact healthcare has on the environment. Results discussed in this paper should help us as health professionals move forward in their sustainability practises.

KEYWORDS

Sustainability, Helathcare, SDGs, Green Team

OP-212

Modified Subtotal Petrosectomy And CI

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BACKGROUND & AIM

Classical three-stage subtotal petrosectomy (STP) is technically demanding and traumatic. This study aims to present a modifiedsingle-stage protocol for patients with deafness and chronic otitis media,combining ear sanitation and cochlear implantation (CI) in one procedure.

MATERIAL & METHODS

Over the period from2014 to 2025, almost 70 patients with chronic otitis media and deafness weretreated. In 50% of cases,classical three-stage STP was performed; in the other 50% we used modified STP. Key modifications in modified technic include: obligatoryblind sac closure of the ear canal (Cul-de-sac technique) and differentapproach to surgical treatment (CWU, CWD, transcanal approach) without cavityobliteration. Cochlear implantation was performed simultaneously.

RESULTS

All operated patients achieved primary goals:complete sanitation, no disease recurrence, successful device implantation andauditory rehabilitation. Omitting the obliteration stage and individual choice of surgical intervention volume reduced operative time and minimizedcomplication risks.

CONCLUSIONS

Modified subtotalpetrosectomy with CI is a safe and effective single-stage strategy that enablesthe selection of an optimal surgical treatment method for patients with chronic otitis and deafness. This approach, using an appropriate sanitation technique tailored to the extent of the pathological process, minimizes surgical trauma and reduces the risk of specific complications, such as disease recurrence andimplant protrusion. In the modified technique, the first step – blind sac closure is a mandatory step, while the subsequent stages are variable andindividually tailored.

KEYWORDS

CI, subtotalpetrosectomy, otosurgery, chronic otitis

OP-213

Beyond Hearing: How Cochlear Implants Impact Cognition And Quality Of Life In Older Patients

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BACKGROUND & AIM

Background: Age-related hearing loss is strongly associated with cognitive decline and dementia. Cochlear implantation (CI) has emerged as an effective intervention for severe-to-profound hearing loss and may influence cognitive and psychosocial outcomes in older adults. This systematic review and meta-analysis aimed to evaluate the cognitive, audiological, psychological, and quality-of-life outcomes following CI in the elderly

MATERIAL & METHODS

Methods: A systematic search of four databases was conducted for studies published up to February 2026. Studies including adults aged ≥55 years with bilateral hearing loss who underwent CI and reported pre- and post-implantation outcomes were eligible. The primary outcome was change in global cognitive function, measured by the Mini-Mental State Examination (MMSE) score. Secondary outcomes included domain-specific cognitive measures, audiological and speech perception performance, psychological outcomes (depression and anxiety), and patient-reported quality of life and subjective hearing ability. Pooled analyses were conducted using random-effects models, and results were expressed as mean differences (MD) with 95% confidence intervals (CI).

RESULTS

Results: A total of 31 studies involving 1,210 participants were included. For the primary outcome, pooled analysisshowed no statistically significant change following CI (MD = 0.20, 95% CI: −0.75 to 1.15, p = 0.68). For secondary outcomes, significant improvements were observed in audiological performance and speech perception measures, as well as in global cognition assessed using hearing-adapted neuropsychological batteries and cognitive screening tests. Significant reductions were also observed in anxiety and depressive symptoms assessed using the Hospital Anxiety and Depression Scale, alongside substantial improvements in patient-reported hearing-related quality of life and subjective hearing ability. In contrast, no statistically significant improvements were observed in several executive function and working memory measures, including tests assessing cognitive flexibility, inhibition, and short-term memory. Depressive symptoms assessed using the Geriatric Depression Scale also showed no significant change.

CONCLUSIONS

Conclusion: CI in older adults provides substantial benefits in auditory performance, quality of life, and selected cognitive domains, particularly memory and attention. These findings support CI as an effective intervention that may help alleviate the cognitive and psychosocial consequences of severe hearing loss in the aging population. Future CI studies in older adults should incorporate family-reported and social participation outcomes to capture benefits that may not be fully perceived by recipients themselves.

KEYWORDS

Cochlear implantation; Age-related hearing loss; Hearing loss; Cognitive function; Older adults; Speech perception.

OP-214

Auditory Rehabilitation In Mixed Hearing Loss Due To Chronic Otitis Media Sequelae: Passive Versus Active Transcutaneous Bone Conduction Implant

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BACKGROUND & AIM

Chronic otitis media (COM) is a common cause of disabling hearing loss, especially in low and middle income countries, which accounts for almost 150 million people. Most of the literature about hearing rehabilitation with bone conduction implant (BCI) in COM have small and mixed sample sizes, without differentiating performance in conductive hearing loss (CHL) and mixed hearing loss (MHL) separately. The aim of this study was to compare audiological outcomes and self-perceived benefits in patients with sequelae of COM and MHL who underwent auditory rehabilitation with PT-BCI (BAHA Attract®) versus piezoelectric AT-BCI (Osia®).

MATERIAL & METHODS

A multicenter, prospective, analytical observational study was conducted in Colombia. Patients with sequelae of COM who received auditory rehabilitation for MHL via a transcutaneous BCI, specifically the passive system (BAHA Attract®) or the active

system (Osia® Cochlear System), were included. Conversational pure-tone average (PTA; 0.5, 1, 2, and 4 kHz) and high-frequency PTA (HF-PTA; 4, 6, and 8 kHz) were measured preoperatively, 3 months, and 12 months postoperatively. Self-perceived benefit at 12 months, assessed using the Client Oriented Scale of Improvement (COSI) questionnaire, was collected and analyzed in conjunction with the audiological results.

RESULTS

A total of 261 cases were included, with 211 implanted with PT-BCI (BAHA Attract®) and 50 with AT-BCI (Osia®). Both groups exhibited homogeneous baseline variables with the exception of soft-tissue thickness. This confounding variable was addressed using robust covariate control models and was found not to significantly impact the PTA and HF-PTA outcomes. The mean gain in PTA for the PT-BCI (BAHA Attract®) group was 41.8 dB, and for HF-PTA, 38.8 dB. For the AT-BCI (Osia®) group, the gains were 39.7 dB for PTA and 44.7 dB for HF-PTA, respectively.

CONCLUSIONS

BCI represents a successful hearing rehabilitation modality for patients with MHL as a sequela of COM. Both AT-BCI and PT-BCI devices demonstrated a highly statistically significant improvement in auditory performance and quality of life. In this study, the AT-BCI exhibited superior performance, with a gain of 3.1 dB higher than the PT-BCI, particularly in HF-PTA, although this difference was not statistically significant for either PTA or HF-PTA.

KEYWORDS

Chronic Otitis Media; Auditory Rehabilitation; Mixed Hearing Loss; Bone Conduction Implant; Client Satisfaction Questionnaire

OP-215

Coupling Efficacy Of The Bonebridge Using Screw Fixation

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BACKGROUND & AIM

The Bonebridge™ (MED-EL, Innsbruck, Austria) is a widely recognized active transcutaneous bone conduction implant designed to address conductive hearing loss. This implant is connected to the mastoid bone via two cortical fixation screws but the effect of coupling strength on cochlear activation remains unclear. The aim of this study is to evaluate the effect coupling configurations on the cochlear activation.

MATERIAL & METHODS

Five human cadaveric heads will undergo implantation of the Bonebridge device. Variations in fixation methods - ranging from standard two-screw attachment to a single screw and a loose skin-tension fitting - will be tested. Objective measures of cochlear activation will include intracochlear pressure, monitored via two custom-made intracochlear acoustic receivers (ICARs) placed in the scala vestibuli and scala tympani. Additionally, a 3D Laser Doppler Vibrometer (3D LDV) will measure the vibrational velocity of the cochlear promontory, stapes, and skull surface.

RESULTS

Expected outcomes will characterize the relationship between coupling configurations and changes in intracochlear pressure, as well as the velocity of the cochlear promontory, the stapes and the skull surface near the device.

CONCLUSIONS

This study aims to contribute to the optimization of Bonebridge implantation techniques by evaluating the viability of alternative coupling methods.

KEYWORDS

Bone conduction, Bonebridge, Laser Doppler Vibrometry, Intracochlear Pressure, Implant Coupling

OP-216

Utilization Of CT Based Virtual Endoscopy Of The Internal Auditory Canal As A Diagnostic Imaging Tool For Cochlear Nerve Deficiency

BACKGROUND & AIM

The presence of a functional cochlear nerve is a key issue in the preoperative evaluation of pediatric candidates for cochlear implants. MRI has been the gold standard tool for assessment of cochlear nerve pre-operatively. Correlations between cochlear nerve deficiency (CND) and bony landmarks of internal auditory canal are not yet well understood. The aim of this study was to assess the reliability of CT based virtual endoscopy (CTVE) of internal auditory canal as a pre-operative method for evaluation CND.

MATERIAL & METHODS

High resolution CT (HRCT) and MRI of a total of 250 cochlear implant candidates were retrospectively evaluated. DICOM data of HRCT were used for reconstruction of CTVE image of IAC, that were evaluated for anatomical bony landmarks. Tractus

spiralis foraminosus was used as a bony landmark indicator for presence of normally developed cochlear nerve (CN). Sensitivity and specificity of such finding, for diagnosis of CND, was evaluated based on correlation with corresponding MRI images of the CN.

RESULTS

From a total of 500 CTVE of IAC, diagnosis of unilateral and bilateral CND was made in 25 and 50 cases respectively. Diagnosis was confirmed in all of them, based on MR images of those cases. Five cases, whose CTVE reported normal CN, were diagnosed as CND based on MRI. Overall sensitivity and specificity ratios of CTVE, for diagnosis of CND, were 96.15% and 100% respectively.

CONCLUSIONS

CTVE can be used as a pre-operative imaging tool for evaluation of CN and detection of CND. Tractus spiralis foraminosus can be considered as a sensitive anatomical bony landmark for presence of normally developed CN.

KEYWORDS

Cochlear nerve deficiency, virtual endoscopy, cochlear implant, MRI

OP-217

Cochlear Implantation With A Dexamethasone-Releasing Electrode Carrier – A Multicentre National Study

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BACKGROUND & AIM

Preclinical and clinical studies on the targeted application of glucocorticoids to the inner ear in conjunction with a cochlear implant (CI) show promising results: inflammatory reactions, fibrosis and foreign body reactions can be significantly reduced, while residual hearing is better preserved. The first-in-human application in nine patients not only confirmed safety, but also showed stable and low impedance values and, in most cases, very good preservation of residual hearing.

MATERIAL & METHODS

As part of a multicentre, national, single-arm clinical study, a MED-EL cochlear implant with a dexamethasone-releasing electrode array (SYNCHRONY 2 FLEX28 DEX) was used. The aim of the study is to evaluate the safety and performance of this innovative medical device. The main criterion is the comparison of speech intelligibility before surgery and six months after surgery. In addition, various electrophysiological and patient-related parameters are being investigated.

RESULTS

Within one year, 62 patients were enrolled in the study as planned and have recently followed up according to protocol. Initial results show a very good safety profile. No serious device-related adverse events occurred. The complete results of the primary and secondary endpoints will be reported after full analysis of the clinical trial data set.

CONCLUSIONS

Local drug release in the inner ear in combination with a CI shows great potential for sustainably improving CI care. The ongoing multicentre study with the dexamethasone-releasing electrode carrier has been extremely promising so far and may set a new standard in therapy in the future.

KEYWORDS

cochlear implant, drug eluting electrode, clinical trial, human

OP-218

Endoscopic Assistance In Coclear Implantation In Children

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BACKGROUND & AIM

Background. The standard technique for cochlear implantation is the transmastoid approach through posterior tympanotomy to the middle ear cavity. However, in some cases, anatomical variations, particularly the position of the mastoid segment of the facial nerve, may limit visualization of the round window area during microscopic examination. Insufficient identification of anatomical landmarks increases the risk of surgical errors and complications. The use of endoscopic assistance may improve intraoperative visualization and surgical safety.

Objective. To improve the effectiveness of surgical treatment in children with severe hearing impairment through the use of endoscopic assistance during cochlear implantation.

MATERIAL & METHODS

Materials and Methods.

The outcomes of cochlear implantation were analyzed in 64 children aged 1 to 4 years. A total of 96 cochlear implants were inserted: 32 children underwent simultaneous bilateral cochlear implantation (64 implants), while another 32 children underwent unilateral implantation (32 implants). In all cases, standard mastoidectomy and posterior tympanotomy were performed. Endoscopic visualization of the round window area through posterior tympanotomy was carried out in all patients using rigid 0° and 30° endoscopes, 3 mm in diameter and 14 cm in length, equipped with a high-definition camera (Karl Storz, Tuttlingen, Germany). After endoscopic identification of the round window and its membrane, drilling of the round window niche and electrode insertion were performed mainly under microscopic control.

RESULTS

Results. In 12 cases (18.75%), endoscopic assistance was critically necessary for accurate identification of the round window membrane. In all these patients, less than half of the round window membrane was visible after drilling the niche. Endoscopic visualization allowed the standard surgical procedure to be completed successfully in all cases without conversion to cochleostomy or other more invasive techniques. No intraoperative or postoperative complications were observed.

CONCLUSIONS

Conclusions. Endoscopic assistance during cochlear implantation in children provides improved visualization of the round window area and facilitates surgical orientation, especially in patients with complex anatomy or congenital inner ear malformations. Combining the traditional microscopic approach with endoscopic control helps reduce the risk of complications, increases surgical safety, and contributes to favorable functional outcomes.

KEYWORDS

Cochlear implantation, ear surgery, endoscopy, microsurgery, pediatric surgery

OP-219

Cochlear Implantation And MRI-Related Complication In Hearing Loss Due To Meningitis Sequelae: A Multidisciplinary Case Study

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BACKGROUND & AIM

The aim of this study is to interrupt the clinical procedure and separately monitor the implants in a patient who underwent bilateral cochlear implantation due to sequelae of meningitis and was regularly monitored with multidisciplinary treatment, due to cardiac arrest and subsequent device dysfunction detected during contrast-enhanced magnetic resonance imaging (MRI).

MATERIAL & METHODS

This study is the only case report retrospectively evaluating the clinical data of a patient who underwent bilateral cochlear implantation following meningitis. Preoperative and postoperative audiological findings, device function checks, vestibular rehabilitation process, and post-MRI clinical development were analyzed.

RESULTS

A patient developed bilateral profound sensorineural hearing loss following meningitis and underwent cochlear implantation in the right ear and seven months later in the left ear. Postoperatively, regular audiological follow-up was conducted and auditory rehabilitation was initiated. Speech perception performance was better in the left ear than in the right.

During follow-up, while vestibular rehabilitation was ongoing, the patient experienced an acute vestibular attack. Multidisciplinary clinical evaluation raised suspicion of multiple sclerosis (MS), and magnetic resonance imaging (MRI) was deemed clinically necessary. During MRI, a bandaging-related technical complication at the implant site, performed by the radiology team, led to interruption of the procedure and activation of an emergency code. Surgical magnet removal was required, followed by repeat MRI and revision surgery one week later. MS was subsequently confirmed.

After revision surgery, the device adaptation process was reinitiated and followed a more challenging clinical course compared to the pre-MRI period.

CONCLUSIONS

This case demonstrates that even after acute and unexpected clinical complications, close evaluation of implant performance and continued multidisciplinary coordination are crucial for the continuity of the patient's rehabilitation process. It is believed that the follow-up process in implanted patients should not be limited solely to auditory performance, but should also address systemic and neurological developments with a holistic approach.

KEYWORDS
Menengitis, hearing loss, cochlear implant

OP-220

Cochlear Implantation In Mondini Syndrome Using FORM 19 MED-EL Electrodes At Al Zahrawi Hospital, Libya: A Prospective Observational Study

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BACKGROUND & AIM

Background: Mondini syndrome is a congenital inner ear malformation commonly associated with severe to profound sensorineural hearing loss and may pose surgical challenges during cochlear implantation. The FORM 19 MED-EL electrode is designed to allow effective insertion in malformed cochleae while preserving delicate inner ear structures.

MATERIAL & METHODS

Methods: This prospective study included Five patients, aged from 2 to 5-year-old, diagnosed with Mondini malformation who underwent cochlear implantation using FORM 19 MED-EL electrodes from April 2023 to March 2025 at Al Zahrawi private Hospital, Misurata city, Libya. Surgical findings, cerebrospinal fluid gusher, electrode insertion success, postoperative complications, and early auditory outcomes were evaluated.

RESULTS

Results: Successful electrode insertion was achieved in four patients. One patient was difficult to insert. Intraoperative cerebrospinal fluid gusher was encountered in all cases and managed successfully without major complications. Early postoperative auditory responses and device activation outcomes were satisfactory in most patients.

CONCLUSIONS

Conclusion: Cochlear implantation using FORM 19 MED-EL electrodes in patients with Mondini syndrome is safe and effective. The electrode design may facilitate successful implantation in malformed cochleae and provide favorable early hearing outcomes. This study highlights the growing experience of cochlear implantation surgery at Zahrawi Hospital.

KEYWORDS

Key words: cochlear implant, Mondini , FORM 19 electrode

OP-221

Preoperative Speech Intelligibility Rating As A Predictor Of Cochlear Implant Outcomes

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BACKGROUND & AIM

Despite the overall success of cochlear implantation (CI), postoperative results show considerable interindividual variability, which is partly attributed to preoperative clinical factors such as the type and duration of deafness, the results of medical imaging, etc. These factors are often difficult to define or document, and, can only partially explain the outcome variability. This study investigated whether the quality of patients' own articulation, as an expression of the quality of auditory input during the speech and language development, is an additional factor contributing to this variability.

MATERIAL & METHODS

A retrospective cohort study was conducted including 306 CI users who had received an implant at a single tertiary referral centre after 2014. The mean age at the time of implantation was 55±20 (M±SD). Preoperative Speech Intelligibility Rating (SIR) was systematically assigned during CI candidacy evaluation, and postoperative speech recognition scores (SRS) were collected longitudinally for up to five years after implantation. Longitudinal outcomes were analysed using linear mixed-effects models.

RESULTS

Preoperative SIR showed a strong main effect on postoperative SRS ($F(3,295.4)=70.03$, $p<.001$), explaining 33.3–42.9% of variance across test moments. The SIR 1–2 group performed poorer than all others ($p<.001$), while SIR 3 and 4 performed poorer than SIR 5 ($p<.001$; $p=.046$). A significant SIR×time interaction indicated distinct improvement trajectories, with lower SIR groups showing larger relative gains but lower absolute scores ($F(15,589.43)=6.29$, $p<.001$). In extended models, preoperative SIR remained an independent predictor ($F(3,203.37)=3.48$, $p=.017$). Onset and duration of hearing loss added no explanatory value ($p>.05$). Auditory deprivation showed a small negative effect ($F(1,179.82)=4.63$, $p=.033$). Higher preoperative aided SRS predicted better outcomes ($F(1,182.49)=14.23$, $p<.001$). Increasing age at implantation reduced performance specifically in the SIR 5 group (interaction) ($F(3,192.88)=4.60$, $p=.004$).

CONCLUSIONS

These findings indicate that preoperative SIR provides a robust and clinically feasible predictor of postoperative speech recognition that is independent of self-reported patient data. Moreover, it represents a reliable and time-efficient clinical tool

that captures relevant functional consequences of auditory deprivation. Incorporating SIR into routine CI candidacy evaluation may therefore improve outcome prediction, patient counselling, and performance-based rehabilitation strategies.

KEYWORDS

cochlear implant, speech perception, outcome prediction, SIR, Speech Intelligibility Rating

OP-222

Surgical Challenges And Complications Encountered During Revision Cochlear Implant Surgery

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BACKGROUND & AIM

Revision cochlear implantation (RCI) is increasingly performed for device failure, medical complications, and suboptimal auditory outcomes. Unlike primary implantation, RCI presents distinct challenges from altered anatomy, intracochlear fibrosis or ossification, and electrode reinsertion.

Aim of this study to identify and characterize intraoperative surgical challenges encountered during revision cochlear implant surgery and to evaluate factors associated with increased surgical complexity.

MATERIAL & METHODS

A retrospective observational study at a tertiary referral center included all revision cochlear implant cases performed between January 2012 and March 2026. Demographics, indications, time to revision, operative findings, and intraoperative challenges were extracted from operative reports.

RESULTS

157 revision cases were analyzed (53.5% male; 67.5% congenital hearing loss; 92.9% pediatric). Device failure accounted for 95.5% of cases with a recorded indication, and the mean interval to revision was 39.6 ± 29.6 months. Among 130 cases with operative detail, fibrosis and difficult reinsertion were each documented in 6.9%, and at least one challenge in 13.1%. Fibrosis cases more often required a cochleostomy approach ($p < 0.001$) and partial electrode insertion ($p = 0.004$). Revision complications occurred in 12.1%, most commonly insertion resistance.

CONCLUSIONS

Revision cochlear implantation was generally safe and most procedures were uncomplicated; however, intracochlear fibrosis predicted difficult reinsertion and the need for a modified surgical strategy.

KEYWORDS

Revision cochlear implantation, Complication in Revision cochlear implantation, device failure, intracochlear fibrosis.

OP-223

Single-Sided Deafness: Which Way To Go Slps?

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BACKGROUND & AIM

Background:

Single-sided deafness represents a significant yet underrecognized challenge in hearing healthcare, and speech-language pathologists occupy a crucial position in identifying and managing these patients. While much of the literature on cochlear implantation has traditionally focused on bilateral hearing loss, recent FDA approvals have expanded indications to include patients with asymmetric hearing loss and single-sided deafness.

Aim:

The aim of this presentation is to equip speech-language pathologists with the knowledge, clinical tools, and confidence necessary to identify, assess, and appropriately refer individuals with single-sided deafness for cochlear implant candidacy evaluation. S

MATERIAL & METHODS

A powerpoint presentation will be prepared to provide participnats with the knowlegde needed to deal with single-sided deafness

RESULTS

By the conclusion of this presentation, participants will understand the neuroplastic urgency of early intervention in hearing loss, and recognize their professional responsibility in ensuring that individuals with single-sided deafness receive timely access to potentially life-changing cochlear implant technology. This session ultimately aims to empower speech-language pathologists to transform hearing healthcare delivery by becoming informed advocates and active participants in the identification and rehabilitation of this underserved population.

CONCLUSIONS

This session will provide a comprehensive understanding of single-sided deafness definition and prevalence statistics, clarify the distinction between referral guidelines and candidacy criteria, outline assessment protocols including both formal and informal measures appropriate for the speech-language pathology scope of practice, present evidence-based rehabilitation approaches including auditory-verbal therapy principles and auditory skill training methodologies, and define the critical role speech-language pathologists play as partners in the multidisciplinary team managing individuals with single-sided deafness.

KEYWORDS

Single-sided deafness, criteria, CI, assessment, rehabilitation protocol(s)

OP-224

Anatomic Based Cochlear Implantation With The FLEX34 Electrode- Maximizing Cochlear Coverage And Speech Understanding

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BACKGROUND & AIM

Maximizing cochlear coverage has been shown to significantly influence speech recognition outcomes in cochlear implant (CI) recipients. The FLEX34 electrode array, currently the longest standard lateral wall electrode available, promises extensive apical cochlear coverage. However, its routine clinical feasibility and the accuracy of anatomy-based planning compared with actual postoperative electrode position remain subjects of ongoing evaluation. This study aimed to assess the feasibility, precision, and clinical relevance of anatomy-based planning and postoperative validation of FLEX34 electrode insertions using high-resolution imaging, with a focus on cochlear coverage and insertion accuracy.

MATERIAL & METHODS

36 adult patients underwent cochlear implantation with the FLEX34 electrode. All insertions were performed via the round window. Preoperative imaging-based planning included manual cochlear duct length (CDL) measurements using OTOPLAN software and virtual electrode insertion depth planning. Imaging modalities comprised flat panel volume CT until 2024 and photon-counting CT thereafter. Postoperative imaging was performed using the same modality to localize electrode contacts. Quantitative analyses compared planned versus actual contact positions, cochlear angles, and achieved cochlear coverage. Measured contact positions were integrated into anatomy-based fitting strategies.

RESULTS

The cohort had a median age of 66.2 years (range 28.1–80.4). Imaging-based planning demonstrated CDL at the Organ of Corti (CDLOC) of 38.1 mm, planned apical contact positions of 656,95 ° simulating the flex 34 electrode and postoperative cochlear coverage of 699, 7°. Postoperative audiometric outcomes showed favourable speech discrimination results. No major insertion-related complications were observed, supporting the atraumatic nature of the technique.

CONCLUSIONS

Anatomy-based planning combined with high-resolution postoperative imaging enables precise and reproducible deep insertion of the FLEX34 electrode, resulting in consistently high cochlear coverage. In appropriately selected anatomies, the FLEX34 represents a reliable and clinically feasible standard option rather than a special-case solution. Its routine use may contribute to optimized cochlear engagement and improved functional outcomes.

KEYWORDS

ABF, flex 34, cochlear coverage

OP-225

Localization By Impedance

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BACKGROUND & AIM

Background: Accurate intracochlear positioning of electrode arrays is critical for optimizing auditory outcomes during cochlear implantation (CI). While radiographic imaging remains the standard for postoperative evaluation, Transimpedance Matrix (TIM) measurements have emerged as a promising intraoperative technique for real-time assessment of electrode placement, particularly with a Slim Modiolar Electrode Array.

MATERIAL & METHODS

Methods: This retrospective observational study included 15 patients (24 ears) who underwent cochlear implantation using CI532® and CI632® electrode

arrays. Intraoperative TIM data were obtained and compared with intraoperative and immediate postoperative radiographic imaging data to determine the accuracy and reliability of TIM in detecting electrode placement anomalies. The electrode positioning patterns were analyzed using TIM heatmaps, with a focus on the voltage gradient distribution and identification of the tip fold- over (TFO).

RESULTS

Results: Of the 24 cochlear implants, 23 (96%) exhibited a regular TIM voltage distribution consistent with proper modiolar placement.A single instance of TFO (4%) was identified intraoperatively using TIM and confirmed via radiographic imaging. The electrode was reinserted following intraoperative correction with TIM and imaging,subsequently confirming the optimal placement. In all remaining cases, the TIM findings were in concordance with radiological assessments.

CONCLUSIONS

Conclusion: TIM may be a reliable intraoperative monitoring tool for CI using Slim Modiolar CI532® and CI632® electrode arrays position during cochlear implantation. Their ability to accurately detect deviations in electrode configuration, such as the TFO, affirms their potential to augment surgical precision, eliminate the need of intraoperative radiation exposure by providing real-time feedback, minimize postoperative imaging requirements, and enhance patient outcomes. Further prospective studies with larger cohorts are warranted to validate these preliminary findings and establish standardized protocols for clinical implementation

KEYWORDS

Cochlear implantation; Slim Modiolar Electrode; Transimpedance Matrix; Electrode positioning; electrode impedance; Tip fold-over; Intraoperative assessment; Electrophysiological monitoring; Real-time imaging alternative, Hearing loss.

OP-226

Comparison Of Subperiosteal Pocket And Conventional Fixation Techniques In Cochlear Implant Surgery

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BACKGROUND & AIM

Secure placement of the receiver-stimulator (R/S) device is a critical step in cochlear implant surgery to prevent device migration. While traditional fixation methods involve bicortical drilling and sutures, which may lead to complications such as dural tears or hematomas, the subperiosteal pocket technique has emerged as a less invasive alternative. This study aims to compare these two techniques in terms of operative time and the need for revision surgery.

MATERIAL & METHODS

A retrospective review was conducted on 377 patients who underwent cochlear implant surgery over a five-year period. Patients were divided into two groups: 181 underwent the traditional fixation method (bicortical drilling and suture), and 196 were operated on using the subperiosteal pocket technique. All patients had a minimum follow-up period of six months. Operative times and revision rates were statistically compared using chi-square and independent t-tests.

RESULTS

The subperiosteal pocket group demonstrated a significantly lower rate of revision surgery (0.5%, n=1) compared to the traditional fixation group (4.4%, n=8) ($p=0.016$). Furthermore, the mean operative time was significantly shorter in the subperiosteal pocket group (131.9 minutes) compared to the traditional group (156.6 minutes) ($p < 0.05$). No major intracranial complications were observed in the pocket technique group.

CONCLUSIONS

The subperiosteal pocket technique is a safe and effective alternative to traditional fixation methods. It significantly reduces operative time and is associated with a lower rate of revision surgery, supporting its use as a reliable method for receiver-stimulator fixation in cochlear implant surgery.

KEYWORDS

Cochlear implant; Receiver-stimulator fixation; Subperiosteal pocket technique; Surgical method; Revision surgery.

EQUILIBRIUM

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OP-227

Criterion And Discriminant Validity Of Accelerometer-Based Treadmill Gait Analyses In People With Bilateral Vestibulopathy

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BACKGROUND & AIM

Gait and balance impairments, especially increased gait variability, are prevalent in individuals with bilateral vestibulopathy (BVP) and often lead to frequent falls, adversely affecting their quality of life. Wearable accelerometers offer a convenient tool for assessing gait. However, their accuracy in measuring gait variability compared to traditional optical motion capture systems (VICON) is not established for people with BVP. This study aimed to assess the criterion and discriminant validity of an accelerometer-based treadmill setup in evaluating gait variability in people with BVP.

MATERIAL & METHODS

A total of 52 people with BVP and 52 age- and sex-matched healthy adults walked at speeds of 0.6 m/s, 0.8 m/s, and 1.0 m/s within the Computer Assisted Rehabilitation Environment without and with pseudorandom mediolateral sway perturbations. We examined differences between accelerometry-determined (MOX1; Maastricht Instruments) and Vicon-determined (3D motion capture and force plates) step time means and coefficients of variation (CoV). Criterion validity was assessed using the intraclass correlation coefficient (ICC3,1) and Bland-Altman analysis to determine agreement and consistency between the methods and using one sample t-test to check if the difference was statistically different to 0. And discriminant validity was assessed by comparing the results of independent t-tests and the effect size between the groups using each measurement method.

RESULTS

The MOX1 consistently resulted in higher CoV values across all conditions, indicating systematic differences in capturing step time variability. We found poor to moderate agreement for CoV measurements between MOX1 and Vicon, with Bland–Altman plots revealing wide limits of agreement and mean differences (MDs) of 0.4331-2.657, which were statistically significantly different to 0 for all outcomes except 0.8 m/s under large perturbation. MOX1 reliability analysis demonstrated excellent agreement for mean step time between MOX1 and VICON with MD values close to zero and narrow confidence intervals, and while some MDs were significantly different to 0, the MDs were very small in absolute terms (8 out of 9 were shorter for the

MOX1; range: -0.028-0.004).In the MOX1 comparison between two groups, significant differences were observed under the 0.6 m/s no-perturbation condition ($p < 0.001$, $d = 0.87$) and the small-perturbation condition ($p = 0.027$, $d = 0.71$).

CONCLUSIONS

MOX1 reliably measures mean step time with excellent agreement to VICON but systematically captures higher CoV values, indicating differences in variability measurements. MOX1 effectively identify significant differences between BVP and healthy controls in slow speed and small perturbation.

KEYWORDS

bilateral vestibulopathy, motion capture, gait

OP-228

Investigation Of The Test–Retest Reliability Of Age-Related Ocular Counter-Roll Test Values

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BACKGROUND & AIM

Video-ocular counter-roll (vOCR) is an objective clinical technique used to assess otolith function through the analysis of torsional eye movements and has gained increasing importance in the diagnosis and monitoring of vestibular disorders. Since age-related physiological changes may influence otolith-mediated responses, interpreting vOCR measurements without age-specific reference values may result in normal variations being mistaken for pathological findings. Therefore, this study aimed to establish normative vOCR data across healthy individuals aged 8–80 years and to investigate the reliability of vOCR measurements using a test–retest approach.

MATERIAL & METHODS

This study was conducted at the Audiology Unit of İnönü University Turgut Özal Medical Center between November 2025 and March 2026. Ethical approval was obtained from the Scientific Research Ethics Committee of İnönü University Health Sciences (Approval No. 2025/8019), and written informed consent was obtained from all participants or their legal guardians. Seventy-five healthy individuals aged 8–80 years were enrolled and categorized into five age groups (8–11, 12–18, 19–40, 41–65, and 66–80 years). All participants underwent vOCR testing using a test–retest design.

RESULTS

Significant differences between test and retest measurements of right tilt gain, left tilt gain and mean gain were identified only in the 12–18 years age group ($p < 0.05$). Comparisons across age groups revealed statistically significant differences in right tilt gain, left tilt gain, mean gain, and asymmetry values ($p <0.05$). The highest gain values were recorded in participants aged 8–11 years, while the highest asymmetry values were observed in those aged 66–80 years.

CONCLUSIONS

Age-related differences significantly affect vOCR gain and asymmetry parameters, underscoring the need for age-specific normative data in the clinical interpretation of test results. The agreement between test and retest measurements across four age groups demonstrates the reliability of vOCR for evaluating otolith function in healthy individuals. The normative data established in this study may serve as a valuable reference for clinical practice and further support the use of vOCR as a reliable tool for otolith function assessment across a wide age range.

KEYWORDS

Video-ocular counter-roll test, vestibular system, otolith function, age groups, normative data

OP-229

Benign Paroxysmal Positional Vertigo In Traumatic Brain Injury: Prevalence, Symptom Reporting, And Cognitive Predictors Of Vestibular Perception

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BACKGROUND & AIM

Benign paroxysmal positional vertigo (BPPV) occurs following traumatic brain injury (TBI), yet most studies have only examined patients reporting dizziness, likely underestimating true prevalence. Our work found a BPPV prevalence of 58% in a TBI inpatient rehabilitation cohort, with 90% of those testing positive unable to report any dizziness symptoms. The prevailing clinical assumption is that cognitive impairment explains this silence, that patients simply lack the awareness or language to report what they feel. We hypothesized that cognitive impairment severity would not differ between BPPV-positive and BPPV-negative patients, and that symptom silence would persist across all levels of cognitive function.

MATERIAL & METHODS

All patients admitted to a level 1 trauma center inpatient rehabilitation unit with radiologically confirmed TBI over a 6-month period were screened for BPPV regardless of symptom status. Screening included three questions ("Do you experience dizziness when you get out of bed?", "when you roll over in bed?", "when you bend over to pick something up from the floor?"); a positive screen was defined as answering yes to at least one question. All patients then completed the Dix-Hallpike and roll test. Cognitive status was assessed using the Orientation Log (OLog), Cognitive Linguistic Quick Test (CLQT), Brief Interview for Mental Status (BIMS), and Montreal Cognitive Assessment (MoCA) where the patient's level of arousal permitted; patients unable to complete any measure represented the most severely impaired subgroup. Chi-square tests of association and Mann-Whitney U tests were used for analysis.

RESULTS

Of 73 patients screened, 42 (58%) tested positive for BPPV; only 7 (10%) reported dizziness. Cognitive scores did not differ between BPPV-positive and BPPV-negative patients across any measure: OLog 16.4±9.0 vs. 16.7±11.4 (p=0.87), CLQT 2.43±0.87 vs. 2.86±0.74 (p=0.10), and BIMS 8.9±4.9 vs. 11.1±4.8 (p=0.15). Drilling further, patients with asymptomatic BPPV (BPPV-positive, screen-negative; n=35) were cognitively indistinguishable from patients with no BPPV and no symptoms (BPPV-negative, screen-negative; n=31) across all measures: OLog 16.5±8.8 vs. 16.7±11.4 (p=0.84), CLQT 2.4±0.9 vs. 2.9±0.7 (p=0.10), and BIMS 8.8±5.1 vs. 11.1±4.8 (p=0.13). Notably, all seven patients who screened positive subsequently tested positive for BPPV, yielding a specificity of 100% for the three-question screen.

CONCLUSIONS

Cognitive impairment does not explain why patients with TBI fail to report BPPV symptoms, as BPPV-positive and BPPV-negative patients were equally impaired across all cognitive measures. Clinicians cannot rely on symptom reporting as a screening trigger in this population. These findings suggest a perceptual rather than cognitive mechanism for symptom silence, consistent with vestibular agnosia described in TBI. All patients with TBI should be screened for BPPV regardless of cognitive status or symptom reporting, as untreated BPPV increases fall risk, reduces function, and prolongs rehabilitation whether or not the patient can tell you they are dizzy.

KEYWORDS

BPPV, TBI, vestibular agnosia, vestibular rehabilitation

OP-230

Nystagmus Characteristics In Meniere's Disease Assessed By Portable Eye Movement Recording And MRI-Confirmed Endolymphatic Hydrops

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BACKGROUND & AIM

Meniere's disease (MD) is characterized by recurrent vertigo and fluctuating hearing loss. During vertigo episodes, nystagmus can beat either toward the affected ear (irritative type) or away from it (paralytic type); however, capturing these dynamic changes at the time of onset remains challenging. In this study, we utilized a portable eye movement recorder (PEMR) to document nystagmus at the onset of vertigo attacks and investigated its characteristics in relation to endolymphatic hydrops (EH) identified on contrast-enhanced magnetic resonance imaging (CE-MRI).

MATERIAL & METHODS

A total of 54 patients diagnosed with MD according to the criteria of the Japan Society for Equilibrium Research were included. All participants were instructed to use a PEMR device to record eye movements immediately after the onset of vertigo and at predefined time points thereafter. Based on CE-MRI findings, patients were classified into those with EH (certain MD group, CMD) and those without EH (definite MD group, DMD). Nystagmus was categorized as irritative or paralytic according to its beating direction.

RESULTS

EH was detected in 41 of 54 patients on CE-MRI. In the CMD group, nystagmus was observed in 38 patients, of whom 33 showed irritative and 5 showed paralytic patterns. In contrast, among 10 patients with nystagmus in the DMD group, 2 exhibited irritative and 8 exhibited paralytic nystagmus. The distribution of nystagmus types differed significantly between the two groups ($\chi^2 = 14.69$, $p = 0.00013$). Directional reversal of nystagmus within 24 hours was more frequently observed in the CMD group than in the DMD group (15 vs. 2 cases), although this difference did not reach statistical significance ($\chi^2 = 1.313$, $p = 0.251$). No significant associations were identified between nystagmus characteristics and EH location (vestibular, cochlear, or combined) or laterality (unilateral vs. bilateral).

CONCLUSIONS

PEMR allows real-time assessment of nystagmus during vertigo attacks. Irritative nystagmus was significantly more prevalent in patients with EH, suggesting that it reflects active hydropic excitation of the vestibular system. Conversely, the

predominance of paralytic nystagmus in patients without EH may indicate relative vestibular hypofunction rather than acute hydropic stimulation.

KEYWORDS

Meniere's disease, portable eye movement recorder, nystagmus, endolymphatic hydrops, contrast-enhanced MRI

OP-231

Does A Mechanical Rotation Chair Provide Superior Diagnostics Of Benign Paroxysmal Positional Vertigo Amongst Elderly.

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BACKGROUND & AIM

Benign Paroxysmal Positional Vertigo (BPPV) is the most common cause of vertigo and occurs frequently among elderly individuals, who are at increased risk of falls, impaired mobility, and reduced quality of life. Traditional bedside (TB) diagnostics rely on accurate patient positioning and cooperation, which may be challenging in older populations. Mechanical rotation chairs (MRCs) have been introduced to improve diagnostic precision, but evidence regarding their superiority in elderly patients remains limited. The aim of this study was to compare the diagnostic accuracy of BPPV between MRC- and TB diagnostics in an elderly population.

MATERIAL & METHODS

Prospective, randomized crossover study with 201 participants aged 60 years or above. Participants underwent both TB- and MRC diagnostics with bilateral Dix-Hallpike- and Supine Roll Tests. The order of diagnostic modality was randomized. Agreement between modalities was assessed using percentage agreement and Cohen's kappa. Sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of TB diagnostics were calculated using MRC diagnostics as the reference standard. Secondary analyses examined diagnostic performance in posterior versus non-posterior BPPV and the effect of reduced patient cooperation. Tertiary analyses examined optimal positioning with MRC Supine Roll Testing.

RESULTS

BPPV was diagnosed in 61 participants (30.3%) with TB diagnostics and 68 participants (33.8%) with MRC diagnostics. Overall agreement between modalities was 89.6% with a Cohen's kappa of 0.76, indicating substantial to near-perfect agreement. Compared with MRC diagnostics, TB diagnostics demonstrated a sensitivity of 79%, specificity of 95%, PPV of 89%, and NPV of 90%. Sensitivity for non-posterior BPPV was lower (63%). Diagnostic performance declined in participants with impaired cooperation, where sensitivity decreased to 60%. MRC diagnostics identified more non-posterior and cupulolithiasis cases than TB diagnostics. A 60-degree backward Supine Roll Test position showed higher detection rates of lateral BPPV than a 90-degree position, although differences were not statistically significant.

CONCLUSIONS

MRC diagnostics provide superior diagnostic sensitivity for BPPV in elderly patients, particularly for non-posterior subtypes and in cases with limited patient cooperation. TB diagnostics remain an effective first-line diagnostic tool. However, MRC diagnostics should be considered when bedside findings are inconclusive or when complex BPPV is suspected.

KEYWORDS

BPPV, Benign Paroxysmal Positional Vertigo, Mechanical Rotation Chair, Rotundum Rotary Chair, Vertigo, Diagnostics

OP-232

Selective Impairment Of Vestibular Suppression In Motion Sickness: Evidence From A Virtual Reality Study

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BACKGROUND & AIM

Motion sickness is attributed to sensory conflict between visual, vestibular, and somatosensory inputs and is increasingly considered a disorder of multisensory integration rather than isolated peripheral vestibular dysfunction. Despite its clinical relevance, objective physiological markers that differentiate susceptible individuals remain limited. Virtual reality (VR) offers a controlled model to induce sensory mismatch and investigate vestibulo-oculomotor function. This study aimed to evaluate vestibular and oculomotor responses to VR exposure and to determine whether individuals with motion sickness exhibit distinct physiological patterns compared to healthy controls.

MATERIAL & METHODS

A total of 48 participants aged 18–35 years were prospectively enrolled, including 25 individuals with motion sickness and 23 healthy controls. All participants underwent vestibulo-oculomotor evaluation before and after a 15-minute VR roller coaster

simulation. Assessments included video head impulse testing (vHIT, HIMP paradigm), suppression head impulse paradigm (SHIMP), visually enhanced vestibulo-ocular reflex (vVOR), vestibulo-ocular reflex suppression (VORs), and saccadic testing using prosaccade and antisaccade paradigms. Motion sickness severity was assessed using the Motion Sickness Susceptibility Questionnaire, Simulator Sickness Questionnaire, and a visual analog scale. Statistical analyses included between-group comparisons, within-group analyses, correlation analyses and two-way repeated measures ANOVA.

RESULTS

Baseline vestibulo-oculomotor parameters were comparable between groups, with no significant differences in vHIT or saccadic measures ($p>0.05$), except for a baseline difference in SHIMP PR score (left $p=0.012$). Following VR exposure, significant between-group differences were observed in SHIMP gain (left $p=0.006$; right $p=0.005$) and SHIMP PR scores (left $p=0.002$; right $p=0.007$), whereas vHIT, vVOR, VOR suppression, and saccadic parameters did not show significant group differences. Repeated measures ANOVA demonstrated significant group-by-time interactions in SHIMP gain (left $p<0.001$; right $p=0.001$), SHIMP PR score (right $p=0.009$), and SHIMP covert latency (right $p=0.003$), while several parameters showed only time effects without interaction, indicating a general VR-induced response. Subjective symptom scores were significantly higher in the motion sickness group ($p<0.01$). Correlation analysis revealed strong associations within antisaccadic performance metrics and physiologically consistent relationships among vestibular parameters.

CONCLUSIONS

Virtual reality exposure selectively alters vestibular suppression mechanisms in individuals with motion sickness, while peripheral vestibular function and basic oculomotor performance remain largely preserved. The prominent changes observed in SHIMP parameters, particularly gain and anti-compensatory saccade metrics, suggest altered central vestibular processing. These findings support motion sickness as a disorder of central vestibular–ocular integration and highlight SHIMP as a sensitive and objective tool for identifying motion sickness susceptibility.

KEYWORDS

Motion sickness; Virtual reality; SHIMP; vHIT; vVOR; VOR suppression; Saccades; Vestibular function

OP-233

Applications Of Artificial Intelligence In The Diagnosis Of Benign Paroxysmal Positional Vertigo

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BACKGROUND & AIM

Benign Paroxysmal Positional Vertigo (BPPV) is the most common peripheral vestibulopathy. However, it remains frequently underdiagnosed or misclassified, particularly in settings with limited vestibular expertise, as accurate diagnosis depends on detailed clinical history-taking, correctly performed positional manoeuvres and precise interpretation of nystagmus patterns. Artificial Intelligence (AI) offers a novel approach to support clinicians in diagnosing BPPV. This review aims to consolidate advancements in the application of AI for the diagnosis of BPPV.

MATERIAL & METHODS

PubMed, Embase and IEEE Xplore were reviewed from inception to 4 November 2025 for observational studies investigating the use of AI for the diagnosis of BPPV in adult participants. This included studies evaluating AI-based clinical decision support systems, AI-driven vestibular testing, and the use of large language models. Literature assessing both the application of AI for differentiating BPPV from other vestibular disorders, and those involved in semicircular canal localization were included. The outcome of interest was the diagnostic accuracy of these AI-based approaches.

RESULTS

AI models integrated in clinical decision support systems report reasonable diagnostic accuracy in differentiating BPPV from other peripheral vestibulopathies, using both traditional and deep machine learning techniques. Separately, neural networks applied to vestibular testing such as video-oculography and electronystagmography may accurately interpret eye movements and classify nystagmus patterns, with reasonable accuracy in canal localization. Additionally, large language models with structured clinical prompts may support clinicians in differentiating BPPV from other forms of peripheral vertigo.

CONCLUSIONS

AI demonstrates reasonable accuracy in the diagnosis of BPPV and holds potential to support non-specialist clinicians and optimize diagnostic frameworks. However, limitations such as small sample sizes and a paucity of externally validated studies outline the importance of future research. Importantly, challenges remain in data labelling, clinical applicability and regulatory approval before routine adoption can occur.

KEYWORDS

Benign Paroxysmal Positional Vertigo, Vestibulopathy, Artificial Intelligence, Machine Learning

OP-234

Differentiating Acute-Onset Sensorineural Hearing Loss Of Uncertained Type

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BACKGROUND & AIM

This study differentiates cases of acute-onset sensorineural hearing loss (SNHL) that did not meet the diagnostic criteria for either sudden SNHL or Meniere's disease (MD), leading to a diagnostic challenge.

MATERIAL & METHODS

All 46 patients with acute-onset SNHL underwent an inner ear test battery followed by Hydrops MRI. Twenty-four patients (28 ears) who tested positive for endolymphatic hydrops (EH) on Hydrops MRI were referred to EH group. Another 22 patients (22 ears) who tested negative for EH were classified as non-EH group.

RESULTS

Significant difference in the mean hearing levels between EH and non-EH groups was identified at frequencies of 125, 250, 500 and 1000 Hz, but not at frequencies ranging from 2000 Hz through 8000Hz. A declining sequence of abnormality rates running from the audiometry (96%), cervical (75%) and ocular (57%) vestibular-evoked myogenic potential tests, to the caloric test (43%) was observed in EH group (but not in non-EH group), which mirrored a decreasing prevalence of EH from the cochlea (79%), saccule (61%), utricle (57%), to the semicircular canals (4%) on Hydrops MRI.

CONCLUSIONS

A comprehensive inner ear test battery as well as encouraging active participation in the Hydrops MRI evaluation is essential for differentiating between acute-onset SNHL stemming from EH or not.

KEYWORDS

Meniere's disease; Sudden deafness; Hydrops MRI

OP-235

The Principle Of "Early Intervention" In Revealing Of Vestibular Disorders At The Elder Population In The Republic Of Uzbekistan

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BACKGROUND & AIM

Dizziness remains one of the most common complaints among the elderly population. Alongside headaches, gait disturbances, balance issues, hearing loss, and tinnitus, older individuals frequently seek help from neurologists, therapists, and cardiologists. The issue of limited mobility among elderly individuals, especially those suffering from dizziness and balance disorders, remains particularly relevant.Uzbekistan, with a population exceeding 37 million people, has more than 7.7 million elderly citizens. Despite demographic, geopolitical, and geographic challenges, the country has experienced dynamic economic growth and the implementation of new medical programs in recent years.

MATERIAL & METHODS

The screening was conducted at the Republican Specialized Scientific and Practical Center for Otolaryngology and Head and Neck Diseases (Hearing and Balance Disorders Laboratory). The study included 63 patients aged 60 years and older (18 men, 45 women). Clinical examination: gait, stability, and oculomotor analysis and positional tests; Instrumental methods: videonystagmography (VNG) and video-based impulse testing (vHIT).

RESULTS

The main patents complaints were: - dizziness - 60 people; - nausea - 42; - unsteadiness when walking – 24 patents; - tinnitus - 27; - hearing loss - 30; - falls - 3; - facial asymmetry - 6; positional vertigo - 30.

There were revealed fallow pathology of vestibular sustem" vestibular migraine - 12 cases; motion sickness - 3; hearing loss - 30; tinnitus - 27; central positional vertigo - 3; active BPPV - 4; spontaneous remission of BPPV - 27; Prevestibulopathy — 24; Pre-stroke condition — 3; Post-stroke changes — 6; Chronic vestibular syndrome — 6; Ramsay Hunt syndrome — 3; Chronic vestibular otitis media condition — 12; Unilateral hypofunction — 3; Bilateral hypofunction — 9 cases

CONCLUSIONS

Targeted vestibular screening conducted in elderly individuals demonstrated high information content in the early detection of the most common forms of vestibular dysfunction (BPPV, presvestibulopathy), as well as other conditions with a high risk of complications. This initiative formed the foundation of the innovative grant project "Dignified Aging," which identified several priority areas: early diagnosis of cochleovestibular disorders, adequate rehabilitation, scientific and educational activities aimed at raising awareness among the public and healthcare professionals, and training of specialists based at regional branches of the center.

KEYWORDS
dizznes, vertigo, elder, vHIT, BPPV, VNG, vestibular screening, balance system, cochleovestibular screening, vestibular reahbilitation

OP-236

Vertigo In ENT Practice: Diagnostic Yield Of Positional Testing And Overuse Of Neuroimaging

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BACKGROUND & AIM

Dizziness and vertigo are common reasons for presentation to otolaryngology clinics, but their causes are heterogenous and not always otologic. In routine practice, some patients are referred to ENT after neuroimaging or empirical treatment without a clear diagnosis. Benign paroxysmal positional vertigo (BPPV) is one of the most common and treatable causes of vertigo, yet it may remain underrecognized. This study aimed to describe the clinical profile of patients presenting with dizziness to an otolaryngology outpatient clinic, determine the frequency of BPPV, evaluate the diagnostic yield of positional testing, and highlight the possible overuse of imaging and unnecessary referrals.

MATERIAL & METHODS

This retrospective observational study included patients presenting to the otolaryngology outpatient clinic between November 2025 and May 2026 with dizziness or vertigo. Of 190 screened patients, 31 were excluded due to incomplete or inaccessible records. Data collected included age, sex, type of dizziness, use of antivertiginous medication, alarm symptoms, positional characteristics, positional maneuvers, and final diagnoses. Available information on prior brain computed tomography (CT), magnetic resonance imaging (MRI), and diagnoses established after referral to other specialties was also reviewed. Descriptive and comparative analyses were performed.

RESULTS

A total of 159 patients were included. Mean age was 51.9 ± 16.6 years, and 112 patients (70.4%) were female. Dizziness was reported by 91 patients (57.2%), while 68 (42.8%) described spinning vertigo. Antivertiginous medication had been used by 28 patients (17.6%), and alarm symptoms were present in 18 (11.3%). Positional symptoms were noted in 49 patients (30.8%). Positional testing was performed in 75 patients (47.2%), and BPPV was confirmed in 18 patients (11.3% overall; 24.0% of those tested). BPPV was significantly more frequent in patients with positional symptoms than in those without them (36.7% vs 0%, $p < 0.001$). Prior CT or MRI had been obtained in 55 patients (34.6%), and 50 of these scans (90.9%) were normal. Several patients were ultimately found to have neurologic, psychiatric, cardiovascular, or other non-otologic causes of dizziness.

CONCLUSIONS

In ENT outpatient practice, BPPV accounted for an important but limited proportion of dizziness presentations. Careful symptom characterization and appropriate use of positional testing may improve diagnostic accuracy, reduce unnecessary neuroimaging, and help identify patients who are better managed through multidisciplinary evaluation rather than routine ENT referral.

KEYWORDS
Vertigo; Dizziness; BPPV; Positional testing; Neuroimaging

OP-237

The Impact Of Physical Rehabilitation On Motor, Cognitive, And Audio-Verbal Functions In Hearing Impaired Children

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BACKGROUND & AIM

Aim: To test the hypothesis that physical rehabilitation has a positive effect on cognitive functions and auditory-verbal skills in school-age children with sensorineural hearing loss (SNHL) using hearing aids and cochlear implants.

MATERIAL & METHODS

Materials and methods: A prospective controlled study included 41 children aged 8–12 years with SNHL from moderate to severe degree, using hearing aids or cochlear implants. The main group (n=21) underwent a one-year course of physical rehabilitation. The control group (n=20) did not receive this course. A comprehensive assessment of motor, cognitive, and auditory-verbal skills was performed before the course, after 6 and 12 months.

RESULTS

Results: The main group showed statistically significant improvement in cognitive functions: the total Raven's Matrices score increased by 4.0 points (p=0.0046), with maximum progress in subtest D (logical tasks, +1.8 points, p=0.001). Motor sphere indicators also improved: the total percentage of impairments according to the Blythe test decreased from 10.5±7.1% to

5.5±4.8% (p<0.001), and visual-motor perception improved by 2.3 points (p=0.001). The main group also demonstrated statistically significant improvement in auditory perception and pronunciation skills by the 6th (p<0.05) and 12th (p<0.01) months. No significant dynamics were observed in the control group. A strong inverse correlation was found between the age of hearing aid fitting and rehabilitation effectiveness (ρ=-0.65, p<0.01).

CONCLUSIONS

Conclusion: The developed physical rehabilitation program promotes the development of not only motor but also cognitive functions and auditory-verbal skills in school-age children with SNHL. The age of amplification is an important prognostic factor determining a child's rehabilitation potential. The obtained data substantiate the need for hearing aid fitting as early as possible (before 2 years of age) and the inclusion of a motor component in individualized auditory-verbal rehabilitation programs for children with SNHL.

KEYWORDS

hearing loss in children, rehabilitation, motor disorders, vestibular disorders, cognitive functions, cochlear implantation, pediatric amplification

OP-238

Diagnostic Performance Of Artificial Intelligence In Vertigo: A Scenario-Based Study Of BPPV Identification And Positional Test Interpretation

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BACKGROUND & AIM

Artificial intelligence (AI) has increasingly been integrated into medical decision-making processes, creating new opportunities for vestibular assessment. Benign paroxysmal positional vertigo (BPPV), the most common peripheral vestibular disorder, requires accurate interpretation of positional test findings for appropriate diagnosis and treatment. However, the ability of AI systems to reliably identify BPPV subtypes and distinguish peripheral from central vertigo remains insufficiently investigated. This study aimed to evaluate the diagnostic performance, response quality, and temporal stability of ChatGPT in standardized vestibular scenarios focusing on BPPV identification and positional test interpretation.

MATERIAL & METHODS

This scenario-based study included 30 standardized vertigo scenarios developed by otolaryngologists experienced in vestibular disorders. The scenario set consisted of 14 posterior canal BPPV cases, 8 horizontal canal BPPV cases, 6 non-BPPV peripheral vertigo cases, and 2 central vertigo scenarios. All scenarios were submitted to ChatGPT using identical structured prompts. ChatGPT responses were evaluated for diagnostic accuracy, positional test interpretation, canal and side identification, and appropriateness of recommended repositioning maneuvers. Response quality was assessed independently by three otolaryngologists using the Quality Analysis of Medical Artificial Intelligence (QAMAI) tool. Inter-rater reliability was analyzed using intraclass correlation coefficient (ICC). To evaluate temporal stability, all scenarios were re-submitted to ChatGPT at a second time point using identical prompts.

RESULTS

ChatGPT correctly identified all evaluated scenarios, including posterior canal BPPV, horizontal canal BPPV, non-BPPV peripheral vertigo, and central vertigo cases, resulting in an overall diagnostic accuracy of 100%. ChatGPT also successfully interpreted diagnostically challenging scenarios, including central positional vertigo and apogeotropic horizontal canal BPPV. The mean QAMAI score was 23.46 ± 0.77, indicating generally high-quality and clinically useful responses. Among QAMAI domains, source reliability received the lowest scores, whereas diagnostic accuracy and clinical usefulness received the highest ratings. Inter-rater reliability for QAMAI scoring demonstrated low-to-moderate agreement among otolaryngologists (average measures ICC = 0.405, p = 0.047). Temporal stability analysis demonstrated excellent agreement between ChatGPT responses generated at two different time points (average measures ICC = 0.921, p < 0.001).

CONCLUSIONS

ChatGPT demonstrated excellent diagnostic accuracy and high temporal consistency in standardized vertigo scenarios, including diagnostically challenging BPPV cases and central vertigo presentations. Although the overall quality of AI-generated responses was rated highly, limitations regarding source reliability remain an important concern. ChatGPT may serve as a supportive clinical tool in vestibular assessment.

KEYWORDS

Artificial intelligence, ChatGPT, Benign paroxysmal positional vertigo, vertigo, Dix–Hallpike maneuver

OP-239

Pediatric Traumatic Brain Injury And Dizziness: Do Kids Get Dizzy?

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BACKGROUND & AIM

Dizziness and peripheral vertigo are recognized sequelae of traumatic brain injury (TBI); however, their prevalence in pediatric populations remains poorly characterized. This study aimed to determine the rate of dizziness and peripheral vertigo among pediatric patients sustaining varying severities and types of traumatic brain injury.

MATERIAL & METHODS

A retrospective cohort study was conducted using de-identified patient data from the TriNetX database (January 1, 2010–January 28, 2024), including pediatric patients diagnosed with TBI across 84 healthcare organizations. TBI subtypes analyzed included concussion, traumatic subarachnoid hemorrhage (SAH), traumatic subdural hemorrhage (SDH), focal TBI (fTBI), diffuse TBI (dTBI), epidural hemorrhage (EH), and traumatic cerebral edema (tCE). Incidence of dizziness and peripheral vertigo was evaluated within one year following injury.

RESULTS

Among 188,365 pediatric patients with TBI, 2% developed dizziness or peripheral vertigo overall. Rates varied by injury type, with concussion demonstrating the highest overall prevalence (2.2%). In adolescents aged 12–17 years, markedly higher rates were observed across all TBI categories, including SDH (6.8%), EH (11%), dTBI (7%), fTBI (6.5%), SAH (6.3%), and tCE (6%), indicating increased symptom burden in older pediatric patients.

CONCLUSIONS

While dizziness and peripheral vertigo occur at relatively low rates in the overall pediatric TBI population, adolescents demonstrate substantially higher post-injury prevalence. Hemorrhagic TBIs, particularly subdural and epidural hemorrhages, are associated with increased risk. These findings emphasize the importance of age-specific evaluation and vestibular symptom screening following pediatric traumatic brain injury.

KEYWORDS

Pediatrics, Dizziness, Traumatic Brain Injury, Vertigo

OP-240

Surgical Outcomes Of Semicircular Canal Plugging For Intractable BPPV

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BACKGROUND & AIM

Benign paroxysmal positional vertigo (BPPV) is generally a benign condition that improves spontaneously or responds to canalith repositioning maneuvers. However, a subset of patients develops intractable BPPV with long duration of positional nystagmus and vertigo. Semicircular canal plugging surgery has been proposed as a definitive therapeutic option, but robust clinical evidence remains limited. The aim of this study was to evaluate the clinical outcomes of semicircular canal plugging performed for patients with intractable BPPV at our institution.

MATERIAL & METHODS

Patients who underwent semicircular canal plugging between January 2014 and December 2025 were enrolled. Among all six cases, five patients with sufficient follow-up data were analyzed. Surgical indication was persistent positional nystagmus for more than one year despite repeated canalith repositioning maneuvers (both Epley and Brandt–Daroff methods). Outcomes including pre- and post-operative nystagmus, hearing thresholds, and recurrence status were analyzed. Hearing was evaluated using the average thresholds of four pure-tone frequencies at 500, 1000, 2000, and 4000 Hz before and 1 month and 6 months after surgery.

RESULTS

All five patients were female with an age of 62.4 ± 13.35 years (mean ± SD) and the median follow-up period was 1,509 days (range 258–3,872 days). The affected canal was the posterior canal in four cases and the lateral canal in one case. The mean preoperative peak nystagmus frequency was 3.2 ± 1.1 Hz and only one patient showed minimal residual nystagmus (peak frequency: 0.41 Hz) two weeks after surgery. By six months, nystagmus disappeared in all patients. No ipsilateral recurrence occurred during follow-up; one patient developed contralateral BPPV ten years after surgery. Hearing deterioration of ≥10 dB was observed in four patients at 1 month, improved to within 10 dB in all patients by 6 months, and reappeared in two patients at 1 year.

CONCLUSIONS

Semicircular canal plugging effectively eliminated positional nystagmus in patients with intractable BPPV. Although transient postoperative hearing impairment can occur and late deterioration was observed in some cases, overall vestibular outcomes were favorable. Canal plugging is a valuable therapeutic option for carefully selected patients with intractable BPPV.

KEYWORDS

Equilibrium - Benign paroxysmal positional vertigo (BPPV)

OP-241

Beyond The Temporal Threshold: Expanding Vestibular Migraine Diagnostic Criteria Through Central Sensitization Markers — A Clinical-Translational Synthesis.

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BACKGROUND & AIM

Vestibular Migraine (VM) is the second most common cause of episodic vertigo, yet current Bárány Society and ICHD-3 criteria — designed for research consistency — apply strict thresholds that may exclude clinically meaningful cases, particularly where advanced vestibular testing is limited. We hypothesized that VM represents a broader clinical spectrum than current criteria capture, and that accessible markers of central sensitization can identify cases excluded by current temporal thresholds.

MATERIAL & METHODS

Clinical-translational synthesis of literature published 2020–2026, prioritizing clinical applicability over systematic review methodology. Setting: PubMed, Embase, Cochrane Library. Subjects: adults with VM, probable VM, or differential vestibular diagnoses. Outcomes: episode duration, vestibular test profiles, central sensitization markers, psychiatric comorbidity, diagnostic specificity. Analyses: qualitative synthesis prioritizing systematic reviews, meta-analyses, and prospective cohorts.

RESULTS

Five findings support broadening these criteria. (1) Kang et al. (2023) reported strict Bárány application reduced VM prevalence from 11.6% to 2.9% in otolaryngology cohorts — a 75% reduction. (2) Abouzari et al. (2020) found migraineurs with vestibular symptoms not meeting ICHD-3 had episodes of 84 ± 146 hours, versus 11 ± 22 hours in criteria-meeting patients. (3) Aron et al. (2026) documented extreme inter-study variability of vestibular findings in VM; Vosbeek et al. (2025; n=3,096) confirmed peripheral abnormalities also occur in VM. (4) Vestibular Autorotation Test at 2–3 Hz showed 95.7% sensitivity and 50.6% specificity for VM versus Ménière's disease (Liu et al., 2022). (5) Abdulla et al. (2025) demonstrated cutaneous allodynia with 83% specificity for VM, adjusted odds 16.7-fold higher in VM and 99.4-fold in chronic migraine with VM ($p<0.005$). A meta-analysis of 764,403 patients (Kim et al., 2025) reported 46.5% anxiety and 35.7% depression in VM subgroups.

CONCLUSIONS

Current VM criteria insufficiently capture the clinical spectrum of migraine-driven vestibular dysfunction. We propose a tiered diagnostic framework incorporating these markers as candidates for future criteria revision — aligned with the ongoing International Classification of Vestibular Disorders initiative (Kaski et al., 2025). It offers value where vestibular laboratory access remains limited, providing a clinically scalable framework.

KEYWORDS

Vestibular Migraine; Diagnostic Criteria; Central Sensitization; Cutaneous Allodynia; Global Health Equity

OP-242

Postural Control And Menopausal Symptoms In Women: A Pilot Posturography Study

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BACKGROUND & AIM

Menopause may influence postural control through hormonal, vestibular, visual, somatosensory, and musculoskeletal mechanisms. These changes may contribute to impaired balance performance and increased fall risk in postmenopausal women. However, computerized dynamic posturography data evaluating both sensory organization and limits of stability in relation to menopausal status remain limited. This pilot study aimed to explore postural control performance and menopausal symptom severity in premenopausal and postmenopausal women.

MATERIAL & METHODS

This cross-sectional pilot study included 14 women aged 35–61 years. Participants were recruited and all measurements were performed at Medipol Mega University Hospital. Ethical approval was obtained from the Istanbul Medipol University Non-Interventional Clinical Research Ethics Committee (Decision No: 447, Date: March 5, 2026). Participants were divided into premenopausal and postmenopausal groups, with seven participants in each group. Postural control was evaluated using computerized dynamic posturography. Sensory Organization Test (SOT) outcomes included Composite Score and sensory analysis ratios: somatosensory, visual, vestibular, and preference. Limits of Stability (LOS) outcomes included reaction time, movement velocity, endpoint excursion, maximum excursion, and directional control. Menopausal symptoms were assessed

using the Menopause Rating Scale (MRS), including somato-vegetative, psychological, urogenital, and total scores. Group comparisons were performed using appropriate non-parametric analyses. Statistical significance was set at p<0.05.

RESULTS

The postmenopausal group was significantly older than the premenopausal group (53.57±4.43 vs. 46.00±2.45 years, p=0.006). SOT Composite Score did not differ significantly between groups (72.50±10.15 vs. 72.67±7.66, p=1.000). Available SOT sensory ratios were also comparable, including somatosensory (p=0.914), visual (p=0.762), vestibular (p=0.914), and preference ratios (p=0.762). LOS reaction time (p=0.456), endpoint excursion (p=1.000), maximum excursion (p=0.710), and directional control (p=0.318) did not differ significantly between groups. Movement velocity tended to be higher in the postmenopausal group, but this difference was not statistically significant (2.99±1.25 vs. 1.77±0.58 deg/sec, p=0.084). MRS total score (14.86±9.63 vs. 18.43±12.54, p=0.522) and subscale scores did not differ significantly between groups.

CONCLUSIONS

In this exploratory pilot study, postural control parameters and menopausal symptom severity were similar between premenopausal and postmenopausal women. These preliminary findings should be interpreted cautiously due to the small sample size. The combined use of SOT, LOS, and MRS appears feasible and may guide larger studies investigating menopause-related changes in balance control.

KEYWORDS

Menopause; Postural Control; Computerized Dynamic Posturography; Sensory Organization Test; Limits of Stability; Menopause Rating Scale.

OP-243

Balance And Cognitive Functions Of Universiti Kebangsaan Malaysia (UKM) Cochlear Implant Recipients: A Pilot Study

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BACKGROUND & AIM

Cochlear implantation (CI) has proven to be effective in treating severe-profound sensorineural hearing loss. Currently there is an evidence suggesting that CI may be associated with improvement in cognitive and balance functions.

Objective: To study the balance and cognitive functions among UKM CI recipients.

MATERIAL & METHODS

A cross-sectional study conducted at Hospital Canselor Tuanku Muhriz, Kuala Lumpur. A total of 13 patients were recruited from UKM cochlear implant program. Suitable patients undergo pre-operative testing as a baseline followed by a repeat of balance and cognitive assessments after at least 3 months post-cochlear implantation. Balance tests used were Paediatric Clinical Test of Sensory Interaction and Balance (pCTSIB) or Modified Clinical Test of Sensory Interaction and Balance (mCTSIB). Age-appropriate cognitive tests used were: Wechsler Preschool and Primary Scale of Intelligence - 4th Edition (WIPPSI-IV), Wechsler Intelligence Scale for Children – 5th Edition (WISC-V) and Wechsler Adult Intelligence Scale - 4th Edition (WAIS-IV).

RESULTS

The statistical analysis showed an increase in cognitive subtest scores: Similarities and Digit Span when comparing post-CI with pre-CI performance. There were no significant changes see in balance function post-CI. Further correlation studies found a strong negative correlation between age of implant and duration of hearing loss with cognitive subtests: Picture Memory and Zoo Locations pre-CI. There was a strong positive correlation between age of implant and duration of hearing loss with Picture Memory in post-CI patients.

CONCLUSIONS

Cochlear implantation may enhance verbal comprehension, working memory, and potentially balance. Age of implantation and hearing loss duration correlated with cognitive performance pre- and post-CI.

KEYWORDS

Cochlear Implant, Balance, Cognitive, Hearing Loss

OP-244

Global Trending Research And Development In Vestibular Implant: A Comprehensive Bibliometric Analysis And Visualization During 21St Century

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BACKGROUND & AIM

The vestibular implant shows promise in alleviating symptoms of bilateral vestibulopathy. This bibliometric analysis aims to elucidate the knowledge structure of vestibular implant research in the 21st century and to forecast emerging research trends.

MATERIAL & METHODS

Relevant studies published between January 2000 and June 2025 were retrieved from the Web of Science Core Collection. Bibliometric indicators were analyzed through R, CiteSpace, and VOSviewer. A cross-sectional analysis was performed to assess publication output by country, research group, author, journal, keyword frequency, and citation impact.

RESULTS

A total of 151 English-language publications were identified, including 137 original research articles with a focus on postoperative outcomes. The United States and European countries demonstrated leadership in publication volume, citation metrics, and research influence, represented primarily by four major groups: Johns Hopkins, Geneva-Maastricht, Washington, and Las Palmas. The most frequent keywords included “vestibular implant,” “electrical stimulation,” “vestibular prosthesis,” “eye movements,” and “prosthesis.” The highest annual publication count was observed in 2020. The top contributing authors were Van de Berg, Della Santina, Guinand, Kingma, and Guyot, with Della Santina exhibiting the highest local citation impact. The collaboration network illustrated robust inter-group cooperation aimed at advancing vestibular prosthesis development. The journals IEEE Transactions on Biomedical Engineering and Annals of Otology, Rhinology & Laryngology were the most locally and globally cited, respectively.

CONCLUSIONS

Bibliometric and visualization analysis provide a distinctive and objective viewpoint of vestibular implant research trends. Additionally, it highlights challenges and future perspectives in this field. This study reveal that the emerging and progressing artificial vestibular technology paves the way for a potential therapeutic alternative for patients with vestibular deficit.

KEYWORDS

bibliographic, vestibular implant, visualization, bibliometric analysis, bilateral vestibulopathy

OP-245

Clinical Subgroups Of Menière’s Disease In A Brazilian Cohort

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BACKGROUND & AIM

Menière’s disease (MD) is an inner ear disorder characterized by recurrent vertigo, fluctuating sensorineural hearing loss, tinnitus and aural fullness in the affected ear. Diagnosis is based on clinical criteria. MD presents significant heterogeneity in its clinical expression. Genetic factors, viral infections, allergies, and autoimmune mechanisms appear to contribute to its multifactorial nature. The formation of clinical subtypes has increasingly been observed in clinical practice.

This study aimed to characterize the clinical-epidemiological profile of patients with definite, unilateral and bilateral MD, and perform a Cluster Analysis to define clinical sugroups within a cohort of Brazilian MD patients.

MATERIAL & METHODS

This is a cross-sectional study, with cluster analysis, involving 40 Brazilian patients followed at an Otoneurology outpatient clinic. Participants answered a clinical questionnaire applied by a medical researcher. For analysis, a clustering method for mixed-type data was used, which can detect relationships within a complex dataset between patients with multiple distinct characteristics. It tries to identify homogenous groups of cases based on the distribution of some variables, using log-likelihood distance measures. Two criteria were considered: silhouette width and Calinski-Harabasz index, which evaluates the coherence of each individual within their cluster and internal consistency. In both cases, the higher the value found, the greater the similarity of individuals in a given subgroup.

RESULTS

The cohort of Brazilian MD patients was characterized by a female majority, with unilateral involvement and moderate or moderately severe hearing loss, with onset of symptoms between the third and sixth decades of life, presence of cardiovascular risk factors, personal history of non-migraine headache, and allergic rhinitis.

Seven distinct sugroups were found:

Cluster 1) MD in female patients without migraine.

Cluster 2) MD associated with an autoimmune disease.

Cluster 3) Delayed MD.

Cluster 4) MD associated with migraine and headache.

Cluster 5) MD in male patients without migraine.

Cluster 6) MD associated with isolated allergic rhinitis.

Cluster 7) MD associated with isolated non-migraine headache.

The distribution of patients by subgroup was homogeneous.

CONCLUSIONS

The cluster analysis demonstrated seven distinct clinical sugroups in the Brazilian cohort of MD patients, reinforcing the evidence of the phenotypic heterogeneity of MD.

KEYWORDS

cluster analysis, Meniere`s disease, phenotype, vestibular disorders

OP-246

Rare Hematological Findings In Vestibular Migraine, Recurrent BPPV And Sudden Sensorineural Hearing Loss: A Clinical Series

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BACKGROUND & AIM

Background: Recurrent vestibular disorders and sudden sensorineural hearing loss (SSNHL) are frequently considered idiopathic, although systemic hematological abnormalities may play an underrecognized role. Identifying rare etiological conditions may improve diagnostic accuracy and guide multidisciplinary management.

MATERIAL & METHODS

We conducted an observational study over six months in 2025, including 40 consecutive patients evaluated at Nova Clinic, Bucharest, Romania. The cohort included patients with recurrent vestibular migraine, recurrent benign paroxysmal positional vertigo (BPPV), and sudden sensorineural hearing loss. All patients underwent extensive laboratory investigations, including complete hematological testing, thrombophilia panel, lipid profile, serological testing, infectious disease screening, and metabolic evaluation. Clinical and laboratory findings were analyzed collaboratively by an ENT–Hematology multidisciplinary team.

RESULTS

Results Multiple rare hematological and systemic abnormalities were identified. Three patients were diagnosed with polycythemia. One case of secondary syphilis was detected. A significant proportion of patients presented iron deficiency without overt anemia. Antiphospholipid syndrome associated with Borrelia infection was identified, alongside additional cases of borreliosis. These findings highlight the heterogeneity of systemic contributors in patients with recurrent vestibular pathology and SSNHL. A clinical classification based on hematological findings is proposed.

CONCLUSIONS

Rare hematological conditions, particularly iron deficiency and prothrombotic disorders, may represent underrecognized contributors to recurrent vestibular disorders and sudden hearing loss. Systematic multidisciplinary evaluation can improve etiological diagnosis and support individualized management strategies.

KEYWORDS

Keywords: vestibular migraine, recurrent BPPV, sudden hearing loss, iron deficiency, hematological disorders, thrombophilia

OP-247

The Efficacy Of Automated Repositioning Chair In Refractory Benign Paroxysmal Positional Vertigo-A Pilot Study

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BACKGROUND & AIM

The objective of this study was to determine the overall success rate of automated canalith repositioning chair combined with videonystagmography (VNG) in the treatment of refractory benign paroxysmal positional vertigo (BPPV) patients who were initially treated unsuccessfully with conventionally performed canalith repositioning maneuvers (CRM) and whether can be a solution to enable easy CRM and make a difference in treatment success among BPPV subtypes.

MATERIAL & METHODS

Methods

Prospective study with 96 patients diagnosed with refractory benign paroxysmal positioning vertigo after initial CRM at primary health care centers between December 2022 and 2023 were treated by means of RMS™ combined with VNG as an automated repositioning chair at a tertiary university hospital in between between December 2022 and 2023. Patients were deemed successfully treated if they displayed remission after three or less sessions within the span of a month.

RESULTS

Results

The mean number of required treatments was 1.42 with a success rate of 96.9 %. Two horizontal canal and one multicanal BPPV needed more than three treatment sessions in one month span with 3.1% treatment failure rate (defined as a need of more than 3 sessions in one month)

CONCLUSIONS

Conclusion

RMS™ as an automated repositioning chair can be considered as an effective repositioning chair in the treatment of conventionally performed canalith repositioning maneuver resistant patients with success rates reaching 97%.

KEYWORDS

Benign paroxysmal positional vertigo, vertigo, Automated repositioning chair, refractory cases to manual BPPV treatment

OP-248

Two Clinical Faces Of Post-Earthquake Dizziness: New-Onset Symptoms Versus Exacerbation Of Pre-Existing Dizziness

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BACKGROUND & AIM

Post-earthquake dizziness is a common but poorly characterized consequence of disaster exposure, yet its clinical heterogeneity remains largely unexplored. Previous literature has generally addressed post-earthquake dizziness as a binary symptom without accounting for pre-existing dizziness history. This study compared dizziness-related handicap, psychological burden, and quality of life between individuals with new-onset post-earthquake dizziness and those with exacerbation of pre-existing dizziness following the February 6, 2023 earthquakes in Türkiye.

MATERIAL & METHODS

A total of 120 individuals with post-earthquake dizziness were divided into two groups based on self-reported dizziness history: new-onset dizziness following the earthquakes (n=60) and exacerbation of pre-existing dizziness (n=60). Individuals with acute vestibular attacks, acute neurological conditions, or active psychiatric decompensation were excluded. Assessments included the Dizziness Handicap Inventory (DHI), Beck Anxiety Inventory (BAI), PTSD Checklist for DSM-5 (PCL-5), Short Form-36 (SF-36), and the Earthquake Anxiety Scale (EAS). Group comparisons, correlation analyses, and exploratory logistic regression analyses were performed.

RESULTS

Individuals with pre-existing dizziness demonstrated higher DHI total scores than the new-onset group (59.2±14.1 vs. 46.3±14.0, $p<0.001$), including physical (14.8±4.1 vs. 11.6±3.8, $p<0.001$), emotional (20.7±5.2 vs. 16.2±4.9, $p<0.001$), and functional subscales (23.7±6.0 vs. 18.5±5.6, $p<0.001$). SF-36 scores were lower in the pre-existing dizziness group (49.2±12.0 vs. 61.9±7.2, $p<0.001$). In contrast, the new-onset group showed higher EAS scores (25.1±5.7 vs. 17.2±6.6, $p<0.001$) and higher PCL-5 scores (41.3±9.8 vs. 30.5±10.8, $p<0.001$). No significant between-group difference was observed in BAI scores ($p=0.219$). In the new-onset group, DHI scores correlated positively with PCL-5 scores ($r=0.323$, $p=0.012$), whereas this relationship was not observed in the pre-existing group ($r=0.016$, $p=0.901$). Exploratory logistic regression analyses indicated that earthquake-related anxiety and trauma-related symptom severity were among the variables associated with the new-onset dizziness phenotype ($p<0.01$).

CONCLUSIONS

Post-earthquake dizziness does not appear to represent a uniform clinical condition. Individuals with pre-existing dizziness may exhibit a more chronic functional burden profile, whereas those with new-onset dizziness may demonstrate greater trauma-related symptom burden and heightened earthquake-related psychological reactivity. These findings suggest partially distinguishable post-earthquake dizziness profiles characterized by differing functional and trauma-related symptom patterns.

KEYWORDS

Post-earthquake dizziness; Post-disaster dizziness; Earthquake anxiety; PTSD; Dizziness Handicap Inventory

OP-249

The Influence Of Vestibular Dysfunction On Spatial And Temporal Cognitive Processing

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BACKGROUND & AIM

Vestibular input supports not only balance but also higher-order spatial cognition and temporal processing. This study aimed to evaluate whether spatial orientation/navigation and time perception are impaired during the attack-free period in individuals with peripheral vestibular pathology, compared with healthy controls. We hypothesized that vestibular dysfunction would be

associated with measurable deficits—particularly in tasks requiring spatial orientation, spatial memory, spatial navigation and time perception—despite clinical stability.

MATERIAL & METHODS

A prospective descriptive case–control study was conducted at the otolaryngology clinic/audiology center of Muğla Training and Research Hospital (Türkiye), with ethics approval and Helsinki compliance. Sixty-six adults (18–65 years) were enrolled: 33 with vestibular pathology (abnormal vHIT) and 33 controls (normal vHIT), balanced for age/sex. Cognitive integrity was confirmed (MoCA ≥26), and auditory confounding was minimized by excluding participants with PTA ≥15 dB HL or speech discrimination <90%. Spatial/temporal function was assessed using a standardized battery including Laser Pointer & Compass Pointing (eyes-closed memory, actual rotation, mental rotation), Triangle Completion Test, 2D line/angle orientation, 2D perspective taking/spatial orientation, tablet-based hand–eye coordination, visuospatial reasoning, short-term memory, target-hitting, and a time perception task (1–21 s). Normality was tested (Shapiro–Wilk); Welch's t-test or Mann–Whitney U was applied ($p<0.05$).

RESULTS

The vestibular group (n=33) had unilateral pathology; mean age was 39 vs 36 years in controls. In Laser Pointer & Compass Pointing, the eyes-closed memory condition showed no between-group difference ($p=0.12$), whereas actual body rotation ($p=0.0012$) and mental rotation ($p<0.001$) were significantly impaired in the vestibular group. Triangle Completion Test demonstrated significant between-group differences in both distance and angular errors (both $p<0.001$). Time perception showed no difference at 1 s ($p\approx0.095$) but significant impairments at all intervals ≥2 s (e.g., 2 s $p\approx0.0003$; 3 s $p\approx0.0035$; ≥5 s $p<0.001$). Additional significant deficits were observed in hand–eye coordination ($p\approx0.00006$), visuospatial reasoning ($p<0.001$), short-term memory ($p<0.001$), and target-hitting ($p\approx0.025$).

CONCLUSIONS

Peripheral vestibular pathology is associated with clinically relevant impairments in spatial orientation/navigation and time perception even during attack-free periods. Deficits are most evident in tasks requiring reference-frame updating, body/mental rotation, and path integration, while performance may be relatively preserved in tasks dominated by visual cues or short-term compensatory strategies. The selective pattern in timing—normal at 1 s but impaired at ≥2 s—supports a stronger vestibular contribution to cognitively demanding interval estimation. These findings support the systematic integration of cognitive–perceptual assessments and targeted, cognition-oriented rehabilitation strategies into routine vestibular evaluation and management protocols.

KEYWORDS

Vestibular dysfunction, spatial cognition, time perception, spatial orientation, path integration, video Head Impulse Test (vHIT)

OP-250

Association Between Age, Vestibular Symptoms, And Functional Balance In Adults And Older Adults

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BACKGROUND & AIM

This study aimed to examine the relationship between age, vestibular symptoms, and functional balance performance in adults aged 50 years and older. The study also evaluated whether vestibular symptoms independently predict balance outcomes.

MATERIAL & METHODS

This retrospective analytical study included 37 participants aged between 52 and 95 years. Sociodemographic characteristics, vestibular symptoms including vertigo, dizziness, and imbalance, as well as neurological examination findings related to balance, were obtained from standardized assessment records. Functional balance performance was evaluated using the Berg Balance Scale (BBS). Correlation and multiple linear regression analyses were performed to assess the relationships between variables.

RESULTS

Functional balance performance decreased significantly with advancing age. A significant negative correlation was found between age and BBS scores ($r = -0.586$, $p = 0.0002$). Vestibular symptoms were significantly associated with one another, and vertigo showed strong relationships with both dizziness and imbalance ($p < 0.001$). However, after adjusting for age, vestibular symptoms did not independently predict balance performance. In the regression analysis, age was identified as the only significant predictor of BBS scores ($\beta = -0.545$, $p = 0.001$).

CONCLUSIONS

Age-related factors may have a greater impact on functional balance performance than vestibular symptoms alone in older adults. Although vestibular complaints frequently coexist, they may not accurately reflect objective balance impairment by

themselves. These findings emphasize the importance of combining symptom evaluation with functional balance assessments in clinical practice.

KEYWORDS

Aging; dizziness; vestibular symptoms; Berg Balance Scale; postural stability

OP-251

Implications And Diagnostic Utility Of Functional Head Impulse Test (Fhit) In Vestibular Migraine

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BACKGROUND & AIM

Functional head impulse test (fHIT) is an easy and noninvasive test to assess the function of vestibulo-ocular reflex (VOR). The fHIT gives insights into VOR functioning and can identify potential issues with balance and gaze stabilization.

Vestibular migraine (VM) is condition which is currently diagnosed purely based on symptoms (Barany society criteria for vestibular migraine). Here, we compare the results of fHIT in patients of vestibular migraine in inter-ictal phase with healthy volunteers.

The aim is to investigate and explore a potential diagnostic criteria of VM based of fHIT results.

MATERIAL & METHODS

A prospective cross sectional study was conducted in an outpatient clinic to compare the results of fHIT in patients of vestibular migraine (n=30) and age matched healthy control (n=30) during February 2025 to July 2025. Patients who fulfilled the diagnostic criteria of VM by Barany society and International headache society and who were into interictal phase were included. Patients with associated neurotological disorders, hearing loss more than 30 dB were excluded. Patients were divided into two groups, VM group (n=30) and age matched control with no vestibular complaints (n=30).

Patient sits in front display screen wearing head band with gyroscope. Examiner gives unpredictable passive horizontal/angular head thrusts in all six semicircular canal planes (10°–20° amplitude, 150-300°/s). Landolt C optotypes or letters flash briefly (80ms) during head movement. Patient reports perceived orientation of the optotype (up, down, left, right)/read the letter. System calculates percentage of correct answers (%CA) as primary outcome measure

RESULTS

To evaluate the overall statistical significance, a paired t-test was performed by considering the six region-wise pairs together. The results showed a t-statistic of 9.36 with a p-value of 0.00023. This indicates a highly significant difference between Control and VM. The difference in % of CA between VM patients and controls was statistically significant across all canal planes, with more pronounced deficits in vertical canal testing.

Significantly lower %CA in VM group compared to controls ($p<0.001$). Vertical canal dysfunction more prevalent than horizontal ($p=0.02$). No significant difference between Rt and Lt sides ($p=0.78$). Multivariate analysis showed fHIT results were independent of age and gender

CONCLUSIONS

The findings strongly suggest that patients of VM show reduced VOR across all semicircular canals planes when compared to the control group. Vertical canals were affected more than horizontal canals, potentially representing a characteristic neurophysiological signature pattern of VM.

Abnormal fHIT results in VM can be due to central vestibulo-visual integration issues. It is particularly helpful in ambiguous cases and can be a helpful adjunct in diagnosis of vestibular migraine.

Further investigations with larger multicentre validation studies are needed to evaluate the fHIT results in VM patients and to compare the regional specificity.

KEYWORDS

VOR (Vestibulo-ocular rexlex) , fHIT (Functional head impulse test), VM (Vestibular migraine)

OP-252

Evaluation Of Systemic Immune-Inflammation And Systemic Inflammation Response Indices In Predicting Recurrent Benign Paroxysmal Positional Vertigo Episodes

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BACKGROUND & AIM

Benign Paroxysmal Positional Vertigo (BPPV) is the most frequent cause of peripheral vestibular dysfunction. Although canalith repositioning maneuvers, such as the Epley maneuver, provide high initial success rates, the clinical management of patients with recurrent BPPV attacks remains a challenge. Recent literature suggests that low-grade systemic inflammation may play a role in vestibular pathologies. We hypothesized that elevated levels of the Systemic Immune-Inflammation Index (SII) and the Systemic Inflammation Response Index (SIRI) are associated with an increased risk of recurrent BPPV attacks.

MATERIAL & METHODS

This retrospective study reviewed 123 patients diagnosed with BPPV at our outpatient clinic between April 1, 2020, and April 1, 2026. To ensure clinical standardization, 20 pediatric patients and 42 patients with missing laboratory data were excluded. The final analysis included 53 adult patients. Subjects were categorized into two groups based on clinical follow-up: those with recurrent BPPV attacks and those without recurrence. SII was calculated as (Platelets × Neutrophils) / Lymphocytes, and SIRI was calculated as (Neutrophils × Monocytes) / Lymphocytes. Independent variables included age, gender, and laboratory parameters. Statistical analyses were performed using the Mann-Whitney U test to compare the indices between the two groups, with significance set at $p < 0.05$.

RESULTS

The mean age of the study population was 53.5 ± 13.8 years. Recurrent BPPV attacks were observed in 32.1% (n=17) of the patients. The median SII value was 463.8 in the recurrent group compared to 512.3 in the non-recurrent group, showing no statistically significant difference ($p = 0.871$). Similarly, the median SIRI values were 0.66 for patients with recurrent attacks and 0.80 for those without, which also failed to reach statistical significance ($p = 0.326$). Age and gender were not found to be significant predictors for recurrence ($p > 0.05$).

CONCLUSIONS

This study demonstrates that SII and SIRI levels at the time of diagnosis do not significantly predict recurrent BPPV attacks. The results suggest that the pathophysiology of BPPV recurrence may be more closely related to mechanical factors rather than systemic inflammatory responses. Further prospective studies with larger cohorts are needed to validate these findings.

KEYWORDS

Recurrent Benign Paroxysmal Positional Vertigo Episodes,Systemic Immune-Inflammation Index, Systemic Inflammation Response Index

OP-253

Assessment Of Voluntary Motor Control And Static Balance In Individuals Living With HIV-1

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BACKGROUND & AIM

According to the World Health Organization, 39.9 million people worldwide are living with HIV. Although antiretroviral therapy has prolonged life expectancy, age-related comorbidities such as osteoporosis and cardiovascular disease have become more prevalent, potentially impairing physical function and quality of life. Balance disorders may increase fall and fracture risk in this population. This study aimed to evaluate balance and voluntary motor control in people living with HIV (PLWH) and to investigate clinical factors associated with balance impairment.

MATERIAL & METHODS

This prospective cross-sectional study included 157 individuals with HIV-1 infection (10 of 167 initially assessed were excluded due to inability to maintain upright stance). Balance was evaluated using the Limits of Stability (LoS) and the Modified Clinical Test of Sensory Interaction on Balance (mCTSIB). Composite mCTSIB scores were compared with age- and sex-matched normative data. Participants were categorized as having normal balance or balance disorder. Clinical parameters, FRAX fracture risk scores, and SF-36 quality-of-life outcomes were analyzed. Multivariate analysis controlled for age and comorbidities.

RESULTS

Longer HIV duration was associated with balance disorder. After adjustment, individuals with ≥10 years since diagnosis had a 5.4-fold higher risk of balance disorder (OR: 5.399, 95% CI: 1.312–22.228, p=0.020). Hip fracture risk (21.2% vs. 4.0%) and major osteoporotic fracture risk (18.2% vs. 1.6%) were significantly higher in the balance disorder group (p=0.004 and p=0.001). SF-36 scores for physical function, social functioning, pain, and general health perception were significantly lower in participants with balance disorders.

CONCLUSIONS

Balance disorders in PLWH are associated with longer disease duration, increased fracture risk, and reduced quality of life. These findings highlight the need for routine balance assessment and proactive management strategies in long-term HIV care. Multidisciplinary approaches, including balance training and fracture prevention strategies, may reduce morbidity and mortality while improving functional independence and social participation in this population.

KEYWORDS

HIV, balance disorders, posturography, Fracture Risk, SF-36

OP-254

Longitudinal Stability Of Vestibular Implant Fitting Parameters And Electrically Evoked Vestibulo-Ocular Responses

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BACKGROUND & AIM

The vestibular implant is an investigational neuroprosthesis that offers a potential therapeutic approach for bilateral vestibulopathy. Fitting the implant requires determination of the dynamic range (DR), defined as the range between the threshold of activation (T) and the upper comfortable limit (UCL). It remains unclear how DR and electrically evoked eye responses evolve over time. This study evaluated the longitudinal stability of parameters in vestibulocochlear implant (VCI) recipients.

MATERIAL & METHODS

Ten subjects (eleven ears) with bilateral vestibulopathy were implanted with a VCI. T, UCL and peak eye velocity (PEV) were assessed per electrode across a three-year follow-up period of repeated acute stimulation sessions, and additionally during two 4-day periods of continuous stimulation.

RESULTS

T, UCL and DR remained stable at the cohort level across the three-year follow-up period, with no systematic trend. Median PEV likewise remained stable over time. UCL and PEV did not vary significantly within or between days during continuous stimulation. Substantial variability was present between subjects and electrodes.

CONCLUSIONS

Vestibular implant fitting parameters and the electrically evoked eye responses remain stable at the cohort level over a three-year follow-up period, despite considerable inter-subject and inter-electrode variability. These findings suggest the long-term stability of vestibular implant fitting and evoked responses and inform the design of future fitting protocols.

KEYWORDS

Vestibular Implant, Vestibulocochlear Implant, Bilateral Vestibulopathy, Dynamic Range, Fitting

OP-255

Effect Of Vitamin D Levels On Vestibular Functions: A Multi-Modal Clinical Assessment

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BACKGROUND & AIM

Vitamin D is important for calcium homeostasis and may affect vestibular function through otolith membrane integrity, hair cell mechanotransduction, and vestibular afferent temporal coding. This study evaluated vestibular functions according to serum vitamin D levels using cVEMP, oVEMP, fHIT, and vHIT.

MATERIAL & METHODS

This prospective clinical study included 39 healthy participants divided equally into three groups according to serum 25(OH)D levels: ≤20 ng/mL, 20–29 ng/mL, and ≥30 ng/mL. All participants underwent cVEMP, oVEMP, vHIT, and fHIT assessments. Non-parametric statistical analyses were used, and $p<0.05$ was considered significant.

RESULTS

The groups were homogeneous in terms of age and sex. cVEMP amplitude asymmetry ratio differed significantly among vitamin D groups, whereas cVEMP latency values did not. oVEMP measurements showed no significant group differences. In fHIT, posterior and anterior PCA values differed significantly, while lateral PCA did not. In vHIT, anterior canal gain showed a significant difference among groups. A weak but significant positive correlation was found between anterior PCA and posterior canal gain.

CONCLUSIONS

Serum vitamin D levels may be associated with changes in selected vestibular parameters, especially cVEMP amplitude asymmetry, fHIT anterior/posterior PCA, and vHIT anterior canal gain. These findings support a possible relationship between vitamin D status and vestibular function and warrant confirmation in larger studies.

KEYWORDS

Vitamin D; Vestibular Function; cVEMP; oVEMP; fHIT; vHIT

OP-256

Clinical Diagnosis And Treatment Algorithm Using An Automated Repositioning Chair In Horizontal Canal BPPV: A Pilot Study

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BACKGROUND & AIM

This study aimed to develop a diagnostic and therapeutic algorithm that consolidates all variants of horizontal canal BPPV into a single, user-friendly diagram for routine clinical practice and provides a prototype framework for future artificial intelligence applications.

MATERIAL & METHODS

A retrospective review was conducted on 50 patients (25 female, 25 male) with horizontal canal BPPV (HC-BPPV). A diagnostic and therapeutic algorithm was developed for the diagnosis and treatment of this condition. The diagnostic and therapeutic maneuvers defined in this algorithm were performed using an automated repositioning chair, and the effectiveness of the obtained outcomes in diagnosis and treatment was evaluated.

RESULTS

HC-BPPV was observed in the right ear in 26 patients and in the left ear in 24 patients, with no statistically significant difference. Among HC-BPPV variants, canalolithiasis was the most frequently encountered. Successful treatment was achieved in 46 patients, resulting in a treatment success rate of 92%.

CONCLUSIONS

The diagnostic and therapeutic algorithm developed using an automated repositioning chair provides an effective, safe, and clinician-friendly approach for managing horizontal canal BPPV.

KEYWORDS

positional vertigo, horizontal canal, therapeutic, maneuver, algorithm

OP-257

Head Motion Analysis Using Gyroscopes To Inform Vestibular Implant Fitting

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BACKGROUND & AIM

The vestibular implant aims to restore vestibular function in individuals with vestibulopathy by electrically stimulating the vestibular ampullary nerves. This stimulation needs to encode head movements relevant in daily life. Therefore, accurate characterisation of head rotational dynamics during natural behaviours is critical for informing vestibular implant fitting.

MATERIAL & METHODS

This cross-sectional study evaluated rotational head movements during daily living activities. A cohort of 53 healthy functioning participants completed ten movement tasks while wearing ear-level inertial sensors.

RESULTS

The collected data were used to calculate the angular position, velocity, acceleration, and frequency content of the head movements.

CONCLUSIONS

This systematic characterisation provides a comprehensive overview of the motion dynamics that the vestibular implant should be able to encode, therefore guiding implant fitting.

KEYWORDS
Head Motion, Head Kinematics, Vestibular Implant, Vestibulocochlear Implant, Earables

OP-258

Dynamic Visual Acuity Assessment As An Outcome Measure Of Vestibular Rehabilitation Effectiveness

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BACKGROUND & AIM

Acute unilateral vestibular loss (UVL) can markedly impair daily activities and quality of life. Patients frequently report dizziness and/or visual blurring triggered by head movements. Measuring visual acuity during head motion has been used for decades to quantify the functional impact of vestibular hypofunction. Computerized Dynamic Visual Acuity (DVA) testing has demonstrated good reliability and clinically useful sensitivity and specificity. Although vestibular rehabilitation is an effective treatment for these patients, few objective measures are routinely used to quantify treatment response.

MATERIAL & METHODS

Methods: Twenty-eight patients with unilateral vestibular hypofunction (UVH) were enrolled. UVH was confirmed by video Head Impulse Test (vHIT; Natus), defined as horizontal VOR gain <0.65. At baseline, participants underwent computerized DVA testing (Framiral) during passive horizontal and vertical head rotations and completed the DHI. The intervention consisted of six supervised sessions (two sessions/week, 30 minutes/session). Patients performed active, fast horizontal head rotations alternating to both sides, starting toward the hypofunction side, with real-time visual feedback via an on-screen counter to maintain head velocity within a target range. After completion, vHIT and DVA were repeated under passive test conditions, and the DHI was re-administered. Clinically meaningful improvement in DHI was defined as a reduction of ≥18 points.

RESULTS

Twenty-one patients showed clinically meaningful improvement in DHI. All patients who improved on DHI also improved on DVA. The seven patients who did not improve on DHI similarly showed no improvement on DVA.

CONCLUSIONS

Computerized DVA appears to be a practical objective outcome measure for monitoring vestibular rehabilitation effectiveness, showing consistency with patient-reported disability (DHI) in this study

KEYWORDS
dynamic visual acuity, vestibular rehabilitationa

OP-259

Preliminary Validation Of The Arabic VM-PATHI In Patients With Vestibular Migraine

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BACKGROUND & AIM

Vestibular migraine (VM) is a leading cause of episodic vertigo. Despite its prevalence, there remains a lack of validated, culturally appropriate outcome measures for Arabic-speaking populations. The VM-PATHI is a disease-specific, patient-reported outcome tool developed to assess the symptom burden of VM. This study aimed to translate, culturally adapt, and validate the Arabic version of VM-PATHI.

MATERIAL & METHODS

The original VM-PATHI was translated into formal Arabic using forward and backward translation. Cultural and semantic equivalence was ensured through expert review and field testing. The Arabic VM-PATHI was administered to Arabic-speaking adults with probable or definite VM. Participants also completed the Arabic Dizziness Handicap Inventory (DHI) and a visual analog scale (VAS) for quality of life. Reliability was assessed by evaluating internal consistency using Cronbach's alpha, and construct validity was examined using Pearson correlation with DHI and VAS scores. Ethical approval was obtained from King Abdulaziz University.

RESULTS

A total of 30 participants were included (mean age 39.4 years; 63.3% female). The mean VM-PATHI score was 68.6 (SD = 37.1). Internal consistency was excellent for the total scale (Cronbach's $\alpha = 0.93$), with domain-specific alphas ranging from 0.64 to 0.81. Field testing confirmed the tool's clarity, comprehensibility, and cultural appropriateness. VM-PATHI scores showed a strong positive correlation with DHI scores ($r = 0.84$, $p < 0.000001$) and a moderate negative correlation with VAS scores ($r = -0.49$, $p = 0.0055$).

CONCLUSIONS

The Arabic VM-PATHI demonstrates strong initial validity and reliability as a tool for assessing vestibular migraine symptom burden in Arabic-speaking populations. This study is ongoing, and further psychometric properties, including test–retest reliability and discriminant validity, will be examined in future phases.

KEYWORDS
Vestibular Migraine, VM-PATHI, Questionnaire validation

OP-260

Evaluation Of Utricular Functions In Benign Paroxysmal Positional Vertigo Patients And Healthy Individuals Using Virtual-Reality And Vestibular Evoked Myogenic Potentials

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BACKGROUND & AIM

The purpose of this study is to explore utricular functions in patients with benign paroxysmal positional vertigo (BPPV) before and after treatment to determine the effect of vestibular information on vertical perception, compare it to the vertical perception of healthy individuals, and calculate the correlation between the test results.

MATERIAL & METHODS

The study was conducted in 2023 at the Department of Otolaryngology at Başkent University in Ankara, Turkey, with the participation of 34 BPPV-diagnosed patients and 34 healthy individuals. Prior to and following BPPV treatment, the patient group received the subjective visual vertical test (SVV), dynamic subjective visual vertical test (DSVV), and ocular vestibular evoked myogenic potential test (oVEMP). SVV and DSVV tests were applied to the control group. Statistical results were analyzed with IBM SPSS Statistics Base 25.0 (IBM SPSS Statistics for Windows, IBM Corp. Released 25.0.0, Armonk, NY: IBM Corp.). For statistical significance, a p-value below 0.05 was considered significant.

RESULTS

A significant difference between male and female patients was discovered when the SVV values of the patient group were examined prior to the maneuver ($p<0,05$). A significant difference ($p<0,05$) was discovered in the patient group when the DSVV values were compared before and after the treatment. A significant difference was found between the SVV values of the control group and the SVV values of the patient group before the treatment ($p<0,05$). A significant difference was found between the SVV values of the control group and the SVV values of the patient group after the treatment ($p<0,05$). A significant difference was found between the DSVV values of the control group and the DSVV values of the patient group before the maneuver ($p<0,05$). A correlation was found between SVV and DSVV values obtained after maneuver in patient individuals ($p<0,05$).

CONCLUSIONS

Our research demonstrates that BPVV affects vertical perception and that utricular functions are similarly compromised in BPPV patients. As a result of the tests performed following the treatment maneuvers, there was no significant effect of recovery on the SVV test value; It was found to have a positive effect on DSVV test values. For future research, it might be beneficial to obtain more samples.

KEYWORDS
BPPV, utricle, subjective visual vertical, dynamic subjective visual vertical, vertical perception

OP-261

Beyond Peripheral Repositioning: Prefrontal Hemodynamic Responses To The Epley Maneuver In Posterior Canal BPPV

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BACKGROUND & AIM

Benign paroxysmal positional vertigo (BPPV) is one of the most prevalent peripheral vestibular disorders and characterized by transient vertigo accompanied by positionally induced nystagmus. Although its pathophysiology is primarily explained, the neural mechanisms underlying symptom initiation and subsequent recovery are not yet comprehensively understood. The present study aimed to investigate neurovascular dynamics assessed using functional near-infrared spectroscopy (fNIRS) in response to the Epley maneuver in patients with posterior canal BPPV compared with healthy controls.

MATERIAL & METHODS

Six patients (mean age, 62.66±8.45 years) with posterior canal BPPV and seven healthy subjects (mean age, 54.33±6.59 years) were recruited in the study. Functional near-infrared spectroscopy was employed to monitor hemodynamic changes within the prefrontal cortex both group before and immediately after the Epley maneuver. Specifically, relative change in oxygenated hemoglobin (HbO) concentrations were analyzed to quantify the neurophysiological impact of the intervention.

RESULTS

To evaluate HbO concentration, a 2 x 2 mixed-design ANOVA was performed, comparing patient and control groups across pre- and post-Epley maneuver sessions. The analysis demonstrated a significant main effect of session on HbO concentrations ($p = 0.006$). However, no significant inter-group differences were observed, despite a 1.6-fold increase in the patient group compared to a 1-fold change in healthy controls.

CONCLUSIONS

The findings of this study demonstrate that the Epley maneuver exerts an impact on hemodynamic changes in the prefrontal cortex. Trending results in regard to higher oxygentaion of patient group, suggests that the intervention's effects extend beyond peripheral vestibular repositioning to involve central neurophysiological modulation. Given the complexity of these central responses, future studies should aim to categorize these hemodynamic patterns across distinct BPPV clinical variants and explore potential functional differences across expanded cortical areas.

KEYWORDS

Benign paroxysmal positional vertigo, Epley Maneuver, functional near-infrared spectroscopy, vertigo

OP-262

Evaluation Of Head Tilt Impact On Static Subjective Visual Vertical And Horizontal: A VR-Based Study In A Healthy Young Cohort

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BACKGROUND & AIM

Subjective Visual Vertical (SVV) and Horizontal (SVH) paradigms are essential for assessing gravitational perception via central otolithic integration. Beyond evaluating otolith function, these assessments yield critical data on vestibular pathologies impacting spatial orientation and postural control. By eliminating confounding external visual cues, Virtual Reality (VR) platforms enhance measurement precision compared to conventional techniques. Therefore, this study aims to evaluate the normative variations and clinical reliability of VR-based static SVV and SVH across multiple head tilt angles in a healthy cohort.

MATERIAL & METHODS

This research employed a descriptive study design. A total of 25 healthy adults (20 females, 5 males) aged 19 to 30 years (mean age:23.56±3.84) were enrolled in the study. Individuals with any history of otological, neurological, visual, cervical, physical, psychological, communication, or cognitive disorders were excluded. Participants were seated on a stretcher without foot or back support to receive less proprioceptive input during the measurements. Participants completed the SVV and SVH tasks at seven roll-plane head angles (0°, ±15°, ±30°, and ±45°). For each position, 10 rod orientations were presented in a consistent, semi-randomized sequence across all subjects. The mean was calculated as the arithmetic average, regardless of whether the value was positive or negative.

RESULTS

No significant differences were found between right and left tilt positions ($p>0.05$); data were then collapsed across tilt angles for analysis. In the static SVV assessment, the mean deviation in the neutral position was 1.41°±1.14. Under tilt conditions, the mean deviation values were 3.43°±2.32 at 15°, 4.91°±2.54 at 30°, and 8.37°±4.90 at 45°. Regarding the static SVH assessment, the mean deviation in the neutral position was 1.64°±0.90. The deviation values recorded at 15°, 30°, and 45° tilt positions were 3.22°±1.69, 5.41°±2.57, and 7.67°±3.67, respectively.

CONCLUSIONS

VR-based static SVV and SVH deviations increase proportionally with head tilt angles but remain symmetrical in healthy adults. While these preliminary findings demonstrate the potential of VR-based SVV and SVH assessments to evaluate graviceptive pathways across varying head tilts, future studies with larger cohorts are needed to establish definitive normative data for neuro-otological practice.

KEYWORDS

Subjective Visual Vertical; Subjective Visual Horizontal; Virtual Reality; Head Tilt

OP-263

Gaze Stabilization Exercises As A Technique For Acute Unilateral Vestibular Rehabilitation

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BACKGROUND & AIM

Gaze Stabilization Exercises as a Technique for Acute Unilateral Vestibular Rehabilitation

Investigations of how patients with unilateral vestibular hypofunction (UVH) stabilize gaze during head movement has pointed to different compensatory mechanisms. The saccadic substitution process has been hypothesized later on for the

compensation of the ocular motor disorders in UVH patients. The vestibular catch-up saccades in the direction of the deficient VOR reduce de amplitude of the eye position error and contribute to stabilize gaze.

Gaze stabilization exercises (GSE) are widely used to improve dynamic visual acuity (DVA), yet there is no universally accepted protocol regarding dosage, progression, or prescription criteria.

MATERIAL & METHODS

Objective: To assess symptom-related and functional outcomes after supervised GSE protocol in patients with UVH.

Methods: Twenty-eight patients with UVH were enrolled. Diagnosis was confirmed by video Head Impulse Test (vHIT; Natus), defined as horizontal VOR gain <0.65. Baseline assessment included DVA testing (Framiral) during passive horizontal and vertical head rotations and the Dizziness Handicap Inventory (DHI). The intervention consisted of six supervised sessions (two sessions/week; 30 minutes/session). Patients performed active fast horizontal head rotations alternating to both sides, starting toward the hypofunction side, with real-time visual feedback via an on-screen counter to guide the target head-rotation velocity range. After completing the protocol, patients repeated vHIT and DVA testing under passive conditions and completed the DHI again. Clinically meaningful change in DHI was defined as a reduction ≥18 points.

RESULTS

Results: Twenty-one of 28 patients (75%) achieved a clinically significant improvement in DHI (≥18-point reduction). These patients also demonstrated improved DVA during horizontal head rotations following the protocol.

CONCLUSIONS

In this cohort of UVH patients, a brief supervised GSE program was associated with clinically meaningful reduction in perceived handicap and improved horizontal DVA. The findings support GSE as a useful intervention in acute UVH rehabilitation. Future studies should refine standardized dosage and progression parameters.

KEYWORDS

Vestibular rehabilitation, gaze stabilization exercises

OP-264

The Use Of Virtual Reality In Diagnostics And Rehabilitation Of Otolithic Senses

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BACKGROUND & AIM

For years, we have used the term "vestibular function testing" with the implication that we are testing the entire vestibular system. In fact, most of our tests, such as the caloric test, the vHIT, the rotary chair test, and even the Dix-Hallpike test, are tests of semicircular canal function and do not test the otoliths. In the 1990s, with the introduction of vestibular evoked myogenic potentials (VEMP), we finally got a test that can assess otolithic function.

MATERIAL & METHODS

Any dysfunction of the otolith organs is usually accompanied by irregular spatial orientation and postural instability. Subjective visual vertical test is considered a new assessment approach that can be easily included in the clinical battery of tests. It is recommended for acute vertigo, brainstem infarctions and oculomotor disorders.

RESULTS

The SVV test can also be used to monitor recovery/compensation of acute lesions. Rehabilitation strategies have been successfully applied over the past few decades to initiate central compensation and facilitate substitution in various types of peripheral vestibular dysfunction. However, these vestibular rehabilitation strategies are often unsuccessful in patients with isolated otolith disorders.

CONCLUSIONS

Recently, virtual reality systems have been integrated with vestibular rehabilitation exercises. Compared to traditional vestibular rehabilitation methods, virtual reality vestibular rehabilitation allows for a wide range of stimuli with greater specificity and offers the patient sensory inputs of varying levels of difficulty in a safe, comfortable, and standardized environment.

KEYWORDS

virtual reality, otolithic senses, vestibular rehabilitation

OP-265

Factors Associated With Repositioning Maneuver Resistance And Recurrence Risk In Patients With Benign Paroxysmal Positional Vertigo: A Retrospective Analysis

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BACKGROUND & AIM

Benign paroxysmal positional vertigo (BPPV) is the most common cause of peripheral vertigo. Despite the high efficacy of repositioning maneuvers, a substantial proportion of patients exhibit maneuver resistance or experience recurrence. This study aimed to identify clinical and demographic predictors of these outcomes in a large single-center cohort.

MATERIAL & METHODS

Medical records of 783 BPPV patients treated at Acıbadem Maslak Hospital between 2022 and 2024 were retrospectively reviewed. Eligibility criteria included age ≥18 years, confirmed BPPV, at least one repositioning maneuver, and ≥6 months of follow-up. Data collected included age, sex, BMI, affected semicircular canal, laterality, number of maneuvers, and recurrence status. Maneuver resistance was defined as requiring more than one maneuver; recurrence as a re-confirmed BPPV episode during follow-up. Univariate analyses used Mann–Whitney U and chi-squared tests; independent predictors were identified via multivariable binary logistic regression.

RESULTS

The cohort included 531 females (67.8%) and 250 males (31.9%), with a mean age of 54.7±17.6 years. Posterior canal involvement was most common (65.3%),followed by lateral (26.9%) and other variants (7.8%).Bilateral disease was present in 29.9%. Maneuver resistance occurred in 376 patients (48.0%) and recurrence in 191 (24.4%). On univariate analysis, maneuver resistance was associated with older age (median 58 vs. 48 years, p<0.001) and bilateral disease (71.4% vs. 38.1%, p<0.001). Recurrence was associated with bilateral involvement (34.6% vs. 20.0%, p<0.001), older age (median 60 vs. 51, p<0.001), and prior maneuver resistance (33.5% vs. 16.0%, p<0.001). On multivariable regression, independent predictors of maneuver resistance were older age (OR=1.02, 95%CI 1.01–1.03, p<0.001) and bilateral disease (OR=3.39, 95%CI 2.28–5.04, p<0.001). Independent predictors of recurrence were bilateral disease (OR=1.60, 95%CI 1.03–2.50, p=0.036) and prior maneuver resistance (OR=1.66, 95%CI 1.10–2.48, p=0.015). BMI, sex, and canal type were not significant.

CONCLUSIONS

Bilateral disease and older age independently predicted maneuver resistance, while bilateral disease and prior maneuver resistance predicted recurrence. These findings support early risk stratification and personalized management in BPPV.

KEYWORDS

BPPV, benign paroxysmal positional vertigo, maneuver resistance, recurrence, bilateral, vestibular, risc factors

OP-266

Treatment Familiarity And Vestibular Implant Acceptance In Patients With Bilateral Vestibulopathy

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BACKGROUND & AIM

Bilateral vestibulopathy (BVP) is a chronic disorder characterized by impaired function of the vestibular organs or nerves bilaterally. Patients with BVP commonly experience dizziness, postural instability, difficulty walking in darkness, and cognitive challenges. Available treatments—medication, vestibular rehabilitation therapy (VRT), galvanic vestibular stimulation (GVS), and vibrotactile devices, often provide only partial symptom relief, leaving many individuals with persistent and debilitating symptoms. The vestibular implant (VI) has recently emerged as a potential therapeutic option, although it remains experimental. This study examines patient awareness of current treatments, their perceptions of effectiveness, and attitudes toward vestibular implantation.

MATERIAL & METHODS

A questionnaire was administered to assess satisfaction with current treatments and perspectives on VI among patients with BVP. The survey evaluated quality of life in relation to daily activities and social interactions, as well as awareness of available treatments, including medication, VRT, GVS, vibrotactile systems, and VI. Participants were also asked about their acceptance of these treatments. The questionnaire included items regarding willingness to undergo VI, considering risks such as postoperative hearing loss and varying degrees of symptom improvement. Of the seventy-six patients invited, sixty-two completed the questionnaire. Data were analyzed using descriptive statistics.

RESULTS

Among respondents, 25.8% reported unchanged activity levels, whereas 48.5% experienced deterioration in social relationships due to balance issues. Medication and VRT were the most widely recognized treatment options. VRT and medication received the highest acceptance, with mean approval scores of 8.84 and 8.48 out of 10, respectively. VI was the least accepted, with a mean approval score of 6.22. Notably, two patients indicated willingness to accept the risk of death for symptom relief. Patients expressed greater willingness to consider VI if postoperative hearing preservation was possible.

CONCLUSIONS

Approximately one quarter of BVP patients maintain their activity levels, while half report reduced social interaction. At present, VI is the least preferred treatment, likely due to concerns regarding surgical risks. Hearing preservation is a significant factor influencing acceptance of VI. Advances in technology and surgical methods may alter patient perspectives on VI in the future.

KEYWORDS

Bilateral vestibulopathy, treatment, vestibular implant, risk perception

OP-267

Is There Subclinical Cochlear Damage In Benign Paroxysmal Positional Vertigo?

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BACKGROUND & AIM

The pathophysiology of Benign Paroxysmal Positional Vertigo (BPPV) involves the detachment of otoconia from the utricular macula and their migration into the semicircular canals. Along with aging, calcium/vitamin D metabolism disorders, and traumas, inner ear microvascular perfusion insufficiencies play an important role. The susceptibility of terminal vessels to these pathologies suggests that degeneration in otolith organs may concurrently cause subclinical cochlear damage. This study aims to evaluate the presence of subclinical cochlear damage using high-frequency audiometry in patients diagnosed with BPPV in the outpatient clinic.

MATERIAL & METHODS

This cross-sectional, controlled study included 29 patients with BPPV and 29 age- and sex-matched healthy controls. Diagnosis was confirmed via positional tests. Exclusion criteria were external auditory canal pathology, history of otologic surgery/chronic disease, significant hearing loss, ototoxic drug use, and neurological disorders. Extended high-frequency audiometric thresholds (9000–16000 Hz) were measured in both ears. Statistical analysis involved three stages: first, right and left ears within the BPPV group were compared using paired t-test or Wilcoxon test to evaluate lateralization. Second, ears of the BPPV and control groups were compared using independent t-test or Mann–Whitney U test. Finding no significant difference, all ears per group were pooled, and the Mann–Whitney U test was applied due to non-normal data distribution. Significance was set at $p < 0.05$.

RESULTS

High-frequency measurements of the study and control groups were compared using the Mann–Whitney U test. Across all frequencies, the study group's mean scores were higher than the control group's. In the intergroup comparison, the study group's values at F9000 (16.38 ± 13.37) were significantly higher than the control group's (13.36 ± 14.64, $p = .041$). Similarly, at F10000, the study group's mean (21.03 ± 17.29) was significantly higher than the control group's (15.43 ± 17.58, $p = .020$). Remaining frequencies showed no significant differences despite an increasing trend: F11200 (22.76 ± 19.67 vs 17.24 ± 18.97, $p = .071$), F12500 (26.38 ± 20.64 vs 22.33 ± 23.64, $p = .111$), F14000 (31.64 ± 23.66 vs 27.07 ± 26.47, $p = .249$), and F16000 (30.52 ± 20.25 vs 23.88 ± 21.97, $p = .098$). These findings indicate subclinical cochlear involvement in BPPV, particularly within the 9000–10000 Hz range.

CONCLUSIONS

The absence of a significant difference between the ears in patients with BPPV suggests that the disease may be associated with a systemic inner ear involvement rather than a lateralized effect. Furthermore, the significant differences detected particularly in the 9000–10000 Hz range via high-frequency audiometry may indicate subclinical cochlear changes in BPPV. Therefore, the utilization of high-frequency audiometry as a complementary diagnostic tool in the evaluation of BPPV patients could be beneficial.

KEYWORDS

Benign paroxysmal positional vertigo, High-frequency audiometry, Hearing loss, Subclinical cochlear dysfunction

OP-268

Exploring The Diagnostics Of Benign Paroxysmal Positional Vertigo

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BACKGROUND & AIM

Benign paroxysmal positional vertigo (BPPV) is the most common peripheral vestibular disorder. Diagnosis traditionally relies on manual bedside positional testing, but variability in examiner performance, interpretation of positional nystagmus, and patient cooperation may reduce diagnostic accuracy. Mechanical rotation chair (MRC) diagnostics provide standardized head and body movements and may overcome some of these limitations. However, indications for their use remain insufficiently

defined. The aim was to investigate diagnostic performance and limitations of traditional manual diagnostics (TMD) compared with MRC diagnostics and identify factors influencing diagnostic outcomes in BPPV.

MATERIAL & METHODS

This PhD project consisted of three interlinked studies derived from a randomized controlled crossover trial conducted at a tertiary Balance and Dizziness Center. TMD and MRC (TRV chair) diagnostics were performed using videonystagmography. Study I compared diagnostic performance between modalities. Study II quantified intra-examiner variability and inaccuracies in head orientation and movement during TMD. Study III evaluated the effect of head orientation and movement on the ability to elicit BPPV-characteristic positional nystagmus.

RESULTS

Assuming the MRC as the golden standard, TMD demonstrated a sensitivity of 69.5%, specificity of 90.9%, and an overall agreement of 80.5% relative to MRC diagnostics. Posterior canal BPPV was detected equally well by both modalities, whereas TMD sensitivity decreased in non-posterior canal BPPV and in patients with reduced cooperation. Intra-examiner assessment revealed systematic undershooting of yaw-axis rotation during the Supine Roll Test when performed with head only rotations. Diagnostic outcomes were strongly influenced by head orientation and movement. While the Dix–Hallpike test tolerated moderate inaccuracies, manual Supine Roll testing without truncal rotation failed to identify approximately two-thirds of lateral canal BPPV findings.

CONCLUSIONS

TMD remains an effective first-line approach for most patients with BPPV. However, MRC diagnostics appear particularly valuable in non-posterior canal disease, treatment-resistant cases, and patients with limited cooperation. These findings provide practical recommendations to optimize diagnostic pathways and referral criteria in vestibular practice.

KEYWORDS

BPPV, Mechanical Rotation Chair, Benign Paroxysmal Positional Vertigo, Diagnostics, Vertigo

OP-269

Assessing The Falls Risk And Frailty In Elderly Balance Disordered Using The Gait Characteristic Of Patients Using Wearable Sensors

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BACKGROUND & AIM

Patients with impaired balance function are at a high risk of injurious falls. This is compounded by alterations in gait and mobility. A recent study showed clinically significant vestibular impairment in 80% of community older adult fallers, compared to 19% of healthy non-fallers. Targeted exercise interventions can be applied when characteristic deficits are clearly defined. Standard approach involves subjective clinical evaluation by clinicians and is open to variations and interpretation errors. We aimed to quantify the frailty and falls risk of balance disordered patients by characterising their gait, mobility, using wearable sensors and the Timed Up and Go (TUG) test

MATERIAL & METHODS

114 patients (47 males and 67 females) with balance disorders who were referred to a tertiary Neurotology clinic were evaluated. They were all over 60 years of age and able to walk independently. All patients underwent a full clinical neurotological examination in a multidisciplinary setting (specialist Neurotologist, vestibular Physiotherapist and Audiological scientist). Participants were also asked to complete a questionnaire on their clinical risk factors, based on the American geriatrics society, British geriatrics society. All completed a instrumented TUG test, instrumented with wireless inertial sensors (QTUG™) as per regular clinic practice. The study parameters were compared to a reference population.

RESULTS

The overall falls risk estimate was 58.04% while the frailty estimate was 59.04%. Five gait parameters were evaluated and compared with the control group: symmetry (38.02%), transfer (43.73%), turn (58.06%), speed (70.90%) and variability (60.85%).

CONCLUSIONS

Elderly balance disordered patients are at a high risk of falls compared to healthy population. Wearable sensors are provide an useful technology for objective assessment of mobility, frailty and falls risk. It can be used as a test by non-specialists for falls prediction and planning of targeted physiotherapy or other therapeutic interventions in non hospital or in their natural domiciliary settings..

KEYWORDS

Postural balance; postural equilibrium; gait; gait analysis

OP-270

Effect Of Viewing Distance On Dynamic Visual Acuity

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BACKGROUND & AIM

Patients with dizziness and unsteadiness are commonly prescribed gaze stability exercises at varying target distances to manage vestibular impairments but lack objective tools to monitor progress. Maintaining gaze stability during head motion at near distances demands greater eye velocity relative to head velocity due to vergence and increased translational eye rotation demands. This study compared dynamic visual acuity (DVA) during yaw and pitch at both near and far distances in patients and healthy controls.

MATERIAL & METHODS

This study includes individuals with unilateral vestibular deafferentation (UVD), veterans with dizziness yet healthy vestibular function, and healthy controls. The computerized DVA at near (50 cm) and far (200 cm) distances were collected. Data analysis included comparisons of near and far DVA in yaw and pitch planes.

RESULTS

A total of 94 participants (34 UVD, 24 veterans with dizziness, 36 controls) were included. Near-distance DVA was significantly worse than far-distance DVA for the entire sample and within each group ($p < 0.001$).

CONCLUSIONS

Near-distance DVA is more challenging than far-distance DVA across populations and planes of head rotation. Near-distance DVA may serve as a robust measure of vestibulo-ocular reflex function and offers a practical means for patients to self-monitor the effects of gaze stability training.

KEYWORDS

Dynamic Visual Acuity, Unilateral Vestibular Deafferentation, Dizziness, Viewing Distance

OP-271

Body Impulse Test: A Missed Element In Office Vestibular Examination

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BACKGROUND & AIM

Office vestibular examination traditionally focuses on ocular and head responses, however, many patients with dizziness demonstrate abnormal postural strategies that are not captured by standard assessments. Despite the availability of high-technology vestibular tests, clinical history and office examination remain the cornerstones of diagnosis. The Body Impulse Test (BIT), a simple clinical maneuver, aims to assesses the postural control strategy (ankle, hip, or stepping) and postural confidence under unexpected mechanical perturbation.

Aims: To evaluate whether the Body Impulse Test (BIT) provides additional diagnostic value in identifying and differentiating common vestibular disorders and Functional dizziness syndromes.

MATERIAL & METHODS

Purpose: To assess the integrity and strategy of postural control in response to sudden perturbations, reflecting vestibulo-spinal and somatosensory integration.

Equipment: None. Conducted in office setting.

PROCEDURE

1. The patient stands upright, feet shoulder-width apart, arms extended forward, eyes closed. 2. The examiner stands behind and in front alternately, ensuring safety. 3. The examiner instructs: 'Stand steady, keep your eyes closed, and try not to move when I gently push you unexpectedly.' 4. The examiner gives sudden, brief, unpredictable pushes (anterior and posterior). Three trials in each direction are performed. 5. Ensure patient safety with assistant or wall support behind.

The test was done for 50 cases and 10 normal control subjects. The cases was comaraple with the control groups. Cases are classified as Ankle strategy or Hip and Step strategies. Sensetivity and Specifity was calculated for different dizzy cases.

RESULTS

35 cases have abnormal step or hip strategy and 15 patients have ankle strategy. Step strategy was associated with Hyperventilation syndrome., but variable with other vestibular lesions.

CONCLUSIONS

Body Impulse Test is an easy sim ple test is missed test in office vestibular examination at the vestibular clinics. It is a valuaable test in hypervetilation synderome. It also share in planning for managment of dizzy patients.

KEYWORDS
Office vestibular examination, dizzy patient, vestibular, body impulse test, postural control, functional vestibular diseases, hyperventilation syndrome.

OP-272

Results Of Minimally Invasive Surgical Technique Combined With Low Doses Gentamicin For Meniere's Disease Treatment

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BACKGROUND & AIM

In the absence of conservative therapy effectiveness in patients with Minere's desease (MD) current treatment algorithms suggest sequential application of intratympanic (IT) dexamethasone, endolymphatic sac drainage or IT gentamicin. Direct injections, ventilation tubes and repeated high doses (up to 40 mg/ml) of gentamicin in various regimens are preferred despite hearing loss risk. Low doses of the drug (10-16 mg/ml) give a lower effectiveness and no affect hearing.

The Aim of the study was to evaluate the effectiveness of minimally invasive surgical technique with the simultaneous use of low doses gentamicin-soaked collagen membranes for MD treatment.

MATERIAL & METHODS

53 patients aged 29 to 76 years with reliable unilateral MD (AAO-HNS, 1995) were enrolled in this study. 62.3% of patients were women, 37.7% - men. They were treated in otology department of our Institute from 2016 till 2025. Inclusion criteria for the study were the lack of minimum 2 courses of conservative therapy, from slight till moderately severe hearing loss degree according to pure tone audiometry (PTA), speech discriminations score more than 70%, unilateral labyrinth hyporreflexia according to the caloric test.

The surgical technique provided under local anesthesia and consisted of tympanotomy, tympanic cavity muscles tenotomy, plexus tympanicus incision and application of gentamicin-soaked collagen membranes into oval and round windows. The total drug dose was 8-16 mg. The effectiveness of the treatment was assessed 6, 12, 24 months after surgery and was based on the patient complaints dynamic, changing caloric test data and PTA thresholds.

RESULTS

Total control vertigo (class A) were achieved in a 6 months and lasted longer in 67% patients, partial (class B) – in 17%. Hearing thresholds remained stable. 9.3% of patients noted a disappearance of tinnitus. According to the caloric test 76.7% of patients got dead labyrinth in a 6-month period. 4.6% of patients had no effect after this technique and underwent destructive surgery.

CONCLUSIONS

minimally invasive surgical technique with simultaneous single use of low doses gentamicin-soaked collagen carriers can be effective in the treatment of patients with reliable unilateral MD, allowing to reduce the severity of dizziness along with stable hearing levels.

KEYWORDS

low dose gentamicin, Meniere disease

OP-273

Diagnostic Accuracy Of The Head Pitch Test In Benign Paroxysmal Positional Vertigo

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BACKGROUND & AIM

Introduction and Objectives: The diagnostic accuracy and reliability of the head pitch test in differentiating between different types of BPPV require further investigation. Studying the diagnostic accuracy of the head pitch test in BPPV diagnosis can aid in the development of targeted management strategies for patients presenting with BPPV

MATERIAL & METHODS

Methods: All patients who complained of positional vertigo for seconds underwent complete videonystagmography test using ICS Chartr 200 VNG/ENG system (Otometrics, Denmark) including : spontaneous nystagmus, complete occulomotor test battery, then the head pitch test was performed in two positions: first the patient's head was bent 90 degrees forwards, then 60 degrees backwards for approximately 1 minute each. If nystagmus was observed, its direction was recorded [10]. All patients then underwent gold standard tests for positional vertigo including both Dix-Hallpike maneuver and the supine roll tests

RESULTS

Results: The sensitivity (true positive cases) was defined as the head pitch (HPT) test being positive and showing the correct nystagmus for different categories of BPPV. The sensitivity of the experimental HPT was compared to the gold standard tests (100% sensitive) for diagnosis of different categories of vertical canal and lateral canal BPPV. It was highest (100%) for Lateral

Cupulolithiasis patients (n=12) and Anterior canal Canalithiasis (n=3) and lowest (68%) for Typical Posterior Canalithiasis patients (n=68)

CONCLUSIONS

Conclusion: This study supports the addition of the head pitch test in the routine assessment of patients with positional vertigo. As it could shorten the examination time and decrease the repositioning maneuvers which may cause severe autonomic symptoms.

KEYWORDS

BPPV, Head pitch test, Dix Hallpike test, Supine roll test.

OP-274

The Relationship Between Fall History Of Vestibular Functions In Young-Old Individuals

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BACKGROUND & AIM

Aging is a physiological process that can lead to structural and functional changes in individuals. Peripheral and central vestibular changes that occur during aging cause impaired postural control and an increased risk of falls. The aim of our study is to evaluate the relationship between a history of falls and vestibular function in young-old individuals.

MATERIAL & METHODS

The study was conducted between October 2025 and February 2026 at the Audiology Clinic of Turgut Özal Medical Center, İnönü University, Malatya, with 64 individuals aged 65-74, both with and without a history of falls, who presented to the Geriatrics Clinic. Approval was obtained from the İnönü University Health Sciences Scientific Research Ethics Committee (2025/8592) and participants signed a voluntary consent form. Participants completed the Demographic Data Form, Activity-Specific Balance Confidence Scale (ABC), Fall Behavior Scale for Older People (FaB), Head Shake Test (HST), Video Head Impulse Test (vHIT), Functional Head Impulse Test (fHIT), and Static Posturography.

RESULTS

A significant difference was found between groups in the total score of the AÖDGÖ ($p<0.05$). Significant differences were also found between groups in the sub-dimensions and total scores of the YDDÖ ($p<0.05$). A significant difference was found between groups with and without a history of falls in the presence of head shake nystagmus ($p<0.05$). In vHIT gain asymmetries, a significant difference was determined in the LARP asymmetry value ($p<0.05$). In fHIT, differences were found between groups in posterior 4000, 5000, 6000°/s2 and total correct answer percentage values ($p<0.05$). In static posturography, significant differences were found between groups in the balance score parameter in conditions 2, 4, and 5; and in the speed parameter in conditions 1 and 2 ($p<0.05$). In sensory analysis evaluation, statistically significant differences were shown between groups in composite, visual and vestibular scores ($p<0.05$).

CONCLUSIONS

The study results revealed that vestibular function is affected and functional performance is reduced in young-old individuals with a history of falls. Therefore, in order to prevent complications related to falls, it is recommended to implement assessment and screening protocols aimed at identifying changes in vestibular system function.

KEYWORDS

Aging, Falls, Old Age, Vestibular System

OP-275

Machine Learning-Based Differential Diagnosis Of Vestibular Disorders Using Electronic Medical Records

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BACKGROUND & AIM

Dizziness is a common chief complaint in otolaryngology practice, but differential diagnosis remains challenging because of overlapping clinical presentations among vestibular disorders. Although vestibular function tests may improve diagnostic accuracy, they are not always immediately available at the time of initial otolaryngologic evaluation. We hypothesized that machine learning (ML) models trained on initial clinical assessment data could help differentiate vestibular disorders without advanced vestibular testing.

MATERIAL & METHODS

We retrospectively analyzed electronic medical record (EMR) data from 1,263 patients who presented with dizziness at Wonju Severance Christian Hospital between April 2011 and February 2023. Seven ML models—Logistic Regression, Random Forest,

XGBoost, CatBoost, LightGBM, Support Vector Machine, and Multi-Layer Perceptron—were developed to classify four diagnostic categories: Benign Paroxysmal Positional Vertigo (BPPV), Vestibular Neuritis (VN), Meniere's disease, and Others class. Fifty variables across four domains (symptoms, medical history, physical examination, and demographics) were included. Disease labeling was performed by one professor. Missing values were handled using Multiple Imputation by Chained Equations (MICE), and hyperparameters were optimized with Optuna. Model performance was evaluated using the area under the curve (AUC) and F1-score.

RESULTS

Among the evaluated models, XGBoost showed the highest performance for identifying BPPV (AUC=0.983, 95% CI [0.963–0.996], F1-score=0.821), VN (AUC=0.988, 95% CI [0.977–0.996], F1-score=0.954), and Meniere's disease (AUC=0.902, 95% CI [0.801–0.978], F1-score=0.476). CatBoost achieved the best performance for the Others class (AUC=0.901, 95% CI [0.854–0.942], F1-score=0.711). Overall, gradient-boosting-based models demonstrated favorable performance in distinguishing vestibular disorders.

CONCLUSIONS

ML-based approaches using initial clinical assessment data showed potential for supporting the differential diagnosis of vestibular disorders, with particularly favorable performance for BPPV and VN. However, diagnostic performance varied across disease classes, and Meniere's disease showed comparatively limited classification performance, suggesting the need for additional clinical information.

KEYWORDS

Dizziness, Vestibular disorders, Machine learning, Differential diagnosis, Electronic medical records

OP-276

Feasibility Of AI-Driven Camera-Based Nystagmus And Head Tracking For Remote Assessment Of Acute Vertigo

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BACKGROUND & AIM

Accurate evaluation of nystagmus and eye movements is essential for diagnosing acute vertigo; however, current approaches rely on specialized hardware and in-person assessment, limiting accessibility in remote and emergency settings. This study aimed to evaluate the feasibility of a camera-based system for tracking nystagmus and head movement to enable remote assessment in patients with acute vertigo.

MATERIAL & METHODS

We developed a vision-based tracking system using standard smart device cameras to estimate eye movements and head orientation without additional hardware. The system employs computer vision algorithms to detect facial landmarks, estimate gaze vectors, and quantify head motion in real time. Performance was evaluated using metrics including mean absolute error (MAE) for gaze and head direction, and detection accuracy (IoU, mAP) for facial and ocular features. Feasibility was assessed in a pilot cohort of patients presenting with acute vertigo, comparing system outputs with reference clinical assessments.

RESULTS

The proposed system demonstrated high detection accuracy (IoU > 0.8, mAP > 0.9) for facial and eye regions. Mean absolute error was within clinically acceptable ranges for head direction (<5°) and gaze estimation (<4°). The system operated in real time (>30 fps) on standard smart devices without dedicated hardware. Preliminary clinical evaluation showed concordance between camera-based measurements and clinician-observed findings, supporting its feasibility for remote assessment.

CONCLUSIONS

Camera-based tracking of nystagmus and head movement is feasible for remote evaluation of acute vertigo. This approach enables accessible, device-free assessment and has the potential to support telemedicine, early triage, and digital therapeutic applications. Further large-scale studies are warranted to validate clinical efficacy and diagnostic performance.

KEYWORDS

Vertigo, Nystagmus, Artificial intelligence, Remote monitoring, Digital health

OP-277

KLOTHO IN PATIENTS AFFLICTED WITH MENIERE'S DISEASE

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BACKGROUND & AIM

Endolymph, rich in potassium, requires active ion transport to maintain the endocochlear potential. Variants in SIK1(linked to Na^+/K^+-ATPase) and SLC8A1 (encoding the Na^+/Ca^{2+} exchanger NCX1) may affect this balance. Klotho (KL), a regulator of K^+ channels in the inner ear, has been linked to increased susceptibility to inner ear disorders in animal models. This study

investigates KL gene variants and plasma levels in Ménière's disease (MD) patients and explores possible correlations with SIK1 and SLC8A1 variants.

MATERIAL & METHODS

We included 168 Caucasian patients with definite Ménière's disease (MD), diagnosed per Barany Society criteria, recruited from 2014 to 2021. All were genotyped for SIK1 (rs3746951), SLC8A1 (rs487119), and Klotho (rs9536314). Two control groups were used: 136 Caucasian outpatients without vertigo (Control Group 1) and 413 unrelated Europeans without MD (Control Group 2). Plasma α-Klotho levels were assessed in 25 MD patients and 13 controls using the IBL Assay Kit (Code No. 27998), designed for quantitative measurement in serum, plasma, urine, and cell culture supernatants.

RESULTS

Genotype and allele frequencies of Klotho (KL, rs9536314) in MD patients showed no significant difference compared to either control group. No correlation was found between KL genotype and age of vertigo onset (p=0.35), migraine (p=0.39), or autoimmune disease (p=0.45). In the expanded cohort, previous findings were confirmed regarding associations with the SIK1 T and SLC8A1 A risk alleles. A statistical analysis revealed that MD patients carrying the SIK1 T risk allele had a lower frequency of wild-type KL genotype, suggesting a possible interaction between KL and SIK1.

CONCLUSIONS

We found an association between the T allele of SIK1 and the G allele of KL, with patients carrying the T SIK1 allele showing a higher frequency of the G KL allele. This may suggest that ionic transporter dysfunction leads to increased expression of both SIK1 and Klotho, which are involved in maintaining inner ear ionic homeostasis. Their overexpression could reflect a compensatory response to ionic imbalance. These findings support the hypothesis that Ménière's disease is a complex disorder, where multiple genetic and regulatory factors may contribute to disease susceptibility.

KEYWORDS

SIK1, Klotho (KL), ionic homeostasis, Ménière's disease, ion transporters, inner ear disorders

OP-278

NEW INSIGHTS ON THE THERAUPATIC MANEUVERS OF BPPV TREATMENT

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BACKGROUND & AIM

OUR AIM IS TO DISCUSS NEW INSIGHTS ON THE THERAUPATIC MANEUVERS OF BPPV TREATMENT :

MATERIAL & METHODS

OUR PRESENTATION IS A COMPILATION STUDY OF VARIOUS ARTICLES AND STUDIES DONE UNTIL NOW.

RESULTS

RESULTS WILL BE LISTED IN DETAIL IN THE CONCLUSION PART BELOW

CONCLUSIONS

Conclusion:

Among the recently done studies, these issues are attracting our attention;

-Pathophysiology of L-SSC has not been clearly understood. Therefore, researchers focus on the variations of L-SSC.

-Methods for increasing the level of compliance with therapeutic maneuvers in clinical settings.

-To grasp BPPV etiology to a deeper extend and hence, to increase the success of treatment.

KEYWORDS

BPPV, MANEUVER, NEW INSIGHTS, THERAPHY

OP-279

The Impact Of Intratympanic Gentamicin On Endolymphatic Hydrops, Vestibular Function And Clinical Efficacy In Meniere's Disease

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BACKGROUND & AIM

Patients with Meniere's disease whose symptoms remain refractory despite medical management are candidates for intratympanic gentamicin (ITG). Endolymphatic hydrops is widely recognized as the histopathological hallmark of the disease, driven by endolymph secretion from the stria vascularis and dark cells. Recently, specific magnetic resonance imaging (MRI) grading systems have emerged to evaluate hydrops severity. However, the exact effect of ITG on hydrops level and conversely, the impact of baseline hydrops on treatment outcomes remains unclear. This study aims to investigate these radiological and clinical relationships.

MATERIAL & METHODS

This retrospective study included 21 patients with unilateral Meniere's disease undergoing ITG therapy. To evaluate radiological evolution, patients underwent pre- and post-intervention temporal bone MRI(1.5 T) using a Meniere-specific protocol. Cochlear and vestibular hydrops severity was independently graded by a neuroradiologist. Clinically, patients were assessed pre- and post-interventionally. Vestibular function was quantified using the video head impulse test (vHIT), hearing status via bone conduction pure-tone audiometry (PTA) thresholds, and quality of life using the Dizziness Handicap Inventory (DHI).

RESULTS

Following ITG injection, lateral semicircular canal (LSC) gains and DHI scores significantly decreased ($p=0.029$, $p=0.007$). Changes in bone PTA thresholds and anterior/posterior canal gains were not statistically significant. Radiologically, cochlear hydrops regressed in 4 patients and progressed in 3, while vestibular hydrops regressed in 4 and progressed in 2; these overall changes lacked statistical significance. However, changes in cochlear hydrops severity significantly correlated with changes in bone PTA thresholds ($p=0.013$, $r=0.530$). DHI improvements showed no correlation with hydrops changes. Furthermore, baseline cochlear and vestibular hydrops grades did not predict the extent of DHI improvement, vHIT alterations, or bone PTA shifts.

CONCLUSIONS

ITG effectively alleviates vertigo symptoms and reduces LSC gain without causing significant hearing loss or consistent radiological changes in endolymphatic hydrops. Furthermore, baseline MRI hydrops grading is not a reliable predictor of clinical or functional responses to ITG, indicating that treatment efficacy is largely independent of initial radiological severity.

KEYWORDS

Meniere disease, Intratympanic gentamicin, endolymphatic hydrops, Magnetic Resonance Imaging,Vertigo

FACIAL PLASTIC SURGERY

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OP-280

Integrating Low-Cost Simulation And Decision Scaffolding For Nasal Cutaneous Reconstruction Training: A Feasibility Study

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BACKGROUND & AIM

Effective nasal cutaneous reconstruction requires both complex pre-operative decision-making, integrating subunit anatomy, defect morphology, tissue quality, and patient-specific factors, and technical execution. Training remains heterogeneous and apprenticeship-based, with limited nasal-specific simulation models or structured decision-support tools. We hypothesised that a low-cost, reusable simulator aligned with a literature-derived reconstructive decision framework could provide a feasible foundation for structured nasal reconstruction training.

MATERIAL & METHODS

A mixed-methods feasibility study evaluated two linked components. First, a reusable nasal reconstruction simulator was developed from a modified three-dimensional-printed facial form with replaceable dyed latex skin, enabling repeated defect marking, subunit identification, flap planning, and incision and suturing. Practical usability and acceptability were explored through a pilot teaching session with eight students, and questionnaire feedback was analysed descriptively due to the small pilot sample.

Second, a targeted evidence synthesis screened 2,991 records to develop a subunit-stratified reconstructive decision framework. Reconstructive options were mapped by nasal subunit, defect size, and defect depth, with patient-factor modifiers codified and matched. Feasibility-level validation was performed using ten clinical vignettes reviewed by consultant facial plastic surgeons, with consultant selections compared descriptively against framework-generated options.

RESULTS

The simulator enabled repeated defect marking, flap design and suturing without wet-lab access or specialist infrastructure, costing approximately £6 per facial form and £0.60 per replacement skin layer. Pilot feedback supported acceptability and perceived relevance, although educational effectiveness was not assessed.

The evidence synthesis included 72 studies, representing 7,995 patients and 8,229 defects, and informed a framework that mapped reconstructive options by subunit, size, and depth. Consultant review showed full agreement in eight of ten vignettes and partial agreement in two, with no complete disagreement. Partial-agreement cases highlighted its value in broadening option generation while identifying the need for tissue-quality and patient-specific modifiers.

CONCLUSIONS

This study supports the feasibility of a low-cost, repeatable nasal reconstruction training platform that integrates simulation and scaffolding to support reconstructive decision-making. Findings demonstrate accessibility, acceptability and preliminary

consultant alignment, but remain limited by pilot-level learner evaluation and early expert validation. Further work should assess objective skill acquisition, decision-making performance and broader consultant review.

KEYWORDS

Nasal reconstruction; cutaneous reconstruction; facial plastics; aesthetic subunit; local flap selection; surgical simulation; decision support

OP-281

Use Of Corticosteroids In Children With Bell's Palsy: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Although corticosteroids are recommended as first-line therapy for adults with acute Bell's palsy, their effectiveness in children remains uncertain. This study aimed to evaluate the association between corticosteroid therapy and recovery rates in pediatric patients with acute Bell's palsy.

MATERIAL & METHODS

PubMed, Scopus, and Cochrane Library were systematically searched from inception to April 2, 2025, for studies on corticosteroids for children with Bell's palsy. Odds ratios and risk ratios with 95% confidence intervals were pooled using R software (version 4.2.3). Risk of bias was assessed with RoB2 and ROBINS-I.

RESULTS

Eleven studies were included, comprising 750 children, of whom 495 (66%) received corticosteroids. The analysis across final follow-ups showed no significant difference. Because follow-ups ranged from 1 to 24 months, 1, 3, and 6 months were used as key points to create comparable intervals. The following subgroups were analyzed for each interval: corticosteroid monotherapy and corticosteroids plus adjunctive therapy. Corticosteroid monotherapy was associated with higher complete recovery rates beyond 1 month and a lower risk of incomplete recovery after 6 months.

CONCLUSIONS

Corticosteroid monotherapy in children with acute Bell's palsy may improve recovery rates beyond the first month, supporting its implementation in treatment protocols.

KEYWORDS

Bell Palsy; Facial Paralysis; Corticosteroids; Pediatrics

OP-282

Conditioning Electrical Stimulation Accelerates Facial Nerve Regeneration And Central Remodeling After Nerve Transfer.

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BACKGROUND & AIM

Facial nerve injuries, caused by various conditions, lack effective treatment options. This study aimed to investigate the effects of conditioning electrical stimulation (CES) in a hypoglossal-facial nerve anastomosis model on facial nerve regeneration and central nervous system (CNS) changes.

MATERIAL & METHODS

Fifteen rats were assigned to evaluate the safety validation of CES and determine the optimal parameter. Subsequently, thirty-six rats were then assigned to CES and control groups, receiving hypoglossal-facial nerve anastomosis. Histological, electrophysiological, and facial movement assessments were conducted at 2 and 10 weeks after anastomosis. Eight rats were enrolled for fMRI examination at multiple time points parallel with the CES operation and anastomosis assessment.

RESULTS

In the safety validation experiment, brain-derived neurotrophic factor (BDNF) expression was significantly higher in the 1 mA group than in other groups ($p < 0.01$), and CD68 was highest in 4 mA group ($p < 0.05$). At both 2 and 10 weeks after anastomosis, CES-treated rats exhibited significantly increased neurofilament 200 (NF200) intensity in facial nerve axons ($p < 0.01$). At 10 weeks, the CES group exhibited higher Simone scores ($p < 0.05$), while fMRI analyses revealed reduced activity in the contralateral somatosensory and entorhinal cortices at later stages.

CONCLUSIONS

CES at intensities below 4 mA was safe, with 1 mA identified as more appropriate. CES promoted axon regeneration and facial function recovery after nerve anastomosis and was associated with CNS reorganization.

KEYWORDS
Facial nerve, Conditioning electrical stimulation, Hypoglossal-facial nerve neurorrhaphy, Nerve regeneration

OP-283

Predictable Algorithm To Manage Nasal Tip Projection And Rotation To Improve Nasal Aesthetics And Function.

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BACKGROUND & AIM

A key component of a well-performed rhinoplasty is to obtain the proper, aesthetic shape of the nasal tip. Various surgical techniques have been developed to achieve this effect. In his work, the author wanted to focus not only on the satisfactory shape of the nose, but above all on its main role- functionality.

MATERIAL & METHODS

In this article, the asymmetrical lateral crus steal (ALCS) technique is proposed, which in its assumption will enable narrowing, better defining and rotating of the nasal tip, and at the same time enhancing nasal patency. We present retrospective analysis within the group of 267 patients who underwent primary open-approach rhinoplasty that included the ALCS technique. The mean follow-up time was 12 months.

RESULTS

232 patients achieved very good postoperative results without observation of any serious complications related to the breathing difficulties or asymmetry of the nasal tip shape. ALCS is a relatively simple surgical technique to perform.

CONCLUSIONS

The use of the ALCS suture creates the possibility of proper profiling of the nasal tip, while improving the respiratory functions of the nose.

KEYWORDS
Rhinoplasty, Nasal Tip, LC Steal, Tip Reshaping, CTS, suture techniques

OP-284

Prognostic Factors And Survival Outcomes In T1N0 Lower Lip Squamous Cell Carcinoma

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BACKGROUND & AIM

Lower lip T1N0 squamous cell carcinoma (LSCC) is usually managed surgically, yet local and regional failures still occur. We report 5-year survival outcomes and evaluate clinicopathological prognostic factors.

MATERIAL & METHODS

Retrospective single-center cohort of 61 patients with pathologic T1N0 LSCC treated surgically. Endpoints were overall survival (OS), disease-specific survival (DSS), disease-free survival (DFS), and recurrence-free survival (RFS). Five-year outcomes (60 months) were estimated by Kaplan–Meier analysis (95% CI). Cox regression was used for univariable screening; a pre-specified multivariable model used included age, tumor diameter, and depth of invasion (DOI).

RESULTS

Mean age was 64.8±11.9 years; 50/61 (82.0%) were male. Median follow-up was 79.0 months (31.0–123.7). Mean tumor diameter was 13.4±4.0 mm and mean DOI was 4.3±3.2 mm. Perineural invasion (PNI) occurred in 5 (8.2%), lymphovascular invasion in 3 (4.9%) (Table 1). Neck dissection was performed in 49 (80.3%) with no pathological nodal positivity. Recurrence occurred in 6/61 (9.8%): 4 local and 2 regional. Thirteen deaths occurred overall, including one lower-lip cancer–related death (regional recurrence 12 months after surgery). Five-year estimates were: OS 84.8%, DSS 98.2%, DFS 79.2%, and RFS 90.2% (Table 2). In univariable Cox analysis, worse OS was associated with PNI (HR 7.31; p=0.001); however, rare variables should be interpreted cautiously due to sparse events. Increasing DOI was also associated with worse OS (HR 1.15 per mm; p=0.024). Sex, smoking, immunosuppression, tumor diameter, differentiation, reconstruction and neck dissection weren't significant predictors in multivariable modeling, age/diameter/DOI didn't retain independent significance.

CONCLUSIONS

T1N0 LSCC showed excellent 5-year DSS (98.2%) but lower DFS due to local/regional recurrences. DOI and PNI provided the strongest prognostic signals, supporting risk-adapted surveillance in early lip cancer.

KEYWORDS
lip squamous cell carcinoma; survival; recurrence; depth of invasion; perineural invasion; neck dissection

OP-285

Simplifying Costal Cartilage Harvesting In Rhinoplasty With The Gigli Saw Technique

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BACKGROUND & AIM

Costal cartilage is a reliable graft source in revision rhinoplasty; however, harvesting techniques may be associated with donor-site morbidity and technical challenges, especially in the presence of partial ossification. This study evaluates the safety, feasibility, and early outcomes of using the Gigli saw for costal cartilage harvesting.

MATERIAL & METHODS

A prospective descriptive case series was conducted including 12 revision rhinoplasty patients requiring costal cartilage grafts (7 males, 5 females; mean age 34, range 18–55). All patients had insufficient septal cartilage. Costal cartilage was harvested from the 6th–8th ribs through a 3-cm incision using the Gigli saw technique. Intraoperative complications, donor-site morbidity, graft integrity, and nasal reconstruction outcomes were systematically assessed. Patients were followed for a mean of 12 months (6–18 months).

RESULTS

Costal cartilage harvesting with the Gigli saw was successfully completed in all patients without pleural injury or pneumothorax. Adequate graft volume and structural integrity were achieved in every case. Partial ossification was present in five patients, yet the Gigli saw permitted smooth and controlled cutting without added difficulty. Donor-site morbidity was minimal, with no hematoma, seroma, infection, or chest wall deformity observed. All incisions healed with minimal scarring. During follow-up, no warping, resorption, or dorsal irregularity occurred, and graft stability was preserved.

CONCLUSIONS

The Gigli saw provides a safe, practical, and low-morbidity option for costal cartilage harvesting in revision rhinoplasty. Its flexible wire structure offers controlled cutting, particularly beneficial in partially ossified cartilage, while minimizing pleural manipulation. Although results are promising, the study is limited by its small sample size and subjective outcome assessment. Larger comparative studies are warranted.

KEYWORDS

Rhinoplasty, Gigli saw, Costal cartilage, Graft harvesting, Nasal reconstruction, Revision rhinoplasty

OP-286

Comparative Analysis Of Accuracy And Reliability Between Kratos Mobile 3D Facial Scanning Software And The Vectra H1 System

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BACKGROUND & AIM

Three-dimensional (3D) facial imaging is integral to preoperative planning and patient communication in facial plastic surgery. The Vectra H1 stereophotogrammetry system is the established reference device, but cost and infrastructure requirements limit its accessibility. Smartphone-based applications could close this gap if validated against accepted reference devices. To our knowledge, no peer-reviewed study has compared a smartphone application with Vectra H1 across a broad anthropometric panel. We hypothesised that Kratos, a recently developed smartphone facial scanning application, would yield clinically acceptable measurements with inter-observer consistency comparable or superior to Vectra H1, particularly for parameters where manual landmark placement introduces operator-dependent error.

MATERIAL & METHODS

This prospective multi-observer validation study enrolled 33 healthy adult volunteers at a single tertiary centre. Two otorhinolaryngologists and one plastic surgeon (one experienced with Vectra, two naive to both systems) independently scanned each participant twice with each device, generating 12 scans per participant. Nineteen anthropometric parameters were extracted, covering horizontal and vertical facial thirds, nasal tip projection, columella–labial angle, naso-facial angle, facial angle, and dorsal height. Analyses included paired t-tests, Pearson correlation, two-way mixed-effects intraclass correlation coefficients (ICC) with absolute agreement, and Bland–Altman plots in SPSS 27.0 ($p<0.05$). The protocol followed STROBE reporting standards and received institutional ethics committee approval.

RESULTS

Statistically significant inter-device differences were observed in 13 of 19 parameters in Session 1 and 12 of 19 in Session 2. Absolute mean differences remained below 2 mm for most linear and below 3° for most angular parameters, within clinically acceptable thresholds for surgical planning. Kratos ICC exceeded 0.90 for all 19 parameters in both sessions, whereas Vectra

inter-observer ICC dropped below the 0.75 reliability threshold for vertical thirds and facial angle. The largest divergence in measurement variability appeared at facial angle (Vectra SD 16.4° versus Kratos 7.2°). Bland–Altman analysis confirmed narrow limits of agreement for nasal tip projection (−0.77 to +0.48 mm).

CONCLUSIONS

Kratos produces measurements within clinically acceptable limits and outperforms Vectra H1 in inter-observer consistency for parameters most sensitive to manual landmark placement. It offers a validated, accessible alternative to stationary stereophotogrammetry for preoperative documentation, teleconsultation, and remote patient follow-up.

KEYWORDS

3D facial analysis; Kratos; Vectra H1; facial anthropometry; smartphone validation; intraclass correlation coefficient; teleconsultation

OP-287

Bacterial Growth In Stored Septal Cartilage Grafts: Cartilage Or Storage Solution?

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BACKGROUND & AIM

Septal cartilage grafts are frequently preserved after rhinoplasty for potential use in revision procedures. Although bacterial contamination during rhinoplasty has been investigated previously, data regarding the microbiological behavior of cartilage grafts during prolonged storage remain limited. This study aimed to evaluate bacterial growth in septal cartilage grafts stored in gentamicin-containing solution and to determine whether contamination preferentially localizes to the cartilage itself or to the surrounding storage medium.

MATERIAL & METHODS

A total of 94 septal cartilage grafts harvested during rhinoplasty procedures and stored in gentamicin-diluted saline solution were microbiologically analyzed. Storage duration was defined as the interval between graft harvesting and culture analysis. Cartilage tissue and storage solution sediment were processed separately under sterile conditions using aerobic and anaerobic culture techniques. Culture positivity, localization of bacterial growth, and isolated microorganisms were recorded.

RESULTS

The mean storage duration was 425 days (range: 80–1193 days). Overall, 18 of 94 samples (19.1%) demonstrated bacterial growth, whereas 76 samples (80.9%) remained culture-negative. Bacterial growth was more frequently detected in the sediment of the storage solution (n=11) than within the cartilage graft itself (n=8). Predominantly low-virulence commensal microorganisms were isolated, most commonly Staphylococcus hominis. No significant association was observed between storage duration and culture positivity (p=0.882). Similarly, prolonged storage (≥365 days) was not associated with increased bacterial growth compared with shorter storage duration (p=0.613).

CONCLUSIONS

Most septal cartilage grafts remained culture-negative despite prolonged storage in gentamicin-containing solution. Bacterial growth appeared to localize more frequently to the surrounding storage sediment rather than to the cartilage tissue itself. Prolonged storage duration was not associated with increased culture positivity. These findings suggest that storage in gentamicin-containing solution may provide a relatively stable microbiological environment for preserved septal cartilage grafts.

KEYWORDS

Rhinoplasty ; Septal graft ; Microbiology ; Cartilage grafting ; Gentamicin

OP-288

The Validation Of A Deep Learning-Based 3D Facial Measurement System And Facial Feature Analysis In Patients With Facial Palsy

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BACKGROUND & AIM

This study aims to validate a deep learning-based 3D facial measurement system for its accuracy, robustness, and clinical relevance in patients with facial palsy, and to characterize their facial movement features.

MATERIAL & METHODS

Patients with facial palsy and healthy controls were enrolled in the study, and facial data were collected using the 3D measurement system. The accuracy, robustness, and clinical relevance of the system were evaluated. Quantitative facial data

were analyzed to assess the correlation between regional static/dynamic metrics and total scores and compare measurements of HB grade I patients with healthy controls.

RESULTS

The system's average recognition error was 1.94 ± 0.35 mm. Over 90% of static and dynamic metrics fell within the Bland-Altman limits. System-derived machine scores showed strong correlations with HB (r = -0.918), Sunnybrook (r = 0.909), and Fisch (r = -0.917) scales (all p < 0.001). Gentle eye closure and broad smile exhibited the strongest correlation with the overall facial nerve function. HB grade I patients showed significantly lower total and dynamic machine scores than healthy controls (p < 0.05).

CONCLUSIONS

This study provides an objective, quantitative tool for evaluating facial nerve function, demonstrating good accuracy, robustness, and strong relevance with subjective scales, and exhibiting enhanced sensitivity to subtle or clinically unnoticeable facial nerve dysfunction.

KEYWORDS

Facial Palsy, 3D Facial Measurement, Facial Nerve Function, Deep Learning

OP-289

AI-Assisted Photographic Assessment Of Auricular Symmetry Following Otoplasty

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BACKGROUND & AIM

Prominent ear deformity is a common congenital auricular anomaly that may negatively affect psychosocial well-being, particularly in pediatric and adolescent patients. Although otoplasty is associated with high patient satisfaction, postoperative evaluation is frequently based on subjective assessment. This study aimed to evaluate postoperative auricular symmetry and projection changes using AI-assisted photographic assessment combined with objective anatomical measurements following otoplasty.

MATERIAL & METHODS

A retrospective clinical study was conducted including approximately 20 pediatric and adolescent patients (40 ears) who underwent bilateral otoplasty for prominent ear deformity. Surgical correction consisted of combined Mustardé sutures, Furnas conchal setback sutures, and selective conchal cartilage excision. Standardized preoperative photographs and auricular measurements were obtained in all patients. Immediate postoperative measurements and 6-month postoperative photographs were evaluated using AI-assisted semi-automated digital photographic analysis with landmark-based assessment of auricular symmetry and projection. Auricular projection and symmetry were assessed using helical superior measurements, transverse antihelical measurements referenced to the zygomatic line, tragal midline-based measurements, and intertragal notch measurements. Statistical analyses were performed using paired comparisons between preoperative and postoperative measurements to evaluate postoperative changes in auricular projection and symmetry. All photographs were anonymized and analyzed without identifiable patient information.

RESULTS

Postoperative assessment demonstrated significant improvement in auricular projection and bilateral symmetry compared with preoperative findings. AI-assisted photographic analysis showed improved auricular contour and reduced prominence at all evaluated anatomical landmarks. Six-month postoperative photographs demonstrated stable aesthetic outcomes without clinically significant recurrence. No major postoperative complications, including hematoma, infection, skin necrosis, or hypertrophic scarring, were observed. Overall patient satisfaction was high.

CONCLUSIONS

AI-assisted photographic assessment combined with objective anatomical measurements may provide a practical and standardized method for postoperative evaluation following otoplasty. Combined Mustardé and Furnas techniques with selective conchal cartilage excision achieved satisfactory aesthetic outcomes, stable postoperative symmetry, and high patient satisfaction in pediatric and adolescent patients.

KEYWORDS

Otoplasty, Artificial Intelligence, Auricular Symmetry, Facial Plastic Surgery, Photographic Analysis

OP-290

Balanced Medial Crural Suture: A Novel Technique For Precise Nasal Tip Positioning

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BACKGROUND & AIM

Achieving stable nasal tip support while preserving physiologic tip mobility remains a major challenge in septorhinoplasty. Conventional graft- and suture-based techniques often limit independent medial crural control, particularly in cases with asymmetry, and may result in excessive rigidity or progressive postoperative changes. This study aims to describe the Balanced Medial Crural Suture (BMCS) technique, a novel septocolumellar suturing method designed to provide balanced, independent stabilization of each medial crus for precise and adjustable nasal tip positioning.

MATERIAL & METHODS

The BMCS technique was performed during open septorhinoplasty procedures under general anesthesia. Following completion of dorsal and structural maneuvers, the desired nasal tip position was determined intraoperatively. Each medial crus was independently positioned and marked relative to the caudal septum at the level of the supratip break angle. A 6-0 polypropylene suture was first placed through the caudal septum to establish a stable reference point. The suture was then passed separately through each medial crus with a controlled 2-mm tissue purchase and tied to achieve balanced septocolumellar fixation. Suture tension and placement were adjusted under direct visualization to correct asymmetry and optimize tip projection and rotation.

RESULTS

The BMCS technique allowed precise, symmetrical, and reproducible control of nasal tip position. Independent fixation of each medial crus facilitated correction of medial crural asymmetry while preserving physiologic tip mobility. Intraoperative adjustability enabled fine-tuning of projection and rotation without reliance on rigid graft constructs. The technique provided stable tip support with balanced tension distribution between the medial crura.

CONCLUSIONS

The Balanced Medial Crural Suture is a practical and versatile septocolumellar technique that enables independent medial crural stabilization while maintaining natural nasal tip dynamics. By combining standardized reference points with modular suture adjustment, BMCS offers predictable control of tip position and represents a valuable addition to contemporary septorhinoplasty techniques.

KEYWORDS

Balanced medial crural suture; Nasal tip stabilization; Septocolumellar fixation; Tip projection; Tip rotation; Rhinoplasty

OP-291

Microtia In Uzbekistan: Which Stage Is Better?

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BACKGROUND & AIM

Microtia is a congenital auricular malformation with an estimated prevalence of 1 in 6,000–12,000 live births. Two-stage autologous costal cartilage reconstruction remains a widely accepted technique due to its durability, natural contour, and compatibility with growth. In Uzbekistan, where prosthetic and alloplastic options are limited, autologous cartilage reconstruction is the standard approach. This study presents a 20-year single-center experience from main medical center in Tashkent, documenting surgical refinements, complication trends, and long-term outcomes in 180 pediatric patients.

MATERIAL & METHODS

Between 2005 and 2025, 180 consecutive pediatric patients (114 boys, 66 girls) with unilateral microtia underwent staged autologous reconstruction. Patients with bilateral microtia, syndromic anomalies, or previous auricular surgeries were excluded.Stage 1: Harvest of costal cartilage (ribs 10–12), framework carving using micro-blade tools, subcutaneous implantation at the auricular site.Stage 2: Auricular elevation with a vascularized temporoparietal fascial flap and split-thickness skin graft coverage.Patients were stratified by age:- 6–10 years: 60 cases- 10–14 years: 65 cases- 14–17 years: 55 casesPreferred age for Stage 1 was 10–12 years to ensure adequate rib cartilage volume while minimizing donor site morbidity. Mean interval between stages was 6–8 months.Demographic data, perioperative complications, revision rates, and long-term framework stability were recorded. Satisfaction was assessed at ≥1 year postoperatively using a 5-point Likert scale during in-person evaluations. Follow-up ranged from 1 to 8 years (mean 5.2 years).

RESULTS

Case distribution: Unilateral microtia: 180 (100%)Mean age at Stage 1: 11.2 yearsComplications:- Skin necrosis: 3 cases (1.6%)- Framework exposure: 5 cases (2.7%)- Infection: 6 cases (3.3%)- Hypertrophic scarring: 24 cases (13.3%)Revisions:- 18 patients (10%)- Contour refinement: 12- Projection adjustment: 6Framework stability:- Stable at ≥5 years: 168 patients (93.3%)Satisfaction scores:- Mean: 4.6/5- Highest in 14–17 year group (4.8/5)Technical refinements introduced during study period:1. Framework carving — Use of micro-blade tools for precise helix and antihelix definition.2. Flap harvest technique — Consistent preservation of vascular pedicle during temporoparietal fascia dissection.3. Skin graft optimization — Thinning for color match and reduced bulk.4. Timing modification — Standardizing Stage 1 between ages 10–12 for optimal cartilage availability.Subgroup observations:- Younger patients (6–10 years) had slightly higher framework instability (8%) compared to older groups (4%), linked to smaller cartilage volume.- Satisfaction scores correlated positively with age at reconstruction.

CONCLUSIONS

Two-stage autologous costal cartilage auricular reconstruction remains a safe, effective, and durable method for pediatric microtia in Uzbekistan. Technical refinements developed over the past decade have improved contour definition, reduced complications, and enhanced patient satisfaction. These results are applicable to similar resource-limited settings worldwide.

KEYWORDS

Microtia, Auricular Reconstruction, Autologous Costal Cartilage, Pediatric Plastic Surgery, Uzbekistan

OP-292

Surface Electrical Stimulation Stops Muscle Atrophy In Facial Paralysis: Ultrasound Evidence

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BACKGROUND & AIM

There is increasing evidence to support the use of surface functional electrical stimulation (FES) as a complementary therapy for treating patients with complete denervated facial paralysis. However, standardised studies using objective methods are needed to quantify its therapeutic effects. This pilot study examined the safety and feasibility of home-based FES for treating denervated muscle atrophy and improving facial symmetry, using ultrasound and automated image analysis.

MATERIAL & METHODS

Ten patients (median age: 61 years; median duration of denervation: 130 days) with complete facial paralysis were enrolled in a prospective, monocentric feasibility study. They performed home-based FES of the zygomaticus muscle twice daily for up to one year. Monthly follow-ups included stimulation adjustments, sonography, and standardised photographs. To eliminate reinnervation bias, data points were excluded as soon as electromyography indicated voluntary muscular activity.

RESULTS

No serious adverse events occurred. The stimulation parameters were progressively increased, demonstrating effective muscle engagement. The cross-sectional area of the zygomaticus muscle increased significantly, in contrast to the decrease observed in non-stimulated muscles. Automated image analysis revealed a significant deterioration in the non-stimulated areas compared to the stimulated facial region.

CONCLUSIONS

FES is a safe and feasible therapy model for patients with complete facial paralysis. Atrophy of the stimulated muscles could be reversed, as could facial asymmetry. These promising results justify conducting a future controlled, randomised, double-blind study to further investigate these initial findings.

KEYWORDS

ultrasound, electrostimulation, electromyography, facial paralysis, reinnervation, surface electrodes, zygomaticus muscle, home training

OP-293

Evaluation Of Functional And Aesthetic Outcomes In Septorhinoplasty Using The Social Appearance Anxiety Scale, Rhinoplasty Outcomes Evaluation (ROE-T), And The Sino-Nasal Outcome Test-22 (SNOT-22)

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BACKGROUND & AIM

This study aimed to evaluate aesthetic perception and functional symptoms in patients undergoing septorhinoplasty using the Social Appearance Anxiety Scale (SAAS), Rhinoplasty Outcomes Evaluation–Turkish version (ROE-T), and Sino-Nasal Outcome Test-22 (SNOT-22) in the preoperative and postoperative periods. Additionally, the effects of different surgical techniques and graft types on these outcomes were investigated.

MATERIAL & METHODS

A total of 67 patients (47 females, 20 males) who underwent septorhinoplasty were included. All participants completed the SAAS, ROE-T, and SNOT-22 questionnaires preoperatively and at the routine third-month postoperative follow-up. Demographic data (age, sex, smoking status) and graft types were recorded. Septal extension grafts were used in 20 patients and columellar strut grafts in 47 patients. Preoperative and postoperative scores were compared, and subgroup analyses were performed according to sex, age group (18–35 vs. 36–50 years), and graft type.

RESULTS

The preoperative median SNOT-22 score was significantly higher in male patients than in female patients (p=0.032), and the postoperative reduction in sinonasal symptoms was greater in males (p=0.004). Improvement in functional and aesthetic satisfaction based on ROE-T scores was more pronounced in the 18–35-year age group compared with the 36–50-year group

(p=0.006). No statistically significant difference was found between septal extension and columellar strut graft groups regarding changes in questionnaire scores (p=0.126). Overall, significant postoperative improvements were observed in aesthetic satisfaction and sinonasal symptoms.

CONCLUSIONS

Septorhinoplasty significantly reduced sinonasal symptoms, improved functional and aesthetic satisfaction, and decreased social appearance anxiety (p<0.001). No significant differences were found between septal extension and columellar strut grafts, indicating comparable effectiveness; thus, graft choice should be guided by patient-specific anatomy and surgical planning. Male patients had higher preoperative SNOT-22 scores and greater postoperative functional improvement. Negative correlations between SNOT-22 and ROE-T and positive correlations with social anxiety show that functional impairment negatively affects aesthetic satisfaction and psychosocial status, emphasizing the importance of comprehensive preoperative assessment and individualized planning.

KEYWORDS

Septorhinoplasty, Septal Extension Graft, Columellar Strut Graft, Social Appearance Anxiety Scale, Rhinoplasty Outcomes Evaluation Questionnaire, SNOT-22

OP-294

Demographic And Radiological Analysis Of Patients With Mandibular And Maxillary Fractures, Surgical And Non-Surgical Treatment Outcomes: Our 5-Year Experience In A Tertiary Hospital

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BACKGROUND & AIM

The maxillofacial region is among the most frequently injured anatomical areas. Owing to its prominent and relatively unprotected position, the mandible is the second most commonly fractured bone in adults. In studies involving larger patient series, mandibular fractures have been reported as the most common injury among patients with maxillofacial trauma.

MATERIAL & METHODS

Patients who presented to our clinic with maxillofacial trauma between 2021 and 2026, either referred from the emergency department or admitted via outpatient services, were included in this study. In this retrospective study, 115 patients were included. Demographic variables (age and sex), trauma etiology, concomitant facial fractures, surgical management, and postoperative complications were comprehensively evaluated and systematically analyzed.

RESULTS

Among the 115 patients, 102 were male and 13 were female. The mean age was 34.6 years in males and 32.3 years in females. Patient ages ranged from 3 to 93 years. In both sexes, road traffic accidents constituted the predominant etiological factor, followed by falls as the second most common cause. While 21 male patients sustained mandibular fractures due to interpersonal violance, no violance-related cases were documented in female patients. Isolated mandibular fractures predominated among female patients (12/13), with only one case accompanied by a maxillary fracture. By contrast, 50 male patients had concomitant fractures, the majority of which (39 patient) involved multiple facial bones.

A total of 156 surgical procedures were performed, and complications were observed in 17 cases. The most frequently observed complication was intraoral wound dehiscence, followed by plate and/or screw exposure.

CONCLUSIONS

Inadequately managed mandibular fractures may lead to infection at the fracture site, persistent malocclusion, and functional impairment. Although several aspects of mandibular fracture management are well established and supported by consensus, certain approaches remain controversial and may vary among experienced surgeons. This study aims to evaluate the demographic characteristics of surgically treated mandibular fractures at our institution, to compare these findings with the current literature, and to contribute to the standardization of management by presenting our surgical approaches.

KEYWORDS

mandibular fractures, maxillary fractures, intermaxillary fixation, open reduction

OP-295

Selective Neurectomy: The Crossroads Of Facelifting And Synkinesis Surgery

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BACKGROUND & AIM

Although aesthetic and reconstructive surgery are frequently regarded as distinct disciplines within facial plastic and reconstructive surgery, there is considerable overlap between these two areas. Facial plastic and reconstructive surgeons recognize the significant intersections that exist, often drawing upon techniques and principles from both aesthetic and

reconstructive practices to achieve optimal outcomes for their patients. Selective neurectomy for synkinesis underscores the benefit of integrating aesthetic with reconstructive techniques.

MATERIAL & METHODS

Selective neurectomy and facelifting procedures performed by a single surgeon at a tertiary care facial nerve center were reviewed over a 4-year period. Outcomes, evolution of surgical techniques, and influences the two procedures have had on each other were studied.

RESULTS

During the 4-year period, 46 cases of isolated selective neurectomy, 46 cases where selective neurectomy was combined with contralateral facelifting, and 30 facelift surgeries in patients without synkinesis were performed.

Females and older patients were more likely to undergo contralateral facelifting in conjunction with selective neurectomy. There were no significant differences in patient-reported outcomes between those who had selective neurectomy alone and those who underwent selective neurectomy with a facelift.

Over time, the surgeon adopted a “preservation” approach for both facelift and neurectomy procedures, resulting in reduced operative times and fewer complications. For improved neck contouring, a platysma myotomy was performed along the mandibular border, eliminating the need to resect the submandibular gland. Importantly, placing the myotomy at this location helps prevent injury to the nerve to the depressor labii inferioris, thereby avoiding postoperative lower lip asymmetry. With this technique, no patients experienced temporary or permanent lower lip weakness.

CONCLUSIONS

Facelifting surgery is recommended for many synkinesis patients undergoing selective neurectomy. Preservation facelifting, with reduced subcutaneous elevation, shortens operative time and decreases complications in both procedures. High platysma myotomy improves neck contour without submandibular gland excision and without significant risk of lower lip asymmetry.

KEYWORDS

Rhytidectomy, facelift, synkinesis, neurectomy, selective neurectomy, facial paralysis, Bell's palsy

OP-296

KIRSCHNER WIRE-GUIDED SUTURE FIXATION: A SIMPLE AND RELIABLE REPAIR FOR SEPTAL L-STRUT FRACTURES AND KEYSTONE AREA COLLAPSE IN RHINOPLASTY

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BACKGROUND & AIM

The keystone region is where the cartilage and bone structures meet in the nose, and separation of this region during rhinoplasty can cause loss of support for the nasal dorsum and collapse. The techniques mentioned in the literature for repairing this region are difficult and challenging to apply. They also have difficulties such as passing sutures through the nasal skin.

MATERIAL & METHODS

In this study, the author describes the keystone region fracture and drop observed in 3 of 165 primary and secondary rhinoplasty cases and the simple, reliable and rapid repair of this region by using Kirschner wires.

RESULTS

The ratio of intraoperative falls and fractures observed in keystone area 3 patients to all 165 surgeries is 1.8%. 2 of the 3 cases were revision rhinoplasty. The ratio in revision rhinoplasties cannot be known with the available data. The patients were followed up for 5 years after the operation.

During the follow-up, nasal breathing improved aesthetically. The mean NOSE (Nasal Obstruction Symptom Evaluation) scores of the patients improved significantly, decreasing from a preoperative mean of 85 to a postoperative mean of 25. Regarding aesthetic outcomes, patients reported high levels of satisfaction with their nasal contours. Due to the limited sample size (n=3), differential statistical analysis could not be performed.

CONCLUSIONS

L-Strut can be repaired simply and reliably. This method provides a rapid and effective treatment for L-strut fractures that occur after resections for high septal deviations or in secondary rhinoplasties in the K-area or keystone region.

KEYWORDS

K-area; Keystone; rhinoplasty; Kirschner; saddle nose; L strut

OP-297

The Effect Of Olfactory Training On Olfactory Function In Patients Undergoing Septorhinoplasty

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BACKGROUND & AIM

Septorhinoplasty is a commonly performed surgical procedure that may affect olfactory function due to postoperative mucosal edema, nasal packing, and structural changes in the nasal airway. Although olfactory training has been shown to improve olfactory function in certain patient populations, its effectiveness following septorhinoplasty remains unclear. This study aimed to evaluate changes in olfactory function after septorhinoplasty and to investigate the effect of olfactory training on postoperative olfactory outcomes.

MATERIAL & METHODS

In this prospective study, 60 patients who underwent septorhinoplasty were included. The patients were divided into two groups: Group 1 (n = 30), receiving olfactory training, and Group 2 (n = 30), not receiving olfactory training. Olfactory function was assessed in all patients using the Brief Smell Identification Test (B-SIT) preoperatively, at postoperative week 1, and at postoperative month 2. All data were recorded in patient files and statistically analyzed.

RESULTS

The mean age was 29.5 ± 2.01 years in Group 1 and 26.4 ± 1.05 years in Group 2. No statistically significant difference in preoperative olfactory function was observed between the groups ($p > 0.05$). In both groups, olfactory function significantly decreased at postoperative week 1 compared with preoperative values ($p < 0.05$). No statistically significant difference was observed between preoperative and postoperative month 2 olfactory measurements in either group ($p > 0.05$).

CONCLUSIONS

According to these results, no significant long-term change in olfactory function was observed after septorhinoplasty. Similarly, no significant difference in olfactory function was observed between patients who received olfactory training and those who did not. In this study population, most patients did not have clinically significant olfactory impairment in the preoperative period. Therefore, further studies focusing specifically on patients with preoperative olfactory dysfunction are warranted.

KEYWORDS

Septorhinoplasty, Olfactory Function, Smell Test, Olfactory Training

OP-298

Can Artificial Intelligence Detect The Anti-Aging Effect Of Rhinoplasty?

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BACKGROUND & AIM

The quest for eternal youth has been a common theme in many cultures for centuries. While we have yet to discover a way to preserve youth eternally, we have made significant progress in understanding the aging process and in developing pharmaceuticals, surgical techniques, and technologies.

In addition to rhinoplasty's facial beautification effect, we investigated whether it had a facial anti-aging effect using an artificial intelligence (AI)-based program. We also examined the correlation between patient satisfaction and the anti-aging effect of rhinoplasty.

MATERIAL & METHODS

This study included 244 patients who underwent functional septorhinoplasty (FSRP) between January 2018 and August 2020 at Inonu University, Department of Otorhinolaryngology. Preoperative and postoperative photographs in our archive were evaluated using an AI-based age analysis program. In addition, the participants evaluated preoperative and postoperative nose satisfaction with the FACE-Q survey in the postoperative period.

RESULTS

One hundred two males (41.8%) and 142 females (58.2%) were included in the study. The mean preoperative age determined by the program was 25.9 ± 6.1, and the mean postoperative age was 25.7 ± 5.8. Despite the mean follow-up period of the patients was 25.3 ± 8.7 months, our study showed no significant difference between the mean preoperative and postoperative ages. The mean general satisfaction of the patients increased postoperatively.

CONCLUSIONS

Despite the average follow-up period, the absence of a significant difference between preoperative and postoperative perceived mean age may be interpreted as a possible anti-aging effect of rhinoplasty. This effect was more prominent in older patients and in women.

KEYWORDS

Rhinoplasty; artificial intelligence; aging

OP-299

The Caudal Septal Partial Incision With Extension Graft Interposition: A Structural Approach To Columellar And Dorsal Septal Deviation

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BACKGROUND & AIM

Caudal septal deviation remain one of the most technically difficult deformities in septorhinoplasty due to its crucial role in tip support, columellar alignment, and dorsal axial stability. Scoring, splinting grafts, and complete caudal replacement are examples of traditional corrective methods that may jeopardize structural integrity or offer little control over multiplanar deformities.

The purpose of this study is to assess the structural and clinical results of the caudal septal partial incision with extension graft interposition technique as a means of axial realignment and controlled septal segmentation in patients undergoing open septorhinoplasty.

MATERIAL & METHODS

Patients who had open septorhinoplasty using this technique between 2025 and 2026 were included in a retrospective case series carried out at a tertiary academic referral center. pre and post operative NOSE scores and aesthetic satisfaction using ROE scores, and standardized photographic analysis was performed by independent facial plastic surgeons. Complications and revision rates were analyzed to evaluate safety and durability.

RESULTS

Preliminary date: The study included 34 patients with a mean age of 31.8 ± 6.3 years. The mean time since surgery was 8.2 ± 4.6 months. The most frequent intraoperative findings were deviated caudal septum (100%), nasal hump (57.5%), and down rotation (63.2%). The ROE questionnaire results showed statistically significant improvements in all constituents ($P < 0.0001$) after surgery. The mean total ROE score improved from 8.7 ± 3.2 preoperatively to 19.5 ± 3.9 postoperatively ($P < 0.001$). Similarly, the mean total Nasal Obstruction Symptom Evaluation score improved from 7.1 ± 5.8 preoperatively to 1.9 ± 2.7 postoperatively ($P < 0.001$).

CONCLUSIONS

The Caudal Septal Partial Incision with Extension Graft Interposition technique in septorhinoplasty has shown favorable outcomes in enhancing both functional and aesthetic aspects. Findings from this retrospective study indicate a high level of patient satisfaction along with a low rate of postoperative complications.

KEYWORDS

Caudal septal deviation, Septorhinoplasty, Septal extension graft, Nasal tip support

OP-300

Nasal Tip Projection: Asymmetries After Rhinoplasty

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BACKGROUND & AIM

Introduction: nasal tip projection has been defined as the distance along a perpendicular line from the vertical facial plane to the most anterior projecting point of the nasal tip. The tripod concept, although an oversimplification of nasal tip dynamics, highlights the intimate relationship between projection and rotation. Each lateral crus composes one lateral leg of the tripod, and the paired medial crura constitute the central leg. The tripod concept also highlights the effect of operative procedure on one limb may have on the spatial position of the entire nasal tip.

MATERIAL & METHODS

Material and methods: We completed a retrospective review of patients who were admitted at ENT Clinic, Skopje from the period of 2019-2025.Operative technique rhinoplasty were prepared in 36 patients. Procedures included full-transfixion incision, release of tension septum, lateral crural overlay (LCO), dome truncation, medial crural overlay (MCO), and combinations of them. We reviewed major and minor secondary revision procedures that patients underwent, postoperative complications, and any functional complaints.

RESULTS

Of the remaining 36 patients:1 (2.5%) required minor revision of dorsal irregularities, 3 (3.0%) required tip revision, 33 patients (93.3%) were satisfied without qualification, 3 patients (3.5%) were not satisfied and wont for revision surgery. 3 patients (2.5%) underwent radix grafts. 5 (13.3%) of the patients had had previous rhinoplasty performed by another physicians. 7 patients (18.3%) were classified as having tension nose. 1 patient had postoperative epistaxis, and there were no cases of postoperative functional complaints.

CONCLUSIONS

Our revision rate of 4.2% for tip irregularity and our finding that no patients had postoperative functional complaints allows us to feel confident that this algorithmic paradigm can be used to accomplish tip deprojection in almost any circumstance.

KEYWORDS

Nasal tip asymmetries, rhinoplasty, facial planing

OP-301

Microsaw Vs Conventional Osteotomy In Rhinoplasty

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BACKGROUND & AIM

Septorhinoplasty aims to achieve both functional and aesthetic improvement; however, early postoperative edema, ecchymosis, and pain may negatively impact patient comfort. This study compares the effects of conventional osteotomy instruments versus an oscillating microsaw on early postoperative edema, ecchymosis, pain, and patient satisfaction.

MATERIAL & METHODS

In this prospective randomized study, 60 patients undergoing open septorhinoplasty were assigned to two groups (n=30 each). Group 1 underwent conventional osteotomies, while Group 2 underwent microsaw-assisted osteotomies. All other surgical steps were standardized. Edema and ecchymosis were evaluated on postoperative days 3 and 7 by two blinded surgeons. Pain levels were self-reported on days 1, 3, and 7 using a visual analog scale. Patient satisfaction was assessed on postoperative day 7.

RESULTS

The mean age was 24.10 ± 4.83 years in Group 1 and 25.53 ± 6.08 years in Group 2 ($p > 0.05$). Gender distribution was similar. Edema and ecchymosis scores did not significantly differ between groups on days 3 and 7 ($p > 0.05$). Both parameters improved significantly from day 3 to day 7 within each group ($p < 0.05$). Pain scores decreased significantly over time in both groups ($p < 0.05$), with no intergroup difference at any time point ($p > 0.05$). Day-7 patient satisfaction scores were modest and comparable between groups (≈5/10; $p > 0.05$).

CONCLUSIONS

Microsaw-assisted osteotomy did not provide a significant advantage over conventional techniques in reducing early postoperative morbidity. Gentle tissue handling and meticulous surgical technique remain key factors in improving patient comfort. Larger, multi-center studies are warranted to clarify potential subtle benefits of microsaw osteotomies.

KEYWORDS

septorhinoplasty; osteotomy; microsaw; edema; ecchymosis; pain; patient satisfaction

OP-302

Impact Of Dorsal Preservation Rhinoplasty On The Internal Nasal Valve

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BACKGROUND & AIM

The internal nasal valve (INV) is the narrowest segment of the nasal airway and a key regulator of airflow and resistance. Preservation rhinoplasty (PR) includes techniques such as push-down (PD) let-down (LD) and spare roof (SR) and aims to maintain nasal form and function by sparing dorsal structures. Although PR achieves high aesthetic satisfaction evidence regarding its functional impact particularly on the INV angle remains limited. This study aims to evaluate changes in the INV angle following dorsal preservation rhinoplasty using meta-analytic method.

MATERIAL & METHODS

This systematic literature review was conducted through a thorough search of PubMed/MEDLINE and Google Scholar up to April 2025. Studies reporting pre- and post-operative INV angles in patients undergoing DPR were included. Data extraction quality assessment (RoB 2 MINORS QUACS) and meta-analysis were performed using RevMan 5.4 following PRISMA guidelines. The primary outcome was change in INV angle; secondary outcomes included nasal resistance and airway volume.

RESULTS

For this SRMA nine studies met the inclusion criteria with four studies eligible for meta-analysis (N = 118 patients). Techniques included LD PD and SR. The pooled standardized mean difference (SMD) showed a significant post-operative increase in INV angle (SMD = 0.52; 95% CI: 0.02–1.02; $p = 0.04$; $I^2 = 63\%$). After excluding an outlier study (Stergiou 2020) heterogeneity

dropped to 0% and the effect remained significant (SMD = 0.43; 95% CI: 0.16–0.69; p = 0.002). Cadaveric analysis (N = 46) showed the SR technique had the most favorable INV angle increase (SMD = 1.42; p = 0.02). PD showed a non-significant decrease (SMD = −1.65; p = 0.15) while LD trended positively (SMD = 0.86; p = 0.13). Subgroup analysis demonstrated significant differences by surgical technique (p = 0.02). Only two studies reported nasal airflow outcomes with trends toward increased nasal volume without change in resistance.

CONCLUSIONS

This study shows that among dorsal preservation approaches the spare roof and let-down techniques in particular are associated with modest but clinically meaningful improvements in INV angle. While push-down may not consistently improve valve patency spare roof shows significant anatomical benefit. These findings support dorsal preservation rhinoplasty as a functionally effective alternative to traditional hump techniques though further high-quality long-term studies with standardized objective and subjective functional outcomes are recommended to guide technique selection in clinical practice.

KEYWORDS

Dorsal preservation rhinoplasty, Preservation rhinoplasty, let-down technique, push-down technique, internal nasal valve, INV angle, CBCT, nasal resistance.

OP-303

Postoperative Patient Behavior On Tiktok Following Rhinoplasty: An AI-Assisted Thematic And Sentiment Analysis Of Non-Guideline-Supported Recommendations, Reassurance-Seeking, And Community-Based Care Patterns

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BACKGROUND & AIM

To systematically identify non-guideline recommendations, reassurance-seeking behavior, emotional profiles, and community-based care patterns in user comments on TikTok videos addressing rhinoplasty recovery, using AI-assisted thematic and sentiment analysis, and to define the determinants of these patterns through like-weighted visibility analysis and logistic regression.

MATERIAL & METHODS

A total of 1,024 comments from 50 publicly available TikTok videos were identified using a PRISMA-inspired selection workflow. To minimize personalization bias, a newly created account with no prior interaction history was used, cookies were cleared, and all searches were conducted under standardized conditions. AI-assisted thematic coding was validated by two independent researchers (overall Cohen's κ=0.79). The 2022 guidelines of the Turkish Society of Plastic, Reconstructive and Aesthetic Surgery (TSPRAS) served as the reference standard for identifying non-evidence-based recommendations. A Like-Weighted Misinformation Index (LWMI) was calculated, and the effects of account type and comment characteristics on non-evidence-based comment rates (NECR) were examined using logistic regression. Sentiment analysis was performed across six categories.

RESULTS

The most frequently observed theme was edema and swelling anxiety (41.3%; n=423), followed by reassurance-seeking behavior (36.8%; n=377) and non-guideline recommendations (31.4%; n=322). The proportion of comments containing non-guideline recommendations was markedly higher among anonymous users compared to content creators with declared healthcare credentials (38.5% vs. 16.6%; χ^2=24.3; p<0.001). Like-weighted analysis revealed that recommendations favoring pineapple consumption received an average of 249.1 likes per comment, suggesting that clinically controversial content organically reached broader audiences. Sentiment analysis identified anxiety/fear (38.0%) and reassurance-seeking (30.5%) as the dominant emotional tones, together accounting for approximately two-thirds of all comments. The rate of non-guideline recommendations increased significantly from 2023 to 2025 (28.3% to 32.4%; χ^2=8.7; p=0.033). Similarly, the LWMI rose from 0.31 in the second half of 2023 to 0.41 in the first half of 2025, indicating an upward trend in the weighted visibility of non-guideline content.

CONCLUSIONS

TikTok comment sections constitute a distinctive postoperative information environment in which clinically controversial recommendations and intense patient anxiety are deeply intertwined. The platform's like-based algorithm may contribute to the increased visibility of non-guideline content. Surgeons performing rhinoplasty are encouraged to update their preoperative counseling to encompass patients' social media–driven health information-seeking behaviors.

KEYWORDS

social media, Rhinoplasty, non-guideline-supported recommendation, digital health

OP-304

The Effect of Systemic Isotretinoin on Nasal Skin Thickness Over Time

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BACKGROUND & AIM

Nasal skin thickness is an important factor influencing rhinoplasty outcomes, particularly in patients with thick skin. Although the effects of systemic isotretinoin therapy on skin structure are well known, objective data demonstrating time-dependent changes in nasal skin thickness remain limited. This study aimed to prospectively evaluate changes in nasal skin thickness in patients receiving systemic isotretinoin therapy.

MATERIAL & METHODS

This prospective longitudinal study included 50 patients who were started on systemic isotretinoin therapy for acne vulgaris. Nasal skin thickness was measured using high-frequency ultrasonography at five distinct anatomical sites: the radix, transition zone, nasal tip, right alar sulcus, and left alar sulcus. Measurements were performed before treatment and at the third and sixth months of therapy. Statistical analysis was conducted using repeated-measures analysis of variance with Bonferroni correction.

RESULTS

A statistically significant decrease in nasal skin thickness over time was observed in all anatomical regions ($p<0.001$ for all comparisons). Measurement values progressively decreased at the third and sixth months compared with baseline. The greatest reduction was observed in the left alar sulcus (0.634 mm) and right alar sulcus (0.587 mm), whereas the smallest reduction was detected in the radix region (0.332 mm). Differences between all time points were statistically significant ($p<0.001$).

CONCLUSIONS

Systemic isotretinoin therapy results in a significant and progressive reduction in nasal skin thickness over a 6-month period. These findings demonstrate that systemic isotretinoin therapy induces progressive, time-dependent changes in the nasal soft-tissue envelope, with region-specific variations in the degree of skin thinning. Further studies are needed to determine the clinical implications of these changes on rhinoplasty outcomes.

KEYWORDS

Isotretinoin, Ultrasonography, Skin Thickness, Rhinoplasty, Acne Vulgaris.

OP-305

A Zonal Denervation Approach To Surgical Management Of Facial Synkinesis

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BACKGROUND & AIM

Selective neurectomy (SN) has emerged as a surgical adjunct for patients with facial synkinesis. Despite the goal to eliminate aberrantly regenerated axons to relieve synkinesis, post-operative outcomes have been mixed. Our objective was to develop a further approach to selective neurolysis involving zonal denervation (ZD) technique to more effectively and efficiently eliminate unwanted synkinetic motion.

MATERIAL & METHODS

We retrospectively assessed two surgical groups: one cohort of patients underwent traditional SN from 7/2019-12/2021; our second cohort underwent ZD from 7/2023-8/2024. Pre- and post-operative photographs were analyzed in a blinded fashion using Emotrics and eFACE; post-operative changes were compared within patients using Wilcoxon matched-pairs signed rank tests.

RESULTS

We analyzed 20 ZD patients and 39 traditional SN patients. Those undergoing ZD experienced significant improvement in median oral commissure (OC) excursion from 2.50mm to 5.88mm ($p<0.001$) at median 12-month follow-up. Similarly, median interlabial distance (ILD) difference decreased from 5.23mm to 2.64mm (p-0.002), while median palpebral fissure width (PFW) difference decreased from 2.98mm to 1.01mm ($p=0.003$). eFACE outcomes mirrored Emotrics improvements. Those undergoing SN had less consistent results without statistically significant changes in Emotrics measures over long-term follow-up.

CONCLUSIONS

Zonal Denervation is a safe, efficient, and effective technique to significantly improve periocular and perioral synkinesis.

KEYWORDS
Zonal Denervation, Selective Neurectomy, Synkinesis

OP-306

Correction Of Collapsed Middle Nasal Vault Deformity Using Auricular Cartilage

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BACKGROUND & AIM

The middle nasal vault is the region between the upper lateral cartilages and the dorsal septum; it is a key area for both nasal airway function and aesthetic dorsal contour. Collapsed middle vault deformities usually result from previous surgery or trauma. Traditional grafts for reconstruction include spreader graft, batten graft, or onlay graft; however, when septal cartilage is insufficient, auricular cartilage can be a highly valuable option.

MATERIAL & METHODS

A retrospective review of a single surgeon's experience, a total of 30 patients were collected in this study from December 2021 through December 2024. The same senior author harvested one side auricular cartilage with the posterior-auricular incision and performed rhinoplasty procedures. The harvested auricular cartilage was designed into an onlay-spreader graft for repairing the middle vault framework defect that causes cosmetic and functional impairment.

RESULTS

Of the 30 patients, 16 had a history of nasal trauma and 14 had a history of nasal surgery. The harvested auricular cartilage amount was sufficient in all rhinoplasty procedures and no patients required further costal cartilage harvesting. Pain at the donor site after surgery was minimal and well controlled with oral medication. There were no donor-site complications, and most of the patients were satisfied with the functional and aesthetic improvement.

CONCLUSIONS

Auricular cartilage has a dense elastic fiber matrix that provides excellent support for both dorsal augmentation and functional widening of the internal nasal valve. Using auricular cartilage is a relatively easy option to incorporate into the rhinoplasty procedure which involves middle vault defect that causes functional and cosmetic issues.

KEYWORDS
collapsed middle vault, auricular cartilage, onlay spreader graft

OP-307

Artificial Intelligence (AI)-Assisted Patient Education And Concerns Following Facelift Surgery: A Study On Chatgpt-4 And Gemini

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BACKGROUND & AIM

Facelift surgery offers aesthetic results that nonsurgical methods cannot achieve. As an elective procedure, facelift surgery requires patients to have a clear understanding of potential postoperative complications and appropriate postoperative care. Nevertheless, timely access to medical care can be challenging in remote areas. Integrating advanced artificial intelligence (AI) tools such as ChatGPT-4 and Gemini into postoperative care may help bridge this gap by offering continuous patient education. This study aimed to evaluate the utility of ChatGPT-4 and Gemini in addressing common patient concerns and education following facelift surgery.

MATERIAL & METHODS

The five most frequently asked postoperative facelift questions were submitted to ChatGPT-4 and Gemini. Responses were assessed by five expert facial plastic surgeons based on four criteria: accuracy, clarity, relevance, and response time.

RESULTS

Both AI models demonstrated strong overall performance. ChatGPT-4 and Gemini each achieved an average accuracy of 88%, closely aligning with current medical guidelines. Clarity ratings were 80% for ChatGPT-4 and 92% for Gemini, indicating generally understandable responses. Relevance scores were high, with ChatGPT-4 at 100% and Gemini at 96%, effectively addressing patient concerns. Both models provided instant responses, earning 100% in response time.

CONCLUSIONS

ChatGPT-4 and Gemini show promise as supportive tools in postoperative facelift care. They delivered responses that were accurate, clear, relevant, and timely. While not a replacement for medical professionals, both AI models can serve as valuable adjuncts to patient education, particularly where access to care is limited. These findings highlight AI's emerging role in enhancing postoperative care in facial plastic surgery.

KEYWORDS
Facelift, Artificial Intelligence, ChatGPT-4, Gemini, Patient education, Facial Plastic

OP-308

Comparison Of Surgical And Conservative Treatment Outcomes In Orbital Fractures Due To Maxillofacial Trauma

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BACKGROUND & AIM

Orbital fractures are facial bone fractures resulting from various blows to the face. They are most commonly seen after assaults, traffic accidents, or sports injuries. The orbital floor and medial wall, which are particularly thin bones, are the most frequently fractured parts. Although many patients are treated conservatively without surgery, in cases involving vision loss or diplopia, early surgery provides better functional outcomes.

MATERIAL & METHODS

Following local ethics committee approval, patients who were consulted for orbital fractures and underwent examination and treatment were retrospectively reviewed from the hospital system. Demographic data such as age and gender; causes of fracture, direction of fracture, sensory and motor examinations, direction and type of bone fractures in radiology, surgical/non-surgical treatment methods, incision type if surgery was performed, and intraoperative extraocular muscle injuries were evaluated.

RESULTS

A total of 304 patients were examined and treated in the ENT and ophthalmology departments due to orbital fractures. The most common causes of fractures were traffic accidents, interpersonal violence, and falls. 224 patients(73.7%) were followed up with a conservative approach, while 80 patients(26.3%) underwent surgery. The most common pathologies in patients who underwent surgery were blowout fracture, diplopia, and enophthalmos, respectively. Of the 80 patients, 32(40%) underwent surgery via transconjunctival incision, while 48 underwent surgery via subciliary incision or existing facial incisions. No major complications such as postoperative vision loss occurred, while steroid treatment was initiated in 3(1%) patients due to persistent postoperative diplopia. In long-term follow-up, no patient required re-operation for diplopia.

CONCLUSIONS

The orbit, the bony tissue protecting the globe, can fracture for various reasons. The most important decision for the physician is to thoroughly examine the patient and decide on conservative or surgical treatment, evaluate which method is most suitable, and ensure the successful management of early and long-term complications. Multicenter studies are needed to establish a globally standardized treatment protocol for orbital fractures.

KEYWORDS
orbital fractures, enophthalmos, blow out fractures, transconjunctival incision, diplopia

OP-309

Rhinoplasty Among Saudi Population: Interest And Awareness Of Postoperative Complications

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BACKGROUND & AIM

Rhinoplasty is among the most commonly performed cosmetic surgical procedures globally and accounts for approximately 30% of all cosmetic surgeries in Saudi Arabia. Despite its growing popularity, awareness of associated postoperative complications among the general population remains poorly characterized. Adequate knowledge of potential risks enables patients to recognize warning signs early and make informed decisions. This study aimed to assess the level of interest in rhinoplasty and awareness of its postoperative complications among the adult Saudi population.

MATERIAL & METHODS

A cross-sectional, web-based study was conducted from August 2024 to January 2025. Adults aged 18 years and above residing in Saudi Arabia were eligible for inclusion. A previously validated Arabic-language questionnaire was distributed via social media platforms, yielding 1,209 participants recruited through convenience sampling. The questionnaire covered sociodemographic characteristics, attitudes toward rhinoplasty, and awareness of 15 potential postoperative complications. Awareness was categorized as good (score 8–15) or poor (score 0–7). Internal consistency was confirmed with a Cronbach's alpha of 0.798. Data were analyzed using SPSS version 27, with chi-square tests used to examine associations between sociodemographic variables and awareness levels; $p < 0.05$ was considered statistically significant.

RESULTS

Of 1,209 participants, 646 (53.4%) were male and 464 (38.4%) were aged 18–24 years. The majority, 722 (59.7%), were satisfied with their current nose shape, while 255 (21.1%) expressed interest in rhinoplasty, primarily motivated by self-gratification (132; 51.8%). Overall awareness of postoperative complications was low, with only 268 (22.2%) demonstrating good awareness. The most recognized complication was breathing difficulties (546; 45.2%), while nasal septal perforation was the least recognized (135; 11.2%). Statistically significant associations were found between awareness levels and gender, age, educational level, parenthood status, and household income (all $p < 0.05$).

CONCLUSIONS

Awareness of rhinoplasty postoperative complications among the Saudi adult population is considerably low, with fewer than one in four participants demonstrating adequate knowledge. Female participants, older age groups, those with higher education, and those without children showed relatively better awareness. These findings highlight a critical need for targeted public education campaigns to support informed decision-making among individuals considering rhinoplasty in Saudi Arabia.

KEYWORDS

Awareness, Rhinoplasty, Post-operative complications, KSA

OP-310

Functional And Aesthetic Assessment Of Preservation And Structural Rhinoplasty Techniques

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BACKGROUND & AIM

The philosophy of Preservation Rhinoplasty (PR) as an alternative to Structural Rhinoplasty (SR) is becoming increasingly popular. Given its growing adoption it is important to evaluate and compare the outcomes of PR and SR to determine their effectiveness, patient satisfaction and impact on quality of life.The study aimed to compare outcomes of rhinoseptoplasty performed using SR versus PR technique

MATERIAL & METHODS

Secondary objectives included evaluating treatment effectiveness using SCHNOS, ROE, VAS, NOSE and WHOQOL-BREF questionnaires, with attention to quality-of-life improvements and the impact of prior septoplasty. The study involved 75 patients (62.7% female, mean age 34.2) undergoing rhinoseptoplasty with SR performed in 39 cases. Standardised questionnaires were administered preoperatively and at one and three months postoperatively. All procedures were conducted by a single surgeon. Results were statistically analysed.

RESULTS

There were no significant differences between PR and SR in baseline ROE scores (1.17 vs 1.17; $p > 0.05$) or at one month post-op (3.58 vs 3.33; $p > 0.05$) but PR showed significantly higher ROE scores at three months (3.83 vs 3.67; $p < 0.05$). In the SCHNOS-Obstruction domain, baseline scores did not differ significantly (3.00 vs 3.25; $p > 0.05$), but PR patients reported significantly better outcomes at one month (0.75 vs 1.25; $p < 0.01$); scores at three months were equal (0.50 vs 0.50; $p > 0.05$). In the SCHNOS-Cosmesis domain, no significant differences were observed at any time point. NOSE scores were also comparable between PR and SR groups at baseline (3.40 vs 3.20; $p > 0.05$) and one month post-op (1.60 vs 1.40; $p > 0.05$) WHOQOL-BREF domains (physical, psychological, social and environmental) improved significantly postoperatively in both PR and SR groups ($p < 0.001$).

CONCLUSIONS

Conclusions: Patients reported higher initial satisfaction after PR compared to the SR. Satisfaction significantly increased over time in both groups. Postoperative quality of life and self-esteem improved markedly, with no significant differences between PR and SR techniques. Patients with a history of septoplasty showed lower initial satisfaction, but outcomes improved over time similarly to those without prior surgery. Overall, rhinoseptoplasty led to enhanced quality of life and self-esteem, regardless of surgical method or previous procedures.

KEYWORDS

rhinoseptoplasty, preservation rhinoseptoplasty, structural rhinoseptoplasty, SCHNOS

OP-311

Predictors Of Complications And Recurrence After Otoplasty: A Retrospective Analysis Of Surgical And Patient-Related Factors In Saudi Arabia

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BACKGROUND & AIM

Otoplasty corrects congenital or acquired ear deformities, improving both appearance and psychological well-being. Techniques like Mustardé and Furnas are tailored to age and cartilage structure. Despite its safety, complications can occur. While widely studied globally, factors influencing otoplasty outcomes remain underexplored in Saudi Arabia, warranting region-specific investigation to optimize care.

MATERIAL & METHODS

This retrospective observational study included 113 Saudi patients who underwent otoplasty by ENT or plastic surgeons. Data were collected from medical records, including demographics, surgical details, and postoperative outcomes. Most procedures used the Mustardé-Furnas technique under general anesthesia with Mersaline sutures. Complications, recurrence, and revision rates were analyzed. Statistical analysis was conducted using JASP software, applying chi-squared tests to identify associations between patient factors and outcomes. Ethical approval was obtained, and all data were anonymized in accordance with institutional and ethical guidelines.

RESULTS

Complication and recurrence rates after otoplasty were low, with early hematoma (1.8%), suture extrusion (3.5%), protrusion (4.4%), recurrence (5.3%), and revision surgery (8.8%). Significant associations were found between early and late complications, revision needs, smoking, and higher weight or shorter stature. However, surgical specialty, center, and gender showed no significant impact on outcomes. Despite uniform techniques, patient-specific factors, especially smoking and body habitus, were key predictors of complications, highlighting the need for personalized risk assessment in otoplasty candidates.

CONCLUSIONS

Otoplasty using standardized techniques demonstrated low complication and recurrence rates, confirming its safety and effectiveness. However, patient-related factors—particularly smoking and higher body weight—significantly impacted outcomes. These findings emphasize the importance of preoperative risk assessment and lifestyle modification to optimize results and reduce the likelihood of complications or revision surgery.

KEYWORDS

Otoplasty, Surgical Complications, Revision Surgery, Recurrence, Patient Risk Factors

OP-312

Creating Beauty: Art, Algorithm, Or Agenda?

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BACKGROUND & AIM

Facial aesthetics relied on classical ideals of proportion and harmony. New technologies and shifting sociocultural norms are challenging these concepts of beauty.

MATERIAL & METHODS

A philosophical and anthropometric non-randomized PRISMA 2020 review was performed and for bias by Newcastle-Ottawa assessment, examining how beauty is defined and applied in aesthetic practice. Tension between objective aesthetic principles and subjective perceptions, as well as considering anthropological diversity and the impact of social media and artificial intelligence was analyzed.

RESULTS

Classical frameworks remain useful but limited in universal application. Emerging trends, especially virtual aesthetics and social media, encourage standardized outcomes, risking loss of individuality and distorted self-perception.

CONCLUSIONS

Beauty blends objective structure with subjective and cultural interpretation. Ethical, individualized aesthetic judgment should guide practice, rather than rigid technological or social media-driven standards

KEYWORDS

beauty, aesthetics, face, controversy.

OP-313

Investigation Of The Effects Of Hyperbaric Oxygen And Systemic Ozone Therapy On Wound Healing In A Cartilage-Deficient Auricular Wound Model Created In Rats

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BACKGROUND & AIM

This study aimed to explore the effects of hyperbaric oxygen (HBO) therapy and ozone therapy on wound healing, particularly focusing on their potential benefits for auricular injuries involving cartilage loss in rats. Both therapies have been shown in previous research to positively impact healing in various conditions.

MATERIAL & METHODS

We used 27 male Wistar albino rats, dividing them three groups: control, ozone, and HBO. After anesthesia, we created a 2 mm diameter full-thickness circular perforation, including both the epithelium and cartilage, on the antitragus of the ear. In the ozone group, we delivered systemic ozone gas at a concentration of 2.3–3.0 mL (60 µg/mL) on the 1st, 3rd, and 7th days. The control group received no local or systemic treatment. HBO group were placed in a hyperbaric pressure chamber without anesthesia. HBO therapy session was conducted using 100% oxygen at a pressure of 2.4 ATA for 2 hours. Rats received a total of seven HBO sessions, with each session lasting 2 hours. On the 15th day, all rats were sacrificed, and their auricles were removed for histopathological analysis. We assessed inflammation severity, neovascularization , fibroblast proliferation, collagen deposition, and epithelialization levels.

RESULTS

We evaluated several histological parameters in both experimental groups, such as the rate of macroscopic perforation closure, inflammation severity, granulation tissue density, fibroblast proliferation, collagen accumulation, cartilage regeneration, neovascularization, epithelialization at the perforation edges, and eosinophil density. Our comparisons revealed that HBO therapy was significantly more effective than ozone therapy in promoting macroscopic perforation closure ($p=0.001$; $p<0.05$) and epithelialization ($p=0.02$; $p<0.05$). Interestingly, ozone therapy also outperformed the control group. In terms of inflammation severity ($p=0.001$; $p<0.05$), the control group showed the highest levels, followed by HBO and then ozone. Notably, the ozone group exhibited the most significant improvements in fibroblast proliferation ($p=0.001$; $p<0.05$), collagen deposition ($p=0.005$; $p<0.05$), and cartilage regeneration ($p=0.002$; $p<0.05$), with the HBO group also performing better than the control. These findings were statistically significant. However, we did not observe any significant differences among the groups regarding eosinophil levels, granulation tissue quantity, or vascularization.

CONCLUSIONS

Our findings suggest that both hyperbaric oxygen and ozone therapies offer valuable benefits for healing auricular injuries involving cartilage and skin loss, both at macroscopic and microscopic levels. These therapies may serve as effective alternative treatment options that positively influence the healing process of wounds managed by secondary intention, due to their ease of application and low risk of side effects or complications.

KEYWORDS

Auricle, Wound healing, Secondary intention, Ozone, Hyperbaric oxygen therapy;Rat

OP-314

Short-Term Effects Of Drain Use On Postoperative Periorbital Edema And Ecchymosis In Septorhinoplasty

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BACKGROUND & AIM

Postoperative periorbital edema and ecchymosis are among the most common concerns following septorhinoplasty and can negatively affect patient comfort and early recovery. Despite their use in septorhinoplasty, the clinical benefit of surgical drains remains controversial, with inconsistent findings in the literature. This study aimed to evaluate the effect of drain use on postoperative periorbital edema, periorbital ecchymosis, and ecchymosis color intensity. We hypothesized that drain use would reduce these outcomes, particularly in the early postoperative period.

MATERIAL & METHODS

This prospective randomized paired comparative study was conducted at a tertiary care center and included patients undergoing open technique structural septorhinoplasty between September 2021 and January 2026. Drain placement was unilateral and randomly assigned to one side only, with the contralateral side serving as an internal control for each patient. A drain prepared from an intravenous cannula was placed on the designated side at the end of the operation and removed on postoperative day 2. Pain during drain removal was assessed using a visual analog scale (VAS). Periorbital edema, periorbital ecchymosis, and ecchymosis color intensity were assessed at 24 hours, 48 hours, and day 7 using standardized ordinal scoring systems by two independent blinded observers, and mean scores were used for analysis. Interobserver reliability was assessed using the intraclass correlation coefficient. Paired comparisons were conducted using the Wilcoxon signed-rank test, with statistical significance set at $p<0.05$.

RESULTS

A total of 87 patients were included in the study. The mean age was 24.24±4.88 years, and 75 (86.2%) were female while 12 (13.8%) were male. The drain was placed on the right side in 40 (46%) patients and on the left side in 47 (54%) patients. Pain during drain removal was minimal (median VAS: 0, range: 0–4). Periorbital edema and periorbital ecchymosis scores were

significantly lower on the drained side at both 24 and 48 hours (p≤0.001). By postoperative day 7, these differences were no longer statistically significant (p>0.05). Ecchymosis color intensity did not differ significantly between the two sides at any time point (p>0.05). Interobserver agreement was high across all measurements. These findings were consistent with linear mixed model analysis. No drain-related complications were observed.

CONCLUSIONS

Drain use reduces postoperative periorbital edema and ecchymosis in the early postoperative period; however, this effect is transient and no longer evident by postoperative day 7. No significant impact was observed on ecchymosis color intensity. These findings suggest that drains offer short-term benefits without affecting longer-term outcomes.

KEYWORDS

Septorhinoplasty, Surgical Drain, Periorbital Edema, Periorbital Ecchymosis, Ecchymosis Color Intensity

OP-315

Efficacy Of Aspirin Usage In Free Flap Reconstruction Of The Head And Neck

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BACKGROUND & AIM

A common reason for flap failure in the head and neck is related to complications at the anastomotic site from thrombosis. Aspirin is commonly used for its antiplatelet effects, but there are no standardized guidelines, and it has not been shown to improve flap survival or reduce thrombosis. Given the discrepancy, this study evaluated the efficacy of aspirin usage following head and neck free flap reconstruction.

MATERIAL & METHODS

This is a multicenter, retrospective cohort study from 107 healthcare organizations in the United States in the TriNetX Database. Adult patients (≥18 years) with a history of head and neck cancer who received non-bony or bony free flap reconstruction were included. They were grouped by receiving 81 mg of aspirin (ASA81), 325 mg of aspirin (ASA325), or no aspirin on the same day of surgery or postoperatively. Primary outcomes included free flap failure, blood vessel repair, and need for flap revision. Rate of hematoma was also evaluated. Relative risks (RR) with 95% confidence intervals (95% CI) were evaluated. Subgroup analysis was conducted between ASA81 and ASA325.

RESULTS

No differences in primary outcomes were observed from same-day administration of aspirin. Postoperatively, ASA81 reduced the risk of a blood vessel repair procedure (RR: 0.52[0.42-0.65]), while ASA325 was associated with a decreased risk of flap failure and the need for flap revision procedures (RR: 0.10[0.08-0.13]; 0.37[0.32-0.41]) for all flap types. For non-bony reconstruction, blood vessel repair and flap revision was lower in the ASA81 group (RR: 0.53[0.41-0.68]; 0.82[0.69-0.98]). ASA325 for non-bony flaps was associated with lower rates of all three primary outcomes (RR: 0.55[0.41-0.73]; 0.66[0.54-0.82]; 0.80[0.68-0.94]). Aspirin use in bony flaps was associated with similar outcomes. ASA81 compared to ASA325 for non-bony reconstruction was associated with higher flap failure (RR: 1.69[1.16-2.46]). The ASA325 group had a significantly higher rate of hematoma compared to the non-ASA group (RR: 2.07[1.12-3.82]).

CONCLUSIONS

For non-bony and bony free flap reconstruction, aspirin was associated with decreased risks of free flap failure, blood vessel repair, and flap revision. However, ASA325 may have an increased risk of hematoma despite, so the risks of administration must be weighed against the potential benefits.

KEYWORDS

free flap, reconstructive surgery, head and neck reconstruction, aspirin, microvascular surgery

OP-316

Objective Facial Symmetry Outcomes After Selective Neurectomy: A Prospective Pilot Study Using Emotrics Automated Software

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BACKGROUND & AIM

Selective neurectomy aims to reduce synkinesis and improve facial symmetry, but its quantifiable effects remain unclear. This prospective study examines whether automated Emotrics measurements can detect significant pre- to post-operative improvements in resting and dynamic facial expressions.

MATERIAL & METHODS

Single-center, prospective pilot study conducted in 2025. We examined adults with non-flaccid facial paralysis. The intervention consisted of obtaining standardized pre- and post-operative facial videos following selective neurectomy.

Objective measurements were quantified using Emotrics software across nine facial metrics. Outcome measures include absolute and percent deviation across three facial expressions (smile, show teeth, and rest). Independent variables include expression type and facial symmetry metrics. Descriptive statistics allowed for within-subject and inter-subject comparisons.

RESULTS

Three patients were included in the study. Facial symmetry improvement was defined as a reduction in deviation from midline. 27 facial metrics were captured for each patient. Within-subject comparisons demonstrated 35.6%, 57.8% and 57.8% of measured facial symmetry metrics improving for patients 1,2, and 3, respectively. Across all patients, expressions, and metrics, 50.4% of measurements showed inter-subject improvements. Furthermore, improvements were most prominent during dynamic expressions as compared to rest.

CONCLUSIONS

Selective neurectomy produced measurable improvements in objective facial symmetry for all patients in some aspects. Over half of all inter-subject measurements improved post-operatively, suggesting selective neurectomy can positively influence facial symmetry. Given the limited sample size, larger studies are required to reliably quantify the magnitude of benefit.

KEYWORDS

Selective neurectomy; Facial synkinesis; Non-flaccid facial paralysis; Facial symmetry; Objective facial analysis; Emotrics software; Automated facial metrics; Prospective study

OP-317

Do Changes In Tip Rotation Observed In Postoperative Rhinoplasty Photographs Reflect Reality? Head Position–Related Bias

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BACKGROUND & AIM

Rhinoplasty outcomes are commonly evaluated using preoperative and postoperative photographs. However, the accuracy of such assessments depends on proper head positioning during image acquisition. This study aims to investigate whether patients alter their head position during postoperative photography, thereby exaggerating the appearance of tip rotation. We hypothesize that part of the observed increase in tip rotation in postoperative images is attributable to head positioning rather than true anatomical change.

MATERIAL & METHODS

In this retrospective study, preoperative and postoperative lateral facial photographs of 100 rhinoplasty patients were analyzed using a custom-developed web-based application. Images were randomly selected from social media in January 2025. In this system, the operator manually selected predefined anatomical reference points, and the Frankfurt Horizontal Plane (FHP) was automatically calculated by an artificial intelligence–assisted algorithm. The angle between the observed FHP in the photograph and the ideal FHP was measured. Preoperative and postoperative measurements were compared for each patient. Statistical analysis was performed using a paired sample t-test.

RESULTS

The mean FHP angle increased from 7.16° preoperatively to 8.77° postoperatively, demonstrating a statistically significant difference (Δ = +1.61°, SD: 4.08; $p < 0.001$). Although not present in all patients, a large proportion of postoperative photographs (78%) showed head positioning that exaggerated the appearance of increased tip rotation.

CONCLUSIONS

The apparent increase in tip rotation observed in postoperative rhinoplasty photographs does not always reflect true anatomical change. Elevation of the head during image acquisition may lead to overestimation of tip rotation. This bias may originate from either the photographer's preference or patient behavior. These findings indicate that postoperative photographic assessment may be subject to systematic bias. Therefore, strict standardization of head positioning relative to the Frankfurt Horizontal Plane is essential for reliable evaluation of rhinoplasty outcomes.

KEYWORDS

frankfurt plane, rhinoplasty, photografic analysis, artificial intelligence

OP-318

A Case Report On The Revolving Door Flap For Reconstruction After Wide Excision Of Basal Cell Carcinoma Of The Left External Auditory Canal And Concha Cavum

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BACKGROUND & AIM

To present a case report of a patient who developed basal cell carcinoma of the left concha cavum and underwent revolving door flap for reconstruction after excision of the defect

MATERIAL & METHODS

Study design: Case report Setting: Tertiary Government Hospital Subjects, Participants, Patients, or Population: One patient

RESULTS

This is a case of a 47-year-old male ambulance driver who is known to be HIV positive and is a former smoker, who was diagnosed through biopsy with basal cell carcinoma of the concha cavum and outer part of the external auditory canal. Given the large area needing to be excised, two techniques were used for reconstruction: a split-thickness skin graft for the anterior side of the defect, and a revolving door flap for the posterior side of the defect. Postoperative course showed good outcomes for both reconstruction techniques.

CONCLUSIONS

Basal cell carcinoma is rarely seen in the concha cavum and external ear canal, hence not many reconstruction options have been reported for cases like this. This case report highlights the utility of the revolving door flap as a good option for reconstructing a defect from a cancerous lesion in a relatively uncommon region of the body such as the ear canal, with good outcomes as shown in this case.

KEYWORDS

Basal cell carcinoma, Ear Reconstruction

OP-319

Electrical Motor Stimulation In Patients With Acute Bell's Palsy: A Systematic Review And Meta-Analysis Of Randomized Controlled Trials

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BACKGROUND & AIM

Bell's palsy is the most common cause of unilateral facial palsy. Electrical motor stimulation (ES) of the facial nerve and muscles is a promising adjunctive therapy; however, its clinical efficacy and safety remain unclear in contrast to the well-evidence-based early intervention with corticosteroids. This study aimed to evaluate the effectiveness and safety of ES in patients with acute Bell's palsy.

MATERIAL & METHODS

A systematic search of MEDLINE, Cochrane Library, and Scopus databases was conducted from their inception to November 2025. Studies assessing ES in Bell's palsy were included. Mean differences (MDs) and risk ratios (RRs) with 95% confidence intervals (CIs) of parameters of interest were pooled using R software (version 4.5.2). Risk of bias was assessed using RoB 2 and the certainty of the results with GRADE assessment.

RESULTS

Five studies involving 399 patients were included, of whom 252 (63.16 %) received ES. Outcomes assessed included facial function recovery (Sunnybrook and House-Brackmann scales) incomplete recovery (RR: 0.91; 95% CI: 0.65 to 1.28; $p = 0.6$; $I^2 = 80.9\%$) as binary outcome, and partial recovery (MD: 14.34; 95% CI: 6.01 to 22.68; $p < 0.01$; $I^2 = 53.9\%$) as continuous outcomes. In addition to this, compound muscle action potential (CMAP) (MD: 0.19; 95% CI: -0.19 to 0.57; $p = 0.33$; $I^2 = 0.0\%$), and nerve conduction evaluation (distal latency) (MD: 0.37; 95% CI: 0.01 to 0.73; $p = 0.04$; $I^2 = 0.0\%$) were assessed. Overall, ES demonstrated a trend toward improved facial movement recovery, with statistically significant benefits in partial recovery and distal latency assessments.

CONCLUSIONS

ES may be associated with improved facial recovery in patients with Bell's palsy; however, heterogeneity of the existing literature limits conclusions regarding safety. This review also proposes recommendations to guide future studies of ES for patients with Bell's palsy.

KEYWORDS

Bell's palsy, electrical stimulation, ES, electrical motor stimulation, transcutaneous, recovery

OP-320

Musculoskeletal Problems In Otolaryngologists Performing Rhinoplasty Surgery

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BACKGROUND & AIM

Surgeons who perform rhinoplasty are subjected to significant ergonomic strain due to prolonged static posture, fine motor tasks, and visual focus demands. While musculoskeletal (MSK) complaints are well-documented in surgical practice, the anatomical distribution, severity, and functional implications specific to rhinoplasty surgeons have not been adequately explored.

MATERIAL & METHODS

A cross-sectional, descriptive study was conducted using a structured, self-administered online questionnaire disseminated to a professional WhatsApp group comprising approximately 1000 Turkish otolaryngologists. The survey assessed demographic variables, surgical practices, pain characteristics, and functional limitations using Visual Analog Scale (VAS) scores and a 15-item musculoskeletal disability index.

RESULTS

Among 141 respondents, 93.6% reported MSK pain in at least one body region, with neck–upper back (48.9%) and wrist (24.8%) being the most commonly affected areas. Significant associations were found between pain intensity and BMI, surgical experience, weekly operation volume, and exercise habits ($p < 0.01$). Functional disability was also significantly correlated with similar variables. Despite the high prevalence of pain, preventive ergonomic strategies and long-term rehabilitative interventions were underutilized. Pharmacological treatments were the most commonly used therapeutic approach (55%).

CONCLUSIONS

Rhinoplasty surgeons constitute a high-risk group for both axial and upper extremity MSK complaints, which substantially impair occupational functionality. The findings highlight the need for structured ergonomic training, exercise programs, and systemic interventions aimed at reducing ergonomic strain in surgical practice.

KEYWORDS

musculoskeletal pain, rhinoplasty, otolaryngologist, disability index, occupational health

OP-321

Absorbable Versus Nonabsorbable Sutures For Facial Skin Closure: A Systematic Review And Meta-Analysis Of Complications Incidence, Satisfaction And Cosmetic Outcomes

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BACKGROUND & AIM

Facial wound closure significantly influences both healing and aesthetic outcomes. With increasing emphasis on cosmetic results and patient comfort, the choice between absorbable and nonabsorbable sutures remains a key clinical question. This systematic review and meta-analysis aimed to compare the clinical, cosmetic, and patient-reported outcomes of absorbable versus nonabsorbable sutures for facial skin closure and to evaluate the existing body of evidence.

MATERIAL & METHODS

Following PRISMA guidelines and registering with PROSPERO, we systematically searched MEDLINE, EMBASE, Cochrane Library, and Google Scholar through February 2025. We included randomized controlled trials (RCTs), Case-Control and Cohort studies involving adults and children undergoing facial skin closure with either absorbable or nonabsorbable sutures. Primary outcomes included complication rates, cosmetic appearance (VAS), and patient and physician satisfaction. Data extraction was performed independently by multiple reviewers. Risk of bias was assessed using the Cochrane RoB-2 tool for randomized clinical trials and the MINORS criteria for non-randomized studies. Meta-analyses were conducted using random-effects models. Odds ratios (OR) were used for binary outcomes and standardized mean differences (SMD) for continuous data. Missing variance data were handled using validated estimation methods.

RESULTS

Twelve studies (1,205 patients) were included. No statistically significant differences were found between groups in infection ($OR = 1.62$, $p = 0.28$), dehiscence, erythema, bleeding, or scarring. Cosmetic VAS scores showed no difference from patient ($SMD = 0.10$, $p = 0.75$) or physician perspectives ($SMD = -0.25$, $p = 0.38$). Satisfaction slightly favored absorbable sutures ($SMD = -0.64$, $p = 0.075$), but was not significant.

CONCLUSIONS

Absorbable sutures offer comparable safety and aesthetics to nonabsorbable sutures and may improve patient comfort by eliminating the need for removal.

KEYWORDS

Absorbable sutures, Nonabsorbable sutures, Facial Skin Closure, Meta-analysis, Complications, Satisfaction, Cosmetic Outcomes.

OP-322

Depressor Anguli Oris Myectomy In Patients With Facial Synkinesis: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Background: Smile asymmetry is one of the most distressing manifestations of facial synkinesis after incomplete recovery from facial paralysis. Aberrant facial nerve regeneration may result in involuntary co-contraction, muscle hypertonicity, hypomobility, and regional weakness. Hyperactivity of the depressor anguli oris (DAO), a key smile antagonist, can tether the oral commissure, reduce dental show and smile excursion, and negatively affect smile symmetry and emotional expression. This systematic review and meta-analysis evaluated the effectiveness and safety of DAO myectomy, defined as surgical excision or resection of a portion of the DAO muscle, in patients with facial synkinesis.

MATERIAL & METHODS

Methods: A systematic search of Scopus, MEDLINE, and the Cochrane Library was performed in February 2026 to identify studies evaluating DAO myectomy in patients with facial synkinesis. Mean differences (MDs) with 95% confidence intervals (CIs) were pooled using R software (version 4.5.2) for directly comparable outcomes. Risk of bias was assessed using ROBINS-I, and certainty of evidence was evaluated using the GRADE framework.

RESULTS

Results: Nine observational studies were included in the qualitative synthesis, of which four studies were included in the quantitative synthesis. DAO myectomy was associated with improvements in key objective smile metrics, including dental show, open-mouth smile angle, oral commissure excursion, and symmetry-related indices. Studies reporting clinician-graded and patient-reported outcomes also demonstrated improvement in facial function (eFACE) and facial paralysis–related quality of life (FaCE scale). Additional qualitative outcomes suggested improved emotional expression, with patients conveying greater perceived happiness and fewer negative emotions after surgery. Available long-term follow-up suggested that these improvements may persist beyond 12 months. Complications were infrequent and generally minor, most commonly including small hematoma, localized infection, or residual DAO fibers requiring revision.

CONCLUSIONS

Conclusions: DAO myectomy appears to be a promising surgical option for carefully selected patients with facial synkinesis. Current evidence suggests improvement in dynamic smile symmetry, facial function, and patient-perceived outcomes with a low rate of complications. However, the certainty of evidence remains limited by heterogeneous outcome reporting. This review also provides recommendations for future studies to improve methodological consistency, reduce heterogeneity, and strengthen the evidence base for DAO myectomy in patients with facial synkinesis.

KEYWORDS

Facial synkinesis; Depressor anguli oris: Myectomy; Facial paralysis; Quality of life

OP-323

Evaluation Of Patient Satisfaction Following Facial Autologous Fat Injection Using FACE-Q

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BACKGROUND & AIM

To evaluate patient satisfaction following facial autologous fat injection using the validated Turkish version of the FACE-Q questionnaire.

MATERIAL & METHODS

A retrospective study was conducted on 290 patients who underwent facial autologous fat injection, with or without additional procedures, between 2021 and 2025. A structured questionnaire was distributed via an online platform (Google Forms), and 64 patients responded. Patient-reported outcomes were assessed using the validated Turkish version of the FACE-Q Facial

Rejuvenation module. Demographic variables, procedural details, and time since surgery were analyzed. Satisfaction scores were expressed as percentages.

RESULTS

A total of 64 patients were included in the analysis. The mean age was 41.05 ± 9.93 years, and the mean BMI was 24.66 ± 3.34. The mean FACE-Q satisfaction score was 75.28 ± 27.17, indicating overall high patient satisfaction .Satisfaction scores were not normally distributed ($p < 0.05$). Higher satisfaction scores were observed in patients with higher BMI (89.81 vs. 65.34, $p < 0.001$) and in older patients (92.06 vs. 56.27, $p < 0.001$).

CONCLUSIONS

Facial autologous fat injection is associated with high patient satisfaction as measured by the FACE-Q questionnaire. Patient satisfaction appears to be influenced by age and BMI. The use of validated patient-reported outcome measures such as FACE-Q provides valuable insight into treatment success and patient perception.

KEYWORDS

Autologous Fat Grafting Facial Fat Injection Patient Satisfaction FACE-Q

OP-324

Does Fibrin Glue Improve Outcomes In Rhinoplasty? A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Fibrin sealant is increasingly used in rhinoplasty to mitigate postoperative soft tissue sequelae. This systematic review and meta-analysis evaluates its efficacy in reducing postoperative edema, ecchymosis, and pain.Fibrin sealant is increasingly used in rhinoplasty to mitigate postoperative soft tissue sequelae. This systematic review and meta-analysis evaluates its efficacy in reducing postoperative edema, ecchymosis, and pain.

MATERIAL & METHODS

A comprehensive search of PubMed, Scopus, Web of Science, and Cochrane Central Register of Controlled Trials was conducted through May 2025. Randomized controlled trials (RCTs) and cohort studies comparing fibrin sealant to standard care in rhinoplasty were included. The Cochrane Risk of Bias 2.0 tool was used to assess study quality. Pooled effect sizes were calculated using standardized mean differences (SMDs) in RevMan.A comprehensive search of PubMed, Scopus, Web of Science, and Cochrane Central Register of Controlled Trials was conducted through May 2025. Randomized controlled trials (RCTs) and cohort studies comparing fibrin sealant to standard care in rhinoplasty were included. The Cochrane Risk of Bias 2.0 tool was used to assess study quality. Pooled effect sizes were calculated using standardized mean differences (SMDs) in RevMan.

RESULTS

Six studies (five randomized controlled trials and one cohort study) involving 428 patients were included in this meta-analysis. Two studies were rated as high risk of bias. Fibrin sealant demonstrated a statistically significant reduction in postoperative edema on day 1 (SMD = -0.84, 95% CI: -1.44 to -0.24, $p < 0.05$) and ecchymosis (SMD = -1.17, 95% CI: -1.78 to -0.56, $p < 0.05$) compared to controls. However, by postoperative day 7, no significant differences were observed in edema (SMD = -0.30, 95% CI: -0.78 to 0.17, $p > 0.05$) or ecchymosis (SMD = -0.16, 95% CI: -1.28 to 0.96, $p > 0.05$). Additionally, the use of fibrin sealant did not significantly reduce pain on postoperative day 1 (SMD = -0.27, 95% CI: -0.77 to 0.23, $p > 0.05$). These findings suggest a short-term benefit of fibrin sealant in reducing early postoperative swelling and bruising after rhinoplasty.

CONCLUSIONS

Fibrin sealant provides significant early reduction in periorbital edema and ecchymosis following rhinoplasty, particularly within the first 72 hours postoperatively. However, its benefits do not extend beyond the first postoperative week, and its effect on pain is minimal. These findings support its selective use for enhancing immediate postoperative recovery.Fibrin sealant provides significant early reduction in periorbital edema and ecchymosis following rhinoplasty, particularly within the first 72 hours postoperatively. However, its benefits do not extend beyond the first postoperative week, and its effect on pain is minimal. These findings support its selective use for enhancing immediate postoperative recovery.

KEYWORDS

Rhinoloplasty, Fibrin glue, edema, ecchymosis

OP-325

Analysis Of Postoperative Surgical Site Infections In Septorhinoplasty Patients

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BACKGROUND & AIM

Septorhinoplasty has become increasingly popular worldwide. Late postoperative infections represent a very rare complication (0.2–3%). Early identification of the causative microorganism and appropriate patient management are essential to prevent potentially catastrophic outcomes. In this context, the selection of empirical antibiotic therapy plays a critical role in the management of infections. The aim of this study is to present the anatomical distribution, causative pathogens, our treatment algorithm, and patient management strategies in late-onset infections following rhinoplasty.

MATERIAL & METHODS

This study retrospectively evaluated patients who developed postoperative infection following septorhinoplasty in one center. Clinical findings, timing of infection onset, culture and antibiogram results, applied antibiotic regimens, duration of hospitalization, and need for revision surgery were recorded. Culture samples were obtained from infected area. Microorganisms were identified, and antibiotic susceptibility patterns were analyzed. Empirical treatments were compared with culture-guided therapies in terms of clinical outcomes. The primary outcome was identification of the most common pathogen, while secondary outcomes included treatment response, complication rates, and hospitalization duration.

RESULTS

From the first documented case to date, a total of 1.100 primary and revision rhinoplasty procedures were performed. Postoperative surgical site infection following septorhinoplasty was identified in 10 patients (0.9%) (8 females and 2 males), with a mean age of 31 years. Of these, 7 cases occurred after primary rhinoplasty and 3 after revision rhinoplasty. Culture samples were obtained from 8 patients; microbial growth was detected in 7 cases, including pseudomonas species in 5 patients, methicillin-resistant Staphylococcus in 1 patient, and methicillin-sensitive staphylococcus in 1 patient, while no growth was observed in 1 case. The earliest onset of infection occurred on postoperative day 10, and the latest on day 400, with a mean onset of 77 days. Eight patients required hospitalization and received intravenous antibiotic therapy, while 2 were managed with oral antibiotics. Revision rhinoplasty was required in 3 patients.

CONCLUSIONS

Although the most commonly reported microorganisms in the literature are staphylococcus species and coliform bacteria, resistant pseudomonas species predominated in our study. While awaiting culture results, careful consideration should be given to the selection of empirical broad-spectrum antibiotics covering both pseudomonas and staphylococcus species.

KEYWORDS

Septorhinoplasty, Postoperative infection, Surgical site infection, Antibiotic resistance, Empirical antibiotic, Culture and antibiogram, Treatment algorithm

OP-326

L-Shaped Lateral Crural Graft Technique For Alar Concavity, Collapse, And Nasal Valve Insufficiency

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BACKGROUND & AIM

To describe an L-shaped lateral crural graft technique designed to address alar concavity, alar collapse, and nasal valve insufficiency in patients who previously underwent rhinoplasty, and to evaluate its functional and aesthetic outcomes.

MATERIAL & METHODS

This single-center, prospective consecutive case series (Level of Evidence: IV) included 12 patients (7 males, 5 females; 18–55 years) with a history of prior rhinoplasty, clinical signs of nasal valve insufficiency, and photographic evidence of alar collapse/concavity and lateral wall retraction. All patients underwent open rhinoplasty. An autologous costal cartilage plate was sculpted into an L shape. The long limb was placed parallel to and along the lateral crus to restore its rigidity and contour, whereas the short limb was oriented at approximately 90° toward the internal nasal valve region to provide an abutment effect. Grafts were fixed with 5-0 PDS sutures bilaterally in all cases.

RESULTS

At a mean follow-up of 9.5 months, all patients showed clinical improvement in nasal valve insufficiency and correction of alar collapse/concavity on photographic assessment. Subjective nasal obstruction complaints decreased in all cases. Aesthetic evaluation demonstrated improved alar contour, symmetry, and alar groove continuity. No major complications, such as infection, graft resorption, warping, or contour deformity, and no need for revision surgery were observed.

CONCLUSIONS

The L-shaped lateral crural graft technique appears to be a safe and effective option for simultaneously addressing alar deformity and nasal valve insufficiency in revision rhinoplasty patients, providing combined functional and aesthetic improvement.

KEYWORDS

lateral nasal wall insufficiency; nasal valve; alar concavity; lateral crural graft; revision rhinoplasty

OP-327

Rhinoplasty Techniques Update: In East & West Part Of Asia

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BACKGROUND & AIM

Pan Asian Academy Of Facial Plastic & Reconstructive Surgery (PAAFPRS) Panel

MATERIAL & METHODS

Pan Asian Academy Of Facial Plastic & Reconstructive Surgery (PAAFPRS) Panel

RESULTS

Moderator

Dr Alireza Mesbahi (Iran)

Panelists

Dr Gordon Soo (Hong Kong)

Dr Yong Ju Jang (Sout Korea)

Dr Brajendra Baser (India)

Dr Habiba Almaskari (Oman)

Dr Sandeep Uppal (Singapore)

Dr Chih-Wen Twu (Taiwan)

CONCLUSIONS

Pan Asian Academy Of Facial Plastic & Reconstructive Surgery (PAAFPRS) Panel

KEYWORDS

rhinoplasty, Asia, PAAFPRS, technique,

OP-328

Automated Nasal Aesthetic Subunit Classification Using Convolutional Neural Networks: Proof-Of-Concept Validation On Simulator Images

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BACKGROUND & AIM

Accurate recognition of nasal aesthetic subunits is central to cutaneous reconstruction, influencing flap choice, incision placement and contour restoration. Artificial intelligence may support standardised anatomical recognition and future image-guided decision support for reconstructive procedures. However, early validation should occur in controlled settings prior to clinical translation. We hypothesised that ImageNet-pretrained convolutional neural networks (CNNs) could classify nasal aesthetic subunits from standardised simulator-image datasets with high internal performance.

MATERIAL & METHODS

A labelled simulator-image dataset was generated from nasal reconstruction models, comprising 627 original images across 115 class-specific patient groups. Images were classified into six anatomical categories: ala, columella, dorsum, sidewall, tip, and no defect. Eight ImageNet-pretrained CNN architectures were trained for multi-class classification under clean-only and clean-plus-augmented training regimes. Augmentation included geometric, intensity and image-degradation transformations. Models were evaluated using 15 patient-grouped cross-validation folds to reduce leakage between related images. Outcomes included balanced accuracy, overall accuracy, macro F1 score, per-class recall and macro one-vs-rest area under the receiver operating characteristic curve (AUC).

RESULTS

DenseNet121, trained on both clean and augmented images, was the best-performing CNN model. Across 15 patient-grouped cross-validation folds, it achieved strong multi-class performance, with a mean balanced accuracy of 0.887, macro F1 score of 0.882 and macro one-vs-rest area under the receiver operating characteristic curve of 0.984. Performance was consistent across anatomical subunits, with recall ranging from 0.84 to 0.92 and high class-level discrimination across all six categories. Augmentation improved balanced accuracy across all tested architectures, supporting its value in improving model robustness. Residual errors were anatomically interpretable, occurring mainly between neighbouring or visually similar regions, particularly the sidewall and dorsum, rather than reflecting random misclassification. Image-quality subgroup analysis showed comparable performance between high- and low-quality images, suggesting early robustness within the simulator dataset.

CONCLUSIONS

CNNs demonstrated proof-of-concept feasibility for automated nasal aesthetic subunit classification using simulator-image datasets. Positive findings include strong internal discrimination, balanced multi-class performance and anatomically interpretable error patterns. Limitations include the use of simulator-only images and the absence of external clinical validation. Further work should expand datasets, incorporate multi-rater ground-truth labels, and validate performance on mixed simulator and clinical images within a human-in-the-loop framework.

KEYWORDS

Nasal reconstruction; convolutional neural networks; deep learning; facial plastics; aesthetic subunit; local flap selection; decision support

OP-329

Qualitative And Quantitative Assessment Of Four Artificial Intelligence Systems For Nasal Deformity Analysis In Rhinoplasty

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BACKGROUND & AIM

To evaluate the performance of four artificial intelligence (AI) systems in analyzing nasal deformities compared with expert opinions.

MATERIAL & METHODS

Four artificial intelligence chatbots (ChatGPT 4o, Claude 3.7, Gemini 2.0, and Grok 2) were compared to experts in terms of their ability to analyze nasal deformities. A quantitative analysis using standardized photographs compared the scores of the validated nasal dysmorphique assessment scale MIRA, across three views (frontal, profile, basal). A qualitative assessment was conducted using a 5-point Likert scale to characterize the main type of nose (tension nose, saddle nose, deviated nose, etc.).

RESULTS

Fifty adult patients seeking rhinoplasty were evaluated by chatbots and two experts based on standardized photographs. The assessments by the two surgeons showed very strong agreement (ICC = 0.997) for nasal analysis according to the MIRA scale. Only Claude 3.7 and the experts had comparable overall MIRA score evaluations ($p>0.05$). The analysis of MIRA sub-scores by incidence showed a significant difference between chatbots and experts for all models ($p<0.05$). Grok 2 ($p<0.001$) had the poorest performance. The qualitative description of the nose by ChatGPT4o achieved the best results, with a correct response rate reaching 70%.

CONCLUSIONS

None of the models achieves interesting performance during the quantitative analysis of nasal deformities. Qualitative assessment indicates that ChatGPT 4.0 could assist, under supervision, in rhinoplasty evaluations when analyzing nose types. However, it has only been effective in two-thirds of cases. AI can overestimate, miss, or be unresponsive. Expert surgeons are still needed to ensure the most accurate and trustworthy results. To date, AI tools are not reliable for the analysis of nasal dysmorphoses.

KEYWORDS

artificial intelligence, large language models, rhinoplasty, aesthetic surgery.

OP-330

Raising The Brow: Open Versus Endoscopic Lift, An Evidence-Based Systematic Review.

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BACKGROUND & AIM

Brow lift surgery is a cornerstone of upper facial rejuvenation, evolving from traditional open techniques to minimally invasive endoscopic approaches. Despite widespread use of both methods, consensus regarding their comparative outcomes and optimal indications remains lacking. The aim of the study is to understand the surgical principles, indications, outcomes, and complications of open and endoscopic brow lift techniques, and to apply evidence-based data to individualized surgical decision-making. The goal of this study is to systematically compare traditional (open) and endoscopic brow lift techniques with respect to aesthetic outcomes, complication rates, success, and patient satisfaction.

MATERIAL & METHODS

This study is a Systematic Review. A PRISMA 2020–compliant systematic review was conducted using PubMed, MEDLINE, Embase, Cochrane Library, Scopus, and Web of Science from March 2005 to August 2025. Comparative studies reporting

outcomes of open versus endoscopic brow lift were included. Data extraction and risk-of-bias assessment were performed independently by two reviewers. Quantitative analyses were weighted by cohort size.

RESULTS

Fifteen study cohorts were analyzed. Endoscopic techniques demonstrated significantly lower complication rates compared with open approaches ($p<0.001$). Open brow lifts achieved higher aesthetic scores at the midpupil and lateral canthus, slightly higher success rates, and marginally greater patient satisfaction. While these differences were statistically significant for most outcomes, overall satisfaction remained high for both techniques.

CONCLUSIONS

Both open and endoscopic brow lift techniques are effective and safe. Endoscopic approaches offer lower morbidity, while open techniques provide greater aesthetic correction in selected patients. Optimal results depend on careful patient selection, anatomy, and surgical goals rather than a single preferred technique.

KEYWORDS

Endoscopic brow lift, Open brow lift, Facial rejuvenation, Aesthetic Outcome.

OP-331

Botulinum Toxin A For Improving Cosmetic Outcomes In Facial Wound Healing: A Systematic Review, Meta-Analysis, And Dose-Response Evaluation

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BACKGROUND & AIM

Facial wound healing often results in unsatisfactory scarring with significant aesthetic and psychological impact. Botulinum toxin A (BTX-A) has appeared as a promising intervention to improve cosmetic outcomes by reducing muscle tension during wound healing. This systematic review and meta-analysis aimed to evaluate the efficacy and safety of BTX-A in facial wound management.

MATERIAL & METHODS

We conducted a detailed scientific literature database from inception to 15th of May, 2025, following PRISMA 2020 guidelines. All eligible studies comparing BTX-A with control interventions for facial wound healing were included. Primary outcomes were visual analog scale (VAS) scores and scar width measurements. Secondary outcomes included Vancouver Scar Scale scores, patient satisfaction, and adverse events. Meta-regression investigated dose-response relationships.

RESULTS

Fifteen studies with total of 607 participants met inclusion criteria. Botulinum toxin A significantly improved VAS scores (standardized mean difference 0.87, 95% CI: 0.45-1.29, P-value < 0.001) and reduced scar width by 0.35 mm (95% CI: −0.52 to −0.18, P-value < 0.001). Meta-regression (R^2 = 24%, P-value = 0.032) demonstrated a dose-response relationship with effect size increasing by 0.08 SMD units per U/cm. The 5 to 15 U/cm range was identified through safety-efficacy modeling, where doses <5 U/cm showed suboptimal efficacy (SMD 0.65), 5 to 15 U/cm achieved optimal balance (SMD 0.78–1.18, adverse events 1.1%–6.2%), and > 15 U/cm showed diminishing returns with increased adverse events. Adverse event rates were comparable between groups (3.9% versus 3.4%, P-value = 0.75), with no serious complications reported.

CONCLUSIONS

Botulinum toxin A demonstrates significant efficacy in improving facial wound cosmetic outcomes with an excellent safety profile. Evidence-based dosing of 5 to 15 U/cm provides the best benefit-risk ratio. On the basis of cost-effectiveness evaluation of included studies, the intervention demonstrates favorable benefit-risk ratios for wounds in high-visibility facial areas, with economic modeling suggesting better utility for longer wounds where scar prevention outweighs treatment costs.

KEYWORDS

Botox, botulinum toxin A, facial scar, facial wounds, wound healing

OP-332

Impact Of Injectable Filler, Biostimulants, And Microneedling On Outcomes Following Deep Plane Facelift

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BACKGROUND & AIM

Background: The rising popularity of minimally invasive facial rejuvenation techniques as first-line treatments for aging skin has led to a growing subset of facelift patients having had these interventions in the past. Concerns persist regarding potential altered tissue planes and increased complication rates, however, objective data remains limited.

Objective: To evaluate the safety, post-operative outcomes, and satisfaction rates of primary deep plane facelifts in patients who have had prior injectables, biostimulants, or radiofrequency microneedling treatments.

MATERIAL & METHODS

Retrospective review of patients with a history of previous injectables, biostimulants and/or radiofrequency microneedling treatments who underwent deep plane facelift with a single high-volume surgeon. Outcomes assessed included postoperative complications, need for revision surgery, intraoperative assessment of tissue planes, and patient satisfaction.

RESULTS

A total of 228 patients (mean age 56, 90.3% female) were included in the study. The most popular minimally invasive procedures were injectable fillers (85.5%), followed by radiofrequency microneedling (19.3%) and biostimulants (13.2%). The average time from minimally invasive treatment to facelift was 2 years. Post-operative complications occurred in 13 patients (5.7%), and revision surgery was required in 19 patients (8.3%) for mostly scar-related aesthetic concerns. Patient satisfaction was high, with 96.1% reporting being extremely satisfied. Intraoperatively, there was increased resistance during superficial dissections; however, deep planes demonstrated comparable tissue quality to injectable or biostimulant-naive patients.

CONCLUSIONS

Prior minimally invasive facial rejuvenation techniques do not appear to
significantly compromise outcomes of deep plane facelift when performed by an experienced surgeon.

KEYWORDS

Deep Plane Facelift, Injectables, Biostimulants, Microneedling, Necklift

OP-333

Changes In Social Media Behavior Following Rhinoplasty: A Retrospective Analysis Of Psychosocial And Digital Behavioral Outcomes

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BACKGROUND & AIM

To prospectively compare social media usage patterns, facial filter behavior, and self-confidence perception before and after primary aesthetic rhinoplasty, and to evaluate whether postoperative changes in digital behavior may serve as indirect indicators of patient satisfaction.

MATERIAL & METHODS

Patients who underwent primary aesthetic rhinoplasty at our institution between January 2021 and January 2026 were retrospectively identified. A structured telephone survey was administered to 315 candidates; 202 were excluded due to unreachable contact information or refusal to participate, yielding a final analytic cohort of n = 113 (response rate: 35.9%). The survey instrument captured the following pre- and postoperative parameters: daily social media usage duration (hours/day), weekly selfie-sharing frequency, weekly non-shared selfie frequency, facial filter use (five ordinal categories: never, rarely, sometimes, often, always), profile photo update frequency (times/month), self-confidence perception (5-point Likert scale), nose-concealment behavior in photographs (5-point Likert scale), social media platform preference, and engagement monitoring behavior (likes/comments; 5-point Likert scale). Pre- and postoperative comparisons were performed using the Wilcoxon signed-rank test; statistical significance was set at $p < 0.05$.

RESULTS

A total of 113 patients completed the survey (response rate: 35.9%). Rhinoplasty was associated with significant improvements in self-confidence (2.71 ± 1.57 vs. 4.61 ± 0.84, $p < 0.001$) and a marked reduction in nose-concealment behavior (3.77 ± 1.63 vs. 1.63 ± 1.11, $p < 0.001$). Facial filter use declined substantially postoperatively; the proportion of patients who never used filters rose from 48.2% to 66.4%, while those reporting always or often using filters fell from 36.6% to 11.5% ($p < 0.001$). Selfie-sharing frequency increased modestly (1.15 vs. 1.62 per week, $p = 0.002$), and non-shared selfie capture frequency also rose

significantly (5.20 vs. 9.46 per week, p < 0.001). In contrast, daily social media usage duration, profile photo update frequency, and engagement monitoring behavior remained unchanged. Instagram was the predominant platform across both time points (>87%).

CONCLUSIONS

Primary aesthetic rhinoplasty is associated with significant improvements in self-confidence perception and nose-concealment behavior, accompanied by a marked reduction in facial filter use and increased selfie capture frequency. In contrast, overall social media engagement duration, profile update frequency, and engagement monitoring are unaffected by surgery. These findings suggest that rhinoplasty extends beyond its physical dimensions to meaningfully transform patients' digital self-presentation. Changes in social media behavioral patterns may represent a novel and non-invasive surrogate measure of postoperative psychosocial satisfaction following rhinoplasty.

KEYWORDS

Rhinoplasty; social media; selfie; facial filter; self-confidence; psychosocial outcomes; digital behavior; patient satisfaction

OP-334

Beyond The Procedure: Outcomes Of Ear Correction Surgery

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BACKGROUND & AIM

Prominent ears are the most common congenital variation affecting the auricle. They can have a meaningful impact on a child's emotional and psychosocial well-being, particularly during the school years, a stage when self-image is actively developing. However, perceptions regarding the need for correction may differ between parents and children, potentially shaping the decision-making process around treatment. Our goul is evaluate the impact of pediatric otoplasty on mental health and quality of life, and to analyze differences in perception between parents and children regarding these outcomes.

MATERIAL & METHODS

Prospective study including pediatric patients who underwent otoplasty between June 2023 and December 2025. The Glasgow Children's Benefit Inventory (GCBI) was administered to parents to assess caregiver-reported benefit following surgery, and a visual analogue scale (VAS) was used with the children to capture their subjective perception of the outcome.

RESULTS

Twelve children who underwent otoplasty were analyzed, with a mean age of 9.3 years during this period. The mean GCBI score was 45, with no differences observed between sexes, indicating a significant impact of otoplasty in this group. Comparison between the parent-reported GCBI and the child-reported VAS showed no statistically significant differences between the two groups ($p<0.05$).

CONCLUSIONS

This study is relevant for understanding differences between parents' and children's perceptions of the impact of otoplasty, addressing an important gap in the literature. The findings may help guide more informed clinical and therapeutic decisions, improve postoperative follow-up, and contribute to strategies that promote the emotional well-being of children undergoing surgery.

KEYWORDS

Otoplasty, proeminent ears, plastic surgery

OP-335

Assessment Of Satisfaction Rate Of The Patients Underwent Closed Reductions Of Nasal Bone Fracture; A Cross Sectional Study

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BACKGROUND & AIM

Background: The nose is the central and most protruded part of the face, most vulnerable to facial trauma. Treatment for nasal bone fractures involves open reduction and closed reduction. Closed nasal reduction is a simple procedure that can be performed under local or general anesthesia with an acceptable success rate.

Aim: The current study aimed to assess the patient's satisfaction following the closed reduction of nasal bone fractures, both in aesthetic and functional values, and causes of dissatisfaction.

MATERIAL & METHODS

Methodology: A community-based descriptive cross-sectional study was conducted in Al-Noor Specialist Hospital, Makkah, Saudi Arabia, targeting all patients who underwent close reduction of nasal bone fracture between December 2021 and December 2022. The severity of the nasal obstruction was assessed using the validated Nasal Obstruction Symptom Evaluation (NOSE) scale, and selected questions from the Glasgow Benefit Inventory (GBI) were used to assess the change in general

health status. The final questionnaire was distributed to the eligible patients through Google Forms (Google LLC, Mountain View, California, United States).

RESULTS

Results: A total of 55 patients with reduced nasal bone fractures were included. Patients' ages ranged from 20 to 55 years with a mean age of 33.1±12.9 years. Precisely 39 (70.9%) patients were male. A total of 17 (30.9%) nasal injuries were due to accidents, and 15 (27.3%) were due to slips/falls. After closed reduction surgery, 42 (76.4%) were satisfied with their nose cosmesis, but nine (16.3%) were unsatisfied. For unsatisfied cases after surgery, the main reason was their own perception (61.5%), opinion of relatives/friends (30.8%), or medical opinion (7.7%). A significant relation between postoperative complaints and the severity of nasal symptoms was reported ($P < 0.05$).

CONCLUSIONS

Conclusions: The study revealed a high satisfaction rate for the closed reduction method, mainly in married older patients. Clinical complaints, severity of symptoms, and associated health changes decreased after undergoing closed reduction.

KEYWORDS

Keywords: closed reduction; facial cosmetic surgery; nasal bone fracture; nasal obstruction; nasal obstruction symptom evaluation (nose) scale; nasal trauma; saudi arabia

GLOBAL OUTREACH (REGIONAL OR ENT RELATED ORGANIZATIONS SYMPOSIA)

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OP-336

Profile Of Otorhinolaryngology-Related Emergency Department Visits And Revisits In A Tertiary Care Center In Riyadh, Saudi Arabia

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BACKGROUND & AIM

Otorhinolaryngologic (ENT) complaints constitute a substantial proportion of emergency department (ED) visits, ranging from minor to life-threatening problems. The patterns and frequency of these presentations in Saudi Arabia remain poorly described. This study, therefore, aimed to address this gap by examining the most frequent ENT-related presentations to the ED at a tertiary center in Riyadh, Saudi Arabia, to identify common diagnoses, describe patient demographics, and evaluate annual trends in ED visits.

MATERIAL & METHODS

A retrospective study of all consecutive ENT-related emergency department visits between January 2019 and December 2024 was conducted at King Abdulaziz Medical City, a tertiary care center in Riyadh, Saudi Arabia. Diagnosis classification used the International Classification of Diseases, 10th Revision (ICD-10). Data on patient demographics, presenting complaints, and hospital admissions were extracted. Descriptive analyses were performed to assess annual trends and common diseases.

RESULTS

A total of 22,014 patients were included in the present study, with a slight male (54%) predominance. Across 34,290 ED visits, annual presentations were the highest in 2019 (23.9%) and lowest in 2020 (9.2%). Most patients were discharged from ED (91.9%). The most frequent diagnoses were acute pharyngitis (29.1%), acute tonsillitis (26.2%), and otitis media (22.3%).

CONCLUSIONS

The study examined the otorhinolaryngology conditions most frequently encountered in an ED setting. The findings highlight a range of ENT disorders that are commonly seen in this setting. Recognizing these prevalent conditions and their patterns can improve ED physicians' preparedness, triage, and management of patients presenting with ENT emergencies.

KEYWORDS
ENT, otolaryngology, emergency, urgent, visit, revisit

OP-337

Building ENT Subspecialist Capacity In Africa: Outcomes Of The University Of Cape Town Fellowship Programme

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BACKGROUND & AIM

Sub-Saharan Africa faces a major shortage of ENT surgeons with subspecialist expertise, limiting access to advanced otolaryngology care. The University of Cape Town established African-focused ENT fellowship programmes in Rhinology, Head and Neck Surgery, Pediatric ENT, and Otology to strengthen regional subspecialist capacity. While individual fellowship outcomes have previously been reported, a comprehensive evaluation across ENT subspecialties has not been performed. This study aims to evaluate the effectiveness of the UCT African ENT fellowship model in developing sustainable subspecialist services, training capacity, and clinical leadership across Africa

MATERIAL & METHODS

A cross-sectional observational study will be conducted using an electronic questionnaire distributed to graduates of the University of Cape Town African ENT subspecialist fellowship programmes. Eligible participants include ENT surgeons who completed fellowship training at least 12 months prior to the study. The survey will assess establishment of subspecialist services, training activities, barriers to implementation, and perceived fellowship impact. Quantitative data will be analysed descriptively using frequencies and percentages, while qualitative responses will undergo thematic analysis

RESULTS

Data collection and analysis are currently underway. Preliminary findings are anticipated to demonstrate that the UCT African ENT fellowship programme has contributed to the development and expansion of ENT subspecialist services across multiple African countries. The study is expected to identify improvements in surgical capacity, local training initiatives, and regional leadership, while also highlighting persistent barriers including resource limitations, infrastructure constraints, and workforce shortages.

Data analysis and interpretation will be completed by the end of June 2026

CONCLUSIONS

The UCT African ENT fellowship programme is anticipated to represent a sustainable and scalable model for strengthening ENT subspecialist capacity in resource-limited settings. By supporting service development, surgical training, and regional leadership, the programme may contribute meaningfully to improving access to advanced ENT care across Africa, while also identifying key challenges that must be addressed to support long-term sustainability and wider replication.

KEYWORDS

ENT fellowship Subspecialist training, Global surgery, Africa Capacity building, Surgical education, Workforce development, Medical education, Low-resource settings, Health systems strengthening, International collaboration, Sub-Saharan Africa Fellowship outcomes

OP-338

Global Barriers To Research In Otolaryngology–Head And Neck Surgery: A Scoping Review

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BACKGROUND & AIM

Research is essential for innovation and improved patient care in Otolaryngology–Head and Neck Surgery (OHNS). However, research participation and academic productivity remain unevenly distributed worldwide, suggesting that barriers may limit opportunities for many investigators. This scoping review aims to identify and synthesize barriers affecting research participation, productivity, and academic advancement in OHNS worldwide.

MATERIAL & METHODS

A scoping review was conducted using PubMed, Scopus, and Cochrane Library from inception through May 2026. Peer-reviewed OHNS publications evaluating barriers related to research participation, productivity, authorship, funding, mentorship, or academic advancement were included. Eligible studies underwent qualitative thematic synthesis.

RESULTS

Ten studies were included, comprising international surveys, bibliometric analyses, and institutional productivity studies. Four major themes emerged. First, limited protected time and competing clinical workload were consistently identified as the most

frequent barriers to research participation across trainees and faculty. Second, financial and institutional barriers were more prominent in low- and middle-income settings, including inadequate funding, limited infrastructure, restricted access to research resources, and challenges related to publication costs. Third, insufficient research training and mentorship reduced engagement in scholarly activity, particularly among residents lacking formal research education and methodological support. Fourth, structural inequities in authorship and academic advancement persisted globally, with high-income countries dominating publication leadership in major journals and women remaining underrepresented in senior authorship, leadership positions, and research funding.

CONCLUSIONS

Barriers to research in OHNS are largely driven by structural limitations rather than lack of interest. Improving protected research time, mentorship, training, institutional support, equitable funding, and fair collaborative practices may strengthen global research capacity and improve representation in OHNS scholarship.

KEYWORDS

Otolaryngology–Head and Neck Surgery; Research productivity; Research barriers; Academic medicine; Global health; Health equity

OP-339

Otosurg 1: A Prospective Evaluation Of Worldwide Tonsillectomy Indications, Techniques, And Outcomes

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BACKGROUND & AIM

Tonsillectomy is the most common pediatric surgery, yet little is known about how outcomes vary worldwide. Although generally considered a safe surgery, tonsillectomy carries significant risks. Approximately 3% of US children require hospital readmission within 30 days for life-threatening complications. While mortality rates in high-income countries are low (~0.0005%), those in low- and middle-income countries (LMICs) are poorly characterized. OtoSurg 1 aims to 1) quantify global variation in 30-day major postoperative complications and mortality following pediatric tonsillectomy across World Health Organization (WHO) regions and to 2) characterize global variation in pediatric tonsillectomy surgical indications and operative techniques across WHO regions.

MATERIAL & METHODS

This submission outlines the OtoSurg 1 research protocol, as data collection has not yet begun. OtoSurg 1 will be an international, multi-site, prospective cohort study. The central IRB is approved and hosted by Emory University (IRB ID: STUDY00009113). All healthcare facilities globally that perform pediatric tonsillectomy will be invited to participate. Participating investigators will be trained to collect data on patients undergoing primary tonsillectomy over a 90-day period at their respective institutions. Site-based teams will record demographic data, surgical indication(s), surgical technique(s), postoperative complications, and mortality directly into a global de-identified tonsillectomy outcomes data registry. We will leverage existing relationships and professional networks to recruit participants from 30 sites in each of the six WHO regions, targeting 180 partner sites.

RESULTS

We will use multilevel mixed-effects logistic regression to account for clustering of patients within hospitals and hospitals within countries. For each primary outcome, we will fit a sequence of prespecified models. First, we will fit an unconditional (null) model with random intercepts for hospital and country to quantify baseline between-hospital and between-country variation. Second, we will add prespecified patient- and procedure-level covariates to evaluate the extent to which case-mix explains outcome variation. Third, we will include country income classification as a fixed effect to estimate the adjusted association between income setting and outcomes while retaining the hierarchical random-effects structure. Model fit will be assessed using the Akaike information criterion. Intraclass correlation coefficients will be calculated to quantify the proportion of outcome variance attributable to clustering at the hospital and country levels for dichotomous outcomes using the logistic distribution variance. Adjusted odds ratios with 95% confidence intervals will be reported.

CONCLUSIONS

OtoSurg 1 will highlight potential opportunities for intervention to standardize and improve outcomes for the world's most common pediatric surgery, with a focus on LMICs. Beyond the primary objectives, this project will also seek to 1) recruit and train a collaborative research network of otolaryngology surgeons from around the world and to 2) build the digital infrastructure necessary to support this network sustainably. This collaborative research network will serve as the foundation for future large-scale research initiatives and for the development and implementation of novel, data-driven interventions.

KEYWORDS

Tonsillectomy, pediatric tonsillectomy, postoperative complications, postoperative mortality, global surgery

OP-340

Building Otolaryngology Surgical Capacity In Low- And Middle-Income Countries: Insights From Global Training Programs

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BACKGROUND & AIM

Objective: Describe the design, goals, and perceived impacts of global otolaryngology–head and neck surgery (OHNS) training programs, with emphasis on institutional factors shaping workforce development and surgeon retention in low- and middle-income countries (LMICs).

MATERIAL & METHODS

Study Design: Cross-sectional qualitative study conducted from October 2024 to October 2025.
Setting: Focused, semi-structured interviews.
Methods: Participants were program directors and faculty involved in training otolaryngologists from LMICs. Transcripts were analyzed using an iterative grounded theory approach to develop a codebook and identify emergent themes.

RESULTS

Sixteen otolaryngologists representing 15 fellowship-level programs in seven countries were interviewed. Collectively, programs had trained 49 fellowship graduates and nine current fellows from 23 countries. Program directors emphasized shared goals of sustainable workforce development and the avoidance of brain drain, while describing substantial regulatory, financial, and structural constraints influencing trainee selection and post-training mobility. Among LMIC trainees trained by these programs, 75% returned to their home country; health system limitations, economic pressures, and credentialing barriers hindered reintegration. For faculty, the inclusion of foreign trainees fostered reciprocal learning environments that influenced perspectives on training adaptability and resource-conscious care.

CONCLUSIONS

Understanding the shared motivations and barriers shaping international OHNS training programs may inform future program design strategies that support sustainable workforce development and successful trainee reintegration within LMIC health systems.

KEYWORDS

global surgery, workforce development, brain drain, surgical education, low- and middle-income countries

HEAD AND NECK ONCOLOGY

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OP-341

Patient-Initiated Follow-Up In Head And Neck Cancer: Opportunity Or Risk? A Mixed-Methods Service Evaluation

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BACKGROUND & AIM

Patient-Initiated Follow-Up (PIFU) is increasingly adopted across oncology to reduce outpatient burden and enhance patient autonomy. However, its applicability in head and neck cancer (HNC), a cohort characterised by complex disease trajectories, high recurrence risk, and significant functional morbidity, remains underexplored. This research aims to explore multidisciplinary healthcare professionals' perspectives on the barriers and enablers to implementing PIFU in HNC follow-up.

MATERIAL & METHODS

A mixed-methods service evaluation was conducted in a tertiary cancer centre. An online survey was distributed to 22 members of the multidisciplinary team (MDT), including surgeons, oncologists, specialist nurses, and allied health professionals. This was followed by semi-structured interviews with 10 participants purposively sampled across the MDT to capture diverse professional perspectives. Survey data were analysed using descriptive statistics, while interview transcripts underwent reflexive thematic analysis.

RESULTS

Six key themes were identified: (1) understanding and current use of PIFU; (2) perceived benefits, including improved patient autonomy and reduced clinic burden; (3) risks and equity considerations, particularly concerns regarding delayed recurrence detection and digital exclusion; (4) patient selection criteria, with consensus around suitability for low-risk, well-engaged patients; (5) multidisciplinary roles in decision-making; and (6) infrastructure requirements, including access pathways, patient education, and administrative support. While there was cautious support for PIFU, participants emphasised that safe implementation requires robust safety-netting systems and clear escalation pathways.

CONCLUSIONS

PIFU represents a promising approach to optimising follow-up in selected HNC patients. However, its successful implementation depends on careful patient stratification, strong multidisciplinary engagement, and investment in infrastructure to ensure timely access and equitable care. These findings provide practical insights to inform future service design and evaluation in HNC follow-up pathways.

KEYWORDS

Head and Neck Cancer; Patient-Initiated Follow-Up; Follow-Up Care; Multidisciplinary Team; Service Evaluation; Patient-Centred Care

OP-342

Predictive Value Of Drain Amylase And Pepsin Levels For Pharyngocutaneous Fistula After Total Laryngectomy

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BACKGROUND & AIM

Pharyngocutaneous fistula (PCF) is one of the most common and serious complications following total laryngectomy, leading to prolonged hospitalization and delayed adjuvant treatment. Early prediction of PCF remains challenging. This study aimed to evaluate the relationship between drain fluid amylase and pepsin levels and PCF development and to assess their predictive value in the postoperative period.

MATERIAL & METHODS

A total of 50 patients who underwent total laryngectomy for laryngeal squamous cell carcinoma were included in this study. Demographic data, tumor characteristics, and postoperative PCF development were recorded. Amylase and pepsin levels were measured in right and left wound drain fluids. The association between biomarker levels and fistula development was analyzed, and diagnostic performance was evaluated using receiver operating characteristic (ROC) curve analysis.

RESULTS

The mean age was 63.2 ± 8.3 years, and 92% of patients were male. PCF developed in 28% of patients, with a mean onset time of 7.21 ± 2.60 days. No significant association was found between PCF development and age, gender, or tumor localization ($p > 0.05$). In side-based analysis, left drain amylase levels were significantly higher in the PCF group ($p = 0.04$) and showed the best discriminative ability (AUC = 0.68). No significant differences were observed for right drain amylase or pepsin levels ($p > 0.05$). In side-independent analysis, although amylase levels were higher in the PCF group, the difference was not statistically significant ($p = 0.173$; AUC = 0.603). Pepsin levels were not associated with PCF development.

CONCLUSIONS

Drain amylase levels may have limited clinical utility in predicting PCF development following total laryngectomy. However, neither amylase nor pepsin alone appears to be a reliable prognostic marker. Drain amylase may still serve as an early warning indicator in postoperative monitoring.

KEYWORDS

total laryngectomy, pharyngocutaneous fistula, amylase, pepsin, drain fluid, biomarker, ROC analysis, head and neck cancer

OP-343

The Mysteries Of Cervical Lymphadenopathy: Efficacy Of The Lymph Node Reporting And Data System (LN-RADS) In Assessing Cervical Lymphadenopathy

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BACKGROUND & AIM

Cervical lymphadenopathy is abnormally enlarged cervical lymph nodes which could be benign or malignant. Imaging and laboratory investigations are used in the diagnosis. However, in suspicious cases a biopsy is required which might have complications. A new system, the Lymph Node Reporting and Data System (LN-RADS), has been established to improve the quallity of lymph node assessment and provide a scale to determine the likelihood of malignancy, thus guiding physicians for the optimal management, which include biopsy.

MATERIAL & METHODS

This is a retrospective multicenter cohort study included all ultrasound-guided tru-cut biopsy or excised cervical lymph nodes with previous ultrasound performed between 2015 and 2026. Demographical data and oncology history were collected. LN-RAD system applied to each lymph node, including the assessment of shape, cortex regularity, thickness and echogenicity, hilum, architecture, vascularity borders and extracapsular infiltration. Accordingly each lymph node given a score of 1-5. Finally, correlation was done between the LN-RADS score and pathology results. Analysis was performed in R, with descriptive statistics calculated in SPSS25.

RESULTS

A total of 280 patients were included, with a mean age of 49±19.2 years; 56.1% were female. Most patients(60%) had no known prior history of malignancy. Tru-cut biopsy was the predominant sampling method (73.6%), followed by fine needle aspiration cytology(27.5%) and excisional biopsy (2.5%). According to LN-RADS classification, most cases were categorized as 3–5, with even distribution across categories. On final pathology, reactive lymph nodes were most common(30.7%), followed by hematological malignancies(20.7%) and other cancers(15.4%). A progressive increase in malignancy risk was observed across LN-RADS categories, suggesting good internal validity and effective separation between low-risk and high-risk groups. The system demonstrated 91.4% sensitivity, 82.9% specificity, 79.1% positive predictive value and 93.2% negative predictive. Diagnostic accuracy was 86.4%. The discriminatory ability using receiver operating characteristic analysis demonstrated an

area under the curve(AUC) of 0.917, indicating excellent ability to differentiate malignant from benign nodes across all thresholds.

CONCLUSIONS

In conclusion, our study showed high efficacy of LN-RADS system in distinguishing benign, reactive and malignant lymph nodes with high diagnostic accuracy. Therefore, it has the potential to aid decision making and optimize the management of patients with cervical lymphadenopathy.

KEYWORDS

LN-RADS, Cervical lymphadenopathy, Oncology, Head and neck, Ultrasound

OP-344

Evaluation Of The Suspected Head And Neck Cancer Pathway In A Study Of More Than 5,000 Patients: Referral Behaviour, Clinical Management, And The Diagnostic Utility Of NICE 2-Week Wait Guidance

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BACKGROUND & AIM

The 2-week wait referral pathway was introduced in the UK to support earlier cancer diagnosis and improve survival outcomes. In hLaryngopharyngealer, its effectiveness has been questioned because many referrals do not lead to a malignancy diagnosis. This is largely because head and neck cancers often present with non-specific throat and voice symptoms that may overlap with benign conditions, making careful clinical assessment essential. Laryngopharyngeal reflux is one of the most common alternative diagnoses in this pathway and is often suitable for management in primary care with a trial of proton pump inhibitors

MATERIAL & METHODS

Retrospectively analysed data of 5610 patients were identified from the regional cancer pathway coding system. A small group of patients were excluded due to the wrong hospital number, and no information was identifeid on the system. Data was extracted from the online hospital system. Data was collected from 01st Decemvber 2022 till 30th Nov 2025.

RESULTS

A total of 5535 patients were included in the final analysis. More than 90% of the patients had benign conditions, and no cancer was diagnosed. The remaining 10% of 10% patinets either malignat and needing conditions, and they were treated accordingly. A large cohort was presented with LPR and discharged home dame say.

CONCLUSIONS

If laryngopharyngeal reflux is recognised earlier in primary care, low-risk patients may be treated without being sent straight into a cancer pathway. This could reduce unnecessary referrals, ease pressure on specialist services, and spare patients avoidable worry.

KEYWORDS

2ww wait, NICE, Head and neck, cancer, and LRP

OP-345

Elevated Risk Of Second Primary Cancer Following Sinonasal Carcinoma

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BACKGROUND & AIM

Sinonasal cancer is rare and accounts for 3-5% of head and neck malignancies. It exhibits relatively low survival rates despite advances in treatment. An increased risk of second primary cancer (SPC) has been suggested as a contributing factor to the poor prognosis. However, the literature on the SPC risk following sinonasal cancer, particularly in European populations, is scarce.

MATERIAL & METHODS

Data on 1,161 patients diagnosed with primary sinonasal carcinoma during 1953-2023 were obtained from the Finnish Cancer registry (covering 96% of solid tumors diagnosed in Finland). Standardized incidence ratios (SIRs) and excess absolute risk (EAR) per 1,000 person-years were calculated to compare SPC risk with that of the general population. Results were stratified by age, sex, time period of diagnosis, time since diagnosis, stage and SPC site. Subpopulations based on the site of the primary cancer (nasal cavity, maxillary sinus, ethmoids, and other sites) were also analyzed separately.

RESULTS

In total, 158 patients (13.6%) were diagnosed with an SPC, corresponding to an SIR of 1.52 (95% CI: 1.29–1.77) and an EAR of 7.35 per 1000 person-years (95% CI: 4.65–11.62). The risk remained significantly elevated for up to 20 years after the primary diagnosis and remained relatively stable over the study period. SPCs in respiratory and intrathoracic organs exhibited the highest significant risk, with an SIR of 2.99 (95% CI: 2.22–3.94), and an EAR of 4.25 (95% CI: 2.80–6.45). In site-specific analyses, both nasal cavity (n = 556) and maxillary sinus (n = 529) primary cancers were associated with an increased SPC risk, with SIRs of 1.56 (95% CI: 1.27–1.91) and 1.51 (95% CI: 1,15–1.96), respectively. SPC rates for primary cancers of the ethmoids (n = 14) and other sites (n = 62) did not reach statistical significance.

CONCLUSIONS

Patients with primary sinonasal carcinoma exhibited a 52% excess risk of developing an SPC compared to the general population. This risk remained elevated for up to 20 years after the primary diagnosis. These results highlight the importance of long-term post-treatment follow-up.

KEYWORDS

head and neck cancer, sinonasal carcinoma, second primary cancer, second primary malignancy

OP-346

Facial Nerve Variations In Parotidectomy: Is There A Correlation With Facial Anthropometric Proportions?

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BACKGROUND & AIM

Facial nerve injury remains one of the most significant complications of parotidectomy, often resulting in functional and cosmetic morbidity. Although various anatomical landmarks have been described to facilitate facial nerve identification, interindividual variability in facial nerve branching patterns continues to pose surgical challenges. This study aims to investigate the relationship between facial nerve anatomical variations and patients' facial anthropometric proportions, potentially providing a predictive framework for safer surgical dissection.

MATERIAL & METHODS

This prospective observational clinical study includes 30 patients aged 30–70 years undergoing parotidectomy. Intraoperative measurements were performed using a sterile surgical ruler without altering standard surgical procedures. The recorded parameters included distances between key anatomical landmarks: mandibular angle to mentum, facial nerve trunk to mandibular angle, facial nerve trunk to inferior temporal line, trunk to bifurcation distance, and bifurcation to zygomatic process distance. Facial nerve branching patterns were also classified intraoperatively. Collected data were analyzed using SPSS and R statistical software. Continuous variables were expressed as mean ± standard deviation, and categorical variables as frequencies and percentages. Statistical significance was set at $p < 0.05$.

RESULTS

Preliminary findings suggest a potential correlation between facial anthropometric proportions and facial nerve branching patterns. Variations in trunk location and branching morphology demonstrated measurable relationships with specific facial dimensions. These findings indicate that individual facial morphology may serve as a predictive factor in identifying facial nerve anatomy during parotid surgery.

CONCLUSIONS

Understanding the association between facial anthropometry and facial nerve variations may enhance intraoperative orientation and reduce the risk of nerve injury during parotidectomy. This study contributes to the growing body of literature aiming to improve surgical safety through personalized anatomical assessment. Further studies with larger cohorts are warranted to validate these findings.

KEYWORDS

Facial nerve anatomy; Parotidectomy; Facial nerve branching patterns; Facial anthropometric measurements; Surgical landmarks; Nerve preservation; Head and neck surgery

OP-347

Primary Pleomorphic Liposarcoma Of The Parotid Gland: A Systematic Review Of Clinical Features, Treatment Outcomes, And Prognosis

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BACKGROUND & AIM

Bu çalışma, primer pleomorfik liposarkom (PLPS) üzerine odaklanan bir olgu sunumu ve sistematik derleme niteliğindedir. Pleomorfik liposarkom, parotis bezinin nadir ve agresif bir malignitesidir. Tükürük bezi sarkomları tüm tümörlerin %1,5'inden azını oluştururken, PLPS alt tipi mevcut literatürde son derece nadirdir.

MATERIAL & METHODS

Olgu Sunumu: 69 yaşında kadın hasta, sol parotis bölgesinde iki aydır hızla büyüyen, ağrısız ve fikse bir kitle ile başvurdu. MRI'da 2,5 santimetrelik heterojen bir kitlenin saptanmasının ardından hastaya total parotidektomi uygulandı. Kapsamlı patolojik değerlendirme, pleomorfik lipoblastların varlığını ve %25'lik yüksek proliferasyon indeksini ortaya koyarak PLPS tanısını doğruladı. Başlangıçta cerrahi sınırlar negatif olmasına rağmen, postoperatif birinci ayda malignitenin nüksetmesi nedeniyle hasta ikinci bir cerrahi girişim geçirdi.

RESULTS

Sistematik Derleme: PRISMA 2020 kılavuzlarına uygun olarak kapsamlı bir tarama yapılmış ve belirlenen kriterleri karşılayan altı olgu literatürden elde edilerek analiz edilmiştir. İncelenen olgular ağırlıklı olarak ileri yaş grubunda olup yüksek nüks potansiyeli göstermektedir. Perinöral invazyonönemli bir prognostik faktör olarak saptanmıştır.

CONCLUSIONS

Sonuç: Agresif doğası nedeniyle parotis pleomorfikliposarkomu (PLPS), cerrahi sınırlar negatif olsa bile yüksek lokal nüks riski taşır. Tanısal güçlükler ve standart bir tedavi protokolünün olmaması göz önüne alındığında, bu nadir tümörler için multidisipliner yaklaşım ve uzun dönem takip zorunludur.

KEYWORDS

Parotis bezi, Liposarkom, Baş ve boyun neoplazmları

OP-348

Post-Operative Outcomes In Robot-Assisted Head And Neck Surgery (RAHNS): A Three-Year Experience At A Scottish Tertiary Centre (2022–2025)

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BACKGROUND & AIM

Traditional open surgery for head and neck oncology often results in significant morbidity. Transoral Robotic Surgery (TORS) offers a minimally invasive alternative with superior visualization. While robot-assisted head and neck surgery (RAHNS) improves quality of life, success is often dictated by patient-specific risk factors rather than technique alone, necessitating a clearer understanding of recovery predictors. This study evaluates factors influencing post-operative complications and functional recovery to establish evidence-based predictors for RAHNS outcomes.

MATERIAL & METHODS

A retrospective review was conducted on 58 consecutive patients undergoing RAHNS between 2022 and 2025. Data included demographics, albumin levels, pathology, and TNM staging. Primary outcomes measured were length of stay (LOS), Clavien-Dindo complications, swallowing status, and return-to-work timelines. Statistical analysis was preformed using SPSS with $p < 0.05$ being classed as significant.

RESULTS

The cohort (n=58) had a mean age of 57.1 years; 44.8% had malignant pathology. From this cohort 78% of patients had only surgery (no adjuvant therapy) and the mean LOS was 4.69 days. Malignancy was the strongest predictor of outcomes, correlating significantly with impaired swallowing, increased complications, and extended LOS ($p<0.001$). Age and advanced T-staging also predicted prolonged LOS ($p=0.04$; $p=0.05$). Lower pre-operative albumin (mean 29.23 g/L) was significantly associated with major adverse events and return to theatre ($p=0.04$). While 88% maintained a normal swallow (post-procedural recovery), return to work was significantly delayed by smoking ($p=0.006$) and high BMI ($p= 0.039$). TORS identified the primary tumour in 55.6% of occult cases.

CONCLUSIONS

RAHNS demonstrates high efficacy and faster recovery than traditional approaches. However, outcomes are heavily modulated by malignancy and nutritional status. These findings highlight the necessity of pre-operative nutritional optimization, specifically targeting albumin and the early involvement of the speech and language therapy team. Incorporating these factors into selection criteria will enhance the functional success of robotic head and neck programs.

KEYWORDS

Transoral Robotic Surgery (TORS),Head and Neck Oncology, Post-operative Outcomes, Unknonw primary cancer

OP-349

Navigating The Complexities Of Redo Surgery For Parapharyngeal Tumors.

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BACKGROUND & AIM

Parapharyngeal tumors are rare and pose significant diagnostic and surgical challenges due to their deep location and proximity to vital neurovascular structures. Redo surgeries in this region are even more complex, often complicated by

scarring, distorted anatomy, and risk of incomplete excision. This case-based presentation aims to highlight the clinical course, surgical approach, and key considerations in managing recurrent parapharyngeal tumors, emphasizing the importance of preoperative planning and multidisciplinary decision-making.

MATERIAL & METHODS

We report the case of a 33-year-old male who initially presented with snoring, dysphagia, and muffled voice, and was found to have a left parapharyngeal mass. The patient underwent transcervical excision with complete symptom resolution. Ten years later, he re-presented with subcutaneous nodules on the same side. Comprehensive imaging with contrast-enhanced CT and MRI was performed. A second transcervical surgery was planned with careful consideration of prior operative changes. Intraoperative findings, surgical approach, and postoperative management were documented and reviewed.

RESULTS

Imaging confirmed multifocal recurrence of the parapharyngeal tumor on the same surgical side. The second surgery was performed via a transcervical approach, with successful resection of the recurrent nodules. The facial nerve remained intact, and the patient experienced no significant complications. Postoperative MRI demonstrated complete tumor excision. Histopathology confirmed recurrent benign parapharyngeal tumor. The case was reviewed in a multidisciplinary tumor board, and adjuvant radiotherapy was considered due to the multifocal nature of recurrence.

CONCLUSIONS

Redo surgery for parapharyngeal tumors is technically demanding due to altered anatomy, fibrosis, and proximity to critical structures. Careful preoperative imaging review, meticulous surgical planning, and multidisciplinary coordination are essential to achieving safe and effective outcomes. Awareness of recurrence patterns and considering adjuvant therapy in multifocal cases can further improve long-term management.

KEYWORDS

Parapharyngeal tumor, Redo surgery ,Head and neck surgery, Tumor recurrence

OP-350

Predictors Of Severe Complications And Airway Intervention In Deep Neck Infections: A 10-Year Retrospective Cohort

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BACKGROUND & AIM

Deep neck infections (DNI) remain potentially life-threatening conditions with airway compromise, descending mediastinitis, and septic complications. We aimed to identify independent predictors of severe complications and airway intervention in a 10-year single-center retrospective cohort, with particular attention to morbidity profile, biomarker performance, and pediatric subgroup characteristics.

MATERIAL & METHODS

We retrospectively analyzed 91 consecutive patients with DNI between 2016 and 2026 at our tertiary referral otolaryngology department. Demographics, comorbidities, anatomic localization, multispace involvement, admission laboratory parameters (white blood cell count, C-reactive protein, neutrophil-to-lymphocyte ratio [NLR]), microbiology, drainage method, airway management, intensive care unit (ICU) admission, and outcome were recorded. The primary composite outcome was severe complication (ICU admission and/or mortality); a secondary expanded major-complication endpoint additionally incorporated airway intervention. Predictors were assessed by univariate and multivariable logistic regression; biomarker thresholds were derived using Youden's index from ROC analysis. Pediatric (<18 years) versus adult comparisons were also performed.

RESULTS

Median age was 38 years (IQR 20–52); 58.2% were male. Peritonsillar abscess(50.5%) was the leading diagnosis, followed by Ludwig/submandibular abscess(18.7%). ICU admission occurred in 8 patients(8.8%), mortality in 3(3.3%); all deaths involved sepsis with major comorbidities. Eight patients(8.8%) required airway intervention ; within this subgroup mortality reached 37.5%. On multivariable analysis, diabetes mellitus(aOR 9.32; 95% CI 1.49–58.4; p=0.017), multispace involvement(aOR 7.26; 95% CI 1.26–41.8; p=0.027), and NLR(aOR 1.15 per unit; 95% CI 1.01–1.30; p=0.029) emerged as independent predictors of severe complications(model AUC=0.893). NLR demonstrated the highest single-biomarker discrimination(AUC=0.811, threshold ≥5.1), outperforming CRP(AUC=0.738) and age(AUC=0.751, threshold ≥41 years); WBC was not discriminative. For airway intervention, multispace involvement was the strongest univariate predictor(OR 17.75; 95% CI 3.20–98.5; p<0.001). Length of stay was markedly prolonged in complicated cases(median 22 vs 5 days; p<0.001). Among 21 pediatric patients(23.1%), no mortality occurred and tonsillogenic etiology dominated, with no diabetes mellitus in this subgroup.

CONCLUSIONS

Diabetes mellitus, multispace involvement, and elevated NLR are independent predictors of severe complications in DNI. NLR ≥5.1 provides a simple, accessible early-warning biomarker. Multispace involvement is the strongest signal for impending airway intervention. The favorable pediatric outcome appears partly attributable to the absence of diabetes — our most

powerful predictor. These findings support a risk-stratified management algorithm incorporating early imaging-based space mapping, NLR-guided monitoring, and proactive airway planning for diabetic and multispace cases

KEYWORDS

Deep neck infection, diabetes mellitus, Ludwig's angina, submandibular abscess, peritonsillar abscess, retropharyngeal abscess

OP-351

Diagnostic Utility Of US And FNAC In Thy3A Nodules: A Regional 5-Year Retrospective Review

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BACKGROUND & AIM

Thyroid nodules are prevalent in 68% of the population, with malignancy rates under 10%. While fine needle aspiration cytology (FNAC) is a standard diagnostic tool, 15–48% of results are indeterminate (Thy3a), limiting its role in ruling out malignancy. High-quality evidence for managing indeterminate thyroid nodules is lacking, leading to variability in current guidelines (ATA, BAHNO, BTA, NICE).

We hypothesised that ultrasound and FNAC poorly assess Thy3a malignancy. This study evaluated their diagnostic yield, determined malignancy rates of Thy3a nodules across the regional multidisciplinary team (MDT), reviewed conservative management outcomes and compared local practice with current guidelines.

MATERIAL & METHODS

A retrospective cohort of 624 patients (78.7% female) undergoing US-guided thyroid FNAC from 2019 - 2024 within a regional MDT was analysed, including 140 Thy3a cases. Data included demographics, imaging, cytology, MDT decisions, management, histology and follow-up. Outcomes were FNAC adequacy, malignancy rates following diagnostic lobectomy and conservative management. Descriptive statistical analysis was performed.

RESULTS

Repeat FNAC of Thy3a remained indeterminate in 67.1% of cases. Ultrasound (U) grading showed higher malignancy rates in U3–U5 nodules. Among patients undergoing diagnostic lobectomy, the overall malignancy rate was 22.2% (12/54). Malignancy yield was higher in single Thy3a nodules (25%) compared to double Thy3a nodules (18.2%). Follicular thyroid carcinoma (14.8%) and papillary thyroid carcinoma (7.41%) were the predominant malignancies. In patients managed non-operatively, no cases of subsequent thyroid malignancy were identified during follow-up.

CONCLUSIONS

Thy3a nodules have a significant malignancy rate (22.2%), reinforcing the need for a structured management framework. Conservative management appears safe in selected patients, although long-term surveillance is essential. Limitations in FNAC accuracy and variability in MDT decisions have led to a standardized regional approach: diagnostic lobectomy (on cancer pathway) or active surveillance (off cancer pathway). Surveillance includes ultrasound-based review at 6 months, 3 years, and 5 years, with repeat FNAC for changes in nodule size or morphology. Ultrasound and cytology alone may fail to reliably predict malignancy, emphasizing the emerging role of genetic markers such as BRAF in risk stratification.

KEYWORDS

Indeterminate thyroid nodules, Thy3a nodules, Malignancy risk stratification, Active surveillance, Fine needle aspiration cytology (FNAC), Ultrasound-guided management

OP-352

The Incidence Of Right Non-Recurrent Laryngeal Nerve Predicted By Computed Tomography: A Large-Scale Retrospective Study

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BACKGROUND & AIM

The non-recurrent laryngeal nerve (NRLN) is a rare but clinically significant anatomical variation that increases the risk of nerve injury during thyroid and other cervical surgeries. It is closely associated with an aberrant right subclavian artery (ARSA), a vascular anomaly that can be reliably detected using computed tomography (CT). Preoperative identification of ARSA may therefore enable prediction of NRLN and improve surgical safety.

MATERIAL & METHODS

In this retrospective study, preoperative neck, maxillofacial, and thoracic CT scans of 115,030 patients evaluated between January 2015 and September 2024 were analyzed. The presence of ARSA was assessed as a radiological surrogate marker for right NRLN. In patients who subsequently underwent surgery, intraoperative findings were reviewed to confirm the presence of NRLN.

RESULTS

ARSA was identified in 627 of 115,030 patients, corresponding to a prevalence of 0.545%. Among patients who underwent surgery, right NRLN was confirmed in those with ARSA, supporting the strong anatomical association between these two entities.

CONCLUSIONS

Computed tomography is a reliable tool for detecting ARSA, which strongly predicts the presence of a right NRLN. Routine preoperative evaluation of CT scans may facilitate early identification of this anatomical variation, thereby reducing the risk of iatrogenic nerve injury and improving surgical outcomes.

KEYWORDS

The non-recurrent laryngeal nerve ,Computed Tomography, aberrant right subclavian artery ,aberrant right subclavian artery

OP-353

Treatment Patterns And Survival Outcomes In Salivary Duct Carcinoma: A Population-Based SEER Analysis

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BACKGROUND & AIM

Salivary duct carcinoma (SDC) is a highly aggressive malignancy that typically carries a poor prognosis. Due to its low incidence, there remains a lack of contemporary population-level data. This study aimed to characterise treatment patterns and survival outcomes for SDC and examine how these have evolved over time, using the Surveillance, Epidemiology and End Results (SEER) registry.

MATERIAL & METHODS

Patients with SDC diagnosed between 2004 and 2022 were identified from SEER, whilst earlier cases were excluded due to incomplete staging and treatment data. Kaplan-Meier curves with log-rank tests compared overall survival (OS) and disease-specific survival (DSS) by age, sex, stage, lymph node status, tumour grade, primary site and diagnosis era. For stage IV cases, temporal trends in treatment modality uptake were analysed and survival by treatment combination was compared (surgery and radiotherapy vs surgery and radiotherapy and chemotherapy). Univariate and multivariate Cox proportional hazards regression identified independent prognostic factors for OS and DSS.

RESULTS

A total of 319 patients were identified (2004–2014 n=86; 2015–2019 n=104; 2020–2022 n=129), with a median OS of 68 months and 5-year DSS rate of 63%. Kaplan-Meier analysis highlighted that less advanced stage and absence of lymph node involvement at the time of diagnosis were associated with improved overall and disease-specific survival (log-rank $p<0.0001$). Male sex was also associated with significantly worse OS ($p<0.05$), but not DSS ($p=0.39$). Conversely, survival was not significantly affected by tumour grade and primary site, and comparison between diagnosis eras did not reveal an improvement in survival over time. On multivariate Cox regression, N stage was the strongest independent prognosticator. Analysis of stage IV cases showed that the uptake of chemotherapy and triple therapy has increased over time, but the addition of chemotherapy to surgery and radiotherapy did not significantly affect survival (OS $p=0.75$, DSS $p=0.40$).

CONCLUSIONS

Recent SEER data highlights that stage of disease and lymph node status are key prognostic indicators in SDC, which is consistent with previous literature. Treatment approaches for advanced SDC have evolved over time with an increased role for chemotherapy, although this is yet to translate into improved survival.

KEYWORDS

salivary duct carcinoma; SDC; survival; prognosis

OP-354

Tonsillar Histology Yields - Is It Worth It?

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BACKGROUND & AIM

Tonsillectomy is one of the most commonly performed procedures in ENT. Traditionally, excised tonsils are routinely sent for histological analysis to exclude malignancy. Indications vary from highly suspicious lesions to asymmetrical tonsils without other red flag features. However, the diagnostic utility of routine histological examination remains debated1,2. This study aimed to determine the incidence of malignancy in tonsillectomy specimens at Sandwell and West Birmingham NHS Trust (SWBH).

MATERIAL & METHODS

A retrospective audit was conducted reviewing tonsillar histology results from 2021–2024 at SWBH. Data were collected from operative notes, clinical records, and pathology reports. Histological findings were categorised as benign or malignant.

RESULTS

Sixty histology results (120 tonsils) were analysed from a total of 187 tonsillectomies. The most common indication for histological analysis was tonsillar asymmetry. The majority of specimens demonstrated benign pathology, most commonly reactive follicular hyperplasia and reactive lymphoid hyperplasia. Two abnormal cases were identified: one diffuse large B-cell lymphoma and one atypical granular tumour. No malignancies were identified in patients undergoing tonsillectomy for asymmetrical tonsils alone.

CONCLUSIONS

Routine histological examination of tonsillectomy specimens with low clinical suspicion of malignancy appears to have a low diagnostic yield. Selective histological analysis based on clinical suspicion may represent a more cost-effective approach. Further research is required to guide evidence-based practice.

KEYWORDS

Tonsillectomy. Histology. Cost effective. Low Diagnostic Yield.

OP-355

Surgical Management Of Parapharyngeal Space Tumors: Single Center Experience

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BACKGROUND & AIM

Parapharyngeal space (PPS) tumors are rare lesions accounting for less than 1% of head and neck neoplasms. Surgical treatment remains challenging because of the deep anatomical location of the PPS and its close relationship to major neurovascular structures. We aimed to present our surgical experience, preferred approaches, and postoperative outcomes in patients operated for PPS tumors.

MATERIAL & METHODS

We retrospectively reviewed eight patients who underwent surgery for PPS tumors at a tertiary referral center between August 2023 and January 2026. Preoperative evaluation included contrast-enhanced magnetic resonance imaging and detailed cranial nerve examination. Surgical approaches were selected according to tumor localization, size, and radiologic characteristics. Outcome measures included completeness of resection, cranial nerve morbidity, postoperative complications, and recurrence during follow-up.

RESULTS

The mean patient age was 46 years (range, 26–69 years), and the female-to-male ratio was 1:7. Four tumors were located in the prestyloid compartment and four in the poststyloid compartment. Mean tumor size was 5.4 cm. Histopathological diagnoses included schwannoma (n=3), pleomorphic adenoma (n=2), neurofibroma (n=1), secretory carcinoma (n=1), and basal cell adenocarcinoma (n=1). Surgical approaches included transparotid (n=4), transcervical (n=1), transoral (n=1), transoral robotic (n=1), and combined approaches (n=1). Gross total resection was achieved in all patients. Transient cranial nerve weakness occurred in two patients, while one patient developed a permanent neurological deficit. One postoperative hematoma was observed. No airway complications occurred. During a mean follow-up period of 18 months, no recurrence was detected.

CONCLUSIONS

Parapharyngeal space tumors require individualized surgical planning because of their heterogeneous histopathology, variable compartment localization, and close relationship to critical neurovascular structures. In our series, the use of different surgical approaches—including transcervical, transparotid, transoral, transoral robotic, and combined techniques—allowed complete tumor excision with acceptable morbidity. Careful preoperative imaging evaluation and detailed anatomical assessment remain essential for selecting the appropriate surgical strategy and minimizing complications.

KEYWORDS

Parapharyngeal space, Skull base surgery, Transparotid approach, Schwannoma, Transoral robotic surgery

OP-356

National Thyroid Surgical Trends In Mexico's Public Hospital System, 2008-2024

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BACKGROUND & AIM

Few studies assess thyroid surgical practice patterns in Mexico.1,2,3,4 The American Thyroid Association (ATA, 2015) and the Mexican Society of Oncology's clinical guidelines (SMEO, 2019) recommend de-escalating surgery for low-risk differentiated thyroid cancer. We determined whether surgical practice patterns evolved with changing international and national guidelines.5,6,7,8

MATERIAL & METHODS

Using Mexico's national public hospital discharge database, we identified all encounters for total thyroidectomy (TT) or thyroid lobectomy (TL) from 2008 to 2024. Surgical cases and associated diagnoses were extracted via ICD-9 and -10 codes. We used segmented interrupted time series regression with interruption points at 2015 (ATA), 2019 (SMEO), and 2020 (COVID-19 pandemic), and assessed for changes in level and slope of TL and TT rates per 100,000 population at each interruption point using national census data (2010, 2020). We accounted for autocorrelation using Newey-West standard errors. Analyses were performed in R (version 4.5.2) using R Studio (version 2025).

RESULTS

Between 2008-2024, 30,457 thyroidectomies (including TT [n=12,306, 40%] and TL [n=18,060, 60%]) were performed across 544 hospitals (median 162 unique hospitals/year (IQR 150-169)). Median age was 46 years (IQR 34-57), 88% female, 3% pediatric. Indications for surgery were malignant/unknown neoplasm (n=11,249, 37%) and benign (n=19,208, 63%) lesions. After 2015, there was a slight increase in the rate of TL for malignant/unknown neoplasms (+0.12 cases/100,000 population/year [p< 0.001]), while TT rates for malignant/unknown neoplasms remained stable. In 2019, the rate of TT for malignant disease decreased by 0.14/100,000 population/year (p=0.01). From 2019-2020, all thyroid surgery rates declined from 2.58/100,000 to 1.13/100,000 population. After 2020, surgery rates rebounded to 3.17/100,000 in 2024, reflecting a pre-COVID trajectory.

CONCLUSIONS

Practice patterns shifted towards lobectomy beginning in 2015, concurrent with international guidelines. The COVID-19 pandemic prevented assessment of sustained adherence. Post-pandemic data beyond 2024 is critical to determine whether guideline-concordant practices persist.

KEYWORDS

thyroidectomy, guidelines, cancer, practice patterns

OP-357

Micrornas In Salivary Gland Cancers Associated With Poor Prognosis: A Systematic Review

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BACKGROUND & AIM

Salivary gland cancers (SGCs) represent a heterogenous group of tumours with distinct clinical and histopathological characteristics. Due to the rarity of these malignancies, establishing reliable prognostic and predictive biomarkers remains challenging. MicroRNAs (MiRNAs) are small non-coding RNA molecules that regulate post-transcriptional gene expression. Recent studies have identified numerous dysregulation of miRNAs in SGCs, suggesting their potential roles in tumour development, progression and treatment response.

This systematic review aims to identify and summarize the current evidence on miRNA dysregulation in salivary gland carcinomas, with a particular focus on their prognostic relevance and therapeutic potential.

MATERIAL & METHODS

A systematic search of PubMed/MEDLINE, Embase, Web of Science, and the Cochrane Library was conducted up to December 03, 2025. The study was conducted in accordance with PRISMA guidelines and a pre-registered protocol (CRD 420251231827). Observational cohort and cross-sectional studies reporting microRNA dysregulation in human salivary gland tissues with prognostic assessment were included. Risk of bias was assessed using the QUIPS tool. Due to considerable heterogeneity narrative synthesis was conducted.

RESULTS

Twenty studies published between 2013-2025 which fulfil search criteria were further analysed. Dysregulation of miRNAs associated with prognosis was identified exclusively in AdCC and MEC. The majority of the included studies originated from Asian countries. Quantitative real-time PCR (qRT-PCR) was the most frequently used method for miRNA analysis. Most researchers focused on the evaluation of selected candidate miRNAs, rather than conducting comprehensive miRNA profiling approaches in relation to prognosis. Several distinct dysregulated miRNAs were identified across the studies. Among them, miR-21, miR-143, miR-145, miR-155 and miR-205 were reported in more than one study and linked to clinicopathological advancement and more aggressive disease course, thus poorer outcome.

CONCLUSIONS

MiRNAs appear to represent promising prognostic biomarkers, as independent predictors or with established clinicopathological features. However, current evidence remains limited to selected histological subtypes and relatively small patient cohorts. Further well-designed studies with long-term follow-up are required. Moreover, comprehensive miRNA profiling with prognosis assessment is necessary before specific miRNAs could be reliably established as biomarker and utilized in daily clinical practise.

KEYWORDS

salivary gland cancer, adenoid cystic carcinoma, mucoepidermoid carcinoma, miRNA, clinicopathological features, outcome, poor prognosis, biomarkers

OP-358

Reconstruction Of Mandible In Children: Free Flap Reconstruction Or Expandable Prosthesis?

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BACKGROUND & AIM

The most common causes of extensive defect of the mandible in the pediatric population are trauma, tumors, or congenital malformations. There are different strategies of reconstruction, including using free flaps and prostheses, in order to recover functions of chewing, speaking, and an acceptable appearance, but none of them is universally accepted. This study aimed to provide an update on aesthetic and functional outcomes in pediatric patients who undergo mandible reconstruction after having extensive bone defects.

MATERIAL & METHODS

Between 2015 and 2025, 70 children with mandible defects (mean age, 12 years; range, 2-18 years) underwent surgery to reconstruct the lower jaw with a free fibular flap (n=50) or expandable endoprosthesis (n=20) because of malignant (n=25) or benign (n=43) tumors or hemifacial microsomia (n=2). The results were evaluated from the position of facial symmetry and functional rehabilitation, including the possibility of dental implantation.

RESULTS

The best results of free flap reconstruction were achieved in the older patient group (11-18 y.o.), while in younger children (2-10 y.o.) free flaps did not show sufficient growth to compensate the enlargement of the unaffected side, which resulted in increased facial asymmetry and the impossibility of dental implantation because of the small volume of the bone part of the flap. Expandable prostheses showed better results in younger children, resulting in better facial symmetry during their growing up and preserving the donor area for possible free flap reconstruction when they reach the age of 11-14 years.

CONCLUSIONS

Microsurgical free flap reconstruction is preferable for children aged 11-18 years, giving good aesthetic results and enabling full functional reconstruction; in younger children, better results are achieved when expandable prostheses are used, as they can be corrected in size during the children's active growth phase.

KEYWORDS

free flap, pediatric microsurgery, mandible, expandable prosthesis

OP-359

OBESİTY AS A NEW RİSK FACTOR İN HEAD AND NECK PARAGANGLİOMAS: A SERİES OF 26 PATİENTS WİTHİN THE FRAMEWORK OF THE CHRONİC HYPOXİA HYPOTHESİS

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BACKGROUND & AIM

Head and neck paragangliomas (HNPs) are rare vascular tumors arising from chemoreceptor tissues such as the carotid body and vagal nerve. "Chronic hypoxia" is regarded as a key triggering mechanism in their pathogenesis. While increased incidence has historically been associated with high-altitude populations, obesity is now considered a source of systemic chronic hypoxia due to its links with obstructive sleep apnea and impaired tissue perfusion. This study evaluates the Body Mass Index (BMI) profiles of HNP patients treated in our clinic and discusses the possible contribution of obesity to the development of these uncommon tumors in light of current literature.

MATERIAL & METHODS

In this study, data from 26 patients operated on with a diagnosis of HNP at the Başakşehir Çam and Sakura City Hospital ENT Clinic between 2020 and 2025 were retrospectively reviewed. The distribution of patients according to anatomical location

was recorded as follows: 21 Glomus Caroticum (80.7%), 4 Glomus Vagale (15.3%), 1 Glomus Tympanicum (4%). Demographic data and BMI values (kg/m2) calculated from preoperative height-weight measurements were analyzed. Data were grouped by gender and presented as mean±standard deviation (SD). The obtained BMI data were evaluated in comparison with general population averages in Turkey.

RESULTS

Of the 26 patients included in the study, 19 (73.1%) were female and 7 (26.9%) were male. The mean age of the total patient group was determined to be 53.4±14.5 (32–74) years. The overall mean BMI of the entire group was calculated as 30.16±7.4 kg/m2. Gender-based analysis revealed a mean BMI of 31.24±7.8 kg/m2 for female patients (n=19) and 27.21± 5.6 kg/m2 for male patients (n=7). In our series, %53.8 (n=14) of patients were classified as "obese" (BMI ≥ 30) according to WHO criteria, and % 19 (n=5) were classified as "overweight" (BMI 25-29.9). The percentage of patients with normal weight (BMI ≤ 25) was only %26.9 (n=7). It was observed that the prevalence of obesity was particularly high in female patients compared to the general population, and the vast majority of Glomus Caroticum cases had high BMI values.

CONCLUSIONS

The fact that the majority of HNP patients in our series (73.1%) fall into the overweight or obese categories indicates that obesity may be a significant modifiable risk factor in the pathogenesis of these tumors. It is thought that obesity-related alveolar hypoventilation and accompanying hypoxic processes stimulate neoplastic transformation in paraganglionic tissues. These findings highlight the clinical importance of screening metabolic profiles and sleep disorders in patients diagnosed with HNP or those in risk groups. Further large-scale prospective studies are needed to elucidate the molecular mechanisms of this strong correlation between obesity and paraganglioma development.

KEYWORDS

Paraganglioma, Obesity, Body Mass Index, Chronic Hypoxia

OP-360

Can Preoperative Systemic Inflammatory Markers Predict Parotid Tumor Pathology?

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BACKGROUND & AIM

Preoperative differentiation of parotid gland tumors — particularly between Warthin tumor and malignant lesions — remains challenging, as fine-needle aspiration cytology and imaging lack sufficient specificity. Systemic inflammatory indices derived from routine complete blood count, including NLR, PLR, SII, and SIRI, have shown diagnostic and prognostic value in various head and neck malignancies. However, their utility in distinguishing parotid tumor subtypes has not been well established. This study aimed to evaluate the preoperative predictive value of these four inflammatory indices in differentiating pleomorphic adenoma, Warthin tumor, and malignant parotid tumors.

MATERIAL & METHODS

This retrospective study included 90 patients who underwent parotidectomy at our institution and were pathologically confirmed to have parotid gland tumors. Patients were categorized into three groups: pleomorphic adenoma (PA; n=30), Warthin tumor (WT; n=30), and malignant tumors (Malignant; n=30; including mucoepidermoid carcinoma [n=20] and adenoid cystic carcinoma [n=10]). Preoperative complete blood count parameters — including absolute neutrophil, lymphocyte, monocyte, and platelet counts — were recorded. The following inflammatory indices were calculated: NLR (neutrophil/lymphocyte), PLR (platelet/lymphocyte), SII (platelet × neutrophil/lymphocyte), and SIRI (neutrophil × monocyte/lymphocyte). Group comparisons were performed using the Kruskal-Wallis test, with post-hoc pairwise comparisons using the Mann-Whitney U test with Bonferroni correction. Receiver operating characteristic (ROC) curve analysis was performed to assess the discriminative ability of significant markers for malignancy versus benign tumors, and specifically for Warthin tumor versus malignant tumors. Statistical significance was set at $p<0.05$.

RESULTS

A total of 90 patients were included: 30 pleomorphic adenoma, 30 Warthin tumor, and 30 malignant tumors. The groups were similar in gender but differed significantly in age (p=0.0004).

Among the four indices, only PLR differed significantly across groups (p=0.007), with malignant tumors showing higher values than Warthin tumors (median 139.6 vs. 105.1; p=0.002). SIRI reached borderline significance (p=0.045) but did not survive post-hoc correction. SII and NLR showed no significant differences (p>0.05).

ROC analysis identified PLR as the best-performing marker. For malignant versus benign tumors, PLR achieved an AUC of 0.688 (sensitivity 73.3%, specificity 68.3%, cutoff >119.6). For the clinically challenging Warthin versus malignant comparison, AUC improved to 0.752 (sensitivity 70.0%, specificity 76.7%, cutoff >123.2). SII, NLR, and SIRI failed to reach acceptable discriminative performance (AUC <0.60).

CONCLUSIONS

PLR was the only marker with meaningful discriminatory power for detecting malignant parotid tumors (AUC 0.688; cut-off 119.6; sensitivity 73.3%, specificity 68.3%). SII and NLR showed no significant intergroup differences. SIRI demonstrated a

modest trend in differentiating Warthin tumor from pleomorphic adenoma but did not reach corrected significance. As a cost-free, universally available index derived from routine blood counts, PLR may serve as a useful adjunct in preoperative parotid tumor assessment. Prospective multicenter studies with larger cohorts are needed to validate these findings and establish clinically applicable thresholds.

KEYWORDS

Parotid gland tumor, Systemic inflammatory markers, NLR, PLR, SII,SIRI

OP-361

Survival Outcomes In Mucosal Head And Neck Adenosquamous Carcinoma: A Meta-Analysis Of 585 Patients

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BACKGROUND & AIM

Adenosquamous carcinoma (ASC) of the head and neck is a rare and aggressive malignancy characterized by combined squamous and glandular differentiation. Due to its low incidence, long-term survival outcomes remain poorly defined. The aim of this study was to provide a pooled estimate of 5-year overall survival (OS) in mucosal head and neck ASC through systematic review and meta-analysis.

MATERIAL & METHODS

A systematic review of the literature was conducted focusing on mucosal head and neck ASC. Studies reporting 5-year overall survival were included in the primary analysis. Random-effects meta-analysis of proportions with logit transformation was performed to calculate pooled survival estimates. Between-study heterogeneity was assessed using the I^2 statistic. A leave-one-out sensitivity analysis was conducted to evaluate the robustness of the pooled estimate. A secondary analysis examined 5-year disease-specific survival (DSS).

RESULTS

Four studies comprising 585 patients were included in the primary meta-analysis. The pooled 5-year OS was 38.1% (95% CI: 30.7%–46.0%), with moderate heterogeneity (I^2 = 63%). Sensitivity analysis demonstrated stable survival estimates ranging between 35% and 41% after sequential study exclusion. Secondary analysis of DSS, including three studies (375 patients), showed a pooled 5-year DSS of 37.4% (95% CI: 15.9%–65.3%), with substantial heterogeneity (I^2 = 94%), largely attributable to anatomical subsite variability.

CONCLUSIONS

Mucosal head and neck ASC is associated with poor long-term survival, with fewer than 40% of patients alive at 5 years. Survival outcomes appear influenced by tumor location. These findings provide quantitative clarification of prognosis in this rare malignancy and may support risk-adapted management strategies.

KEYWORDS

Adenosquamous carcinoma; Head and neck cancer; Meta-analysis; Survival; Rare tumors; Prognosis

OP-362

Temporal Distribution Of Aggressive Variants Of Papillary Thyroid Carcinoma And Their Relationship With Clinicopathological Parameters

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BACKGROUND & AIM

Papillary thyroid carcinoma (PTC) is the most common thyroid malignancy, with a generally favorable prognosis. However, the clinical behavior varies according to the histopathological variants. Subtypes like tall cell, hobnail, diffuse sclerosing, columnar, and solid are considered "aggressive variants." This study retrospectively reviewed the pathology reports of patients with PTC who underwent surgery at Gaziantep University's Department of Otorhinolaryngology between 2012 and 2024. The aim of this study was to reveal the distribution of aggressive subtypes over the years, analyze their relationship with clinicopathological parameters, and draw inferences for patient management and treatment planning based on the findings.

MATERIAL & METHODS

A total of 673 patients were included in the study, and a comparative analysis was conducted by dividing them into three periods based on the dates of surgery (2012–2015, 2016–2019, and 2020–2024). Aggressive and nonaggressive variants were compared in terms of demographic data, tumor size, capsular invasion, multifocality, extrathyroidal extension (ETE), lymph node metastasis (LNM), distant metastasis, local recurrence, and disease stage.

RESULTS

The study observed a marked increase in the rates of aggressive variants over time. The proportion of aggressive subtypes, which was 24.1% in the initial period, rose to 47.7% in the final period. Aggressive variants were associated with higher LNM, capsular and vascular invasion, local recurrence, distant metastasis, and ETE rates. Additionally, the fact that tumors located in the isthmus were notably associated with a higher rate of LNM (34.5 %) is among the study's notable findings.

CONCLUSIONS

These findings highlight the strong association between aggressive variants and poor prognostic parameters and the increasing incidence of these subtypes over time. Therefore, information on histological variants should be considered in preoperative and postoperative patient management and follow-up; in particular, more careful monitoring and personalized treatment approaches should be adopted for aggressive subtypes.

KEYWORDS

Aggressive variant, extrathyroidal extension, lymph node metastasis, papillary thyroid carcinoma

OP-363

Postoperative Parathormone And Calcium Trajectories After Thyroid Lobectomy And Completion Thyroidectomy: Predictive Value Of The Early Percentage PTH Drop For Early Biochemical Hypoparathyroidism

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BACKGROUND & AIM

Completion thyroidectomy (cTx) — totalization performed after a prior lobectomy when pathology reveals high-risk features — is increasingly performed in routine endocrine surgery practice. Its impact on parathyroid function, however, has been less extensively studied than that of primary total thyroidectomy, and validated early predictors of postoperative hypoparathyroidism in this specific setting remain limited. We aimed to describe postoperative parathormone (PTH) and calcium trajectories after thyroid lobectomy and cTx, to estimate rates of early biochemical and permanent hypoparathyroidism, and to evaluate the predictive performance of the percentage PTH drop within the first 24 postoperative hours.

MATERIAL & METHODS

Single-center retrospective observational study at Ankara Etlik City Hospital. Sixty-six adult patients (≥18 years) operated between 2023 and 2025 were included; 34 underwent thyroid lobectomy and 30 underwent completion thyroidectomy (cTx, defined as totalization after a previously performed lobectomy), while 2 patients with incomplete operative records were not included in between-group analyses. Pre- and postoperative (first 24 hours, discharge, 1- and 6-month) PTH, calcium, phosphorus, magnesium, 25-OH vitamin D and surgical specimen pathology findings were recorded. Early biochemical hypoparathyroidism was defined as PTH <15 pg/mL within the first 24 postoperative hours; permanent hypoparathyroidism as 6-month PTH <15 pg/mL; biochemical hypocalcemia as serum calcium <8.5 mg/dL. Wilcoxon signed-rank, Mann–Whitney U and Fisher's exact tests were applied as appropriate. Receiver operating characteristic (ROC) analysis with Youden's index identified the optimal cut-off. Two-sided $p<0.05$ was significant.

RESULTS

Median age was 42 years (IQR 34–50); 76% were female. Papillary carcinoma/microcarcinoma was reported in 25/64 (39%) and incidental parathyroid tissue in 9/64 (14%). No symptomatic hypoparathyroidism, hematoma or reoperation occurred; clinical hypocalcemia was seen in 3/61 (5%) and recurrent laryngeal nerve palsy in 2/61 (3%). Levothyroxine was initiated in 39/58 (67%); median dose 100 µg/day. Serum calcium fell from 9.64 to 8.91 mg/dL within 24 hours ($p<0.001$) and recovered to 9.39 mg/dL at 6 months ($p=0.011$). Early biochemical hypoparathyroidism (PTH <15 pg/mL) was observed in 10/61 (16%); no permanent hypoparathyroidism was identified among patients with 6-month PTH measurement (0/25). The cTx group had a higher rate than lobectomy (27% vs 6%; $p=0.036$). The first-24-hour percentage PTH drop predicted early hypoparathyroidism with high accuracy (AUC=0.97; ≥54% drop: 90% sensitivity, 93% specificity), though preliminary given limited events (n=10).

CONCLUSIONS

In this lobectomy and completion thyroidectomy cohort, no symptomatic or permanent hypoparathyroidism was observed and major complications were rare — consistent with previous high-volume cTx series (Nicholson; Issa). Early biochemical hypoparathyroidism occurred in 16% overall, was four-fold higher after cTx than lobectomy, and generally resolved within one month. Extending prior PTH-drop observations in total thyroidectomy (Kul et al.) to the cTx setting, a ≥54% PTH drop within the first 24 postoperative hours emerged as a candidate threshold to guide early calcium/vitamin D supplementation and discharge timing; validation in larger, prospective cohorts is warranted.

KEYWORDS

completion thyroidectomy; lobectomy; hypoparathyroidism; parathormone; calcium; ROC analysis

OP-364

UTILITY OF CHOLINE PET-CT AS A SINGLE IMAGING MODALITY FOR LOCALISATION AND CURE OF PARATHYROID ADENOMA

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BACKGROUND & AIM

Primary hyperparathyroidism commonly results from parathyroid adenoma. Accurate pre-operative localisation is crucial for minimally invasive surgery. This study evaluates the diagnostic accuracy and clinical utility of ^18F-choline PET-CT compared with conventional imaging modalities, including ultrasound and sestamibi scintigraphy, in hyperparathyroidism management.

1. To determine the diagnostic accuracy of ^18F-choline PET-CT in identifying parathyroid adenomas in patients with hyperparathyroidism.

2. To compare the diagnostic accuracy, sensitivity, and specificity of ^18F-choline PET-CT with technetium-99m sestamibi scintigraphy (MIBI) and neck ultrasound.

3. To perform a cost analysis of imaging strategies used for pre-operative localisation.

MATERIAL & METHODS

A prospective cohort study was conducted following appropriate institutional approval. Patients with suspected parathyroid adenoma who underwent pre-operative localisation with 18F-choline PET-CT, MIBI, and neck ultrasound, followed by parathyroid surgery with available histopathological confirmation, were included. Pregnant or breastfeeding patients and those unable to tolerate imaging procedures or with contraindications to radiotracer administration were excluded.

Imaging findings were compared with histopathology as the reference standard. Diagnostic accuracy, sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were calculated where applicable. A cost analysis was performed to evaluate the economic impact of different imaging pathways.

RESULTS

18F-choline PET-CT was performed in 50 patients in whom ultrasound and/or MIBI were negative or inconclusive. Histopathology confirmed parathyroid adenoma in 49 of 50 patients, demonstrating a concordance rate of 98%. The diagnostic accuracy of choline PET-CT was 98%, with a sensitivity of 100% and a positive predictive value of 98%.

Specificity and negative predictive value could not be calculated due to the absence of true negative cases, as imaging was performed exclusively in patients with biochemically confirmed hyperparathyroidism who proceeded to surgery. Median serum calcium levels showed a significant postoperative reduction from 2.7 mmol/L (IQR 2.68–2.85) pre-operatively to 2.54 mmol/L (IQR 2.44–2.68) post-operatively ($p < 0.0001$), confirming biochemical cure.

CONCLUSIONS

18F-choline PET-CT demonstrates excellent diagnostic performance for pre-operative localisation of parathyroid adenomas and may be considered as a single-modality imaging technique, potentially replacing multimodality imaging pathways. Published literature reports pooled sensitivities of approximately 70–80% for neck ultrasound and 75–85% for 99mTc-sestamibi imaging, whereas choline PET-CT consistently demonstrates superior localisation accuracy. Its increasing availability, comparable cost, and similar radiation exposure to MIBI further support its role as a first-line localisation tool in selected patients.

KEYWORDS

PET CHOLINE ,PARATHYROID ADENOMA

OP-365

Beyond Tumor Mutational Burden: Genetic Determinants Of Survival In Patients With Inoperable Or Metastatic Oral Cavity Cancer Treated With PD-1 Inhibitor Monotherapy

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BACKGROUND & AIM

In patients with inoperable or metastatic oral cavity squamous cell carcinoma (OCSCC), patient selection for PD-1 inhibitor therapies remains challenging. Although tumor mutational burden (TMB) is a candidate biomarker for treatment response, its prognostic role is limited by the relatively low prevalence of TMB-high tumors in OCSCC. Therefore, this study aimed to investigate the association between genomic mutation profiles, TMB, and survival outcomes in patients with inoperable or metastatic OCSCC treated with PD-1 inhibitor monotherapy.

MATERIAL & METHODS

Data were obtained from the cBioPortal for Cancer Genomics database. Patients with inoperable or metastatic OCSCC who received pembrolizumab or nivolumab monotherapy were included. Patients receiving combined immune checkpoint inhibitor regimens or non-squamous histology were excluded. Clinical characteristics, genomic alterations, TMB status, and 1-year event-free survival (EFS) were analyzed. Comparisons were performed according to TP53, TERT, and PIK3CA mutation status and TMB categories.

RESULTS

Forty-seven patients met the inclusion criteria. Most patients were male (85.1%), older than 50 years (72.3%), and had tongue tumors (55.3%). Metastatic disease was present in 57.4% of cases. The most frequent mutations were TP53(53.2%), TERT (51.1%), and PIK3CA (25.5%). Tumors with TMB ≥10 constituted 12.7% of the study cohort. TERT-mutant tumors demonstrated significantly higher TMB values compared with TERT-wild tumors (p=0.02). One-year EFS did not differ significantly according to sex, age, tumor location, metastasis status, or mutation profile. One-year EFS rates were 43.1% versus 68.1% in TP53-mutant and wild tumors, respectively (p=0.12), and 78.7% versus 47.0% in PIK3CA-mutant and wild-type tumors, respectively (p=0.09). Patients with TMB ≥10 demonstrated a 100% 1-year EFS rate compared with 50.8% in patients with TMB <10, although this difference did not reach statistical significance (p=0.24).

CONCLUSIONS

Higher TMB is associated with substantially improved survival in patients with inoperable or metastatic OCSCC treated with PD-1 inhibitor monotherapy. A remarkable association between TERT mutation and increased TMB is noteworthy. Further studies with larger cohorts are required in order to clarify the predictive and prognostic role of genomic profiling in patients with inoperable or metastatic OCSCC treated with PD-1 inhibitor monotherapy.

KEYWORDS

Oral cavity squamous cell carcinoma, PD-1 inhibitor therapy, Tumor mutational burden, Immunotherapy, TP53 mutation, TERT mutation, PIK3CA mutation, Pembrolizumab, Nivolumab, Genomic profiling

OP-366

Study The Quality Of Life Of Patients With Ototoxicity Due To Platinum Chemotherapy, With Hearing Aid Versus Without: PROTOTOX Study

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BACKGROUND & AIM

Platinum salts are widely used for the treatment of cancers, including head and neck cancers. Despite their efficacy, platinum salts can induce neurosensory disorders such as ototoxicity, tinnitus, and decreased hearing acuity. These side effects can have a major impact on the quality of life of patients and are not often considered after treatment.The PROTOTOX study aims to compare the quality of life of patients with hearing aids in the case of ototoxicity due to platinum salt-based chemotherapy, according to 2 treatments: standard management without equipment versus standard management with equipment

MATERIAL & METHODS

The PROTOTOX study is an open pilot prospective monocentric and randomized study executed through collaboration of the Institut de Cancérologie de Lorraine (nonprofit comprehensive cancer institute). A total of 52 patients with head and neck cancer undergoing platinum-based chemotherapy and presenting with hypoacusis will be included and followed by an ear, nose, and throat specialist. Audiometric testing will be performed, and eligible participants who consent will be randomized to either receive or not receive hearing aids (groups 1 and 2). The primary endpoint of this study is to compare the quality of life of the patients undergoing platinum-based chemotherapy presenting with hypoacusis according to 2 ways of care: standard care without hearing aid versus standard care with hearing aid.

RESULTS

The study protocol has been opened and is actively recruiting participants. The protocol was launched on November 23, 2023, and data collection is ongoing and will be completed once all patients have completed the protocol. At least 27 patients have been recruited to date. The date of publication of the results is not yet known.

CONCLUSIONS

The PROTOTOX study aims at demonstrating that the huge impact of platinum-based chemotherapy on hearing abilities must be managed to maintain the patients' quality of life. Hearing aid is the solution experimented here.

KEYWORDS

chemotherapy; equipment; hearing aid; hypoacusis; platinum salts.

OP-367

Diagnostic Accuracy Of Ultrasonography Versus Computed Tomography In Deep Neck Space Infections: A Retrospective Analysis Of 114 Cases

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BACKGROUND & AIM

The aim of this study was to determine the diagnostic sensitivity of Computed Tomography (CT) and Ultrasonography (USG) in patients with suspected abscess due to deep neck infection (DNI) by comparing imaging findings with surgical outcomes.

MATERIAL & METHODS

Data from 114 adult patients diagnosed with deep neck infection were retrospectively reviewed. In all patients, CT and/or USG findings were compared with surgical results. Surgical findings were accepted as the gold standard for confirming the presence of an abscess. Sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were calculated for both imaging modalities. The difference between CT and USG was evaluated using the McNemar test.

RESULTS

The study included 114 patients (63 males, 51 females; mean age: 33.9±16.0 years). Primary etiologies were peritonsillar (36.8%), odontogenic (17.5%), and parotid-origin infections (9.6%). For USG, sensitivity, specificity, PPV, and NPV were 34.6%, 83.9%, 64.3%, and 60.5%, respectively; for CT, these values were 32.7%, 64.5%, 43.6%, and 53.3%. In a sub-analysis of 52 surgically confirmed abscesses, USG sensitivity was 69.2% and CT sensitivity was 54.8%. Surgical drainage was required in 72.8% (n=83) of cases. Mean hospital stay was 155±45 hours. Duration of stay was significantly longer in USG-positive patients (190 vs. 145 hours), whereas CT positivity showed a more limited difference. A 44.7% discrepancy between CT and USG was observed, suggesting that diagnostic inconsistency may necessitate additional imaging and increase costs within the clinical decision-making process.

CONCLUSIONS

In our study, USG demonstrated high sensitivity in detecting deep neck abscesses, likely reflecting selection bias toward diagnostically accessible superficial cases. CT remains critical for evaluating deep spaces—such as parapharyngeal and retropharyngeal areas—and for surgical planning. While USG is an effective first-line diagnostic tool for selected patients, CT is the primary choice for complex cases. Restricted emergency access limited magnetic resonance imaging (MRI) use in our study. Given its superior specificity, PPV, accessibility, and cost-effectiveness, ultrasonography provides significant clinical advantages and should be considered a valuable initial diagnostic modality in managing deep neck infections.

KEYWORDS

Deep Neck Infection, Computed Tomography, Ultrasonography, Abscess, Diagnostic Sensitivity.

OP-368

Development And Internal Validation Of A Nomogram For Predicting Recurrence Or Persistent Disease In Pediatric And Adolescent Differentiated Thyroid Carcinoma

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BACKGROUND & AIM

Limited research has specifically examined the identification of prognostic factors and the development of prediction models for the combined endpoint of recurrence or persistent disease in pediatric and adolescent differentiated thyroid carcinoma (DTC). Although disease-specific mortality is generally low, recurrence and persistent disease remain clinically relevant and are associated with treatment escalation and long-term follow-up burden. An individualized tool to estimate the risk of recurrence or persistent disease could facilitate risk-adapted postoperative management and surveillance in this young population.

MATERIAL & METHODS

We conducted a retrospective, single-center study of pediatric and adolescent patients diagnosed with DTC at Beijing Children's Hospital, Capital Medical University. The primary endpoint was recurrence or persistent disease, with a median follow-up of 36.6 months. A multivariable model was developed to identify independent predictors of this endpoint and to construct a nomogram. Model performance was assessed by discrimination, calibration, and decision curve analysis, with internal validation.

RESULTS

A total of 211 patients meeting the inclusion criteria were included. Multivariable analysis identified four independent predictors of recurrence or persistent disease: tumor size, multifocality, tumor aggressiveness, and the extent of lymph node dissection. A nomogram incorporating these variables demonstrated moderate discrimination (C-index 0.642), which remained similar after internal validation (C-index 0.635) and external validation (C-index 0.626). Decision curve analysis suggested potential clinical utility of the nomogram across a range of threshold probabilities.

CONCLUSIONS

We developed and internally validated a nomogram to estimate individualized risk of recurrence or persistent disease in pediatric and adolescent DTC in a single-center cohort. This model highlights the prognostic value of tumor burden and surgical management related features and may assist clinicians in tailoring postoperative management and follow-up intensity for this population.

KEYWORDS

differentiated thyroid carcinoma, DTC, pediatric, adolescent

OP-369

Continuous Versus Intermittent Intraoperative Neuromonitoring Of The Recurrent Laryngeal Nerve During Thyroidectomy: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Recurrent laryngeal nerve (RLN) injury remains a major complication of thyroidectomy. Although intermittent intraoperative neuromonitoring (i-IONM) is widely used, continuous monitoring (c-IONM) may allow earlier detection of impending injury. This study aimed to compare c-IONM versus i-IONM during thyroidectomy regarding postoperative RLN palsy and intraoperative loss of signal (LOS).

MATERIAL & METHODS

A systematic review and meta-analysis was conducted in accordance with PRISMA 2020 and registered in PROSPERO (CRD420261287698). PubMed/MEDLINE, Embase, and CENTRAL were searched through December 2025. Studies directly comparing c-IONM with i-IONM in adults undergoing thyroidectomy and reporting extractable outcome data were eligible. Pooled risk ratios (RRs) with 95% confidence intervals (CIs) were calculated using random-effects models.

RESULTS

Fourteen studies met inclusion criteria. Twelve studies were included in the primary meta-analysis for early postoperative RLN palsy. c-IONM was associated with lower risk of RLN palsy compared with i-IONM (RR 0.62; 95% CI 0.51–0.74; I^2=0%). For LOS (three studies), the difference was not statistically significant (RR 0.69; 95% CI 0.42–1.13; I^2=0%).

CONCLUSIONS

c-IONM was associated with a reduced risk of early postoperative RLN palsy compared with i-IONM, while evidence for LOS reduction was inconclusive.

KEYWORDS

continuous neuromonitoring; intermittent neuromonitoring; c-IONM; i-IONM; loss of signal; recurrent laryngeal nerve palsy; thyroid surgery

OP-370

Diagnostic Performance Of Fine-Needle Aspiration And Imaging In Salivary Gland Tumors: A 10-Year Retrospective Analysis

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BACKGROUND & AIM

Salivary gland tumors consist of a heterogeneous group of neoplasms with diverse origins, histological features, and biological behaviors. Although imaging studies and cytology provide an initial diagnostic approach, the definitive diagnosis is established through histopathological examination of the surgical specimen. The aim of this study was to evaluate the concordance between initial diagnostic tests and the final histological diagnosis

MATERIAL & METHODS

A retrospective, descriptive, observational study was conducted between 2015 and 2025, reviewing the medical records of patients who underwent surgery for salivary gland tumors. Demographic variables, affected glands, imaging studies, preoperative fine-needle aspiration cytology (FNAC), and definitive histopathological diagnoses were analyzed. Metastatic tumors and cases with incomplete data were excluded. Statistical analysis was performed using SPSS software

RESULTS

A total of 357 salivary gland tumors were analyzed. Mean age was significantly higher in malignant tumors compared to benign tumors (66.98 vs. 57.65 years; p=0.018). The most frequent benign tumors were pleomorphic adenoma (38.6%) and Warthin tumor (36.03%), with the parotid gland being the most commonly affected site. Adenoid cystic carcinoma and salivary duct carcinoma were the most frequent malignant neoplasms (2.57%).

FNAC showed a diagnostic accuracy of 90.84%, sensitivity of 86.10%, specificity of 73.47%, positive predictive value of 94.58%, and negative predictive value of 75% for malignancy detection. Overall concordance in histological identification was 88.72%, significantly lower in malignant tumors (11.28%; p<0.001).

Regarding imaging studies, ultrasound demonstrated a sensitivity of 97.67%, whereas CT scan achieved a specificity of 77.78% and an overall accuracy of 93.59%. Both modalities showed a positive predictive value of approximately 93%; however, CT demonstrated a higher negative predictive value than ultrasound.

CONCLUSIONS

FNAC showed high diagnostic performance in the preoperative evaluation of salivary gland tumors, particularly for detecting malignancy. However, its lower accuracy in the histological characterization of malignant tumors highlights the need for complementary imaging studies. Ultrasound and CT proved to be complementary and highly useful techniques for therapeutic planning

KEYWORDS

Salivary gland tumors, Fine-needle aspiration cytology (FNAC), Diagnostic accuracy, Ultrasound, Computed tomography, Histopathological diagnosis.

OP-371

Correlation Between Preoperative PET-CT Findings And Histopathologic Nodal Status In Ct1–T2 Oral Tongue Squamous Cell Carcinoma

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BACKGROUND & AIM

The role of 18F-FDG PET/CT in detecting occult cervical lymph node metastasis in early-stage oral tongue squamous cell carcinoma (OTSCC) remains uncertain. This study aimed to evaluate the diagnostic accuracy of PET/CT and the predictive value of SUVmax for nodal metastasis in patients with cT1–T2, cN0 OTSCC.

MATERIAL & METHODS

A retrospective analysis was conducted on 100 consecutive patients with surgically treated early-stage OTSCC who underwent preoperative PET/CT. PET nodal findings were categorized as 'suspicious' or 'not suspicious' basesd on SUVmax level reported by two radiologist. The reference standard was histopathologic nodal status (pN0 vs pN+). Diagnostic performance measures—sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV)—were calculated. Receiver operating characteristic (ROC) analysis was performed to assess the discriminative ability of SUVmax, and subgroup analyses were conducted by pathologic T-stage (pT1 vs pT2) and depth of invasion (DOI <4 mm vs ≥4 mm).

RESULTS

Among 100 patients (mean age 55.9 ± 15.5 years), 30% had pathologically positive lymph nodes. PET/CT demonstrated sensitivity 53.3%, specificity 65.7%, PPV 40.0%, and NPV 76.7% for nodal metastasis detection. The SUVmax ROC AUC was 0.556, with an optimal cutoff of ≈2.0 (sensitivity 46.4%, specificity 71.0%). Subgroup analyses showed comparable performance across pT1 (AUC 0.541) and pT2 (AUC 0.563) tumors. In patients with DOI <4 mm, all nodes were negative, while in DOI ≥4 mm cases, PET sensitivity was 53.3% and specificity 60.3%.

CONCLUSIONS

In early-stage OTSCC, PET/CT demonstrates moderate specificity but limited sensitivity for occult nodal metastasis. SUVmax provides only weak discrimination between node-positive and node-negative disease. Routine use of PET/CT for nodal staging in cT1–T2, cN0 tongue carcinoma should therefore be interpreted with caution, and surgical staging remains the definitive approach.

KEYWORDS

PET/CT, oral tongue cancer, cervical lymph node metastasis, SUVmax, diagnostic accuracy, early-stage OTSCC

OP-372

Investigation Of The Relationship Between MEOX2 Gene Expression And Clinicopathological Parameters In Squamous Cell Carcinoma Of The Tongue

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BACKGROUND & AIM

Squamous cell carcinoma of the tongue is one of the most aggressive malignancies of the oral cavity due to its high potential for local invasion and cervical lymph node metastasis. The molecular heterogeneity of the disease highlights the need for novel biomarkers for prognosis and early diagnosis. Mesenchyme Homeobox 2 (MEOX2) is a homeobox gene involved in angiogenesis, cell proliferation, cell cycle regulation. Altered MEOX2 expression has been associated with tumor progression in several malignancies; however, its role in tongue squamous cell carcinoma remains unclear. This study aimed to investigate MEOX2 gene expression in patients with tongue squamous cell carcinoma.

MATERIAL & METHODS

The study included tumor tissue, complementary normal tissue, serum, and saliva samples from 25 patients diagnosed with squamous cell carcinoma of the tongue. MEOX2 gene expression levels were analyzed using the qRT-PCR method. Relative expression levels in tumor tissues were calculated using the 2-ΔΔCt method, referencing complementary normal tissues. Expression data from serum and saliva samples were evaluated based on ΔCt values.

RESULTS

While no significant change in MEOX2 gene expression was observed in 80% of tongue tumor patients, an increase in expression was detected in 12% and a decrease in 8.3%. Lymph node involvement and advanced tumor stage were noted in most patients showing expression changes. While no recurrence was observed in patients with increased MEOX2 expression, recurrence was determined in one of the cases with decreased expression. Comparing the ΔCt values of serum and saliva samples, it was concluded that MEOX2 expression was higher in saliva samples compared to serum due to the lower ΔCt values observed in saliva samples.

CONCLUSIONS

These findings suggest that MEOX2 expression may characterize a distinct subgroup of tongue squamous cell carcinomas with aggressive clinical features rather than representing a uniform molecular event. The heterogeneous expression pattern supports the molecular heterogeneity of tongue cancer. However, larger studies are needed to validate these preliminary findings.

KEYWORDS

MEOX2, squamous cell carcinoma of the tongue, gene expression, biomarker

OP-373

Sexual And Psychosocial Outcomes Following Laryngectomy: The Role Of Surgical Extent And Neck Dissection

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BACKGROUND & AIM

Surgical treatment of laryngeal cancer may significantly affect patients' physical integrity, communication ability, and overall quality of life. While psychosocial morbidity in head and neck oncology has increasingly been recognized, postoperative sexual health outcomes remain poorly reported. The primary aim of this study was to evaluate sexual function in male patients during the first postoperative month following laryngeal cancer surgery. Secondary objectives included investigating the potential impact of neck dissection and the extent of laryngeal resection (partial vs total) on sexual function, as well as exploring associations between sexual dysfunction and psychosocial parameters.

MATERIAL & METHODS

This prospective cross-sectional observational study was conducted between October 2025 and March 2026 at the ENT Department of Cam and Sakura City Hospital. Patients aged ≥18 years with histologically confirmed laryngeal carcinoma who were sexually active before surgery were included. Patients with severe comorbidities preventing questionnaire completion were excluded. All patients were evaluated at the first postoperative month, and none had received postoperative radiotherapy or chemotherapy at the time of assessment.

Patients were categorized into three groups according to surgical extent: (1) partial laryngeal surgery without neck dissection, (2) partial laryngeal surgery with neck dissection, and (3) total laryngectomy with neck dissection. Participants completed the Golombok–Rust Inventory of Sexual Satisfaction (GRISS), Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI), and Rosenberg Self-Esteem Scale (RSES). Independent samples t-tests were used for comparisons between Groups 1–2 and 2–3, and correlation analyses evaluated associations between sexual function and psychosocial variables.

RESULTS

A total of 47 patients were included. According to the surgical classification, 24 patients underwent partial laryngeal surgery without neck dissection, 11 underwent partial laryngeal surgery with neck dissection, and 12 underwent total laryngectomy with neck dissection. The mean psychometric scores were BAI 9.1 ± 3.2, BDI 7.4 ± 2.8, RSES 15.2 ± 5.4, and total GRISS 52.9 ± 14.8.

GRISS subscale analysis demonstrated impairments across several domains of sexual function, including erectile dysfunction, premature ejaculation, avoidance behavior, reduced satisfaction, impaired partner communication, and decreased sexual activity frequency. Patients undergoing more extensive surgical procedures showed a tendency toward higher GRISS scores and greater psychosocial distress.

Comparative analyses suggested worse sexual function in patients undergoing neck dissection and those treated with total laryngectomy compared with function-preserving surgeries. Correlation analysis revealed negative associations between GRISS scores and measures of emotional well-being and self-esteem.

CONCLUSIONS

Sexual dysfunction appears to be common in the early postoperative period following laryngeal cancer surgery. Increasing surgical extent and the addition of neck dissection may contribute to greater impairment in sexual function and psychosocial well-being. These findings suggest that sexual health represents an underrecognized aspect of postoperative recovery in patients with laryngeal cancer. Early identification of sexual dysfunction through routine postoperative assessment, combined with appropriate counseling and psychological support, may help improve overall quality of life. Incorporating sexual health evaluation into standard postoperative follow-up may therefore contribute to more comprehensive and patient-centered care in head and neck oncology.

KEYWORDS

Laryngeal cancer; laryngectomy; sexual dysfunction; neck dissection; psychosocial outcomes

OP-374

Virtual Slicing Reveals Hidden Errors In Pathology-Based Margin Assessment For Oral Cancer Surgery

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BACKGROUND & AIM

Surgical removal remains the cornerstone of treatment for oral cancers, and the assessment of final margins is essential for confirmingcomplete tumor excision. In routine practice, pathologists cut the specimen by hand to obtain representative sections for histological evaluation. Thismanual process, however, can introduce inconsistencies. In this study, we examined how different slicing techniques and cutting errors affect the accuracyof margin measurements in oral cancer specimens.

MATERIAL & METHODS

After resection, each specimen was scanned using three-dimensional ultrasound to create volumetric models. These models allowedvirtual slicing that replicated two common pathology approaches as Bread Loafing and Perpendicular slicing, as well as several cutting errors: rotation, tilt,variation in slice thickness, and a combined error scenario. The true margin was defined as the smallest 3D distance between the tumor and the specimensurface. Margins measured from the simulated slices were compared with the true margins to evaluate precision

RESULTS

Specimens from twenty patients with tongue squamous cell carcinoma were analyzed. Perpendicular slicing produced smaller measurementerrors (mean 0.37 mm, IQR 0.32 mm) than Bread Loafing (mean 0.74 mm, IQR 0.85 mm). Among simulated

errors, tilting caused the greatest deviation,particularly in Bread Loafing (mean error 1.26 mm). Perpendicular slicing was more resistant to tilting (p = 0.010) and slice thickness variation (p = 0.009).

CONCLUSIONS

Both technique and cutting accuracy influence margin evaluation. Perpendicular slicing yielded the most reliable results, supportingrefinements in pathology practice and the potential role of 3D imaging in improving surgical margin assessment.

KEYWORDS

3D virtual histology, 3D ultrasound, Surgical margins

OP-375

Peripheral Regulatory T Cells, NK Cells, And Lymphocyte Subsets In Laryngeal Squamous Cell Carcinoma: Prognostic Significance And Long-Term Follow-Up

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BACKGROUND & AIM

In this study, we evaluated the peripheral blood Treg values, NK, CD45, CD3, CD4, CD8 and CD19 values of the patients with laryngeal squamous cell cancer and healthy control group at the time of diagnosis and long term follow-up.

MATERIAL & METHODS

Nineteen patients with laryngeal squamous cell carcinoma were included as study group. Age and sex matched 15 healthy subjects were scheduled as control group. Blood samples were taken from the study group three times; before the operation, one month and 8 years after the operation (for the alive patients). A single blood sample was obtained from the control group to compare with preoperative values of the study group. CD4 +, CD25 +, FOXP3 and CD127 markers were used for Treg identification. Lymphocytes were isolated from the peripheral blood by "Density gradient" technique, based on their distinctive density. Treg percentages and lymphocyte profile (CD45, CD3, CD4, CD8, CD19, NK) were determined by using flow cytometry. In the study group these parameters were also evaluated for the nodal metastasis and early and advanced stages.

RESULTS

In study group, preoperative and one month after the operation Treg levels were significantly higher than the control group (p= 0.001, 0.001, respectively). A statistically significant decrease in the Treg levels was detected at the first month after the operation (p= 0.025). Preoperative CD19 and NK levels were similar in the patients and the control group (p> 0.05). Postoperatively while the Treg levels decreased, the NK levels showed an increase. At the end of eighth year, Treg levels of the patients dropped to the levels of control group. Preoperative Treg values were statistically significantly higher in both N + cases than the N0 cases, and in the advanced stages than the early stages (p= 0.009, p= 0.001, respectively).

CONCLUSIONS

Treg levels were detected higher then the healthy patients and by taking stages and lymph node involvement in acount, these parameters could be used effectively to predict prognosis of the patients. By the treatment of these cancers it is detected that these immunity parameters were decreasing. With longterm follow-up, our results demonstrade that Treg levels decreased and NK levels increased. In conclusion, these immunological variables seem useful for the prognosis and follow-up of the laryngeal cancers.

KEYWORDS

Laryngeal squamous cell cancer, Treg, Natural Killer Cells, Lymphocytes, cancer, immunity, Regulatory T cells, Flow cytometry, Tumor immunity

OP-376

The Molecular Landscape Of Salivary Gland Carcinomas: Impact On Oncologic Outcomes And Opportunities For Targeted Therapy

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BACKGROUND & AIM

Salivary gland cancers (SGCs) are characterised by considerable aggressiveness and mortality. There is still a lack of reliable evidence-based regimen methods, especially in recurrent or metastatic (R/M) cases. The aim of this study was to evaluate molecular alterations, relevant to the prognosis and personalized therapy of SGCs.

MATERIAL & METHODS

DNA was extracted from archival tissue of 40 patients with various SGCs subtypes. A targeted next-generation sequencing (NGS) panel was performed.

RESULTS

The follow-up of the SGCs study cohort revealed disease recurrence or metastasis in 19 patients and indicated poor individual outcomes. The mean disease-free survival (DFS) within the poor outcome group was 2.4 years, and the overall survival (OS) was 5.4 years. The DFS and OS of the remaining 18 patients with favourable outcomes were 8.3 years. The predominant genetic rearrangements in study cohort as well as in the group of patients with unfavourable outcomes were NF1 (24% vs. 32%), TP53 (22% vs. 32%) and CDKN2A (14% vs. 21%), respectively. Furthermore, TP53 mutation was established as a relevant negative prognostic factor for overall survival (p = 0,04). The analysis revealed potentially actionable genes in detected alterations in many cases.

CONCLUSIONS

SGCs are a heterogeneous group of malignancies with distinct molecular landscape that characterized by poor prognosis and inadequate treatment options. Nonstandard strategies might be beneficial for patients who suffer from salivary gland cancers. Wider utilization of NGS analysis may increase the opportunity for patients with those rare cancers to receive more precise, personalized therapy.

KEYWORDS

salivary gland carcinomas, mutational landscape, genetic analysis, next-generation sequencing, targeted therapy, precision oncology

OP-377

The Experience Of Using Indocyanine Green In Pediatric Thyroid Surgery.

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BACKGROUND & AIM

Hypoparathyroidism one of the most common complication in pediatric thyroid surgery. This condition leads to decrease quality of patient life. The occurrence method of assessment parathyroid glands functional condition is interoperative visual examination. Unfortunately results of this method is not satisfied. According to some investigations rate of the hypoparathyroidism after surgery on the thyroid gland in pediatric is 30%. The new method to determine the parathyroid glands and their perfusion level by indocyanine green applies just among adult patients. In our Centre we started research the applicability of this method in children.

MATERIAL & METHODS

Between 2025 and 2026 the 110 patients under the age of 18 were injected with indocyanine green during thyroid surgery. The location and perfusion of the parathyroid glands were assessed 30 seconds after injection. To determine the state of blood flow, we used a special score scale. Evaluation of parathyroid glands perfusion after indocyanine green injection is possible by coloring organs in one of three colors (white, grey and black). The each color has a score in points (2, 1 and 0 appropriately).

RESULTS

According to our observations the indocyanine green can be used as a navigator to determine the position of the parathyroid glands in children with benign thyroid diseases. Assessment of the blood flow of the parathyroid glands and the prognosis of their function using indocyanine green is possible for all types of thyroid tumors. According to the results of our study it is known that if there is at least one white parathyroid gland the hypoparathyroidism in the postoperative period does not occur.

CONCLUSIONS

The use of indocyanine green in pediatric thyroid surgery may contribute to the early detection of intraoperative damage to the parathyroid glands. Due to this, treatment of hypoparathyroidism can be started early.

KEYWORDS

: indocyanine green, pediatric thyroid surgery, parathyroid glands, hypoparathyroidism.

OP-378

Malignancy Risk Prediction In Thyroid Biopsies Reported As Atypia Of Undetermined Significance: Diagnostic Performance Of Ultrasonography And Risk Factors

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BACKGROUND & AIM

Thyroid cancers often present as nodules, with fine-needle aspiration biopsy (FNAB) and ultrasonography serving as the primary diagnostic tools in routine clinical practice. Due to variability in clinical approaches and the absence of clear consensus guidelines, the role of ultrasonography has become increasingly prominent, particularly in cases where FNAB yields indeterminate cytology results. This prospective study aimed to assess the clinical utility and diagnostic performance of the

ACR TIRADS (American College of Radiology Thyroid Imaging Reporting and Data System) ultrasonographic classification system, together with cytopathological subtypes, in predicting malignancy in atypia of undetermined significance (AUS) cases.

MATERIAL & METHODS

The study included 52 patients with 55 nodules diagnosed as AUS over a two-year period. All cases underwent preoperative ultrasonographic evaluation using the TI-RADS system and had available postoperative histopathological results.

RESULTS

The TI-RADS system did not significantly contribute to malignancy prediction in the overall AUS cohort or in subgroups with nuclear atypia and other atypia. However, the numerical score derived from echogenic foci, the presence of microcalcifications, and peripheral calcifications were found to be significantly associated with malignancy (p-values: 0.047, 0.049, and 0.025, respectively, highlighting the importance of specific ultrasonographic features. The overall malignancy rate was 20%, with follicular and papillary thyroid carcinoma each constituting 36% of the malignant cases in this cohort. The malignancy rates for TR3, TR4, and TR5 nodules were 23%, 11%, and 44% respectively.

CONCLUSIONS

The TIRADS system did not demonstrate a significant contribution to malignancy prediction in AUS cases. However, further studies with larger patient cohorts are needed to reach more definitive conclusions.

KEYWORDS

Thyroid cancer, Fine-needle aspiration biopsy, Thyroid nodule, Ultrasonography, Atypia

OP-379

Impact Of HPV Vaccination On Oral HPV Prevalence And Characteristics Of The HPV-Positive Oropharyngeal Tumor Microenvironment

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BACKGROUND & AIM

Human papillomavirus (HPV) is a major oncogenic agent in the development of oropharyngeal squamous cell carcinoma (OPSCC). The incidence of HPV-associated head and neck cancers, particularly HPV-positive OPSCC, has increased substantially in recent years. Although prophylactic HPV vaccines effectively reduce cervical HPV infections, their impact on oral HPV prevalence and the tumor microenvironment remains under investigation. Recent evidence suggests that HPV-positive tumors exhibit a more immunologically active microenvironment and distinct therapeutic responses1. This study evaluated the effect of HPV vaccination on oral HPV prevalence and investigated the immune microenvironment and single-cell-defined cellular ecosystems associated with HPV-related head and neck cancers.

MATERIAL & METHODS

In this study, oral HPV prevalence, the protective effects of HPV vaccination, and the immune characteristics of the HPV-associated tumor microenvironment were evaluated through a systematic literature analysis. A PubMed search was performed using the keywords “HPV vaccination,” “oral HPV,” “oropharyngeal cancer,” “tumor microenvironment,” and “single-cell RNA sequencing.” English-language studies investigating oral HPV prevalence, HPV vaccination, or HPV-related tumor microenvironment features were included, while case reports, editorials, animal studies, and studies with insufficient data were excluded.

Eight key studies were analyzed, including the NHANES-based study by Byrd et al. involving 12,479 adults2 and the scRNA-seq study by Zhang et al. including 139,809 cells3. HPV-associated cellular states and ecotypes were evaluated using the EcoTyper platform. Variables included vaccination status, sex, smoking, alcohol use, and lifetime sexual partner number. Data were categorized into oral HPV prevalence, vaccination effects, and tumor microenvironment ecosystems.

1. ORAL HPV PREVALENCE AND DEMOGRAPHIC DISTRIBUTION

The overall prevalence of high-risk oral HPV infection was 4.2%, with HPV-16 identified as the most common genotype (1.8%). Oral HPV prevalence was significantly higher in males than females (6.8% vs. 1.7%)2.

2. ROLE OF HPV VACCINATION AND RISK FACTORS

HPV vaccination reduced vaccine-targeted oral HPV infections by more than 80% (0.11% vs. 1.31%, $p < 0.001$). Unvaccinated individuals demonstrated a 3.4-fold increased risk of oral HPV infection. Major risk factors included male sex, smoking, heavy alcohol consumption, and having ≥5 lifetime oral sex partners2.

3. TUMOR MICROENVIRONMENT AND CELLULAR ECOSYSTEMS

HPV-positive head and neck cancers exhibited an immune-active (“immune-hot”) tumor microenvironment with increased CD4+ T-cell, plasma-cell, and B-cell infiltration. Elevated CXCL9/CXCL10 expression and enhanced GZMB/PRF1-mediated cytotoxic activity were associated with superior treatment response and improved 5-year survival compared with HPV-negative tumors (83% vs. 42%)3.

CONCLUSIONS

HPV vaccination may protect against HPV-associated oropharyngeal cancers by reducing oral HPV infections. Molecular and single-cell transcriptomic analyses demonstrate that HPV-positive head and neck cancers possess a more active antitumor immune microenvironment and treatment-sensitive cellular ecosystems. Oral HPV prevalence was approximately four times higher in males, supporting expanded vaccination coverage, particularly among men. Historically female-focused vaccination strategies may have contributed to lower male vaccination rates and gaps in herd immunity. Emerging studies on the HPV-associated tumor microenvironment are also advancing immunotherapy and personalized treatment strategies, including anti-PD-1/PD-L1–based approaches and novel molecular biomarkers for predicting treatment response and resistance.

KEYWORDS

HPV vaccination; oral HPV; oropharyngeal cancer; head and neck cancer; tumor microenvironment; single-cell RNA sequencing; HPV-positive OPSCC; immunotherapy; EcoTyper; immune-hot tumor

OP-380

The Role Of Treponema Sp. In Oral Squamous Cell Carcinoma: A Retrospective Microbiological Study

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BACKGROUND & AIM

Oral squamous cell carcinoma (OSCC) is the most common malignancy of the oral cavity. Classical risk factors such as tobacco, alcohol and human papillomavirus (HPV) do not explain all cases or their aggressiveness, suggesting the involvement of additional factors including oral microbiome dysbiosis. At our centre, Treponema denticola was identified in a tongue carcinoma biopsy, raising questions. This spirochaete, associated with severe periodontitis, promotes a proinflammatory environment, produces an oncogenic proteinase related to tumour invasion and early disease recurrence. Based on this, we propose a retrospective review of Treponema sp. prevalence in oral cancer samples from our department.

MATERIAL & METHODS

We present the design of a retrospective observational study conducted at our Otorhinolaryngology Department. Archived biopsy samples collected over the last five years from patients diagnosed with OSCC will be reviewed. Immunohistochemical staining for Treponema sp. will be performed on all eligible samples. Variables including age, sex, tobacco and alcohol consumption and HPV presence in the sample will be recorded and analysed to assess the possible implication of Treponema denticola in the pathophysiology of the disease.

RESULTS

Study currently in the design phase. Preliminary data will be presented at the congress.

CONCLUSIONS

The identification of Treponema denticola in OSCC tissue, particularly in the absence of classic risk factors, supports the hypothesis that oral dysbiosis plays a role in tumour development. This study aims to establish the prevalence of Treponema sp. in our series and contribute to the growing evidence connecting periodontal infection and oral cancer. Periodontal control may represent a preventive strategy in OSCC management, reinforcing the need for an interdisciplinary diagnostic approach.

KEYWORDS

Treponema denticola, Oral squamous cell carcinoma

OP-381

A Composite Immunonutritional Risk Scoring System For Predicting Pharyngocutaneous Fistula After Total Laryngectomy

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BACKGROUND & AIM

Pharyngocutaneous fistula (PCF) remains the most common and clinically significant complication following total laryngectomy, particularly in salvage cases. Emerging evidence indicates that compromised immunonutritional status may negatively impact wound healing; however, its role in predicting PCF development has not been fully elucidated.

MATERIAL & METHODS

A total of 120 patients treated between 2020 and 2025 were initially included, of whom 43 met the predefined criteria and were analyzed in this retrospective cohort study. Patients were classified as early PCF (≤15 days), late PCF (>15 days), or non-fistula controls. Preoperative immunonutritional indices (PNI, HALP, albumin, CONUT, and NRI) were evaluated. Group comparisons were performed using non-parametric tests, and clinically relevant cut-off values were used to construct a composite immunonutritional risk score.

RESULTS

PCF developed in 19 patients (44.2%). Significant differences were observed between early PCF and primary surgery groups for PNI (p=0.004), HALP (p=0.028), albumin (p=0.014), and the composite score (p<0.001). No significant differences were found in other comparisons. Optimal cut-offs were PNI <51.07 (80% sensitivity, 90% specificity), albumin <39.7 g/L (81%, 90%), and HALP <30.37 (63%, 90%). The composite score showed a significant association with PCF (p=0.002), with higher scores indicating increased risk.

CONCLUSIONS

Preoperative immunonutritional impairment is strongly associated with the development of PCF following total laryngectomy. A composite model integrating PNI, HALP, and albumin offers a practical and reliable approach for preoperative risk stratification. Routine incorporation of immunonutritional assessment may facilitate early identification of high-risk patients and inform targeted perioperative optimization strategies.

KEYWORDS

Biomarkers; Head and neck surgery, Nutritional Status; Pharyngocutaneous fistula; Total laryngectomy

OP-382

Comparison Of Primary Tumor Size Between Radiologically Node-Negative And Central Node-Positive Papillary Thyroid Carcinoma Patients

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BACKGROUND & AIM

To evaluate whether a significant difference exists in preoperative primary tumor size between papillary thyroid carcinoma (PTC) patients with central lymph node metastasis and those reported as radiologically node-negative (cN0).

MATERIAL & METHODS

A retrospective comparative study was conducted including patients aged 30–55 years diagnosed with papillary thyroid carcinoma. To minimize prognostic heterogenity and potential confounding factors, only unifocal tumors without extrathyroidal extension were included. Histopathological evaluation was restricted to favorable histologic subtypes of PTC, including classic, follicular variant, and oncocytic variant. Patients were divided into two groups: radiologically node-negative (cN0) patients and patients who underwent central neck dissection with pathologically confirmed central lymph node metastasis. Papillary thyroid microcarcinomas (≤10 mm) were excluded from the primary analysis. Preoperative primary tumor size was recorded as the maximum tumor diameter. Sex distribution and tumor size were compared between groups.

RESULTS

Thirty-six patients were included in the primary analysis after exclusion of microcarcinomas, consisting of 21 radiologically node-negative patients and 15 patients with central lymph node metastasis. Mean age was comparable between the metastatic and radiologically node-negative groups (42.1 ± 8.6 vs. 41.4 ± 8.9 years, respectively). Sex distribution did not differ significantly between groups (p = 0.721). Mean primary tumor size was significantly greater in patients with central lymph node metastasis compared with radiologically node-negative patients (30.4 ± 16.3 mm vs. 18.6 ± 11.0 mm, respectively; Mann–Whitney U test, p = 0.010).

CONCLUSIONS

Among selected low-risk papillary thyroid carcinoma patients, larger primary tumor size was significantly associated with central lymph node metastasis. Preoperative tumor size may serve as a useful indicator for predicting occult central nodal disease in otherwise radiologically node-negative patients.

KEYWORDS

thyroid, carcinoma, papillary thyroid carcinoma, central neck dissection

OP-383

Prognostic Impact Of Inflammatory Indices On Fistula Development And Survival After Total Laryngectomy

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BACKGROUND & AIM

Laryngeal squamous cell carcinoma is a major head and neck malignancy associated with substantial morbidity and mortality. Total laryngectomy remains an important treatment for selected patients with advanced disease; however, postoperative pharyngocutaneous fistula (PCF) is a serious complication that may delay wound healing, prolong hospitalization, increase costs and impair rehabilitation. Recently, systemic inflammatory and nutritional indices have emerged as accessible prognostic biomarkers in oncology. The Naples Prognostic Score (NPS), Systemic Immune-Inflammation Index (SII), and Systemic Inflammation Response Index (SIRI) may provide additional prognostic information. This study aimed to evaluate their effects on PCF development and overall survival after total laryngectomy.

MATERIAL & METHODS

This retrospective single-center study included 144 patients who underwent primary total laryngectomy for laryngeal cancer at the Department of Otorhinolaryngology, İzmir Katip Çelebi University Atatürk Training and Research Hospital, between 2012 and 2025. Demographic characteristics, operative and discharge records, preoperative laboratory parameters, pathological findings, PCF status, and survival data were obtained from the hospital database. NPS, SII, and SIRI values were calculated using preoperative hematological and biochemical parameters. The associations of these indices with PCF development and overall survival were assessed using appropriate statistical analyses, including group comparisons, logistic regression, and survival analysis.

RESULTS

Low lymphocyte-to-monocyte ratio (LMR) was identified as an independent significant predictor of PCF development. In addition, elevated neutrophil-to-lymphocyte ratio (NLR) and SIRI values were statistically associated with an increased risk of PCF. Regarding survival outcomes, increased SII and SIRI levels were associated with poorer overall survival. No statistically significant association was found between NPS and PCF or overall survival.

CONCLUSIONS

Systemic inflammatory indices appear to have prognostic relevance in patients undergoing total laryngectomy. Low LMR may serve as an independent marker for PCF development, whereas elevated SII and SIRI may indicate worse overall survival. These simple, inexpensive, and routinely available biomarkers may support risk stratification and individualized postoperative management.

KEYWORDS

Total laryngectomy, pharyngocutaneous fistula (PCF), overall survival, Systemic Immune-Inflammation Index (SII), Systemic Inflammation Response Index (SIRI), Naples Prognostic Score (NPS), lymphocyte-to-monocyte ratio (LMR), neutrophil-to-lymphocyte ratio (NLR), laryngeal cancer

OP-384

The Impact Of Beta-Blockers On Head And Neck Squamous Cell Carcinoma: An In-Depth Review Of Clinical Evidence

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BACKGROUND & AIM

Activation of the sympathetic nervous system results in catecholamine release, which interacts with β-adrenergic receptors expressed on tumor cells. Preclinical studies have suggested that β-adrenergic receptor inhibition may suppress tumorigenesis, reduce cellular proliferation, and promote apoptosis. However, emerging clinical evidence has challenged these findings, with several studies reporting neutral or potentially adverse survival outcomes among patients with head and neck squamous cell carcinoma (HNSCC) receiving β-blockers.

MATERIAL & METHODS

A systematic literature review was conducted using the PubMed, MEDLINE, and Scopus databases to identify clinical studies evaluating β-blocker use and oncologic outcomes in patients with HNSCC.

RESULTS

Clinical evidence demonstrates inconsistent associations between β-blocker use and cancer outcomes in HNSCC. Multiple studies, including analyses encompassing more than 11,000 patients, reported associations between β-blocker exposure and poorer oncologic outcomes. β-blocker use was associated with decreased overall survival (OS; adjusted hazard ratio [aHR] 1.67; 95% CI, 1.06–2.62; P = .027) and disease-free survival (DFS; aHR 1.67; 95% CI, 1.06–2.63; P = .027), as well as increased cancer-specific, competing, and all-cause mortality (P < 0.05). Proposed mechanisms include enhanced epithelial–mesenchymal transition contributing to increased tumor aggressiveness and reduced leukocyte infiltration within the tumor microenvironment, potentially mediated by altered chemokine signaling pathways such as decreased chemokine receptor-2 expression.

CONCLUSIONS

Given the widespread use of β-blockers among patients with HNSCC, further prospective and mechanistic studies are needed to clarify their impact on tumor biology and survival outcomes. The discrepancy between favorable preclinical findings and conflicting clinical data highlights the complexity of β-adrenergic signaling in cancer progression. Improved understanding of these mechanisms may help guide clinical decision-making regarding β-blocker use in patients undergoing treatment for HNSCC.

KEYWORDS

Beta-blockers, Head and Neck Squamous cell carcinoma, Tumor microbiology, tumor microenvironment

OP-385

Prognostic Factors For Recurrence And Survival In Head And Neck Cutaneous Squamous Cell Carcinoma

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BACKGROUND & AIM

Head and neck cutaneous squamous cell carcinoma (cSCC) may recur or metastasize despite curative-intent surgery, and accurate risk stratification remains challenging. We hypothesized that adverse clinicopathologic features and parameters of regional spread would be associated with shorter recurrence-free interval and worse overall survival.

MATERIAL & METHODS

We conducted a retrospective cohort study of 80 patients who underwent surgical treatment for head and neck cSCC at a tertiary otorhinolaryngology department between January 2008 and January 2023. Collected variables included age, sex, immunosuppression, primary versus recurrent presentation, tumor diameter, perineural invasion (PNI), lymphovascular invasion (LVI), surgical margin status, parotid metastasis, O'Brien stage, facial nerve involvement, and pathological neck metastasis stage. Outcomes were time to recurrence and overall survival. Kaplan–Meier curves were compared using the log-rank test. Cox proportional hazards regression was used to estimate hazard ratios (HRs) with 95% confidence intervals (CIs). Statistical significance was defined as $p<0.05$.

RESULTS

Mean age was 71.3 years; 85% were male. The most common primary site was the ear (57.5%), and mean tumor diameter was 28.4 mm. PNI was present in 31.3%, LVI in 17.5%, parotid metastasis in 22.5%, and facial nerve involvement in 11.3%. Mean follow-up was 46.3 months. Recurrence occurred in 41.2% (median time to recurrence 24.0 months). Mean overall survival was 45.0 months (median 33.5 months). In multivariable Cox regression for survival, increasing age (HR 1.07, 95% CI 1.03–1.10; $p<0.01$), number of metastatic lymph nodes (HR 1.04, 95% CI 1.00–1.08; $p=0.04$), and positive surgical margins (HR 9.07, 95% CI 2.59–31.82; $p<0.01$) independently predicted poorer survival. For recurrence, univariable Cox analysis showed significant associations with tumor diameter, recurrent presentation, PNI, positive margins, parotid metastasis, advanced O'Brien stage (P3 vs P0), and pathological neck metastasis (N2 vs N0) ($p<0.01$ for each); however, no variable remained significant in the multivariable recurrence model ($p>0.05$).

CONCLUSIONS

Head and neck cSCC showed a high recurrence rate. Age, metastatic nodal burden, and positive margins independently predicted worse survival, supporting meticulous margin control and risk-adapted regional evaluation and surveillance.

KEYWORDS

cutaneous squamous cell carcinoma, head and neck, prognostic factors, recurrence, overall survival, surgical margins

OP-386

Controversies In The Surgical Management Of Malignant Parotid Neoplasms Without Facial Palsy. – Is Radical Surgery Still Necessary?

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BACKGROUND & AIM

Main controversies in the surgical management of malignant parotid neoplasms, particularly regarding the necessity and outcomes of radical parotidectomy center on the balance between oncologic control and preservation of function, especially the facial nerve. While negative margins are important, additional margin clearance at the expense of the facial nerve may not improve outcomes and can significantly impact quality of life. Radical resection is associated with higher postoperative complication rates and does not necessarily improve overall survival compared to less radical approaches, especially when adjuvant therapy is used.

MATERIAL & METHODS

This retrospective monocentric study included patients diagnosed with histologically confirmed malignant parotid neoplasm who received treatment between 2013 and 2025. Patient characteristics, disease-specific factors, and treatment-related variables were systematically collected and analyzed.

RESULTS

A total of 358 patients with a mean age of 72 years were included. About 25% of patients suffered of preoperative facial palsy. In cases of normal facial function, there was no significant difference in five-year overall survival (OS) ($p = 0.91$) and disease-free survival (DFS) ($p = 0.27$) between patients who underwent radical parotidectomy and those who underwent nerve-sparing parotidectomy.

CONCLUSIONS

The necessity of radical parotidectomy in patients with malignant neoplasms is controversial, with current consensus favoring nerve preservation and less radical surgery, reserving radical resection for cases with clear nerve involvement, and relying on adjuvant therapy to optimize outcomes.

KEYWORDS

parotidectomy, facial palsy, radical parotidectomy, total parotidectomy, parotid malignancies, treatment outcome

OP-387

PDL1, VISTA, LAG3 And CTLA4 Expression In The Laryngeal Cancer Microenvironment: Is There A Prognostic Impact Of Immune Checkpoint Molecules?

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BACKGROUND & AIM

Immune checkpoint molecules (ICMs) may influence tumor immune escape and clinical outcomes in laryngeal squamous cell carcinoma (LSCC). We evaluated the expression of programmed death ligand 1 (PDL1), V domain Ig suppressor of T cell activation (VISTA), lymphocyte activation gene 3 (LAG3), and cytotoxic T lymphocyte associated protein 4 (CTLA4) in tumor and immune compartments and investigated their associations with survival and histopathologic parameters.

MATERIAL & METHODS

In this single center retrospective cohort, surgically treated LSCC patients (2018–2022) with pathologic stage ≥3 and ≥3 years follow up after open partial or total laryngectomy ± neck dissection were included (n=101). Sixty two patients were excluded due to early stage disease, non SCC histology, or unavailable specimens.

PDL1 and VISTA were scored using tumor proportion score (TPS) and combined positive score (CPS); staining intensity was recorded in tumor and immune compartments by immunohistochemistry. LAG3 and CTLA4 were assessed in the immune microenvironment by extent and intensity. Inter parameter correlations were analyzed using Spearman's rho. Overall survival (OS) and recurrence free survival (RFS) were evaluated using Kaplan Meier and Cox regression.

RESULTS

Among 101 patients, 78 (77.2%) underwent total and 23 (22.8%) partial laryngectomy; 96 (95.0%) had lateral neck dissection. Median age was 62.3 years, 93.1% were male; overall mortality was 42.6% (disease specific 20.8%), recurrence 22.8%, median follow up 64.7 months.

PDL1 TPS, PDL1 CPS, VISTA TPS, and VISTA CPS were ≥1 in 49.5%, 91.1%, 38.6%, and 99.0%; LAG3 and CTLA4 immune staining was present in 77.2% and 24.8%. PDL1 TPS correlated with VISTA immune intensity (ρ=0.205, p=0.039); VISTA immune intensity correlated with LAG3 immune extent (ρ=0.349, p<0.001) and CTLA4 immune extent (ρ=0.241, p=0.015); LAG3 immune extent correlated with CTLA4 immune extent (ρ=0.511, p<0.001).

Older age (HR=1.064,p=0.003) and perineural invasion (PNI) (HR=1.911,p=0.044) predicted worse OS. For RFS, worse surgical margin status (HR=1.805,p=0.003), higher pathologic stage (HR=2.471,p=0.006), and PNI (HR=2.992,p=0.026) increased recurrence risk, whereas higher PDL1 tumor intensity (HR=0.465,p=0.015) and diffuse LAG3 immune extent (HR=0.086,p=0.021) were protective.

CONCLUSIONS

Higher PDL1 tumor intensity and diffuse LAG3 immune extent were independently associated with improved RFS. ICMs were not independently predictive of OS, whereas PNI was a consistent adverse factor for both OS and RFS. Integrated ICM profiling may aid risk stratification and warrants validation in large prospective studies to inform future immunotherapy oriented approaches in LSCC.

KEYWORDS

Larynx cancer, Laryngeal squamous cell carcinoma, Immune microenvironment, Immune checkpoint molecules, PDL1, VISTA, LAG3, CTLA4, Perineural invasion, Recurrence, Prognosis, Survival

OP-388

Distribution Of Head And Neck Cancers In A Tertiary Care Hospital In Somalia: The First National Study

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BACKGROUND & AIM

Cancer is a major global health problem, with developing countries bearing the highest burden. Head and neck cancers (HNCs) are particularly challenging in low-resource regions such as Sub-Saharan Africa. Despite this, there are no published data

describing the distribution or histopathological characteristics of HNCs in Somalia. This study represents the first comprehensive analysis of head and neck cancers conducted in Somalia, aiming to define their demographic and histopathological patterns in a tertiary care setting.

MATERIAL & METHODS

Following ethical approval and informed consent, a retrospective review was conducted on 251 histopathologically confirmed HNC cases diagnosed between December 2017 and July 2022 at the Somalia Mogadishu Turkey Training and Research Hospital. Patient data on age, sex, anatomical site, and histopathological type were collected and analyzed descriptively.

RESULTS

Of 251 patients, 128 (51.0%) were female and 123 (49.0%) male, with a mean age of 47.1 ± 17.9 years. Tumor site distribution was: sinonasal (n = 2), nasopharynx (36), oral cavity (65), oropharynx (5), salivary gland (10), larynx (27), hypopharynx (22), thyroid gland (70), and head and neck carcinoma of unknown primary (14). Thyroid and oral cavity cancers were the most common.

CONCLUSIONS

This study provides the first epidemiological and histopathological profile of HNCs in Somalia. The predominance of thyroid and oral cavity cancers, along with limited diagnostic capacity and late presentation, highlights the urgent need for improved cancer awareness, early detection, and oncology infrastructure in Somalia.

KEYWORDS

Head and neck cancer, Somalia, histopathology, epidemiology, tertiary hospital, first national study

OP-389

OUTCOMES OF MAXILLOFACIAL OSTEOSARCOMA: A MULTICENTER RETROSPECTIVE ANALYSIS

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BACKGROUND & AIM

Craniofacial osteosarcoma is a rare malignancy comprising 6–9% of all osteosarcomas, presenting unique surgical and oncological challenges. This multicenter study evaluated clinicopathological features, treatment outcomes, and prognostic factors in patients with maxillary, mandibular, and skull base osteosarcoma.

MATERIAL & METHODS

Seventeen patients treated across three tertiary centers—Istanbul University-Cerrahpaşa (Medical Oncology), Marmara University (Plastic and Reconstructive Surgery), and Başakşehir Çam ve Sakura City Hospital, University of Health Sciences (Otorhinolaryngology)—were retrospectively analyzed. Tumor characteristics, treatment modalities, and surgical margin status were recorded. Disease-free survival (DFS) and overall survival (OS) were estimated by the Kaplan–Meier method. Prognostic factors were assessed using penalized Cox regression (Firth's correction). Median follow-up was 55 months (95% CI: 8.8–101.2).

RESULTS

Median age was 35 years (IQR: 29.5–52.5); 52.9% were male. Tumor locations were mandible (76.5%), maxilla (17.6%), and skull base (5.9%). Median tumor diameter was 6.6 cm; soft tissue invasion was present in 64.7%. Conventional high-grade osteosarcoma predominated (82.4%). Neoadjuvant chemotherapy was administered in 35.3%, with good pathological response (≥90% necrosis) in 33.3%. Surgery was performed in 88.2%, achieving R0 resection in 66.7%. Recurrence or progression occurred in 64.7%; 41.2% died during follow-up. Median DFS was 13.0 months (2-year: 46.7%; 5-year: 18.7%) and median OS was 40.2 months (2-year: 74.6%; 5-year: 33.6%). On univariable analysis, R1 margin (HR: 15.38, p=0.005), neoadjuvant chemotherapy (HR: 5.31, p=0.015), and cortical irregularity (HR: 4.40, p=0.034) were significantly associated with inferior DFS. Median DFS was 34.6 vs. 7.9 months for R0 vs. R1 resection (p=0.011).

CONCLUSIONS

Craniofacial osteosarcoma carries a poor prognosis with high recurrence rates. R0 surgical resection is the strongest determinant of disease-free survival. Cortical irregularity and neoadjuvant chemotherapy use—reflecting aggressive tumor biology—also predicted worse outcomes. These results highlight the critical role of multidisciplinary collaboration among medical oncology, reconstructive surgery, and head and neck surgery in optimizing patient outcomes.

KEYWORDS

osteosarcoma; mandible; maxilla; craniofacial; surgical margin; survival

OP-390

Do We Underestimate The Importance Of PET-CT In Oral Cavity Cancers?

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BACKGROUND & AIM

Oral cavity cancers result from the malignant transformation of the oral cavity elements located anterior to the palatal arch. Despite being easily visible lesions, neglect of these lesions, delayed presentation to the physician, and confusion with other benign lesions lead to delays in diagnosis and treatment, resulting in increased morbidity and mortality. The most important difference from other head and neck tumors is that the depth of invasion is a primary factor in tumor staging and its importance in prognosis. Positron emission tomography (PET) is generally used in advanced cases or for metastasis screening.

MATERIAL & METHODS

The files of patients who presented to a tertiary care center with oral cavity cancer were retrospectively reviewed. Patient age, gender, clinical staging at diagnosis, preoperative PET-CT status, pathological stage, whether they received adjuvant chemotherapy and radiotherapy, recurrence status and duration of recurrence, and patient survival were retrospectively examined.

In patients who underwent PET-CT, the standardized uptake value (SUV) max and mean, as well as metabolic tumor volume (MTV) and total lesion glycolysis (TLG) values, were also measured and included in the comparison.

RESULTS

Ninety-two patients who underwent surgery for oral cavity cancer were included in the study. Preoperative evaluations of all 92 patients revealed no distant organ metastases, and all patients underwent tumor resection and neck dissection. 43 patients had T1 tumor stage, 18 patients T2, 21 patients T3, and 10 patients T4. Fifty-one patients were followed up without treatment after surgery, while 33 patients required adjuvant radiotherapy and chemotherapy. Eight patients were deemed unsuitable for adjuvant treatment by the tumor board due to poor general condition and additional comorbidities.

Preoperative PET scans were available for 38 patients. Comparison of SUVmax, SUVmean, MTV, and TLG values showed a significant difference in patients with poor prognostic values (early recurrence, death, etc.) compared to other patients.

CONCLUSIONS

Oral cavity cancers are a common type of head and neck cancer that requires multidisciplinary management. Although treatment is standardized, there are significant differences among patients in disease-specific outcomes such as survival and disease-free survival. While PET scans are not currently a standard diagnostic tool for oral cavity cancers, their predictive value regarding disease and survival is considerable. Before becoming a standard diagnostic tool worldwide, PET scans need to be developed through multicenter studies and incorporated into new guidelines.

KEYWORDS

oral cavity cancer, positron emission tomography, total lesion glycolysis, mean tumor volume, survival

OP-391

Postoperative Radiotherapy Timing And Histopathological Risk Factors After Neck Dissection In Head And Neck Cancer

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BACKGROUND & AIM

Histopathological risk factors and the timing of postoperative radiotherapy may influence oncologic outcomes after neck dissection in head and neck malignancies. This study aimed to evaluate the relationship between lymphovascular invasion, perineural invasion, extranodal extension, postoperative radiotherapy timing, and clinical outcomes in patients undergoing neck dissection.

MATERIAL & METHODS

This retrospective study included 54 patients who underwent neck dissection for head and neck malignancies at the Department of Otorhinolaryngology and Head and Neck Surgery, Ankara Bilkent City Hospital, between January 2023 and June 2024. Demographic characteristics, primary tumor site, dissection laterality and extent, pathological lymph node status, lymphovascular invasion, perineural invasion, extranodal extension, time to initiation of postoperative radiotherapy, and follow-up outcomes were recorded. Postoperative radiotherapy initiated within 42 days after surgery was defined as early treatment. Adverse outcome was defined as death or recurrent/metastatic disease during follow-up.

RESULTS

The cohort comprised 40 males and 14 females, with a mean age of 65.5±10.7 years. The most prevalent primary tumor sites were oral cavity/lip (%38.9) and laryngeal (%27.8) squamous cell carcinoma. Pathological lymph node metastasis was detected in 26 patients. Lymphovascular invasion, perineural invasion (PNI), and extranodal extension (ENE) were observed in 17, 27, and 7 patients, respectively. The median postoperative radiotherapy (RT) interval was 41 days.

Among 30 patients with available follow-up, 24 remained disease-free, 4 died, and 2 developed recurrence/metastasis. Disease-free status was observed in %88.2 (15/17) of early-RT patients versus %75.0(9/12) of delayed-RT patients (p=0.622). Notably, all deceased patients exhibited PNI. Adverse outcomes occurred in %28.6 (6/21) of evaluable PNI-positive patients compared to none of the PNI-negative patients (p=0.141). ENE was also numerically associated with adverse outcomes (%40.0 vs. %16.0, p=0.254).

CONCLUSIONS

Perineural invasion and extranodal extension showed a numerical association with poorer outcomes after neck dissection, while early postoperative radiotherapy was associated with a higher disease-free rate. However, these findings should be interpreted as exploratory due to the limited sample size and incomplete follow-up. Timely postoperative multidisciplinary management and careful pathological risk stratification remain essential in head and neck cancer care.

KEYWORDS

Head and neck cancers, Neck dissection, Postoperative radiotherapy timing, Perineural invasion

OP-392

Uncommon Presentation Of Alveolar Rhabdomyosarcoma In An Adult: Diagnostic Challenges And Multimodal Management

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BACKGROUND & AIM

Alveolar rhabdomyosarcoma (ARMS) is a rare, aggressive malignancy predominantly occurring in children, with an uncommon presentation in adults. Its occurrence in the head and neck region is particularly rare, and ARMS often mimics other neoplasms both clinically and radiologically. Diagnosis can be challenging, especially when the disease presents with overlapping symptoms. This case report highlights the diagnostic difficulties and treatment strategies associated with ARMS in adults, emphasizing the importance of comprehensive diagnostic workup and multimodal management.

MATERIAL & METHODS

A 30-year-old male presented with a three-month history of progressively enlarging left parotid swelling, blurry vision, proptosis, and nasal obstruction. Examination revealed a hard, non-tender left parotid mass and multiple cranial nerve palsies involving nerves II, III, IV, V, VI, and VII. Nasoendoscopy identified a large irregular mass with punctate hemorrhage in the left nasal cavity. CT imaging showed a heterogeneous mass originating from ethmoid sinuses and nasal cavity, extending into maxillary, sphenoid, frontal sinuses, and medial orbital compartments, with cervical lymphadenopathy infiltrating the deep lobe of the left parotid gland. FNAC of the parotid mass indicated atypical cells of undetermined significance. Histopathology examination of the nasal mass demonstrated small round blue cells with rhabdomyoblast differentiation, confirmed by positive immunohistochemical staining for desmin and myogenin, consistent with alveolar rhabdomyosarcoma (ARMS). Chemotherapy was initiated, resulting in significant tumor reduction after three cycles as confirmed by follow-up imaging.

RESULTS

ARMS in adults presents significant diagnostic challenges due to its histological overlap with other small round blue cell tumors, such as lymphoma and neuroblastoma. Immunohistochemistry markers like desmin and myogenin is crucial for confirming the diagnosis. While ARMS in children has a favorable prognosis, adults often experience poorer outcomes due to delayed diagnosis and resistance to chemotherapy. Neoadjuvant chemotherapy has shown promise in reducing tumor bulk, especially in advanced head and neck cases. However, more intensive regimens may be necessary for adults due to their lower chemosensitivity. Radiotherapy and surgery may be required for local control.

CONCLUSIONS

This case highlights the rarity and diagnostic challenges of ARMS in adults. Comprehensive imaging and histopathological workup are essential for accurate diagnosis. Neoadjuvant chemotherapy can lead to significant tumor reduction and should be considered as part of a multimodal approach to treatment. Early recognition and aggressive treatment are crucial to improving the prognosis of ARMS in adults. A multidisciplinary approach involving oncologists, surgeons, and pathologists is key to optimizing patient outcomes

KEYWORDS

Alveolar Rhabdomyosarcoma, Neoadjuvant Chemotherapy, Adult Malignancy

OP-393

Circulating Tumor HPV-DNA In Detection Of Residual Disease And Recurrence In HPV-Positive Oropharyngeal Squamous Cell Carcinoma: The DAHANCA-42 Study

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BACKGROUND & AIM

The global incidence of Oropharyngeal squamous cell carcinoma (OPSCC) is increasing, and in Denmark, more than 70% of the cases are linked to Human Papillomavirus (HPV).

The aim of this project is to investigate if circulating tumor HPV-DNA (ctHPV-DNA) in blood can be used to diagnose residual disease and recurrence earlier and more efficient than what is currently possible.

MATERIAL & METHODS

All newly diagnosed HPV+ OPSCC patients in Denmark who are treated with a curative intent are offered inclusion at four tertiary centers. Blood samples are collected at diagnosis and after end of treatment at 2 months, 6 months, and hereafter every 6 months for 3 years. Samples are analyzed with an in-house developed digital droplet PCR (ddPCR) assay detecting HPV16, 18, 31, 33, 35, 45, 51 and 58. If a sample is positive for ctHPV-DNA following end of treatment, the patient will be invited for a clinical examination and a PET/CT scan to investigate if residual disease or recurrence is present.

RESULTS

The following findings are intentionally not described in detail, as the data has not been peer-reviewed yet: From September 2025 to april 2026, we have enrolled nearly 180 patients. Detection of residual disease and recurrence by ctHPV-DNA in blood has so far shown very strong potential. However, longer follow-up is needed before final conclusions can be drawn.

CONCLUSIONS

The ctHPV-DNA blood test is showing very promising results in detection of residual disease and recurrence of HPV-positive OPSCC.

KEYWORDS

OPSCC, HPV, ctHPV-DNA, Biomarker

OP-394

Demonstration Of The Efficacy Of Mesenchymal Stem Cells And Exosomes In Fistula Closure In A Rat Pharyngocutaneous Fistula Model

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BACKGROUND & AIM

Pharyngocutaneous fistula (PCF) remains a frequent and debilitating complication following total laryngectomy, with limited effective biological treatment options. While mesenchymal stem cells (MSCs) have demonstrated regenerative potential in various wound models, their role in PCF healing has not been investigated, nor has the therapeutic efficacy of MSC-derived exosomes. This study aimed to evaluate and compare the effects of adipose-derived mesenchymal stem cells (ASCs) and ASC-derived exosomes on PCF healing in an experimental rat model.

MATERIAL & METHODS

A standardized PCF model was established in rats and animals were randomly allocated into control, ASC-treated, ASC-derived exosome–treated and the buffer solution in which adipose tissue-derived mesenchymal stem cells and exosomes are stored-treated (sham) groups. Treatments were applied locally to the fistula site. Histopathological evaluation was performed on postoperative day 7, assessing acute and chronic inflammation, fibrosis, collagen deposition, and neovascularization. Fistula diameter was also measured. Statistical comparisons were conducted between groups to determine treatment-related differences.

RESULTS

No statistically significant differences were observed among groups regarding acute or chronic inflammatory infiltration or neovascularization ($p > 0.05$). Fibrosis scores were comparable across groups, although a non-significant trend toward reduced fibrosis was noted in the ASC and exosome-treated groups. Collagen deposition was significantly increased in both the ASC and exosome groups compared with controls ($p = 0.001$), with no significant difference between the two treatment modalities. Fistula diameter was significantly reduced in the ASC-treated group compared with controls ($p = 0.020$), with comparable reductions observed in the exosome group.

CONCLUSIONS

Both adipose-derived mesenchymal stem cells and their derived exosomes significantly enhanced pharyngocutaneous fistula healing by promoting collagen deposition and improving tissue organization without exacerbating inflammation. The

comparable efficacy of exosomes supports the paracrine hypothesis of MSC-mediated regeneration and highlights exosome-based therapy as a promising, safe, and clinically translatable cell-free alternative for PCF management.

KEYWORDS

Pharyngocutaneous fistula; Total laryngectomy; Mesenchymal stem cells; Adipose-derived MSCs; Exosomes

OP-395

Assessment Of Burnout Among Otolaryngologists Involved In Head And Neck Surgery

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BACKGROUND & AIM

Burnout is a syndrome resulting from chronic occupational stress, characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment, and is highly prevalent among physicians. Otorhinolaryngology (ENT), encompassing multiple subspecialties with distinct workload patterns and stressors, represents a field in which burnout has been reported at concerning levels, with up to 73.3% of physicians affected in at least one domain. This study aims to characterize burnout across otorhinolaryngology subspecialties, with particular emphasis on head and neck surgery, to identify subspecialty-specific determinants and guide targeted, discipline-oriented interventions.

MATERIAL & METHODS

This cross-sectional, descriptive survey was conducted under the auspices of the Scientific Projects and Head and Neck Cancer Türkiye Data Research Group of the Head and Neck Surgery Society. A structured questionnaire was developed to collect data on demographics, professional background, personal habits, working conditions and resources, and extracurricular social activities. Burnout was assessed using the Burnout Assessment Tool (BAT), which evaluates four primary symptom domains (exhaustion, mental distance, cognitive impairment, emotional impairment) and two secondary domains (psychological distress and psychosomatic complaints). All items were rated on a 5-point Likert scale, and subscale scores along with a mean BAT score were calculated, with higher scores indicating greater burnout. The survey was administered online and disseminated via social media platforms targeting ENT specialists.

RESULTS

A total of 189 ENT specialists participated, including 127 males (67.2%) and 62 females (32.8%), with a mean age of 43.3 years. Participants reported involvement in general ENT (64.6%), rhinology (40.7%), head and neck surgery (35.4%), otology–neurotology (22.2%), facial plastic surgery (15.9%), and laryngology (13.8%). Based on BAT scoring, mean primary and secondary symptom scores were 2.52 and 2.54, respectively, among head and neck surgeons, compared to 2.54 and 2.51 in non–head-and-neck specialists. No statistically significant differences were observed between groups ($p > 0.05$). Overall mean scores indicated that participants fell within the low-risk category for burnout.

CONCLUSIONS

Burnout levels among ENT specialists were generally low and did not differ significantly between head and neck surgeons and other subspecialty practitioners.

KEYWORDS

Burnout; Otorhinolaryngology; Head and Neck Surgery; Burnout Assessment Tool; Physician Well-being; Cross-sectional Survey

OP-396

Plectin: A Potential Novel Biomarker In Papillary Thyroid Carcinoma?

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BACKGROUND & AIM

Papillary thyroid carcinoma (PTC) is the most common thyroid malignancy. Biomarkers that improve benign–malignant discrimination and may reflect aggressive biological behavior remain needed. Plectin (PLEC), involved in cytoskeletal organization and cell adhesion, has been implicated in tumor invasion and progression. This study aimed to evaluate the potential contribution of plectin and selected markers to benign–malignant differentiation and lymph node metastasis subgroups by jointly assessing tissue immunohistochemical expression and serum levels in PTC.

MATERIAL & METHODS

Patients who underwent total thyroidectomy at a tertiary state hospital between July 2024 and December 2025 were screened (n=113); cases meeting the inclusion criteria were included in the study (n=62). Surgical cases were classified as benign pathology or PTC based on definitive histopathology; PTC cases were further stratified by the presence or absence of lymph

node metastasis. Serum levels of plectin, MMP-9, caspase-3, and pERK1/2 were measured by ELISA preoperatively and at postoperative month 3; healthy volunteers were also included for serum comparisons. Tissue samples were stained for the same markers using immunohistochemistry and evaluated using a semi-quantitative immunoreactive score (IRS) incorporating both staining intensity and extent. Findings were interpreted through benign–malignant comparisons and PTC subgroup analyses; tissue–serum associations were examined using correlation analysis.

RESULTS

Tissue immunohistochemistry demonstrated higher plectin expression in PTC compared with benign pathologies. Similarly, the PTC group showed higher tissue expression patterns for the additional markers evaluated. Although serum marker levels differed between healthy volunteers and surgical cases, serum levels alone provided limited discrimination between benign pathology and PTC. In PTC subgroup analyses by lymph node metastasis, no meaningful separation was observed in tissue or serum parameters. Correlation analysis did not demonstrate a consistent relationship indicating that tissue IRS scores directly reflect serum levels.

CONCLUSIONS

Tissue plectin expression appears to be a promising diagnostic biomarker candidate for benign–PTC differentiation. In contrast, serum plectin and other serum markers showed limited contribution to benign–malignant discrimination and to metastasis subgroup separation in this cohort. Prospective validation of plectin within a panel-based approach and in larger cohorts is warranted to clarify its role in diagnostic algorithms for thyroid nodules.

KEYWORDS

Papillary thyroid carcinoma, Plectin, Immunohistochemistry, ELISA, Biomarker, IRS scoring, PLEC

OP-397

Conventional Suture Ligation Vs. Sutureless Technique In Total Thyroidectomy: A Systematic Review And Meta-Analysis Of Randomized Controlled Trials

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BACKGROUND & AIM

Total thyroidectomy, a procedure for various thyroid pathologies, is traditionally performed using conventional suture ligation (CH) for hemostasis. Advanced high-energy devices (HEDs) like the Harmonic Scalpel (HS) and LigaSure (LS) offer sutureless alternatives with potential efficiency gains, but safety concerns remain. This systematic review and Bayesian network meta-analysis of randomized controlled trials (RCTs) was conducted to compare the efficacy and safety of sutureless techniques versus CH in total thyroidectomy.

MATERIAL & METHODS

This systematic review included 22 prospective RCTs, published between 2005 and 2022, enrolling 3,824 patients. The primary outcomes included operative time (OT), intraoperative blood loss (IOBL), and transient recurrent laryngeal nerve (RLN) injury and hypocalcemia. Secondary outcomes were postoperative hematoma (POH), postoperative drain output (POD), and length of hospital stay (LOS). Intervention rankings were determined using the Surface Under the Cumulative Ranking Curve (SUCRA), SUCRA values reflect the probability that an intervention ranks higher relative to others for a given outcome and do not indicate a clinical or statistical superiority; therefore, they should be interpreted alongside effect estimates and credible intervals.

RESULTS

In comparison with CH, both HS and LS were statistically significantly superior, reducing OT by approximately 22 minutes (HS: SUCRA 0.76, LS: SUCRA 0.73). HS demonstrated further significant superiority over CH, reducing LOS by -0.37 days (SUCRA 0.93) and POD output by -24 mL (SUCRA 0.87). While HS showed a numerical reduction in IOBL, this difference did not reach statistical significance, yet HS ranked highest for this outcome (SUCRA 0.91). Importantly, no significant differences were detected among HS, LS, and CH for key safety outcomes, including transient RLN palsy, transient hypocalcemia, and POH.

CONCLUSIONS

Sutureless techniques, particularly HS, were associated with shorter operative time and reduced postoperative fluid output and hospital stay compared with conventional suture ligation. However, the certainty of evidence for most outcomes was moderate to low, and the analysis may be underpowered to detect differences in rare safety events. These findings suggest that sutureless energy devices, particularly HS, may be considered in thyroidectomy practice, while acknowledging the moderate to low certainty of the available evidence.

KEYWORDS
Total thyroidectomy; Sutureless thyroidectomy; Harmonic Scalpel; LigaSure; Network meta-analysis.

OP-398

Submandibular Cancer – A Nationwide, Population-Based Study Of 209 Patients From The Swehncr

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BACKGROUND & AIM

Submandibular gland cancer (SMGC) is a rare malignancy, representing 1% of all head and neck cancers (HNC) in Sweden. The aim of this study was to describe patient characteristics, histopathological distribution, treatment patterns, and survival outcomes in a nationwide cohort.

MATERIAL & METHODS

All 209 patients diagnosed with SMGC between 2008 and 2019 were identified in the Swedish Head and Neck Cancer Register (SweHNCR). The SweHNCR has a 98% coverage when cross-referenced with the National Cancer Registry of the National Board of Health and Welfare. Clinical data, histopathology, stage, treatment, and overall survival (OS) were analyzed.

RESULTS

Median age at diagnosis was 69 years [95% CI 56–78], and 46% were women. Curative treatment was administered to 83.3% of patients, palliative to 15.3%. Adenoid cystic carcinoma was the most common histopathological subtype (34.0%), followed by adeno- (23.9%) and mucoepidermoid carcinoma (8.1%). Women had a higher proportion of adenoid cystic carcinoma (47.4% vs. 22.3% in men), whereas adenocarcinoma (18.6% vs. 28.6%) and other cancer forms (10.3% vs. 23.2%) were more frequent in men (p=0.0007). At diagnosis, 23.0% presented with stage I, 26.5% stage II, and 50.5% stage III–IV disease. Regional metastases were present in 31.6% at diagnosis, and distant in 12.0%.

Overall 3-, 5-, and 10-year survival (OS) for curatively treated patients was 78.4%, 62.4%, and 43.0%, respectively, with declining OS by advancing stage (5-year OS: 86.6% stage I vs. 25.0% stage IV). Patients with recurrent disease had dismal prognosis with median survival time 12.8 months after diagnosis of recurrence.

CONCLUSIONS

SMGC predominantly affects older adults, and more women than HNC in general. Significant sex-related differences in histopathology was observed. A high number of patients had regional or distant metastasis already at the time of diagnosis. Survival after recurrent disease was poor.

KEYWORDS

salivary gland cancer, submandibular gland carcinoma, neck dissection, distant metastasis, Head and neck cancer, SweHNCR, C08.0

OP-399

ELECTIVE NECK DISSECTION IN EARLY-STAGE ORAL CAVITY TUMORS? INSIGHTS FROM A MULTICENTER STUDY AND DEVELOPMENT OF A MULTIPARAMETRIC PREDICTIVE MODEL

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BACKGROUND & AIM

Nodal metastases significantly affect prognosis in oral cavity squamous cell carcinoma (OCSCC). In early-stage OCSCC (cT1-T2 cN0), management of the clinically negative neck (cN0) remains controversial. Depth of invasion (DOI) is a key determinant for END, but other histopathological parameters, such as grading, perineural invasion (PNI), lymphovascular invasion (LVI), and worst pattern of invasion (WPOI), are emerging prognostic factors.

MATERIAL & METHODS

This multicenter retrospective study analyzed 1,109 patients with cT1-T2 cN0 OCSCC treated at 30 Italian hospitals since 2017. Data on histopathological parameters, tumor characteristics, and patient outcomes were collected via the REDCap® platform. Simple and multivariable logistic regression models were developed to assess predictors of occult nodal metastases.

RESULTS

A total of 585 patients were clinically classified as cT1 tumors (53%), 503 as cT2 (45%), and cTis (1.9%). Of the 1,109 patients,193 (28%) had occult nodal metastases, with DOI, LVI, PNI, and grading emerging as significant predictors. A predictive model integrating these variables demonstrated superior accuracy compared to a DOI-only model (AUROC comparison, $p < 0.01$).

CONCLUSIONS

This study highlights the importance of incorporating multiple histopathological parameters into risk models for occult nodal metastases, overcomingthe fixed DOI as a cutoff. The proposed predictive model offers a more precise method for guiding END in early-stage OCSCC, allowing individualized risk estimation.

KEYWORDS

Neck dissection - oral cavity - DOI

OP-400

Accuracy And Impact Of Septo-Cutaneous Perforator Integration In Virtual Surgical Planning Of Fibula Flap For Head And Neck Reconstruction: Review

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BACKGROUND & AIM

Virtual Surgical Planning (VSP) optimizes Fibula Free Flap (FFF) jaw reconstruction but historically overlooks Septo-Cutaneous Perforators (SCPs), critical for skin paddle viability. We hypothesized that integrating SCP mapping into VSP improves localization accuracy and reduces flap complications.

MATERIAL & METHODS

A systematic review and meta-analysis (PROSPERO: CRD42024567890) was conducted. Five databases (PubMed, Embase, Scopus, CENTRAL, Web of Science) were searched from inception to 2024. Inclusion required studies reporting quantitative accuracy or flap outcomes for SCP-localized VSP in FFF head and neck reconstruction. Pooled estimates for SCP localization accuracy (mean deviation, mm), total flap loss rate (proportion), and reconstructive accuracy (Root Mean Square [RMS] error, mm) were calculated using random-effects meta-analysis in R v4.3.1. Heterogeneity was assessed via I^2 statistics.

RESULTS

Four studies (n=233 perforators) reported SCP localization accuracy (pooled mean deviation: 2.2 mm, 95% CI: 1.5-2.9; I^2=78%). Three studies (n=110 flaps) reported flap loss (pooled rate: 5.8%, 95% CI: 0.8-14.9; I^2=65%); studies using SCP-guided cutting guides (Battaglia/Garvey) reported 0% loss. Three studies (n=111 flaps) reported reconstructive accuracy (pooled RMS error: 1.07 mm, 95% CI: 0.86-1.28; I^2=88%); industry-based VSP showed lower error than in-house (0.9 mm vs. 1.2 mm RMS). Increased SCP deviation correlated with decreased reconstructive accuracy (R^2=0.37, p<0.01).

CONCLUSIONS

SCP integration in VSP achieves clinically acceptable localization accuracy (2.2 mm), excellent reconstructive precision (1.07 mm RMS), and is associated with reduced total flap loss (5.8%). Standardizing Computed Tomography Angiography (CTA)-based SCP mapping within FFF-VSP protocols is recommended to optimize outcomes, despite noted heterogeneity. Future randomized trials are warranted.

KEYWORDS

Virtual surgical planning; Fibula free flap; Septo-cutaneous perforator; Jaw reconstruction; Meta-analysis

OP-401

Integrating Perioperative Pembrolizumab Into Clinical Practice For Resectable LA HNSCC: European-Based Insights From The Phase 3 KEYNOTE-689 Study

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BACKGROUND & AIM

Based on results from the KEYNOTE-689 study (NCT03765918), perioperative pembrolizumab was approved in the US and EU for adults with resectable LA HNSCC whose tumors express PD-L1 CPS ≥1. Correct implementation of the new standard into clinical practice is crucial to achieve the intended benefits while safeguarding surgical outcomes and care quality. Multidisciplinary expert coordination is key to adapting the current workflow and patient journey to overcome these multidimensional challenges.

MATERIAL & METHODS

We highlight potential barriers and provide practical recommendations from a European head and neck multidisciplinary expert panel for integration of perioperative pembrolizumab into clinical practice, including patient profile (tumor characteristics, resectability, and planned surgical approach), diagnostic workflow by care setting (including incorporation of

PD-L1 testing), feasibility of concurrent medical oncology–surgical assessment during neoadjuvant period, perioperative imaging requirements, intraoperative assessment of resection margins, risk-stratification and postoperative pathological response assessment, and follow-up strategies for early detection of post-surgical complications and toxicity.

RESULTS

Early identification of eligible patients and timely discussion within multidisciplinary tumor boards (MTB) to adjust decisions based on patient characteristics, tumor location, disease burden/kinetics, and PD-L1 status is critical to avoid treatment delays. Although diagnostic workflows vary across region, consensus is to streamline first biopsy collection and PD-L1 testing, as requested by surgeons or included as reflex testing, to expedite treatment initiation. Upfront joint evaluations by medical/radiation oncologists and surgeons during neoadjuvant therapy are essential to assess early-on progression and/or toxicity that could alter the treatment plan. Post-neoadjuvant, pre-surgical imaging is critical in cases where resectability status or surgical planning could change. Standardized pathological evaluation of treatment response has prognostic impact and, with radiological response, could aid MTBs in tailoring adjuvant treatment. Structured follow-up is required to address immune-related events, surgical complications, and continuity of adjuvant therapy.

CONCLUSIONS

Identifying challenges and addressing variability in patient pathways, diagnostic processes including PD-L1 testing workflows, multidisciplinary coordination, imaging strategies, and perioperative risk assessment are critical for successful implementation of perioperative pembrolizumab in resectable LA HNSCC across Europe. Adoption of standardized, multidisciplinary care pathways may avoid delays, enhance treatment adherence, optimize surgical outcomes, and promote equitable access to care across healthcare systems.

KEYWORDS

pembrolizumab; Locally advanced head and neck squamous cell carcinoma; LA HNSCC; resectable; PD-L1; multidisciplinary; surgery; perioperative; neoadjuvant; adjuvant

OP-402

Evaluation Of The HALP Score As A Prognostic Biomarker In Papillary Thyroid Carcinoma

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BACKGROUND & AIM

This study aimed to investigate the usability of the HALP (Hemoglobin, Albumin, Lymphocyte, and Platelet) score as a biomarker in predicting the prognosis of papillary thyroid carcinoma (PTC).

MATERIAL & METHODS

The data of 70 patients who were operated on in our clinic between 2024 and 2026 and histopathologically diagnosed with PTC were retrospectively analyzed. The HALP score was calculated using preoperative routine blood test parameters, including hemoglobin, albumin, lymphocyte, and platelet values. The relationship between the HALP score and lymph node metastasis as well as extrathyroidal extension was statistically analyzed.

RESULTS

Of the patients included in the study, 49 (70%) were female and 21 (30%) were male. The patients' ages ranged from 15 to 80 years, with a mean age of 50.10 ± 16.30 years. No statistically significant difference was observed in HALP score values with respect to the presence of lymph node metastasis in patients with PTC ($p = 0.553$). Similarly, no statistically significant difference was found in HALP score values regarding extrathyroidal extension ($p = 0.541$).

CONCLUSIONS

Papillary thyroid carcinoma is the most common thyroid malignancy and generally has a favorable prognosis, although it may occasionally show aggressive behavior. In this study, the HALP score was not found to be an effective prognostic marker for predicting lymph node metastasis or extrathyroidal extension in patients with PTC.

KEYWORDS

Papillary Thyroid Carcinoma, HALP score, Lymph node metastasis, Extrathyroidal extension

OP-403

Impact Of Treatment Sequencing Including Photoimmunotherapy On Survival In Recurrent Head And Neck Cancer: A Real-World Analysis

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BACKGROUND & AIM

Photoimmunotherapy (PIT) has emerged as a novel local treatment option for recurrent or unresectable head and neck cancer. However, its optimal integration into the overall treatment sequence remains unclear. In the era of immune checkpoint inhibitors (ICI), the timing and combination of PIT with systemic therapies may significantly influence patient outcomes.

MATERIAL & METHODS

We retrospectively analyzed 12 patients with recurrent head and neck cancer treated with PIT at our institution since 2022. Clinical characteristics, treatment sequences, best local response, time to next treatment (TTNT), and overall survival (OS) from the first PIT session were evaluated.

RESULTS

The cohort included 9 males and 3 females with a median age of 66 years (range, 50–84). Primary tumor sites were diverse. All patients had prior definitive treatments, most commonly radiotherapy or chemoradiotherapy.

The best response to PIT was partial response (PR) in 8 patients and stable disease (SD) in 4 patients. The median TTNT was 160 days, and the median OS from PIT initiation was 335 days (range, 34–922 days). At the last follow-up, 10 patients were alive and 2 had died.

Three patients with superficial lesions achieved long-term disease control without any additional treatment after PIT. In contrast, elderly patients or those treated with PIT after multiple prior systemic therapies, including ICI, showed poor outcomes.

Importantly, patients who were able to receive subsequent treatments, including ICI or cytotoxic chemotherapy after PIT, demonstrated favorable survival even in cases with relatively bulky disease.

CONCLUSIONS

Our findings suggest that the clinical impact of PIT is strongly dependent on treatment sequencing. PIT should not be regarded as a last-line therapy but rather as a component of a multimodal strategy. Early integration of PIT may help preserve subsequent treatment options and improve both survival and quality of life in selected patients.

KEYWORDS

Photoimmunotherapy, Head and neck cancer, Treatment sequencing, Immune checkpoint inhibitor, Recurrent cancer, Real-world data, Survival outcome

OP-404

Management Of Recurrent Nasopharyngeal Carcinoma: Diagnosis, Treatment And Potential Complications.

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BACKGROUND & AIM

Locally recurrent nasopharyngeal carcinoma (NPC) presents substantial challenges in clinical management so that a multimodal approach is needed. Endoscopic endonasal approach has been reported in the early 2000s as a potential treatment for selected and, nowadays, endoscopic nasopharyngectomy is regarded as the preferred option for resectable locally recurrent NPC

MATERIAL & METHODS

An italian multicenter retrospective review of patients with recurrent NPC, treated with pure endoscopic approach in tertiary referral center.

RESULTS

We report an analysis of the algorithm used to reach the relapse diagnosis, how patients selection was performed, oncological results and complications related to the treatments and their management. A particular emphasis is placed upon carotid artery preoperative management and skull base osteomyelitis as a possible post-operative complication.

CONCLUSIONS

Recurrent NPS is a challenging disease. Only a proper patients selection and a 360° patients management is necessary to achieve optimal oncological outcomes.

KEYWORDS

nasopharynx, nasopharyngeal carcinoma, endoscopic endonasal approach

OP-405

Can Carbonic Anhydrase IX Inhibition Suppress Mtor Signaling In Hep-2 Laryngeal Squamous Cell Carcinoma Cells?

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BACKGROUND & AIM

Laryngeal squamous cell carcinoma (LSCC) is a significant malignancy among head and neck

cancers, associated with high morbidity, mortality, and treatment resistance. Hypoxia-driven acidification of the tumor microenvironment is one of the key mechanisms supporting tumor cell proliferation, invasion, and survival. Carbonic anhydrase IX (CA-IX) is an important transmembrane enzyme that is overexpressed under hypoxic conditions and plays a critical role in maintaining intracellular pH homeostasis. The mTOR signaling pathway is a central regulator of cell growth, metabolism, and proliferation. This study aimed to investigate the effects of CA-IX inhibition on the mTOR signaling pathway in the Hep-2 LSCC cell line.

MATERIAL & METHODS

This experimental study was performed using the human LSCC cell line Hep-2. Cells were cultured under standard conditions in DMEM supplemented with 10% fetal bovine serum and 1% penicillin/streptomycin. Acetazolamide (AZA) was administered to inhibit CA-IX. Cytotoxicity was evaluated using the MTT assay, and the IC50 value was calculated by dose-response analysis at different AZA concentrations. CA-IX protein levels were measured in cell lysates using the sandwich ELISA method. Total protein concentration was determined by the Bradford assay. To evaluate alterations in the mTOR signaling pathway, total mTOR, phosphorylated mTOR (p-mTOR), and phosphorylated AKT (p-AKT) protein levels were analyzed by Western blot, with GAPDH used as the normalization control. Statistical analyses were performed using GraphPad Prism software; Student's t-test was used for pairwise comparisons, and p<0.05 was considered statistically significant.

RESULTS

AZA treatment produced marked biological effects in Hep-2 cells. Cell viability decreased in a dose-dependent manner, and the 24-hour IC50 value was calculated as 22.99 µM. In the 48-hour MTT analysis, the reduction in cell viability with increasing AZA concentrations was statistically significant (p<0.05). ELISA analysis showed that CA-IX levels decreased from 298.46 pg/mL in the untreated group to 100.2 pg/mL in the AZA-treated group, and this reduction was highly significant (p<0.0001). Western blot analyses demonstrated that p-mTOR levels were significantly decreased in the AZA-treated group compared with the control group (p<0.05). Similarly, p-AKT levels were also significantly reduced (p<0.05). In contrast, total mTOR expression was significantly increased (p<0.05). Taken together, these findings indicate that CA-IX inhibition induces significant molecular alterations in the PI3K/AKT/mTOR axis.

CONCLUSIONS

This study demonstrates that CA-IX inhibition in laryngeal squamous cell carcinoma cells not only reduces cell viability but also significantly alters the activation profile of the mTOR signaling pathway. The decreases in p-AKT and p-mTOR levels support a functional relationship between tumor microenvironment-related acidification and intracellular oncogenic signaling networks. These findings suggest that CA-IX may serve not only as a hypoxia/pH-regulating marker in LSCC but also as a therapeutically targetable molecule. Combined targeting of CA-IX and related signaling pathways appears to be a promising strategy for the development of novel treatment approaches in laryngeal cancer.

KEYWORDS

Laryngeal Cancer, Hep-2, carbonic anhydrase IX, mTOR, cell proliferation, hypoxia.

OP-406

Smoking Cessation Behavior In Patients Undergoing Microlaryngoscopy For Dysphonia

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BACKGROUND & AIM

Smoking is a significant risk factor in the etiology of both laryngeal cancer and some benign laryngeal lesions. Although these patients are advised to quit smoking in clinical practice, smoking cessation rates and factors influencing this behavior are not clearly known. This study aimed to evaluate smoking behavior and nicotine dependence levels in patients who underwent microlaryngoscopy and had a confirmed pathological diagnosis.

MATERIAL & METHODS

This study, which included a retrospective file review and a cross-sectional questionnaire, included patients who underwent microlaryngoscopy for dysphonia at the Department of Otolaryngology, Pamukkale University Faculty of Medicine, had a history of smoking before the operation, and had a confirmed pathology result. Demographic and clinical data, as well as smoking characteristics, were obtained through face-to-face interviews. Nicotine dependence level was assessed using the Fagerström Nicotine Dependence Test (FTND). Statistical analyses were performed using IBM SPSS Statistics. The Chi-square test was used to analyze categorical variables, and logistic regression analysis was used to evaluate the effect of the diagnostic group on smoking cessation. A p-value of <0.05 was considered statistically significant.

RESULTS

A total of 76 patients were included: 24 benign, 17 premalignant, and 35 malignant. The mean age was 55.8±11.9 years, and 81.6% were male. The postoperative smoking cessation rate was 50%, while 36.8% of those who continued smoking reduced their consumption. Mean pack-years differed significantly among diagnostic groups (p=0.012), with a higher smoking burden in the malignant group compared to the benign group. A significant association was observed between malignant diagnosis and postoperative smoking cessation (p<0.001); 85.7% of patients with a malignant diagnosis quit smoking versus 29.2% of those with a benign diagnosis. In logistic regression analysis including FTND score and diagnosis, the model was significant (p<0.001). However, the effect of FTND score lost statistical significance after adjusting for diagnosis (p=0.054).

CONCLUSIONS

Malignant diagnosis was identified as a strong and independent predictor of smoking cessation. Smoking cessation behavior appears to be related to malignant diagnosis rather than nicotine dependence level. The low smoking cessation rates in the benign diagnosis group highlight the importance of structured smoking cessation support and counseling in these patients.

KEYWORDS

Laryngeal lesions , Smoking addiction

OP-407

Preoperative Diagnostic Performance Of Ultrasonography, Technetium-99M Sestamibi Scintigraphy, And Four-Dimensional Computed Tomography In Localizing Parathyroid Adenomas: A Retrospective Clinicopathological Study

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BACKGROUND & AIM

Primary hyperparathyroidism, one of the endocrine disorders, is most commonly caused by parathyroid adenoma, and surgery remains the only curative treatment. Ultrasonography (USG), Tc-99m sestamibi scintigraphy (MIBI), and four-dimensional computed tomography (4D-CT) are among the most commonly used imaging modalities for localizing parathyroid adenomas. Recent studies have suggested that 4D-CT may improve localization accuracy, particularly in cases with discordant or negative USG and MIBI findings.

In this retrospective study, preoperative imaging findings of patients operated on for primary hyperparathyroidism with histopathologically confirmed parathyroid adenoma were evaluated.

MATERIAL & METHODS

A total of 102 patients with histopathologically confirmed parathyroid adenoma who underwent surgery for primary hyperparathyroidism at the Department of Otorhinolaryngology, Dokuz Eylül University Faculty of Medicine, and met the inclusion criteria were included in this retrospective study. Data were obtained from the electronic medical record system, radiology archives, nuclear medicine records, and pathology reports.

RESULTS

Between April 2015 and August 2025, a total of 115 surgical procedures were performed in 112 patients with primary hyperparathyroidism. Among these, 102 patients with histopathologically confirmed parathyroid adenoma were included in the analysis. Demographic evaluation revealed that 83 patients (81.4%) were female, with a mean age of 55.2 years.

Ultrasonography (USG), sestamibi scintigraphy (MIBI), and computed tomography (CT) were used for lesion localization and size assessment. The sensitivity of USG, MIBI, and CT for lesion localization was 84.3% (n=86), 80.4% (n=82), and 74.0% (n=75), respectively. In 40% of patients, the adenoma was localized to the left inferior quadrant.

Surgical success, based on postoperative biochemical normalization and follow-up findings, was achieved in 97.1% of patients (n=99).

CONCLUSIONS

Minimally invasive parathyroidectomy is an effective and safe treatment modality for primary hyperparathyroidism when performed in tertiary otorhinolaryngology centers. Preoperative imaging modalities play a crucial role in accurate lesion localization, surgical planning, and prevention of surgery-related morbidity. The choice of imaging modality should be individualized for each patient, taking into account the effectiveness of the modality, expertise in image interpretation, and the availability of these techniques in clinical practice.

KEYWORDS

Parathyroid adenoma; Primary hyperparathyroidism; Preoperative localization; Four-dimensional computed tomography (4D-CT)

OP-408

Preoperative Parameters And Their Prognostic Impact In Differentiated Thyroid Carcinoma On 702 Patients

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BACKGROUND & AIM

To investigate the prognostic significance of preoperative hematological and biochemical parameters in patients operated for differentiated thyroid carcinoma (DTC) at Hacettepe University between 2017 and 2025.

MATERIAL & METHODS

: A retrospective analysis was performed on 702 patients diagnosed with differentiated thyroid carcinoma. Demographic data, histopathological findings, laboratory parameters, metastatic status, and recurrence outcomes were analyzed. Preoperative neutrophil count, lymphocyte count, platelet count, neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), thyroglobulin (Tg), thyroid stimulating hormone (TSH), and free T4 values were evaluated. Logistic regression analysis was performed to determine independent predictors of cervical metastasis.

RESULTS

Preoperative neutrophil count was significantly higher in metastatic patients (p=0.021), whereas NLR, PLR, platelet count, lymphocyte count, TSH, and T4 levels were not associated with metastasis. Preoperative Tg levels were significantly associated with metastatic disease (p=0.009). Multivariate logistic regression identified male sex, younger age, diffuse sclerosing variant, extrathyroidal extension, multifocality, and ECE positivity as independent predictors of metastasis.

CONCLUSIONS

Conventional pathological risk factors remain the strongest predictors of cervical metastasis in differentiated thyroid carcinoma. Among preoperative laboratory parameters, neutrophil count and thyroglobulin levels demonstrated prognostic value

KEYWORDS

tyroglogulin, preoprative neutrophil count, ekstrakapsuler extension, differantiated tyroid cancer

OP-409

The Prognostic Impact Of Clinical, Nutritional, And Inflammatory Markers On Overall And Disease-Free Survival In Laryngeal Cancer

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BACKGROUND & AIM

The aim of this study is to investigate the prognostic value of preoperative nutritional (PNI, GNRI) and inflammatory (Neutrophil, Lymphocyte, HALP) markers on Overall Survival and Disease-Free Survival in patients with laryngeal cancer, along with tumor stage and histopathological factors.

MATERIAL & METHODS

The study included 99 patients (91 men, 8 women; mean age 64.7) diagnosed with primary laryngeal cancer. Patients' demographic data, TNM stages, perineural/lymphovascular invasion status, and index scores (PNI, GNRI, HALP) obtained from preoperative complete blood counts were calculated. Cut-off points for index scores were selected in accordance with the literature and confirmed by Roc curve analyses. Treatment methods were also recorded and included in the analysis. Survival curves were constructed using the Kaplan-Meier method, and differences between groups were compared using the Log-Rank test. Factors affecting survival and recurrence were examined using univariate analyses; then, to standardize the clinical severity of the disease, multivariate Cox Regression models including “Tumor Stage” were created in both models (OS and DFS).

RESULTS

Mean follow-up was 19.8 and 19.15 months for overall (OS) and disease-free survival (DFS); mortality and recurrence rates were 26.3% and 10.1%. Nonsurvivors exhibited significantly higher age (69.2 vs 63.1) and neutrophils (6.37 vs 5.41), but lower

albumin (3.61 vs 3.96), lymphocytes (1.87 vs 2.22), PNI (45.4 vs 50.7), GNRI (97.2 vs 106.1), and HALP scores (37.3 vs 50.7). Kaplan-Meier and univariate analyses associated low preoperative GNRI, PNI, HALP, and albumin with shorter OS and DFS (p<0.05). Younger age (p=0.006) and early-stage disease (p=0.001) favored OS. In multivariate OS analysis (tumor stage borderline, p=0.086), high GNRI (HR: 0.955, 95% CI: 0.916-0.996, p=0.032) and neutrophils (HR: 1.201, 95% CI: 1.000-1.442, p=0.049) emerged as independent good and poor prognosticators, respectively. Univariate DFS analysis identified high T-stage, perineural, and lymphovascular invasion as poor predictors (p<0.05), with GNRI borderline (p=0.065). Multivariate DFS analysis yielded no independent predictors, including stage (p=0.353).

CONCLUSIONS

Our study demonstrated that increased systemic inflammation (elevated neutrophil count) and nutritional deficiency (particularly as determined by GNRI) are direct determinants of mortality in laryngeal cancer, independent of tumor stage and the presence of invasion. Preoperative nutritional optimization for overall survival has been proven to play a role as critical as stage in multidisciplinary laryngeal cancer management. Although tumor burden and invasive pathological features appear to be more decisive for disease-free survival, our study did not identify statistically significant independent factors.

KEYWORDS

larynx cancer, nutritional score, prognosis, geriatric nutritional risk index

OP-410

Association Of PET/CT Suvmax Parameters With Cervical Lymph Node Metastasis And Histopathological Prognostic Factors In Oral Cavity Squamous Cell Carcinoma

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BACKGROUND & AIM

Cervical lymph node metastasis is one of the most important prognostic factors in oral cavity squamous cell carcinoma (OCSCC). This study aimed to evaluate the role of preoperative fluorine-18 fluorodeoxyglucose positron emission tomography/computed tomography (18F-FDG PET/CT)-derived maximum standardized uptake value (SUVmax) parameters in predicting histopathologically confirmed cervical lymph node metastasis and their association with aggressive histopathological prognostic factors in OCSCC.

MATERIAL & METHODS

This retrospective study included 66 patients with histopathologically confirmed OCSCC who underwent surgery and preoperative 18F-FDG PET/CT imaging. Primary tumor SUVmax and lymph node (LN) SUVmax values were analyzed in relation to histopathological N positivity, depth of invasion (DOI), perineural invasion (PNI), lymphovascular invasion (LVI), extranodal extension (ENE), and tumor differentiation. Statistical analyses included Mann–Whitney U, Kruskal–Wallis, Spearman correlation, receiver operating characteristic (ROC), and multivariate logistic regression analyses.

RESULTS

Histopathologically confirmed cervical lymph node metastasis was detected in 18 patients (27.3%). Primary tumor SUVmax values were significantly higher in N-positive patients than in N0 patients (10.75 vs 7.10; p=0.014). Primary tumor SUVmax was significantly associated with PNI (p=0.001), LVI (p=0.023), DOI (rho=0.713, p<0.001), T stage (rho=0.688, p<0.001), and tumor differentiation (p=0.009). LN SUVmax values were significantly higher in histopathologically N-positive patients (4.50 vs 0.00; p<0.001) and showed better diagnostic performance than primary tumor SUVmax (area under the curve [AUC]=0.800 vs 0.726). Using the conventional PET/CT cutoff value of LN SUVmax >2.5, sensitivity and specificity were 77.8% and 72.3%, respectively.

CONCLUSIONS

LN SUVmax appears to be a useful parameter for predicting cervical lymph node metastasis in OCSCC. Furthermore, the association between primary tumor SUVmax and aggressive histopathological features suggests that PET/CT-derived metabolic activity may reflect tumor biology. These parameters may serve as adjunctive biomarkers for preoperative risk stratification in oral cavity cancer patients.

KEYWORDS

Oral cavity cancer; PET/CT; SUVmax; cervical lymph node metastasis; FDG; oral squamous cell carcinoma.

OP-411

Predictors Of Hypothyroidism In Surgically Treated Head And Neck Cancer Patients Undergoing Adjuvant Radiotherapy

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BACKGROUND & AIM

Hypothyroidism is a frequent complication after multimodal treatment for head and neck cancer (HNC). This study aimed to determine incidence, timing, and independent predictors of hypothyroidism in patients receiving adjuvant radiotherapy after head and neck surgery.

MATERIAL & METHODS

This retrospective cohort included 150 surgically treated HNC patients receiving adjuvant treatment. Minimum follow-up duration was 6 months. Patients with previous thyroid surgery, known thyroid disease, or total thyroidectomy during cancer surgery were excluded. Hypothyroidism was classified as subclinical or clinical according to thyroid function tests. Demographic, tumor-related, surgical, and adjuvant treatment variables were compared. Hypothyroidism-free survival (HFS) was evaluated using Kaplan–Meier analysis. Variables significant at $p < 0.05$ in univariable Cox regression were entered into a multivariable Cox proportional hazards model with backward stepwise elimination (retention threshold $p < 0.05$).

RESULTS

Of 150 patients, 117 (78.0%) were men; mean age was 58.3 ± 12.0 years. Oral cavity (47.3%) and larynx (37.3%) were the most common primary sites. Radiotherapy alone was given to 73 patients (48.7%), chemoradiotherapy to 76 (50.7%), and chemotherapy alone to one (0.7%). Hypothyroidism developed in 59 patients (39.3%), 33 subclinical (56%) and 26 clinical (44%), at a median of 15.0 months (IQR, 10.0–32.0). Median follow-up in euthyroid patients was 29.0 months (18.0–53.0). HFS was shorter for laryngeal primary site, paratracheal lymph node dissection, loboisthmectomy, lateral neck dissection, and smoking (median 20.0, 10.0, 11.0, 46.0, and 45.0 months; all $p \leq 0.005$). Adding chemotherapy did not increase risk ($p = 0.100$). On multivariable Cox analysis with backward stepwise elimination, laryngeal primary site (HR 2.485, 95% CI 1.203–5.133; $p = 0.014$) and paratracheal lymph node dissection (HR 2.621, 95% CI 1.363–5.041; $p = 0.004$) remained independent predictors.

CONCLUSIONS

Post-treatment hypothyroidism occurred in 39.3% of surgically treated HNC patients receiving adjuvant radiotherapy. After multivariable adjustment, laryngeal primary site and paratracheal lymph node dissection emerged as the only variables independently associated with hypothyroidism, and were also linked to earlier onset. These two clinical features should prompt closer thyroid function surveillance after adjuvant radiotherapy.

KEYWORDS

hypothyroidism, head and neck neoplasms, radiotherapy, chemotherapy, postoperative complications

OP-412

Early Detection Of The Association Between Oropharyngeal Squamous Cell Carcinomas And HPV Using Oropharyngeal Swab Testing And Its Impact On Prognosis

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BACKGROUND & AIM

When treated at an early stage, patients with HPV-positive oropharyngeal squamous cell carcinoma (OPSCC) have better survival and prognosis than HPV-negative patients. Most cases are associated with vaccine-preventable HPV strains, emphasizing the importance of prevention, screening, and early diagnosis, particularly in primary care. This study aims to evaluate the association between HPV and OPSCC and its prognostic significance. Cervical cancer screening programs have reduced HPV-related cancer incidence and enabled identification of high-risk HPV types as early markers of malignancy. Similar screening strategies may help detect HPV-positive OPSCC early, potentially improving patient outcomes and overall prognosis.

MATERIAL & METHODS

The study participants were divided into two groups. The first group included patients previously diagnosed with OPSCC who had received treatment, as well as newly diagnosed patients who had not yet started treatment. The second group served as the control group and consisted of patients who underwent tonsillectomy for chronic tonsillitis without suspicion of HPV or patients who underwent papilloma excision.

For all patients, age, sex, tobacco use, and treatment history were recorded. After obtaining written informed consent, oral swab samples were collected from both groups prior to any treatment. Tissue and saliva samples were examined by the pathology department, and all high-risk HPV types were analyzed. In the control group, HPV testing was also performed on pathology specimens. Swab samples were obtained using a thin brush-tipped stick, placed into liquid medium, and sent to the pathology laboratory for analysis.

RESULTS

The study included 55 patients, 32 of whom were female and 22 of whom were male.The overall rate of active smoking among all groups was 27.3%. There were 2 ex-smokers.Fifteen patients' tissue samples contained HPV. Four of these individuals (26.7%) also had positive oral swab test results. Tissue samples were found to have HPV strains 16, 18, and 31. One patient had HPV type 18 and two patients had HPV type 16 identified in the swab samples.Three of the patients whose tissue samples

tested positive for HPV had benign lesions. One patient had surgery for tonsillar hypertrophy, while two patients had surgery for tonsillar papillomas.

CONCLUSIONS

Only about 25% of patients with HPV-positive tissue samples could be identified using the oral swab approach. According to the findings of this study, oral swab sampling appears to be insufficient as a stand-alone diagnostic technique and has poor sensitivity in identifying HPV positivity in benign oral cavity lesions among OPSCC patients. Nonetheless, because it is non-invasive, it might be regarded as a screening or supplemental method. Further studies with larger sample sizes are needed to clarify its diagnostic value.

KEYWORDS

oropharyngeal, scc, HPV, swab

OP-413

Prediction Of Survival Outcomes Based On P16 Overexpression In Sinonasal Squamous Cell Carcinoma

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BACKGROUND & AIM

p16 overexpression is widely accepted as a surrogate marker for human papillomavirus (HPV)–associated oropharyngeal squamous cell carcinoma; however, its diagnostic and prognostic significance in sinonasal squamous cell carcinoma (SNSCC) remains controversial. This study aimed to clarify the clinicopathological characteristics, HPV status, and prognostic impact of p16 overexpression in SNSCC.

MATERIAL & METHODS

We retrospectively analyzed 79 consecutive patients with SNSCC treated at a tertiary referral university hospital between 2006 and 2021. Clinical characteristics were reviewed, and tumor specimens were assessed by p16 immunohistochemistry and HPV detection, including viral load quantification and genome integration analysis. Overall survival (OS) and relapse-free survival (RFS) were evaluated using univariate and multivariate analyses.

RESULTS

p16 overexpression was identified in 12.7% of patients and was significantly more frequent in tumors arising from the nasal cavity. The prevalence of p16-positive tumors increased after 2015. HPV detected in these tumors was exclusively high-risk type, with viral loads ranging from 4.2 to 1.6 × 10^6 copies/ng DNA, accompanied by evidence of viral genome integration. The 5-year OS and RFS rates for the entire cohort were 74.6% and 69.9%, respectively. Multivariate analysis revealed that T category (T1–4a), hemoglobin level (≥13.7 g/dL), and p16 overexpression were independent favorable prognostic factors for OS, while T category, performance status, and p16 overexpression were significantly associated with RFS. Notably, patients with p16 overexpression demonstrated excellent outcomes, with 5-year OS of 100% and RFS of 90%.

CONCLUSIONS

p16 overexpression in SNSCC is strongly associated with transcriptionally active high-risk HPV infection and serves as a robust predictor of favorable survival outcomes. These findings support the clinical utility of p16 as a prognostic biomarker in SNSCC.

KEYWORDS

sinonasal squamous cell carcinoma, human papillomavirus infection, p16 overexpression, disease prognosis

OP-414

Prognostic Superiority Of Nutritional And Inflammatory Indices Over Procalcitonin In Deep Neck Abscesses: A Retrospective Cohort Study

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BACKGROUND & AIM

Prognostic Superiority of Nutritional and Inflammatory Indices Over Procalcitonin in Deep Neck Abscesses: A Retrospective Cohort Study

MATERIAL & METHODS

Deep neck abscesses (DNAs) are serious infections associated with prolonged hospitalization and morbidity. This study aims to evaluate the relationship between inflammatory and nutritional indices and clinical outcomes, while investigating their potential prognostic advantages over conventional markers like procalcitonin in predicting the length of hospital stay.

RESULTS

The most commonly involved space was the peritonsillar region (41.8%).The leading etiology was tonsillitis (54.7%), and the most commonly isolated pathogen was the Streptococcus anginosus group (31.8%). In Spearman correlation analysis, PNI showed a negative correlation with length of hospital stay ($\rho = -0.446$, $p < 0.001$), while CAR showed a positive correlation ($\rho =$

0.235, p = 0.002). Procalcitonin showed no significant association with length of stay (ρ = 0.135, p = 0.096). Purulent drainage duration was positively correlated with CAR (ρ = 0.293, p < 0.001) and negatively correlated with PNI (ρ = −0.365, p < 0.001). A weak positive correlation was observed between procalcitonin and drainage duration (ρ = 0.213, p = 0.011). In multivariable regression analysis, PNI and CAR were identified as independent predictors of hospital length of stay (both p = 0.029). In ROC analysis, PNI demonstrated the highest discriminative performance (AUC = 0.717).

CONCLUSIONS

PNI and CAR are significantly associated with clinical outcomes in DNA patients. Our findings suggest that these easily accessible indices may offer more favorable prognostic value than conventional markers like procalcitonin in predicting the length of hospital stay.

KEYWORDS

Deep neck abscess, Prognostic nutritional index, Inflammatory markers, Procalcitonin

OP-415

Concordance Between Large Language Models And Multidisciplinary Tumor Board Decisions In Head And Neck Squamous Cell Carcinoma: Preliminary Findings

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BACKGROUND & AIM

Large language models (LLMs) are increasingly proposed as decision-support tools in oncology, yet their alignment with real-world multidisciplinary tumor board (MTB) decisions in head and neck squamous cell carcinoma (HNSCC) remains poorly characterized, particularly in guideline-equivocal cases. We hypothesized that contemporary LLMs would show high concordance with MTB decisions for primary treatment modality but diverge in more granular surgical decisions, where institutional experience and patient-specific factors weigh alongside guideline recommendations. The aim of this study was to compare treatment recommendations of GPT-4o, Claude, and Gemini against MTB decisions across three decision levels in HNSCC.

MATERIAL & METHODS

A single-center retrospective cohort design was adopted, with a planned sample of 100 consecutive HNSCC patients previously presented at our institutional MTB. We report here the preliminary analysis of the first 10 cases (laryngeal and oral cavity primaries). Anonymized standardized clinical summaries — demographics, ECOG status, clinical TNM stage, imaging reports, and pathology — were entered into a uniform prompt template and submitted to each model. Outputs were compared with the documented MTB decision at three levels: primary treatment modality (Level 1), surgical approach (Level 2A), and extent of neck dissection (Level 2B). Concordance was assessed with percent agreement; the full cohort will be analyzed with Cohen's kappa, PABAK, Cochran's Q, and McNemar tests.

RESULTS

In this preliminary analysis, all three models showed approximately 85% concordance with MTB decisions at Level 1. Discordance clustered in guideline-equivocal scenarios — most notably cT2N0 glottic carcinoma, where models consistently selected radiotherapy as the NCCN-listed first option, while MTB favored surgery based on institutional and patient-specific factors. At Level 2B, Claude and Gemini tended to recommend more extensive neck dissection than the MTB, whereas GPT-4o aligned more closely with board decisions. These observations suggest LLM-MTB concordance is modality-dependent and decreases with decision granularity. Final results from the full 100-patient cohort, including agreement statistics and inter-model comparisons, will be presented at the congress.

CONCLUSIONS

This preliminary analysis indicates that current LLMs achieve high concordance with MTB decisions for primary treatment modality in HNSCC but diverge in surgical granularity and guideline-equivocal scenarios — highlighting that MTB value extends beyond guideline retrieval.

KEYWORDS

Large language models; Multidisciplinary tumor board; Head and neck squamous cell carcinoma; Artificial intelligence; Clinical decision support; GPT-4o; Claude; Gemini

OP-416

Treatment And Outcome For 2,111 Patients With Vermilion Lip Squamous Cell Carcinoma: A Nationwide, Population-Based Study From The Swehncr

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BACKGROUND & AIM

The major risk factor for vermilion lip squamous cell carcinoma (vlSCC) is excessive sunlight exposure. Population-based studies on treatment and outcome are lacking.

MATERIAL & METHODS

This is a nation-wide, population-based study of treatment and outcome from prospectively recorded data for 2111 vlSCC registered in the Swedish Head and Neck Cancer Register (SweHNCR) diagnosed 2008–2022.

RESULTS

The incidence increased with 34 % between 2008 and 2022, from 1.14 to 1.53 per 100,000. Median age at diagnosis was 76 years and males predominated (57.1 %). Lower lip vlSCC comprised 82.6 % and upper 8.6 %. Most had T1 (81.7 %) or T2 (13.5 %) tumors and few had regional (2.7 %) or distant (0.1 %) metastases. The 5-year overall survival was 70.5 % (95 % CI 68.4–72.6) and relative survival 90.8 % (95 % CI 88.2–93.7). Treatment data were registered in 1,948 cases and 97.5 % (1,900) had a curative intent, whereof 88.5 % had surgery. Recurrences were registered in 5.6 % (48.6 % local, 42.1 % regional) whereof 15.9 % after three years. Advanced age ($p < 0.001$), poor performance status ($p < 0.001$), male sex ($p = 0.002$), high stage ($p = 0.041$), and only radiotherapy ($p = 0.007$) were independent prognostic factors for mortality.

CONCLUSIONS

Females had higher incidence increase than males. Advanced age, poor performance status, male sex, advanced disease, and radiotherapy only were independent prognostic factors for mortality.

KEYWORDS

Lip malignancy Vermilion lip Squamous cell carcinoma Head and neck cancer Incidence Survival Follow-up Nation-wide Population based

OP-417

Retrospective Evaluation Of Postoperative Marginal Mandibular Nerve Injury And Associated Risk Factors In Patients Undergoing Submandibular Gland Surgery

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BACKGROUND & AIM

The aim of this retrospective study was to evaluate the incidence of postoperative marginal mandibular nerve injury following submandibular gland surgery and to identify associated clinical and surgical risk factors.

MATERIAL & METHODS

This retrospective observational cohort study included 100 patients who underwent submandibular gland excision at the Department of Otolaryngology, Head and Neck Surgery, Başakşehir Çam and Sakura City Hospital between June 2020 and January 2026. Ethical approval was obtained prior to data collection. Patients aged 18 years or older with no history of prior submandibular surgery, radiotherapy, or chemotherapy, and who attended postoperative follow-up visits were included. Data were retrieved from electronic medical records and discharge summaries. The following parameters were recorded: age, sex, BMI, surgical indication, operative duration, surgical technique, tumor size, preoperative embolization status, and postoperative marginal mandibular nerve injury. Statistical analyses were performed using SPSS. Categorical variables were compared using the Pearson chi-square test, and continuous variables were analyzed with the Mann-Whitney U test following Kolmogorov-Smirnov normality assessment. Statistical significance was set at $p<0.05$.

RESULTS

A total of 103 patients who underwent submandibular gland excision were included in the study. The most common surgical indication was chronic sialadenitis (n=37, 35.9%), followed by sialolithiasis (n=32, 31.1%), benign tumors (n=27, 26.2%), malignant tumors (n=5, 4.9%), and other pathologies (n=2, 1.9%). Among patients with neoplastic disease, pleomorphic adenoma was the most frequent diagnosis (62.5%), with a mean tumor size of 2.8 ± 1.1 cm. All patients underwent transcervical excision under general anesthesia with a mean operative time of 58.4 ± 16.2 minutes. Postoperative marginal mandibular nerve injury occurred in 14 patients (13.6%): 13 transient (12.6%) and 1 permanent (1%). On univariate analysis, neoplastic pathology (p=0.031), prolonged operative time (p=0.018), and male sex (p=0.042) were significantly associated with nerve injury. Age and BMI were not significant predictors.

CONCLUSIONS

Submandibular gland excision is a safe procedure with acceptable complication rates when performed with meticulous surgical technique. Chronic sialadenitis and sialolithiasis were the most common indications, consistent with the Turkish literature. Pleomorphic adenoma was the predominant neoplastic diagnosis. The overall marginal mandibular nerve injury rate was 13.6%, with permanent injury remaining below 1%. Neoplastic pathology, prolonged operative duration, and male sex were identified as significant risk factors. These findings suggest that careful preoperative patient selection and standardized

dissection techniques may reduce complication rates. Prospective multicenter studies are warranted to validate these findings.

KEYWORDS

Submandibular gland excision; marginal mandibular nerve; sialolithiasis; chronic sialadenitis; pleomorphic adenoma; postoperative complications; risk factors; retrospective study

OP-418

Triglyceride-Glucose Index In Parotid Gland Tumors A Novel Biomarker For Differentiating Warthin Tumor And Pleomorphic Adenoma

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BACKGROUND & AIM

Pleomorphic adenoma and Warthin tumor are the two most common benign parotid gland tumors with distinct histological and clinical profiles. Recent studies suggest a potential link between metabolic disturbances—particularly insulin resistance—and the development of Warthin tumors. The triglyceride-glucose (TyG) index has emerged as a simple, cost-effective biomarker of insulin resistance. This study aimed to investigate the potential role of the TyG index in differentiating between pleomorphic adenoma and Warthin tumor.

MATERIAL & METHODS

A retrospective cross-sectional study was conducted on patients histopathologically diagnosed with pleomorphic adenoma (n = 31) or Warthin tumor (n = 22), and compared with healthy controls (n = 58). Fasting glucose and triglyceride levels were used to calculate the TyG index. Statistical analyses included t-tests, ANOVA, and Bonferroni-corrected post hoc comparisons, with a significance threshold of $p < 0.05$.

RESULTS

No significant differences were observed in age, sex, BMI, or TyG index between the tumor group and controls. However, the TyG index was significantly higher in the Warthin tumor group (4.91 ± 0.28) compared to the pleomorphic adenoma (4.68 ± 0.31, $p = 0.006$) and control groups (4.72 ± 0.23, $p = 0.033$). No difference was found between the pleomorphic adenoma and control groups.

CONCLUSIONS

The TyG index is significantly elevated in patients with Warthin tumors, supporting its potential role as a simple, non-invasive biomarker to aid in the differential diagnosis of benign parotid tumors.

KEYWORDS

Parotid gland tumors, Triglyceride-glucose index , Warthin tumor, Pleomorphic adenoma , Biomarkers, Metabolic indicators

OP-419

Total Laryngectomy: Surgical Outcomes How To Affected By Sarcopenia

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BACKGROUND & AIM

Laryngeal cancer patients are prone to sarcopenia due to cancer-related catabolism, increased energy expenditure, reduced oral intake, and tumor-related dysphagia or odynophagia. Sarcopenia has been associated with postoperative complications, prolonged hospitalization, reduced treatment tolerance, and poor prognosis in head and neck cancers. Cervical muscle measurements, particularly sternocleidomastoid and paraspinal muscle areas, may reflect systemic muscle mass. This study aimed to investigate the relationship between sternocleidomastoid and paraspinal muscle indices measured on preoperative cervical CT scans and pharyngocutaneous fistula, recurrence, and mortality in patients undergoing total laryngectomy for laryngeal cancer.

MATERIAL & METHODS

This retrospective study included 58 patients with laryngeal squamous cell carcinoma diagnosed at the University of Health Sciences, Dr. Abdurrahman Yurtaslan Ankara Oncology Training and Research Hospital between 2010 and 2025. Preoperative neck computed tomography images were evaluated using 3D Slicer software. Bilateral sternocleidomastoid and paraspinal muscle areas were measured on axial sections at the C3 vertebral level. Sternocleidomastoid muscle index, paraspinal muscle index, and total cervical muscle index were calculated by dividing muscle area values (cm^2) by the square of the patient's height (m^2). Sarcopenia was defined according to cut-off values determined by ROC analysis. The primary endpoint was pharyngocutaneous fistula, while secondary endpoints were recurrence and mortality. Statistical analyses were performed to investigate the association between sarcopenia, cervical muscle indices, and patient prognosis

RESULTS

25 of the patients (43.1%) were sarcopenic. The rate of pharyngocutaneous fistula was significantly higher in sarcopenic patients compared to non-sarcopenic patients (40.0% vs 12.1%, p=0.014). Recurrence (44.0% vs 15.2%, p=0.018) and mortality (48.0% vs 18.2%, p=0.016) rates were also significantly higher in the sarcopenic group. In multivariate analysis, sarcopenia was found to be an independent risk factor for fistula.

CONCLUSIONS

Sarcopenia has been associated with increased postoperative complications, prolonged hospital stay, reduced treatment tolerance, and higher mortality in head and neck cancer patients. SCM and paraspinal muscle indices measured on preoperative cervical CT may be associated with pharyngocutaneous fistula , recurrence, and mortality after laryngeal cancer surgery. Therefore, cervical muscle assessment may serve as a practical and easily applicable prognostic biomarker, supporting perioperative risk stratification and individualized treatment planning in laryngeal cancer

KEYWORDS

Laryngeal cancer, total laryngectomy, surgical outcomes, sarcopenia, complications,

OP-420

Are Standardized Uptake Values On PET-CT A Prognostic Indicator In Hypopharyngeal/Laryngeal Cancer Patients Undergoing Laryngectomy? – A Single Centre Experience

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BACKGROUND & AIM

Positron emission tomography–computed tomography (PET-CT) is a critical tool for investigating metastatic spread in laryngeal/hypopharyngeal cancer patients. Specific PET-CT parameters such as standardized uptake values (SUVmax) have previously been associated with overall survival (OS) and progression free survival (PFS) owing to their relationship to the complex metabolic features of the tumour microenvironment. We provide our first experience on this topic at our major European head/neck centre in Dublin, Ireland.

MATERIAL & METHODS

We used the electronic patient records to perform a retrospective chart review on 161 patients undergoing laryngectomy in St. James's Hospital Dublin between 2021 and 2024. Demographic, radiological/pathological and OS data was collected and underwent statistical analysis.

RESULTS

The most common pathological tumour characteristics were T4a, N0 squamous cell carcinoma (SCC). The most common tumour sites were: hypopharynx and supraglottis. OS and SUVmax data for the primary tumour was available for 32 patients which were divided into SUVmax above 13 (high SUV max, n = 15) and below 13 values (low SUVmax, n = 17). There was no statistically significant difference in OS between the high SUVmax and low SUVmax groups (p = 0.129). We then divided patients with nodal metastases who had available SUVmax and OS values (n = 12) into SUVmax high (metastasis uptake > 7) and SUVmax low (metastasis uptake < 7) groups. There was no significant OS difference between these groups (p = 0.066).

CONCLUSIONS

SUVmax was not a prognostic indicator in our cohort of laryngectomy patients which is consistent with previous studies at other international centers. In the future, these values could be combined with clinical, pathological and other radiological parameters to produce new prognostic models.

KEYWORDS

Laryngeal Cancer, Hypopharyngeal Cancer, Laryngectomy, PET-CT, SUVmax

OP-421

AI-Based Assessment of Facial Mobility: From Systemic Sclerosis to Preliminary Post-Parotidectomy Evaluation

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BACKGROUND & AIM

Objective quantification of facial mobility remains challenging, particularly when facial impairment is subtle or bilateral and clinical assessment may be influenced by inter-rater variability. Artificial intelligence (AI)-based video analysis may provide reproducible quantitative measures of facial function. This study aimed to evaluate human inter-rater reliability and agreement between expert assessment and AI-derived facial indices in patients with systemic sclerosis (SSc), with an exploratory extension to a preliminary cohort of patients undergoing parotidectomy.

MATERIAL & METHODS

46 patients with systemic sclerosis and 46 age- and sex-matched healthy controls underwent standardized video-based facial assessment using five facial tasks. Facial impairment was quantified using the Facial Asymmetry Index (FAI) and Facial Mobility Index (FMI). Assessments were performed by a junior clinician and two senior consensus clinicians and compared with two AI-based pipelines, py-feat and V-JEPA2. Repeated evaluations were performed at baseline, 1 week, and 1 month. As a preliminary exploratory extension, six patients undergoing parotidectomy were evaluated before and after surgery using the same framework.

RESULTS

Human inter-rater reliability was consistently higher for FMI than for FAI across all timepoints (FMI ICC: 0.979, 0.889, and 0.987; FAI ICC: 0.539, 0.377, and 0.556; $p < 0.001$). Among the AI approaches, py-feat showed the most consistent agreement with expert FAI grading, with ICC values of approximately 0.69–0.71, whereas agreement for FMI was lower (ICC approximately 0.15–0.30). V-JEPA2 showed poor agreement with expert grading for both indices. In the exploratory parotidectomy cohort, observed clinical scores increased postoperatively (FAI Δ +0.97; FMI Δ +0.58), whereas AI-predicted changes were substantially smaller (FAI Δ +0.02; FMI Δ +0.06). Given the limited sample size, these postoperative findings are descriptive only and no inferential conclusions can be drawn.

CONCLUSIONS

Facial mobility can be quantitatively assessed using complementary clinical indices, although reliability and AI–expert agreement vary according to the index and analytical approach. FMI demonstrated high human inter-rater reliability, while py-feat showed the most consistent agreement with expert FAI assessment. Preliminary post-parotidectomy observations suggest a potential generalization gap when AI models are applied to a clinical population different from the original cohort. Larger, disease-specific and multicenter studies are required before automated facial mobility assessment can be reliably translated across clinical settings.

KEYWORDS

artificial intelligence; facial mobility; systemic sclerosis; Facial Asymmetry Index; Facial Mobility Index; parotidectomy; computer vision.

OP-422

Low-Molecular-Weight-Heparin With Or Without Aspirin In Head And Neck Free Flap Reconstruction: A Comparative Analysis Of Flap Outcomes And Complications

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BACKGROUND & AIM

Optimal antithrombotic management in head and neck free flap reconstruction remains controversial. Low-molecular-weight heparin (LMWH), either alone or in combination with acetylsalicylic acid (ASA), has been used in clinical practice for thromboprophylaxis. However, comparative data regarding their impact on flap outcomes are limited. This study aimed to compare flap survival and postoperative complications between two postoperative antithrombotic regimens in head and neck free flap reconstruction.

MATERIAL & METHODS

A retrospective review was conducted of 164 patients who underwent 167 consecutive free flaps for head and neck reconstruction. Flaps were categorized according to postoperative antithrombotic regimen: LMWH alone (n=99) and LMWH+ASA (n=68). Demographic, oncologic, and surgical variables were recorded. The primary outcome was total flap loss. Secondary outcomes included re-exploration, venous failure, arterial failure, hematoma, and other postoperative hemorrhagic events. Categorical variables were compared using Pearson's chi-square or Fisher's exact test as appropriate, and relative risks (RR) with 95% confidence intervals (CI) were calculated. A multivariable logistic regression model was performed for re-exploration adjusting for age, preoperative radiotherapy, and flap type.

RESULTS

Baseline characteristics were comparable between groups (all $p>0.05$). Flap loss occurred in 5.9% of patients in the LMWH+ASA group and 4.0% in the LMWH group (RR 1.46, 95% CI 0.38–5.62; p=0.717). Re-exploration was required in 35.3% and 24.2% of patients, respectively (RR 1.46, 95% CI 0.91–2.34; p=0.121). There were no statistically significant differences in hematoma (29.4% vs. 21.2%; p=0.226), venous failure (2.9% vs. 3.0%; p=1.000), arterial failure (2.9% vs. 1.0%; p=0.567), or other hemorrhagic events (5.9% vs. 1.0%; p=0.160). In multivariable analysis, antithrombotic regimen was not independently associated with re-exploration (adjusted OR 1.82, p=0.091).

CONCLUSIONS

In this cohort, postoperative outcomes were comparable between patients receiving combined LMWH+ASA and those receiving LMWH alone. No significant differences were observed in flap loss, re-exploration, thrombotic events, or hemorrhagic complications. These findings suggest that LMWH alone provides similar surgical outcomes compared with dual antithrombotic therapy in head and neck free flap reconstruction. Given the absence of a measurable benefit, routine use of

combined therapy may not be necessary. Prospective studies with larger sample sizes are required to further clarify the optimal antithrombotic strategy in this setting.

KEYWORDS

Head and Neck Neoplasms, Free Tissue Flaps, Heparin, Low-Molecular-Weight, Aspirin, Postoperative Complications

OP-423

A Comparative Analysis Of Modality-Specific Alterations In Salivary Gland Integrity And Function After Radiotherapy-Based Treatments Of Head And Neck: An Experimental Study

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BACKGROUND & AIM

Salivary gland dysfunction is a major complication of radiotherapy (RT) and chemoradiotherapy (CRT) in the treatment of head and neck cancers. Cetuximab combined with RT has emerged as a targeted therapeutic alternative; however, its effects on salivary gland function and structural integrity remain unclear. This study aimed to comparatively evaluate the functional and histomorphometric effects of RT alone, RT plus Cetuximab (RT+Ctx), and cisplatin-based chemoradiotherapy (RT+Cis) using an experimental rat model.

MATERIAL & METHODS

Thirty-four Wistar albino rats were randomly assigned to four groups: Group 1: RT alone, Group 2: RT+Ctx, Group 3: RT+Cis, and a negative control group (Group 4). All treatment groups received a single-dose treatment protocol and were followed for 30 days. At the end of the follow-up period, unstimulated and pilocarpine-stimulated salivary flow rates were measured under general anesthesia. Saliva samples were analyzed for BRIX and refractive index (RI). Subsequently, the animals were sacrificed, and parotid, submandibular, and sublingual glands were harvested for histopathological and morphometric evaluation. Pairwise comparisons were performed using the Mann–Whitney U test, and correlations were assessed using Spearman's rho.

RESULTS

A significant reduction in pilocarpine-stimulated salivary flow rate was observed in the RT+Cis group compared with controls ($p=0.021$). Additionally, significant differences were also detected between the RT alone and RT+Cis groups in terms of BRIX ($p=0.007$) and RI ($p=0.010$), indicating cisplatin-associated alterations in salivary composition.

CONCLUSIONS

Cisplatin-based chemoradiotherapy induces more pronounced impairment in stimulated salivary gland function and salivary composition than RT alone or RT+Ctx. The observed reductions in stimulated flow rate and changes in BRIX and refractive index suggest that treatment modality significantly influences both secretory capacity and biochemical integrity of the salivary glands. These findings highlight the importance of toxicity-sparing treatment strategies for the treatment of head and neck cancer.

KEYWORDS

Salivary glands; radiotherapy; chemoradiotherapy; cisplatin; cetuximab; squamous cell carcinoma of head and neck

OP-424

Challenges In The Diagnosis And Treatment Of Secondary Cancers In Patients With Head And Neck Squamous Cell Carcinoma

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BACKGROUND & AIM

Precise identification and evaluation of Second Primary Malignancies (SPM) are essential, as differentiating SPMs from benign tumors and metastatic disease affects treatment decisions and oncological outcomes. This study aims to screen head and neck cancer patients at our clinic and share experiences in managing difficult cases where an SPM was detected.

MATERIAL & METHODS

Data were collected on individuals diagnosed with head and neck cancer at our clinic between 2015 and 2023 from tumor follow-up records and the hospital database. The study included individuals aged 18 years or older who were diagnosed with Head and Neck Squamous Cell Carcinoma (HNSCC) as their primary cancer and who attended follow-up visits for at least one year. Individuals were excluded from the study if they did not attend follow-up visits, if their data could not be obtained, if they

had head and neck carcinomas diagnosed histopathologically as anything other than HNSCC, or if they had a previous diagnosis of another primary cancer.

RESULTS

The study included 370 patients diagnosed with head and neck cancer at our clinic between 2015 and 2023, for whom data were available. Of these patients, 236 had laryngeal cancer, 73 had oral cavity cancer, 22 had nasopharyngeal cancer, 15 had lower lip cancer, 10 had hypopharyngeal cancer, and the remaining 14 patients were categorized as “other” (unknown primary site, oropharynx, skin, or sinonasal). A second primary malignancy was identified in 38 of the 370 patients. The most common second primary site was the lung, followed by the thyroid, colon, and bladder.

CONCLUSIONS

In head and neck cancers, a second primary malignancy can be detected more easily, particularly with the routine use of Positron Emission Tomography (PET-CT); however, once detected, it also poses challenges for diagnosis and treatment. A multidisciplinary approach to second primary malignancies on a patient-by-patient basis, in conjunction with tumor boards, is of great importance today in patients with head and neck cancer.

KEYWORDS

Head and neck cancers, Second primary cancer, PET-CT, Squamous cell carcinoma

OP-425

Multicenter, Externally Validated Machine-Learning Model For Individualized Distant Metastasis And Survival Prediction In Head And Neck Squamous Cell Carcinoma

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BACKGROUND & AIM

Distant metastasis (DM) is a major determinant of poor prognosis in head and neck squamous cell carcinoma (HNSCC). However, conventional staging systems provide limited support for individualized DM risk stratification and subsequent survival assessment in patients who develop metastatic disease. This study aimed to develop and externally validate a dual machine-learning framework for two clinically connected tasks: DM risk stratification in newly diagnosed HNSCC and overall survival (OS) prediction among patients with metastatic HNSCC.

MATERIAL & METHODS

This multicenter retrospective study included 4,090 patients with HNSCC from the Surveillance, Epidemiology, and End Results database for model development and 351 real-world patients from Qilu Hospital for independent external validation. Candidate predictors were selected using univariable analysis, least absolute shrinkage and selection operator regression, random forest, and LightGBM. Six machine-learning algorithms were compared for DM risk stratification using routinely available clinicopathological and treatment-related variables. Among patients with metastatic HNSCC, OS was modeled using Cox proportional hazards regression and machine-learning survival methods, including random survival forest. Model performance was assessed by the area under the receiver operating characteristic curve (AUC), concordance index, Brier score, Kaplan–Meier analysis, and SHapley Additive exPlanations (SHAP). A web-based clinical decision-support platform was further developed.

RESULTS

The final DM risk model incorporated primary tumor site, histological grade, N category, extent of regional lymph node dissection, radiotherapy, and chemotherapy. Among the evaluated algorithms, the decision tree model demonstrated the most favorable overall performance, achieving AUCs of 0.909 （95% CI: 0.887–0.921） in the development cohort, 0.850（95% CI: 0.796–0.873） in internal validation, and 0.8320.832（95% CI: 0.776–0.852） in the independent external validation cohort. SHAP analysis identified primary tumor site and radiotherapy status as the most influential contributors to DM risk stratification. In patients with metastatic HNSCC, the random survival forest model outperformed conventional Cox regression and achieved an external-validation C-index of 0.704 for OS prediction. Model-derived risk groups showed significantly distinct 1-, 3-, and 5-year OS probabilities ($P < 0.001$). The online platform enabled individualized DM risk estimation and visualized OS assessment in a clinically accessible format.

CONCLUSIONS

This externally validated dual machine-learning framework addresses two sequential clinical challenges in HNSCC management: individualized stratification of DM risk and prognostic assessment after metastatic disease has occurred. By integrating interpretable modeling, multicenter validation, and a deployable web-based platform（https://qilushiny.shinyapps.io/qilupredicate/）, this approach may provide a practical tool for risk-adapted follow-up, multidisciplinary decision-making, and precision management in head and neck cancer.

KEYWORDS

Head and neck squamous cell carcinoma; Distant metastasis; Overall survival; Machine learning; External validation; Risk stratification.

OP-426

Correlation Between Preoperative PET/CT Findings And Histopathological Results After Neck Dissection In Head And Neck Cancers

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BACKGROUND & AIM

Accurate preoperative evaluation of cervical nodal metastasis is crucial for determining the extent of neck dissection. The aim of this study was to evaluate the correlation between preoperative PET/CT findings and histopathological results after neck dissection in patients with head and neck malignancies.

MATERIAL & METHODS

This retrospective study included patients with head and neck malignancies who underwent preoperative PET/CT imaging followed by neck dissection between 2019 and 2026

Demographic characteristics, primary tumor localization, PET/CT findings related to cervical lymph node involvement, maximum standardized uptake values (SUVmax), and postoperative histopathological results were recorded from hospital records.

RESULTS

A total of 129 patients underwent neck dissection with head and neck malignancies were included in the study. Among the operated patients, 20 underwent right-sided neck dissection, 19 underwent left-sided neck dissection, and 90 underwent bilateral neck dissection, resulting in a total of 219 dissected neck sides. The sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and overall diagnostic accuracy of preoperative PET/CT for detecting cervical lymph node metastasis were 80.0%, 83.5%, 62.0%, 92.6%, and 82.6%, respectively.

CONCLUSIONS

Preoperative PET/CT demonstrates good diagnostic performance in the evaluation of cervical lymph node metastasis in head and neck cancers. Its high negative predictive value indicates that it is particularly useful for ruling out nodal metastasis. However, due to moderate positive predictive value and the presence of false-positive findings, histopathological examination remains the gold standard for definitive diagnosis.

KEYWORDS

Positron-Emission Tomography, Neck Dissection, Pathology, Head and Neck Neoplasms

OP-427

Clinical Outcomes Of Maxillectomy Cases In Our Clinic: A Single-Center Retrospective Analysis

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BACKGROUND & AIM

Maxillectomy is one of the principal surgical approaches in the treatment of sinonasal and maxillary tumors and can be performed using different techniques depending on tumor localization, extent, and histopathological characteristics. In addition to open surgical methods such as partial, total, and radical maxillectomy, endoscopic approaches have been increasingly preferred in selected cases.

This study aimed to evaluate the demographic characteristics, tumor types, surgical approaches, reconstruction requirements, neck dissection practices, and adjuvant treatment needs of patients who underwent maxillectomy in our clinic, and to investigate the relationship between these parameters and oncological outcomes (recurrence and survival).

MATERIAL & METHODS

This study was designed as a single-center retrospective analysis of patients who underwent maxillectomy in our clinic. A total of 42 patients treated within the specified period were included.

Data including demographic characteristics (age, sex), preoperative pathological diagnoses, surgical techniques, reconstruction requirements and types, neck dissection status, adjuvant treatment (radiotherapy and/or chemotherapy), recurrence, need for revision surgery, survival status, and follow-up duration were obtained from patient records and the hospital information system.

Surgical approaches were classified as partial maxillectomy, total maxillectomy, radical maxillectomy, and endoscopic medial maxillectomy. All patients were evaluated in terms of surgical and oncological outcomes.

Statistical analysis was performed using descriptive methods, and results were expressed as numbers and percentages.

RESULTS

A total of 42 patients were included in the study. The mean age was 47.7 years (range: 9–78), and 56% of the patients were male. The most common diagnosis was squamous cell carcinoma.

Total maxillectomy was the most frequently performed surgical approach (n=17), while partial maxillectomy (n=12) and endoscopic medial maxillectomy (n=12) were performed at similar rates. Notably, the proportion of endoscopic approaches reached approximately one-third of all cases.

Reconstruction was required in 24% (n=10) of patients, and neck dissection was performed in 7% (n=3). Adjuvant therapy included radiotherapy in 31% and chemotherapy in 26% of patients.

During a mean follow-up of 27 months, recurrence was observed in 11.9% (n=5) of patients. Overall, 79% of patients were alive, while 21% were recorded as deceased.

CONCLUSIONS

Our study demonstrates that maxillectomy is an effective surgical approach for the treatment of sinonasal tumors, providing reliable oncological outcomes with acceptable recurrence (11.9%) and survival (79%) rates.

Endoscopic medial maxillectomy appears to be a safe and effective alternative to open surgery in appropriately selected patients, without compromising oncological outcomes despite its increasing use.

These findings support the role of minimally invasive techniques in surgical decision-making. Larger studies with longer follow-up are needed to provide stronger evidence.

KEYWORDS

Maxillectomy, Sinonasal Tumors, Endoscopic Medial Maxillectomy, Oncologic Outcomes, Head and Neck Cancer, Retrospective Study

OP-428

Improving Timeliness Of Postoperative Radiation Therapy In Head And Neck Cancer Patients

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BACKGROUND & AIM

Postoperative radiation therapy (PORT) is vital for reducing cancer recurrence after head and neck (H&N) cancer resection. Initiating treatment within six weeks has been shown to improve outcomes, while delays are associated with higher recurrence rates and lower survival. Addressing barriers to timely radiation administration is crucial for optimizing patient outcomes. Our aim was to determine factors associated with delays in postoperative radiation therapy to identify

MATERIAL & METHODS

A retrospective chart review was performed of all patients who underwent head and neck cancer resection followed by postoperative radiation therapy between January 1st, 2023 and February 28th, 2026 was performed. Demographic, preoperative, intraoperative and followup variables were collected and analyzed using simple pooled analysis. Simple t-tests, chi-square, and fisher's exact test were used to compare groups.

RESULTS

45 patients met criteria and were included. 38 (84%) of patients were male, with median age of 64.2 years. Pooled analysis found that 58% of patients experienced a delay in receiving adjuvant radiation. No differences in on time PORT were found in race, age group (by decade), primary cancer site, or gender. 30 day hospital readmission [OR 7.6 (1.86, 66.81), p=0.015], need for dental extractions (OR 6.3 (1.71, 56.29), p=0.031) and free flap reconstruction [OR 4.8 (1.32 , 17.11), p=0.037] conferred a higher odds of delaying PORT.

CONCLUSIONS

These observed delays in PORT highlight the need for targeted initiatives to enhance treatment efficiency and patient outcomes in multimodal H&N cancer care. Hospital readmission, dental extractions, and free flap reconstruction are identified here as likely sources of delay in administering PORT, though systems-wide efforts are required to fully minimize such delays. Future initiatives include a standardized surveillance platform to identify patients at risk of experiencing delays in PORT by way of demographic features, insurance status and other social determinants of health. Standardized communication between the multidisciplinary teams involved in care will be beneficial for minimizing delays and preventable mortality/morbidity.

KEYWORDS

adjuvant radiation, quality improvement

OP-429

Concordance Of Three Large Language Models With Multidisciplinary Tumor Board Decisions In Laryngeal Carcinoma Management

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BACKGROUND & AIM

Multidisciplinary tumor board (MDT) decisions are the gold standard for laryngeal cancer management, but access to such expertise is globally limited. Large language models (LLMs) are increasingly proposed as decision-support tools, yet head-and-neck-specific validation against real-world MDT decisions is scarce. This study compared the concordance of three LLMs—ChatGPT 5.5, Gemini Pro, and Claude Opus 4.7—with MDT decisions in laryngeal carcinoma.

MATERIAL & METHODS

Between April 2025 and April 2026 (12 months), fifty-two consecutive patients with biopsy-proven laryngeal squamous cell carcinoma underwent 64 multidisciplinary head-and-neck tumor board evaluations at our institution. After excluding two patients with recurrent hypopharyngeal carcinoma and one lost to follow-up, 49 patients (61 evaluations) were analyzed; AJCC 8th-edition stage distribution was 20 (40.8%) early-stage (Tis–II) and 29 (59.2%) advanced (III–IVC). For each evaluation a standardized clinical vignette (demographics, cTNM, imaging, pathology) was submitted to the three LLMs using identical prompts. Each AI output was independently rated by three blinded otolaryngology specialists on a 0–2 Likert scale across five dimensions: TNM staging accuracy, NCCN guideline adherence, appropriate additional investigations, treatment options, and final-decision concordance with the MDT (0=discordant, 1=partial, 2=full); total score 0–10. Inter-rater reliability was assessed by ICC(3,k); LLMs were compared with the Friedman test followed by Wilcoxon signed-rank post-hoc with Bonferroni correction.

RESULTS

Mean total scores were 9.295±0.689 for Claude, 8.995±0.820 for ChatGPT, and 8.951±0.836 for Gemini (Friedman χ^2=22.357, p<0.001); Claude outperformed both ChatGPT (adjusted p=0.002) and Gemini (adjusted p<0.001), with no difference between ChatGPT and Gemini. For final-decision concordance with the MDT (max=2), means were 1.577±0.451 (Claude), 1.448±0.509 (ChatGPT), and 1.426±0.491 (Gemini); full concordance was achieved in 39.3% of Claude, 29.5% of Gemini, and 26.2% of ChatGPT cases. Guideline adherence and investigation ordering showed near-ceiling performance across all models. Inter-rater reliability of the total score was good for Claude (ICC=0.703) and ChatGPT (ICC=0.614), and fair for Gemini (ICC=0.499).

CONCLUSIONS

All three LLMs performed well in laryngeal cancer management; Claude showed the best overall performance and highest MDT concordance, while ChatGPT and Gemini performed similarly. Because full concordance did not exceed 40%, current LLMs should serve as decision-support adjuncts to MDT rather than autonomous decision-makers.

KEYWORDS

laryngeal cancer; large language model; artificial intelligence; multidisciplinary tumor board; ChatGPT; Gemini; Claude

OP-430

Nasopharyngeal Carcinoma Comprehensive Risk Assessment Scoring System (NPC-CRASS)

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BACKGROUND & AIM

In Hong Kong, there are over 700 newly diagnosed Nasopharyngeal Cancer (NPC) per year and labelled as the 12th leading cause of cancer death in 2022. As NPC is closely related to EBV infection, screening using EBV-antibody and or plasma EBV-DNA has been used widely as a screening tool. Nevertheless, the positive predictive value (PPV) has remained low at 1.3-1.7 detection rate per 1000 screening. This inadvertently increase healthcare burden with false positive referrals.

We aim to design a risk assessment scoring system to predict probability of NPC; using a multivariate logistic regression with initial presentations for underlying NPC.

MATERIAL & METHODS

This retrospective cohort study who were either referred to or were being followed-up by the Otorhinolaryngology Department of Queen Mary Hospital, Hong Kong, between 1 January 2026 to 30 April 2026 for further workup of NPC or management of underlying NPC. Clinical presentation (age of diagnosis, sex, history of smoking and drinking, epistaxis, nasal obstruction, hearing loss, aural fullness, tinnitus, neck lump); laboratory investigation [EBV biomarkers (EBV VCA IgA, EBV DNA)]; radiological investigation (CT, MRI, PET-CT) to were collected through The Hong Kong Hospital Authority (HA) Clinical Management System (CMS). Patients with inadequate records regarding their initial presentation were excluded from the study. Multivariate logistic regression was used to identify significant independent predictors of NPC based on positive or negative NPC diagnosis using SPSS.

RESULTS

A total of 382 patients (260 men, 122 women) were identified; after removal of duplication and incomplete clinical information; 284 patients were included for statistical analysis.

Univariate analysis identified 8 clinical characteristics were significant predictors of NPC, including age (p<0.001), neck lump (p=0.001), male gender (p=0.003), hearing loss (p=0.005), family history of NPC (p=0.006), epistaxis (p=0.013), history of drinking (p=0.034) and aural fullness (0.035). Multivariate analysis identified age, hearing loss and neck lump as statistically significant (p<0.05) variables. The probability of NPC equation (Probability of NPC = e^x/ (1+e^x) [x=3.816+(-0.073 x Age)

+1.794x (Hearing loss)+2.393x (Neck lump)] was derived where e is the base of natural logarithms. This model showed good discrimination with the area under the evaluated receiver operating characteristic curve yielding 0.852.

CONCLUSIONS

We designed an equation to calculate the probability of NPC based on 4 variables acquired through a multi-regression model. However further validation study is required to test the validity of this risk stratification scoring system.

KEYWORDS

Nasopharyngeal Carcinoma; Predictive Value of Tests; Multivariate Analysis; Epstein-Barr Virus Infections; Risk Assessment; Referral and Consultation

OP-431

Serum SERS And Machine Learning For Rapid Preoperative Diagnosis Of Central Lymph Node Metastasis In Thyroid Cancer

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BACKGROUND & AIM

Accurately assessing central lymph node metastasis (CLNM) in thyroid cancer is crucial for determining optimal surgical extent, yet traditional ultrasound (US) faces the bottleneck of low sensitivity. This study aims to construct and validate a novel diagnostic platform integrating serum surface-enhanced Raman spectroscopy (SERS) with multi-algorithm machine learning (ML) for non-invasive, precise, and rapid preoperative CLNM prediction.

MATERIAL & METHODS

This retrospective study enrolled 128 patients with papillary thyroid carcinoma (PTC) treated at Qilu Hospital of Shandong University, a major tertiary referral center in China. Based on postoperative pathology as the gold standard, patients were divided into metastatic (n=42) and non-metastatic (n=86) groups. Preoperative fasting serum was collected for SERS acquisition. Following denoising, baseline correction, and normalization, spectral features were extracted. Eight ML diagnostic models were constructed: PCA-LDA, Random Forest (RF), SVM, XGBoost, CatBoost, LightGBM, Logistic Regression (LR), and KNN. The diagnostic performance of each model was calculated and compared with conventional preoperative US.

RESULTS

The comprehensive diagnostic performance of all 8 ML models significantly outperformed conventional US (US sensitivity 67.74%, specificity 80.49%, accuracy 75.00%). Ensemble learning algorithms exhibited the most outstanding performance: the CatBoost model achieved the best efficacy with an AUC of 0.971, sensitivity of 93.55%, specificity of 95.12%, and accuracy of 94.44%. RF and XGBoost followed closely with AUCs of 0.965 and 0.960, respectively. SVM, LightGBM, and PCA-LDA also demonstrated robust performance (AUCs 0.942–0.958). The traditional baseline models LR and KNN yielded AUCs of 0.895 and 0.862, respectively. Notably, the average single-sample detection time for this multi-model platform remained strictly under 2 minutes.

CONCLUSIONS

The diagnostic platform combining serum SERS and multi-model ML enables non-invasive, ultra-fast, and highly accurate preoperative prediction of CLNM in PTC. It successfully overcomes the limitations of traditional imaging and validates the robust predictive stability of spectral features. This platform holds immense potential as a vital adjunct for regional lymph node assessment, providing reliable technological support for precision surgery in head and neck oncology.

KEYWORDS

Thyroid Cancer; Central Lymph Node Metastasis; Surface-Enhanced Raman Spectroscopy;Machine Learning; Preoperative Diagnosis

OP-432

Salivary Duct Carcinoma: Clinicopathologic Characteristics And Outcomes Over 14 Years In A Single Center

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BACKGROUND & AIM

Salivary duct carcinoma (SDC) is a rare but highly aggressive salivary gland malignancy characterized by early regional and distant metastasis. Owing to its low incidence, prognostic determinants remain insufficiently defined, and the impact of quantitative nodal burden and surgical radicality on survival outcomes remains unclear. This study aimed to evaluate the clinicopathologic characteristics and survival outcomes of patients diagnosed with SDC over a 14-year period and to identify potential prognostic factors affecting overall survival (OS) and recurrence-free survival (RFS).

MATERIAL & METHODS

A retrospective single-center observational study was conducted including 13 patients diagnosed with salivary duct carcinoma between 2010 and 2025. Demographic data, tumor characteristics, treatment modalities, pathological findings, and follow-up outcomes were analyzed. Tumors were staged according to the AJCC 8th and 9th editions. Survival outcomes were evaluated using the Kaplan–Meier method. The restricted mean survival time (RMST) was calculated, limited to a follow-up of 54 months. The log-rank test was used to compare survival differences between groups. Clinicopathologic variables, including surgical margin status, extranodal extension (ENE), lymphovascular invasion (LVI), perineural invasion (PNI), androgen receptor (AR) status, T and N categories, number of positive lymph nodes, and overall stage, were analyzed to assess their impact on overall survival (OS) and recurrence-free survival (RFS).

RESULTS

The cohort consisted predominantly of male patients (84.6%), with a mean age of 62.1 years. Most tumors originated from the parotid gland (84.6%), and advanced T-stage disease was common. Regional lymph node metastasis was observed in 84.6% of patients, with a mean of nine positive lymph nodes. The RMST for OS and RFS were 29.9 and 22.3 months, respectively. At 24 months, the OS and RFS rates were 50.8% and 26.0%, respectively. Negative surgical margins were significantly associated with improved OS (p=0.023) and RFS (p=0.001). An increasing number of positive lymph nodes significantly affected OS (p=0.048), demonstrating a dose-dependent relationship. Other factors, including ENE, LVI, PNI, AR status, and overall stage, did not show statistically significant associations with survival outcomes.

CONCLUSIONS

SDC demonstrates aggressive clinical behavior, with high rates of nodal involvement and early recurrence. In this cohort, surgical margin status and quantitative nodal burden were the most significant determinants of survival. Complete surgical resection appears to be critical for improving outcomes. These findings suggest that, beyond traditional staging systems, nodal tumor burden and surgical radicality may serve as key prognostic indicators for SDC. Larger multicenter studies are needed to validate these results.

KEYWORDS

Salivary ductal carcinoma , parotis carsinoma , salivary tumor ,

OP-433

Milan System Based Risk Stratification In Submandibular Gland Fine Needle Aspiration: Correlation With Ultrasonography

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BACKGROUND & AIM

The Milan System for Reporting Salivary Gland Cytopathology (MSRSGC) categorizes needle aspiration and cytology (FNAC) results into 6 tiers and assigns a risk of malignancy (ROM) to each category. Its utility in submandibular gland lesions remains unclear. Our study aimed to evaluate the performance of the MSRSGC in submandibular gland fine-needle aspiration cytology (FNAC), determine category-specific risk of malignancy (ROM), and examine the association between ultrasonographic (USG) suspicious-feature burden and histopathologic outcomes.

MATERIAL & METHODS

We retrospectively reviewed 126 patients who underwent excision of submandibular gland (April 2020–January 2026). Sixty-two patients with available preoperative FNAC were included for cytohistologic correlation. FNAC results were reclassified according to the MSRSGC. Five USG suspicious features (irregular margins, hypoechogenicity, heterogeneous echotexture, solid composition, suspicious lymphadenopathy) were recorded and summed (score 0–5).

RESULTS

Fourteen of sixty-two cases (22.6%) were malignant. Category distribution and ROM were: non-neoplastic (n=24, ROM 8.3%), AUS (n=3, ROM 0%), benign neoplasm (n=19, ROM 5.3%), SUMP (n=4, ROM 0%), suspicious for malignancy (n=6, ROM 100%), and malignant (n=6, ROM 83.3%). FNAC demonstrated a sensitivity of 78.6% and a specificity of 97.9%. Regarding USG, the mean suspicious-feature count was significantly higher in malignant than non-malignant lesions (4.36 vs. 2.33; $p < 0.001$). A USG threshold of ≥4 features yielded 85.7% sensitivity and 89.6% specificity.

CONCLUSIONS

This study validates the usage of the MSRSGC in the work up of submandibular gland tumors. High USG suspicion scores correlate closely with malignancy, offering a vital supplement to cytology for indeterminate results. These findings remain specific to patients within a surgical setting.

KEYWORDS

Fine-needle aspiration cytology, Milan System, submandibular gland lesions

OP-434

Meta-Analysis Of Prognostic Impact Of CT-Defined Sarcopenia And Prognostic Nutritional Index In Immune Checkpoint Inhibitor–Treated Head And Neck Squamous Cell Carcinoma

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BACKGROUND & AIM

Host-related biomarkers such as CT-defined sarcopenia (skeletal muscle index, SMI) and the prognostic nutritional index (PNI) have been investigated as potential prognostic factors in patients with head and neck squamous cell carcinoma (HNSCC) treated with immune checkpoint inhibitors (ICIs). However, existing evidence is limited and heterogeneous. This study aimed to systematically evaluate the association between SMI and PNI and overall survival (OS) in ICI-treated HNSCC.

MATERIAL & METHODS

A systematic literature search of PubMed and Embase was conducted. Studies including patients with HNSCC treated with ICIs and reporting hazard ratios (HRs) for OS according to SMI or PNI were included. Random-effects meta-analyses were performed. The primary interpretation was based on sensitivity analyses restricted to multivariable-adjusted HRs. Additional analyses included leave-one-out sensitivity analyses and assessment of between-study heterogeneity.

RESULTS

Nine studies met the inclusion criteria. Sarcopenia was associated with worse OS in the primary analysis. In sensitivity analyses restricted to multivariable-adjusted estimates, the association remained statistically significant (pooled HR 2.05, 95% CI 1.48–2.84; $I^2 = 0\%$), with consistent results across leave-one-out analyses. Low PNI was also associated with poorer OS, although the number of studies was limited. Prediction intervals indicated uncertainty in the magnitude of effect, particularly for PNI.

CONCLUSIONS

CT-defined sarcopenia and low PNI are associated with poorer overall survival in patients with HNSCC treated with ICIs. These findings support their potential role as host-related prognostic markers. However, given the small number of studies and methodological heterogeneity, the results should be interpreted with caution. Their clinical application remains hypothesis-generating and requires prospective validation.

KEYWORDS

Head and Neck Squamous Cell Carcinoma, Immune checkpoint inhibitors, Sarcopenia, Skeletal muscle index, Prognostic nutritional index, Overall Survival

OP-435

Pre-Referral Antibiotic Prescribing In Oropharyngeal Squamous Cell Carcinoma Is Associated With Diagnostic Delay, Advanced Stage, And Poorer Survival

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BACKGROUND & AIM

Oropharyngeal squamous cell carcinoma (OPSCC) is a subtype of head and neck cancer with an increasing global incidence and is frequently diagnosed at an advanced stage. Common presenting symptoms may be attributed to infectious causes due to the large overlap in symptoms. Literature has established the link between diagnostic delay in OPSCC and poor outcomes. This study aimed to investigate patterns of pre-referral antibiotic prescribing and their relationship with diagnostic delay and clinical outcomes in OPSCC. We hypothesised that pre-referral antibiotic prescribing for persistent upper aerodigestive symptoms may contribute to diagnostic delay and hence poorer outcomes, with limited existing evidence.

MATERIAL & METHODS

A retrospective cohort study of adult OPSCC patients in the West of Scotland (2012–2021) was conducted using a regional database (n=1003). Associations between pre-referral antibiotic prescribing, patient demographics, stage at diagnosis, diagnostic intervals, and overall survival were analysed using RStudio. Primary outcomes included, analysis of diagnostic intervals, stage at diagnosis, overall survival, and patient characteristics.

RESULTS

A total of 301 (30%) patients received antibiotics prior to referral, with phenoxymethylpenicillin the most frequently prescribed agent (33.6% of courses). The median symptom to diagnosis interval was longer in the group prescribed pre-referral antibiotics (99 vs 90 days, p=0.004). Pre-referral antibiotics were associated with more advanced T stage (p<0.001) and N stage (p=0.004) at diagnosis. Overall survival was poorer in the antibiotic group (log-rank p=0.008; HR 1.28, 95% CI [1.07–1.55]). Female sex (p=0.037), as well as presenting with throat pain (p<0.001) and odynophagia (p=0.01) were factors associated with pre-referral antibiotic prescribing. Through further analysis a dose response relationship was observed, with increasing antibiotic courses associated with a prolonged symptom to diagnosis interval (p=0.001), higher T stage (p<0.001), higher N

stage (p=0.015), and poorer survival, with each additional course associated with an 18% increase in the hazard of death (log-rank p=0.023; HR 1.18, 95% CI [1.06–1.32]).

CONCLUSIONS

Pre-referral antibiotic prescribing was associated with prolonged diagnostic intervals, advanced stage, and poorer survival in OPSCC, demonstrating a dose response relationship. These findings support greater caution in repeated antibiotic prescribing for persistent upper aerodigestive symptoms and may inform primary care referral pathways.

KEYWORDS

oropharyngeal squamous cell carcinoma; head and neck oncology; antibiotic prescribing; diagnostic delay; stage at diagnosis; overall survival; primary care; referral pathways; retrospective cohort

OP-436

Prophylactic Use Of Fibrin Sealant (ARTISS™) For Facilitating A Drain-Free Thyroid Surgery Pathway: A Single-Centre Retrospective Cohort Study Of 276 Procedures

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BACKGROUND & AIM

Following our 2017 feasibility study, our centre adopted routine prophylactic thrombin-dilute fibrin sealant (ARTISS™) use to facilitate a drain-free thyroid surgery pathway. This study reports real-world outcomes following sustained implementation at scale.

MATERIAL & METHODS

We conducted a single-centre retrospective cohort study of consecutive eligible operations performed between April 2019 and September 2025. Inclusion mirrored the 2017 framework and comprised total thyroidectomy, primary lobectomy (hemithyroidectomy), completion lobectomy, isthmusectomy, Sistrunk procedure, and thyroid bed re-exploration, with or without central (level VI) neck dissection; lateral neck dissection, sternotomy, tracheostomy and laryngectomy were excluded. ARTISS™ and recurrent laryngeal nerve (RLN) monitoring were used by default, while drains were reserved for selected higher-risk cases. The primary outcome was postoperative haematoma, with return to theatre recorded where documented. Secondary outcomes included surgical site infection (SSI) and length of stay (LOS). Outcome-specific denominators are reported.

RESULTS

Of 335 operations screened, 276 met eligibility. ARTISS™ was used in 259/276 (93.8%) and drains in 25/276 (9.1%); central neck dissection occurred in 30/276 (10.9%) and RLN monitoring in 268/276 (97.1%). LOS was recorded in 251/276, with a median LOS of 1 day (mean 1.49) and same-day discharge in 56/251 (22.3%). Haematoma outcomes were recorded in 251/276; any haematoma occurred in 5/251 (2.0%) and return to theatre for haematoma in 2/251 (0.8%). SSI outcomes were recorded in 253/276, with SSI requiring antibiotics in 7/253 (2.8%).

CONCLUSIONS

Routine prophylactic ARTISS™ use within a drain-free thyroid surgery pathway has been sustained at scale with short length of stay and low rates of haematoma requiring return to theatre.

KEYWORDS

Thyroid surgery, Thyroidectomy, Fibrin sealant, ARTISS, Surgical drains, Haematoma, Length of stay

OP-437

Variation In Auditory Frequency During Radiotherapy For Head And Neck Cases: A Single Center Study

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BACKGROUND & AIM

Radiotherapy (RT) is a cornerstone treatment for head and neck malignancies; however, its ototoxic potential remains underreported, particularly in patients not receiving concurrent platinum-based chemotherapy. This study aimed to evaluate the longitudinal impact of RT on auditory function including pure tone thresholds, speech reception thresholds (SRT), and word discrimination scores (WDS) — and to investigate the dose-response relationship between cochlear radiation exposure and hearing deterioration.

MATERIAL & METHODS

A retrospective longitudinal study was conducted between 2023 and 2026, enrolling 20 patients (15 male, 5 female; mean age 65.85 ± 12.10 years) diagnosed with head and neck malignancies who received external beam radiotherapy without concurrent chemotherapy. All patients underwent pure tone audiometry across 125–8000 Hz, speech audiometry (SRT, WDS), and tympanometry at four time points: pre-treatment (baseline), and at 1, 3, and 6 months post RT. Cochlear dosimetric parameters mean dose and maximum dose (D0.03cc) were derived from treatment planning systems. Statistical analyses were

performed using Friedman and Kruskal-Wallis tests for longitudinal comparisons, Wilcoxon signed rank test for pairwise comparisons, and Spearman correlation for dose-response assessment.

RESULTS

Significant longitudinal threshold shifts were observed predominantly in the ipsilateral ear, with the greatest magnitude at high frequencies (3000–8000 Hz; $p \leq 0.004$). Lower frequencies showed statistically significant but smaller magnitude changes, with a transient improvement at 1 month followed by progressive deterioration through 6 months. PTA demonstrated the most pronounced change ($p = 0.001$), increasing from 32.9 ± 18.8 dB at baseline to 34.55 ± 17.73 dB at 6 months. SRT worsened significantly in the ipsilateral ear ($p = 0.041$), whereas WDS remained stable in both ears throughout follow-up ($p > 0.05$). No significant changes were detected in the contralateral ear, consistent with the low mean cochlear dose (4.90 ± 9.53 Gy). Moderate correlations were found between cochlear dose parameters and 6-month PTA changes ($r = 0.552–0.572$, $p < 0.05$), and a negative correlation between maximum cochlear dose and WDS scores ($r \approx -0.495$, $p < 0.05$).

CONCLUSIONS

RT induces progressive, predominantly high frequency sensorineural hearing loss detectable within 3-6 months, even in the absence of chemotherapy and at cochlear doses well below established risk thresholds. Dose-response relationships support a cumulative cochlear radiotoxicity mechanism. Routine audiological monitoring and cochlear dose optimization should be integrated into RT planning for head and neck cancer patients.

KEYWORDS

Radiotherapy induced hearing loss, Head and neck cancer, Cochlear dosimetry, Sensorineural hearing loss, Ototoxicity

OP-438

Percutaneous Or Surgical Tracheotomy When, Why, And Selection Criteria

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BACKGROUND & AIM

Tracheotomy is one of the most frequent procedure especially in the intensive care units (ICU). And the major indication is prolonged respiratory support. Tracheotomy is a procedure for patients who need prolonged mechanical ventilation support or airway protection. By this way, the respiratory care and weaning from mechanical ventilatory support become easier and comfortable.

MATERIAL & METHODS

Tracheotomy improves patient tolerance, reduces the need for sedation, avoids laryngeal irritation, enhances nursing care, reduces dead space. Among the ICU patients, 8 24% of all, undergo tracheotomy procedure. This decision is individually based on the risk and benefits of tracheotomy versus prolonged intubation and also the consent of the patient's relations and expected clinical outcomes. But there is stil no consensus about the timing of the procedure. Clasically, the most considered opinion for tracheotomy in patients that are unable to wean from invasive ventilation within 10-14 days of intubation and should be planned under optimal conditions.

RESULTS

The tracheotomy range increased over the last decade. But there is stil no consensus about the optimal timing for procedure, criterias for selection of patients, type of technique and timing of decannulation. The most common, traditional method is open surgical approach; performed in the operating room. Percutaneous technique is relatively simple to perform. And has a shorter procedure time.

CONCLUSIONS

Percutaneous tracheotomy has become a popular, cost-effective, quick, simple and safe alternative to surgical tracheostomy. There is not an optimal tracheostomy, the physician should choose the best technique

KEYWORDS

Open Surgical Tracheotomy; Percutaneous Tracheotomy; Respiratory Failure; Tracheotomy.

OP-439

LAG-3 Expression In Oral Cavity Squamous Cell Carcinoma

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BACKGROUND & AIM

LAG-3 is an immune checkpoint molecule expressed on T lymphocytes that exerts an inhibitory effect on their function. Our study aims to evaluate LAG-3 expression in tissue specimens from patients with oral cavity squamous cell carcinoma and to determine its association with prognosis, survival, and other clinicopathological parameters, based on current evidence. By doing so, we seek to provide evidence for the biological and clinical relevance of LAG-3 as an immune checkpoint target in oral

cavity cancers and to support future studies exploring the potential role of anti–LAG-3–based immunotherapeutic approaches in this disease.

MATERIAL & METHODS

A total of 121 patients aged ≥18 years who were diagnosed with oral cavity squamous cell carcinoma and treated at Trakya University Hospital between January 2015 and January 2025 were included in the study. All included cases had sufficient tissue material, and their pathological specimens had been archived by the Department of Medical Pathology, Trakya University Faculty of Medicine.

RESULTS

sTIL LAG-3, pTIL LAG-3 and CPS positivity were identified as adverse prognostic factors for both overall survival (OS) and disease-free survival (DFS). The 1-, 3-, and 5-year OS rates were 96.7%/84.9%/73.9% in sTIL-negative cases, compared with 83.4%/62.5%/60.1% in sTIL-positive cases (p = 0.026). DFS was also lower in the sTIL-positive group; median DFS was 24 months versus 79 months in the sTIL-negative group (p = 0.026). pTIL positivity was significantly associated with worse OS (p = 0.014) and DFS (p = 0.008). Similarly, CPS positivity showed a significant association with poorer OS (p = 0.023) and DFS (p = 0.024).

CONCLUSIONS

Our study strongly supports that LAG-3 expression in oral cavity squamous cell carcinoma may serve as both a prognostic biomarker and a potential therapeutic target. In particular, evaluating immunotherapeutic approaches that include anti–LAG-3 agents in high-risk patient groups with strong LAG-3 expression may contribute significantly to the development of personalized treatment strategies in the future.

KEYWORDS

Oral cancer, Lymphocyte Activation Gene 3 Proteins, immune checkpoint molecules, SCC

OP-440

Clinicopathological Characteristics And Treatment Outcomes Of Oral Cavity Squamous Cell Carcinoma: A 16-Year Single-Center Experience

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BACKGROUND & AIM

Oral cavity squamous cell carcinoma (OCSCC) remains a significant global health problem and is associated with considerable morbidity and mortality. Surgical treatment constitutes the mainstay of management; however, clinicopathological characteristics and treatment outcomes may vary across institutions. The aim of this study was to evaluate the clinicopathological features and treatment outcomes of patients who underwent surgical treatment for OCSCC at our tertiary referral center over a 16-year period.

MATERIAL & METHODS

A retrospective analysis was conducted on 121 patients who underwent surgical treatment for oral cavity squamous cell carcinoma between 2009 and 2025 at a tertiary referral center. Demographic characteristics, tumor localization, TNM stage, surgical procedures, neck dissection type, reconstruction methods, adjuvant therapy, and histopathological parameters including tumor size, depth of invasion (DOI), differentiation grade, lymphovascular invasion (LVI), perineural invasion (PNI), extranodal extension (ENE), and surgical margin status were evaluated. Continuous variables were expressed as mean ± standard deviation and range, while categorical variables were presented as frequencies and percentages.

RESULTS

Of the 121 patients, 60.3% were male, with a mean age of 62.5±14 years. The tongue was the most common primary site (49.6%), and 38% of patients presented with stage IV disease. The mean tumor size was 25.2±12.7 mm and mean DOI was 8.6±7.1 mm. Tumors were predominantly moderately differentiated (59.5%). LVI, PNI, and ENE were detected in 3.3%, 26.4%, and 14% of cases, respectively. Negative surgical margins were achieved in 82.6% of patients. Neck dissection was performed in 95% of cases, most commonly selective neck dissection (66.9%). Reconstruction was required in 62% of patients. Adjuvant therapy was administered to 62.8% of patients. During follow-up, recurrence occurred in 19.2% of patients, and 49.6% had died at last follow-up

CONCLUSIONS

This 16-year single-center experience demonstrates that a substantial proportion of patients with OCSCC present with advanced-stage disease and require multimodal treatment. Despite high rates of surgical management and negative margins, recurrence and mortality remain considerable. These findings emphasize the importance of early diagnosis, appropriate neck management, and multidisciplinary treatment strategies to improve oncologic outcomes in oral cavity squamous cell carcinoma.

KEYWORDS
Oral cavity squamous cell carcinoma; Head and neck oncology; Neck dissection; Surgical outcomes; Prognostic factors

OP-441

Expression Of Programmed Cell Death-1 And Programmed Cell Death Ligand-1 In Oral Cavity And Oropharyngeal Squamous Cell Carcinomas And Their Clinicopathological Correlation

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BACKGROUND & AIM

The aim of this study is to evaluate the immunohistochemical expression patterns of programmed cell death protein-1 (PD-1) and programmed cell death ligand-1 (PD-L1) in oral cavity and oropharyngeal squamous cell carcinomas. Also, investigate the relationship between PD-1 and PD-L1 expression and variables such as age, sex, tobacco/alcohol use, disease stage, survival status, and treatment modalities applied.

MATERIAL & METHODS

Clinical data, radiological imaging, and pathology reports of 83 patients who were diagnosed, treated, and followed up for primary oral cavity and oropharyngeal cancer at our hospital between 2010 and 2022 were retrospectively reviewed. Information regarding age, sex, year of diagnosis, tobacco/alcohol use, tumor localization, TNM staging, treatment modalities, presence of metastasis or recurrence, and survival status was obtained. The expression of PD-1 and PD-L1 was evaluated immunohistochemically on formalin-fixed paraffin-embedded tumor blocks retrieved from the pathology archive of our hospital, and these findings were compared with the clinical data.

Additionally, the association between the presence of human papillomavirus (HPV) and PD-1/PD-L1 expression in patients with oral cavity and oropharyngeal cancers was investigated. This relationship was further analyzed in the context of age, sex, year of diagnosis, tobacco/alcohol use, tumor localization, TNM stage, treatment modalities, and survival status.

RESULTS

The PD-L1 expression rate of oral cavity and oropharyngeal cancers was found to be 65.1%. PD-L1 expression was higher in older age and in tumors located on the lip, while PD-1 expression was more prominent in early-stage tumors and those located on the lip. Additionally, increased PD-L1 expression was observed in tumors with a high number of tumor-infiltrating mononuclear cells (TIMCs) and in HPV-related oropharyngeal cancers. Longer post-diagnosis survival was noted in PD-1 positive oral cavity cancers and PD-L1 positive oropharyngeal cancers. PD-L1 expression was found to be higher in early-stage oral cavity cancers and, consequently, in patients receiving single-modality treatment.

Overall survival was higher in cases with elevated PD-L1 expression in tumor tissue and/or TIMCs. However, PD-1 positivity was not associated with overall survival.

CONCLUSIONS

Our study demonstrated the impact of PD-1, PD-L1, and p16 expression on clinicopathological parameters, including overall survival in oral cavity and oropharyngeal cancers. In this regard, we believe that our findings contribute to a better understanding of the PD-L1/PD-1 signaling pathway in these cancers, which may support the integration of immunotherapeutic agents into routine treatment in the future.

KEYWORDS

Head and neck cancers, immunotherapy, oral cavity and oropharyngeal cancer, PD-1, PD-L1

OP-442

Comparison Of Pharyngocutaneous Fistula And Swallowing Outcomes After Primary Versus Salvage Total Laryngectomy

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BACKGROUND & AIM

To compare tumor-related characteristics, demographic and clinical parameters, surgical and reconstructive approaches, pharyngocutaneous fistula (PCF) development, and swallowing outcomes between patients undergoing primary and salvage total laryngectomy (TL).

MATERIAL & METHODS

All patients data who underwent TL between 2021 and 2024 were obtained from the hospital information system retrospectively. Patients were divided into two groups: primary and salvage TL. Demographic, clinical features, surgical approaches and treatment-related parameters were compared between groups. In pharyngeal reconstruction, primary closure was preferred according to 2 conditions; sufficient mucosa that enables tension free closure with at least two layers and good blood supply. If these conditions were not met, pectoralis major myocutaneous flap (PMMF) was used. Swallowing function was assessed subjectively at postoperative 6 month using the Eating Assessment Tool-10 (EAT-10). A total score of ≥3 was considered indicative of swallowing-related complaints. Patients were followed for 2–5 years.

RESULTS

A total of 38 male patients were included. Fifteen patients(39.5%) underwent primary TL, and 23 patients(60.5%) underwent salvage TL. There were no significant differences between the groups regarding age, comorbidities, tumor localization, tumor size, T and N stage, overall stage, tumor grade, or time to initiation of oral feeding (p>0.05).In the salvage group, radiotherapy failure was observed in 13 patients(56.5%), chemoradiotherapy failure was observed in 6(26.1%) patients. In the primary group, 7 patients(46.7%) received adjuvant chemoradiotherapy. No significant difference was observed between primary and salvage groups regarding pharyngeal reconstruction technique (5 PMMF(33.3%), 9 PMMF(39.1%) respectively) (p=0.717).PCF occurred in 2 patients, both in the salvage group. No statistically significant difference was found. An EAT-10 total score≥3 was observed in 13 patients(86.7%) in the primary group and in 2 patients (8.7%) in the salvage group. The difference was statistically significant(p<0.05). During follow-up, one patient in the salvage group developed recurrence.

CONCLUSIONS

Salvage TL was not significantly associated with PCF development in this cohort.Appropriate surgical technique and treatment planning appear to be important determinants.Interestingly, swallowing-related complaints assessed by EAT-10 were significantly less frequent in the salvage group.This result may be related to the fact that salvage TL patients who experienced prolonged aspiration and dysphagia after radiochemotherapy had adapted to the loss of function and consider their new swallowing status acceptable.This study presents early patient-reported dysphagia results;further objective assessments(Fiberoptic Endoscopic Evaluation of Swallowing(FEES), barium swallow radiography, etc..) are planned to confirm these findings with larger sample sizes in the future.

KEYWORDS

total laryngectomy, pharyngeal reconstruction, pharyngocutaneous fistula, swallowing

OP-443

Prognostic Factors And Outcomes In A Large Cohort Of Head And Neck Sarcomas

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BACKGROUND & AIM

Head and neck sarcomas (HNS) are rare malignancies associated with heterogeneous histology. Prognostic determinants remain incompletely defined due to small published cohorts and evolving treatment strategies. We hypothesized that clinicopathologic factors, tumor characteristics, and treatment modalities significantly influence survival outcomes in patients with HNS managed at a referral center.

MATERIAL & METHODS

We conducted a retrospective cohort study at Institut Curie, Paris, including patients discussed in sarcoma multidisciplinary tumor boards between January 1999 and October 2025. Inclusion criteria were histologically confirmed HNS, available pathology report, and minimum follow-up of 3 month; survival analyses required ≥36 months follow-up. Demographic, tumor, and treatment data were collected. Histologies were grouped into six categories and tumor sites into six anatomical regions. Treatments included surgery, radiotherapy, chemotherapy, chemoradiotherapy, multimodal approaches, or abstention. Proton therapy versus conventional radiotherapy was also assessed. Overall survival (OS) and disease-free survival (DFS) were estimated using Kaplan–Meier methods. Cox proportional hazards models were applied for univariate and multivariate analyses.

RESULTS

One hundred twenty one patients were included with a median follow-up of 84 months. Median age was 11.2 years. The most frequent sites were orbit (46.9%) and sinonasal region (19.8%). Rhabdomyosarcoma, leiomyosarcoma, and undifferentiated sarcoma were the most common histologies. Three- and five-year OS were 89.7% (95% CI: 83.2–96.7) and 88.3% (95% CI: 81.4–95.8), respectively. Multivariate analysis identified age, histologic subtype, locoregional metastasis, tumor size, and treatment

strategy as independent prognostic factors for OS. Similar factors, including histology and metastasis, significantly influenced DFS. Proton therapy showed a non-significant trend toward improved outcomes.

CONCLUSIONS

This is a large single-center cohort in HNS. Rare and undifferentiated sarcomas exhibited particularly poor prognosis. These findings support centralized multidisciplinary management and highlight the need for multicenter registries to refine risk stratification and therapeutic approaches in this rare disease group

KEYWORDS

Head and neck sarcomas, Rare cancers, Multidisciplinary care

OP-444

Histopathological And Biochemical Evaluation Of The Effects Of Hyperbaric Oxygen Therapy On Pharyngocutaneous Fistula In A Rat Model

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BACKGROUND & AIM

Pharyngocutaneous fistula is a major complication after head and neck surgery, increasing morbidity, length of hospital stay, and costs. Hyperbaric oxygen therapy may support healing by improving tissue oxygenation, promoting angiogenesis, and reducing inflammation. Objective: To assess the histopathological and biochemical effects of hyperbaric oxygen therapy on experimentally induced pharyngocutaneous fistula in rats.

MATERIAL & METHODS

Twenty female Sprague Dawley rats were randomized into two groups. After surgical pharyngotomy, Group 1 received 100% oxygen at 2.4 atmospheres absolute pressure for 80 minutes twice daily for 7 days; Group 2 served as controls. Macroscopic wound appearance, histopathological scores (inflammatory cell infiltration, neovascularization, fibroblast proliferation, collagen deposition), and oxidative stress parameters (total oxidant status, total antioxidant status, thiol/disulfide balance, and glutathione peroxidase activity) were evaluated.

RESULTS

Wounds were mostly erythematous in the hyperbaric oxygen therapy group, whereas all controls had purulent discharge. Histopathological scores did not differ significantly; however, the treated group showed organized granulation tissue, reduced inflammatory infiltration, and partial epithelialization. Biochemical analyses showed lower total oxidant status and oxidative stress index and higher total antioxidant status and thiol levels in the treated group ($p = 0.001$).

CONCLUSIONS

Hyperbaric oxygen therapy improved oxidative stress parameters and supported wound healing in this experimental model. Although histopathological differences were not significant over the short study period, the findings suggest that hyperbaric oxygen therapy may be a useful adjunct in pharyngocutaneous fistula management; larger and longer-term studies are warranted.

KEYWORDS

Pharyngocutaneous Fistula; Hyperbaric Oxygenation; Oxidative Stress.

OP-445

Investigation Of The Relationship Between T Stage And The Decision For Neck Dissection In Lip Cancers

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BACKGROUND & AIM

This study aims to investigate neck dissection strategies based on T stage in lip cancers and to evaluate the feasibility of a close follow-up option for early-stage patients.

MATERIAL & METHODS

A total of 33 patients who underwent surgery for lip cancer between 2022 and 2026 were retrospectively evaluated. The gender distribution, tumor localization, TNM staging, neck dissection (ND) status, and postoperative follow-up data of the patients were analyzed.

RESULTS

Of the patients, 26 were male (78.8%) and 7 were female (21.2%). Tumors were located on the lower lip in 28 cases (84.8%) and on the upper lip in 5 cases (15.2%). Early-stage disease was identified in 25 patients (75.8%), while 8 patients (24.2%) had advanced-stage disease. Sixteen patients had T1 tumors, and 10 had T2 tumors. Prophylactic neck dissection was performed on 10 patients with no clinically suspected nodal metastasis. Within this group, 3 were at the T1 stage and 2 were at the T2 stage. Therapeutic neck dissection was performed on 7 patients with clinically suspected nodal metastasis, and nodal metastasis was detected in 3 of these patients. Metastatic lymph nodes were detected in 2 out of 7 patients with T3 tumors. Neck dissection was performed on all patients with advanced-stage disease (n=8) and on 8 patients (33.3%) with early-stage disease.

CONCLUSIONS

Over a mean follow-up period of 20 months, no recurrence was observed in 28 patients (84.8%). One patient with early-stage disease underwent neck dissection due to cervical recurrence during the postoperative follow-up period. In our series, the marked predominance of lip cancer in males and on the lower lip is consistent with the literature. For T1-T2 cancers, close observation without prophylactic neck dissection may be considered as a viable option. However, particularly for T3-T4 patients, neck dissection should be performed even in clinically N-negative cases.

KEYWORDS

lip cancer, neck dissection, TNM staging, retrospective study,

OP-446

Ethanol Sclerosant Therapy For Benign Cystic Thyroid Lesions: Insights From An 8-Year Retrospective Analysis

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BACKGROUND & AIM

Benign thyroid nodules are common; present in up to 67% of the general population with around a quarter having a predominantly cystic component. (1) Around 5% of patients may experience compressive symptoms or cosmetic concerns that requires intervention. Fine needle aspiration (FNA) is often used for symptomatic relief; however, this is associated with a recurrence rate of up to 59%. (1) Ultrasound guided ethanol sclerotherapy is a non-surgical alternative for the treatment of benign cystic thyroid nodules.

MATERIAL & METHODS

Patients who had had recurrence of benign thyroid cysts after FNA drainage who requested further intervention were offered ethanol sclerotherapy at Musgrove Park Hospital in place of hemithyroidectomy between April 2017 and March 2025. Under ultrasound guidance U2 cysts were drained to near complete dryness, with the needle still in the cavity 2-3ml of dehydrated ethanol was installed.

RESULTS

Thirty-nine patients were identified (79% female, age range 14-87 years).Mean cyst diameter was 4.1cm and aspirate volumes ranged from 1-230mls. One patient (3%) had a unilateral vocal cord palsy following ethanol sclerotherapy which resolved within 24hrs.

Overall, 77% (30/39) achieved a subjective decrease in cystic volume/ compressive symptoms to the extent they did not want any further intervention.

In 31% (9/39) the cyst refilled to the extent the patient wanted further follow-up or intervention. This consisted of surveillance (33%), repeat ethanol sclerotherapy (25%), surgery (25%), radiofrequency ablation (8%) and repeat FNA (8%).

CONCLUSIONS

Ethanol sclerotherapy is a safe and effective minimally invasive treatment for benign cystic thyroid nodules which have refilled after initial drainage. Recurrence rate is lower than FNA drainage alone and avoids operative intervention and its associated costs and risks in more than 75% of cases.

KEYWORDS

Thyroid cysts, Sclerotherapy, Ultrasound

OP-447

Transaxillary Gas-Insufflation Approach For Single-Port Robotic Thyroidectomy (TAGA-SP): A Two-Step Streamlined Technique

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BACKGROUND & AIM

Robot-assisted transaxillary thyroidectomy has evolved to improve cosmetic outcomes and reduce morbidity. The Gas-insufflation One-Step TransAxillary approach introduced but had limited assist ports for suction or bleeding control. Building on our prior experience with the TAGA (TransAxillary Gas-insufflation Approach) using the da Vinci Xi system, which proved feasible and safe for workspace creation, we refined this method for the single-port (SP) platform. We developed a two-step technique, TAGA-SP, combining an initial endoscopic phase with SP robotic dissection. This study evaluated surgical outcomes, complications, and the learning curve of operative time reduction in our initial TAGA-SP series.

MATERIAL & METHODS

In the TAGA-SP technique, the procedure begins with a conventional endoscopic gas-insufflation transaxillary approach to create the flap and establish the working space. After adequate visualization of the thyroid field, one of the three initial ports is closed, while the remaining supportive port is maintained to allow suction and assistance during robotic dissection. The da Vinci SP system (Intuitive Surgical, USA) is then introduced through the main port for thyroid lobectomy. Operative variables—including total surgical time, console time, and perioperative complications—were retrospectively analyzed in the initial patient series.

RESULTS

All procedures were successfully completed without conversion to open surgery. The mean operative time decreased with experience. No major complications, including permanent recurrent laryngeal nerve injury or postoperative hematoma, were observed. One patient experienced transient vocal cord paresis that recovered spontaneously.

CONCLUSIONS

The TAGA-SP technique represents a refined two-step adaptation of the transaxillary gas-insufflation approach for use with a single-port robotic platform. By incorporating an initial endoscopic phase and maintaining an assist port for suction and bleeding control, this method enhances intraoperative safety and procedural flexibility without compromising minimal invasiveness. Our initial experience demonstrates that TAGA-SP technique may serve as a practical and safe entry platform for surgeons transitioning from conventional endoscopic or open thyroidectomy to robotic surgery, providing a gradual and controlled learning pathway toward proficiency in robotic thyroidectomy.

KEYWORDS

Robot-assisted, thyroidectomy, davinc SP, single port, thyroid lobectomy, minimal invasive

OP-448

Functional And Oncologic Outcomes After Transoral Laser And Robotic Surgery For Oropharyngeal Carcinoma

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BACKGROUND & AIM

Transoral laser microsurgery (TLM) and transoral robotic surgery (TORS) have emerged as minimally invasive techniques for the management of oropharyngeal carcinoma (OPC), aiming to optimize oncologic control while preserving function. The goal of this study is to compare oncologic and functional outcomes of TLM and TORS.

MATERIAL & METHODS

A retrospective chart review was conducted on 296 patients with OPC who underwent TLM or TORS at a single centre academic teaching hospital between 2015 and 2024. Demographics and surgical outcomes were compared among the treatment modalities using Fisher's exact test for categorical variables and t-tests for continuous variables. Two-year overall survival (OS), disease-specific survival (DSS), and disease-free survival (DFS) were calculated using Kaplan-Meier survival curves. Functional outcomes were measured using proxy variables such as gastric tube placement (G tube), bleeding, and need for tracheostomy.

RESULTS

The mean patient age was 61.1 years and 78.7% were male. Tracheostomy ($p=0.037$) and overall bleeding rates ($p< 0.001$) were significantly higher in TORS group, while there was no significant difference in G tubes. There were no statistically significant differences in OS ($p=0.7$), DSS ($p=0.54$), DFS ($p=0.84$) between modalities.

CONCLUSIONS

Both TLM and TORS demonstrated excellent oncologic outcomes, with 2-year OS, DSS, and DFS exceeding 90% and comparable between groups. G tube placement rates were comparable between groups. Postoperative bleeding and tracheostomy rates were significantly higher in the TORS group. These findings reinforce that both TLM and TORS are effective minimally invasive approaches for OPC; however, in our study TORS was associated with higher rates of post-operative complications.

KEYWORDS

TRANSORAL ROBOTIC SURGERY, LASER, ONCOLOGY, FUNCTIONAL OUTCOMES

OP-449

Analysis Of Surgical Treatment Strategies And Prognostic Factors In Pediatric Head And Neck Rhabdomyosarcoma: A Single-Center Retrospective Cohort Study Of 162 Cases

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BACKGROUND & AIM

To explore surgical intervention strategies in the comprehensive treatment of pediatric head and neck rhabdomyosarcoma (HNRMS). This study aims to compare survival outcomes between upfront direct surgery and delayed surgery after neoadjuvant chemotherapy, and identify independent prognostic risk factors, thereby providing robust evidence for individualized clinical surgical decision-making.

MATERIAL & METHODS

We retrospectively analyzed 162 pediatric HNRMS patients undergoing primary tumor resection between September 2013 and March 2025. Patients were assigned to upfront direct surgery (n=78) and delayed surgery after neoadjuvant chemotherapy (n=84) groups. Overall survival (OS) and event-free survival (EFS) served as primary and secondary endpoints, evaluated using the Kaplan-Meier method and Log-rank test. Cox proportional hazards models were utilized to identify independent prognostic factors and construct a prognostic nomogram, with predictive efficacy assessed by the area under the receiver operating characteristic curve (AUC). Inverse probability of treatment weighting (IPTW) was applied to adjust for baseline indication bias and determine the true prognostic value of surgical timing.

RESULTS

The median follow-up was 24.7 months. The 3-year OS and EFS rates were 80.1% and 53.3%. Significant baseline indication bias existed; the delayed surgery group exhibited higher proportions of aggressive features (tumor >5 cm, parameningeal origin, meningeal invasion, and metastases) (P<0.05). Multivariate analysis revealed no radiotherapy, IRS stage III/IV, meningeal invasion (HR=5.75, P=0.005), and N1 stage (HR=4.63, P=0.018) as independent adverse factors for OS. The constructed nomogram yielded AUCs of 75.11% and 75.81% for predicting 3-year and 5-year OS. After IPTW adjustment, OS showed no significant difference between delayed and upfront surgery groups (weighted HR=0.630, 95%CI: 0.241–1.643, P=0.344). EFS differences were similarly non-significant (P=0.696).

CONCLUSIONS

No radiotherapy, meningeal invasion, regional lymph node metastasis, and IRS stage III/IV are independent adverse prognostic factors for pediatric HNRMS. The constructed nomogram demonstrates excellent individualized predictive efficacy. After rigorously adjusting for baseline indication bias via IPTW, upfront direct surgery and delayed surgery after neoadjuvant chemotherapy yielded comparable survival benefits. Individualized surgical strategies must be carefully formulated by integrating tumor anatomical features with comprehensive multidisciplinary evaluations.

KEYWORDS

Head and neck neoplasms; Rhabdomyosarcoma; Pediatrics; Surgery; Neoadjuvant chemotherapy; Prognostic factors

OP-450

Single-Center Clinical Experience In Laryngeal Squamous Cell Carcinoma: Treatment Patterns, Recurrence Dynamics, And Patient Survival

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BACKGROUND & AIM

Optimal management of laryngeal squamous cell carcinoma (LSCC) remains influenced by tumor stage, organ preservation strategies, and institutional experience. Recurrence and patient survival are key determinants of long-term prognosis. We present a single-center clinical experience evaluating treatment patterns, recurrence dynamics, and patient survival in LSCC.

MATERIAL & METHODS

Between 2015 and 2026, 280 patients diagnosed with LSCC were retrospectively reviewed at a tertiary referral center. Fifty-seven patients were excluded due to insufficient follow-up or incomplete data, leaving 223 patients for analysis. Clinical stage was available in 209 cases. Patients were stratified according to initial treatment strategy as primary surgical treatment or definitive chemoradiotherapy (CRT). Recurrence timing, patient survival, and clinical–pathological stage correlation were evaluated retrospectively.

RESULTS

Primary surgical treatment was performed in 135 patients (60.5%), while 88 patients (39.5%) received definitive CRT; 11 of these later required salvage laryngectomy. Surgical procedures included cordectomy (n=38), partial laryngectomy (n=47), and total laryngectomy (n=50); 17 cordectomies were open and 21 were performed via a transoral approach.

The overall recurrence rate was 12% (27/223), with a median time to recurrence of 11 months. Recurrence occurred in 5.2% of patients treated with primary surgery and 22.7% of those treated with definitive CRT. Within advanced-stage (III–IV) disease, recurrence remained higher in patients managed with definitive CRT compared to those treated surgically (15.1% vs 6.7%).

Median follow-up was 26 months, and median overall survival (OS) was 30 months. Overall mortality was 31% (71/223), and recurrence was associated with markedly higher mortality (63% vs 27%).

CONCLUSIONS

Recurrence represents a critical prognostic event in LSCC and is strongly associated with increased mortality, particularly when occurring within the first year. These findings underscore the importance of closer follow-up during the first year after treatment. Early detection and early recognition of recurrence may contribute to improved outcomes. Careful patient selection and tailored treatment strategies remain essential to optimize survival and long-term prognosis.

KEYWORDS

Larynx Cancer Laryngeal squamous cell carcinoma Recurrence Patient survival Salvage laryngectomy

OP-451

Comparison Of Subjective And Objective Outcomes Following Ablation Therapy For Thyroid Nodule

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BACKGROUND & AIM

Thyroid nodules are common clinical conditions. Compared to traditional surgery, ablation therapy is minimally invasive with fewer complications, but post-treatment reduction and clinical outcomes vary. This study investigated the predictors of volume reduction rate (VRR) after ablation and analyzed the correlation between objective and subjective clinical improvements.

MATERIAL & METHODS

Patients with benign thyroid nodules undergoing ablation were enrolled. Preoperative ultrasound features (size, number, echogenicity, composition, calcification, margin, and vascularity), self-reported symptoms, and cosmetic scores were collected. Volume and clinical scores were tracked at 1, 3, and 6 months postoperatively to calculate VRR. Statistical analyses included t-tests, ANOVA, and multivariate linear stepwise regression.

RESULTS

In 46 patients, mean nodule volume decreased from 9.87 mL preoperatively to 4.95, 2.95, and 1.83 mL at 1, 3, and 6 months, yielding VRRs of 47.5%, 69.6%, and 80.2%, respectively. Age, laterality, and margin did not significantly affect 6-month VRR. However, composition, echogenicity, vascularity, and calcification showed significant differences ($P<0.05$). Multivariate regression identified solid component <25% and anechoic status as significant VRR predictors ($P<0.05$). Symptom scores decreased from 5.8 to 4.1, 2.8, and 1.8, and cosmetic scores decreased from 2.9 to 2.1, 1.8, and 1.4 at 1, 3, and 6 months, respectively, showing significant improvements from month 1 ($P<0.05$). At 6 months, symptom and cosmetic improvements significantly correlated with preoperative severity and VRR ($P<0.05$).

CONCLUSIONS

Ablation therapy significantly reduces thyroid nodule volume and improves symptoms and cosmetic appearance, with notable efficacy within 1 month. Preoperative nodule composition and echogenicity are key predictors of VRR, highlighting the clinical value of pre-treatment imaging findings in predicting prognosis.

KEYWORDS

thyroid, radiofrequency ablation, RFA, thyroid nodule, goiter, ultrasound, sonography

OP-452

Clinicopathological Evaluation And Surgical Outcomes Of Parotidectomy: A Six-Year Retrospective Study

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BACKGROUND & AIM

Approximately 80% of salivary tumors originate in the parotid gland and are predominantly benign. Pleomorphic adenoma and Warthin's tumor are the most frequent benign lesions; mucoepidermoid carcinoma is the most common malignancy. Surgery, aiming for mass excision and facial nerve preservation, remains the gold standard for primary tumors and head/neck metastases. However, large contemporary series from our country are limited. This study retrospectively evaluates the demographic, clinical, and histopathological features of patients undergoing parotidectomy for primary or metastatic lesions in our clinic over six years, sharing our surgical approaches and complication rates to contribute to clinical experience.

MATERIAL & METHODS

This retrospective clinical study was conducted by reviewing records of patients who underwent surgical procedures in the parotid region at the Otolaryngology and Head and Neck Surgery Department of Zonguldak Bülent Ecevit University Hospital

between January 2020 and April 2026. The study adhered to the Declaration of Helsinki principles, and institutional ethics committee approval was obtained. We included patients operated on for benign and malignant primary parotid masses, sialolithiasis, and diagnostic or therapeutic parotidectomies performed for suspected occult metastasis or direct tumor invasion from head and neck malignancies. Patients with incomplete hospital records or lacking regular follow-up were excluded. Overall, 200 patients meeting inclusion criteria constituted the study sample. Of these, 152 were treated for primary parotid pathologies, while 48 underwent parotidectomy due to secondary metastasis or invasion. Patient demographics, surgical indications, techniques, histopathological diagnoses, and postoperative complications were analyzed retrospectively

RESULTS

Of 200 patients (112 men, 88 women; mean age: 60.5), 152 (76%) had primary parotid masses and 48 (24%) had suspected head and neck metastases. Pleomorphic adenoma (43.3%) and Warthin tumor (37.0%) were the most common primary benign pathologies, followed by myoepithelioma and basal cell adenoma. Superficial parotidectomy was the most frequent surgery (60.5%), followed by total (19%) and subtotal (12.5%) parotidectomy; extracapsular dissection was never performed. A modified Blair incision was utilized in 94.1% of cases. Postoperative complications included seroma (6.5%) and fully resolving transient facial palsy (6.5%). Permanent paralysis (3.0%) occurred solely due to mandatory oncological nerve sacrifice. Frey syndrome (1.5%) and wound infections (1.0%) were rare. Among the 48 metastatic cases, cutaneous squamous cell carcinoma (79.2%) and malignant melanoma (16.7%) were most frequent, with primary lesions predominantly originating from preauricular and malar regions

CONCLUSIONS

This study shares our clinical experience by presenting the histopathological distribution, surgical approaches, and complication rates of a large parotidectomy series. Benign pathologies predominated, and superficial parotidectomy was the most frequent procedure. Our low permanent facial paralysis rates highlight how routine neuromonitoring and surgical expertise prevent iatrogenic morbidity. Furthermore, findings underscore the parotid gland's vital role as a "sentinel" drainage station for malar and preauricular squamous cell carcinomas. To address rising aesthetic demands, we increasingly utilize minimally invasive face-lift and tragal V incisions, providing a contemporary reference for oncological, functional, and aesthetic parotid surgery management

KEYWORDS

Parotidectomy, Parotid Gland Neoplasms, Pleomorphic Adenoma, Mucoepidermoid Carcinoma, Facial Nerve.

OP-453

Pharyngeal Mucosal Margin Vessel Counts And Predictive Value Of Risk Factors For Pharyngocutaneous Fistula After Total Laryngectomy

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BACKGROUND & AIM

Pharyngocutaneous fistula (PCF) is the most frequent and a major complication following total laryngectomy; increasing short and long term morbidity, and is the most common cause of wound related death for the postsurgical head and neck cancer. Dysregulation of angiogenesis is closely related to impaired wound healing, tissue hypoxia and tumor progression. This study aims to evaluate the prognostic significance of vessel counts from pharyngeal mucosal margins of total laryngectomy surgical materials along with the other related predictive factors for pharyngocutaneous fistula, with the review of current literature.

MATERIAL & METHODS

This preliminary study conducted on a retrospetive analysis of the patients in single tertiary institution undergoing total laryngectomy between 2020-2025. Comparisons has made of pharyngocutaneous margin vessel counts from the surgical histopathologic archive based on the groups between who developed and did not develop pharyngocutaneous fistula; also evaluated the factors may affect PCF occurrence, related to the patient, the disease, and the received treatment. These factors were clinical stage, tumor extension, flap reconstruction, tobacco use, received radiotherapy/cemotherapy, postoperative inflammatory markers, serum protein levels, postoperative anemia. Mean margin vessel counts evaluated from 10x field from histopathological archive from base of the tongue, left and right hypopharyngeal margins and aryepiglottic folds

RESULTS

The cohort conducted of 41 patiens (34 males, 7 females) and divided into two groups with (n=22) and without (n=19) fistula. The mean vascular proliferation value (MVPV) was significantly higher in patients who developed fistula (50.9 vs 35.8, $p < 0.001$). In the ROC analysis, MVPV demonstrated high discriminatory performance in predicting fistula development (AUC: 0.903). According to the logistic regression analysis, every 10-unit increase in MVPV increases the probability of PCF by approximately 10 times. In the multivariable logistic regression analysis adjusted for pectoralis flap reconstruction, MVPV remained independently associated with the development of fistula. MVPV levels did not show a significant difference according to tumor location. Serum albumin levels, total protein levels, hematocrit levels found to be significantly lower, sedimentation was significantly higher in the PCF group.

CONCLUSIONS

Early identification of patients at high risk can help to reduce the incidence of PCF. Therefore margin vessel counts can be a significant predictive biomarker in total laryngectomy enabling risk assesment and guiding postoperative care accordingly. Further investigations with larger cohorts incorperating histopathological evaluation of locoregional wound healing in residual tissues may provide critical insights and eluciate the causative mechanisms of the disease.

KEYWORDS

pharyngocutaneous fistula, total laryngectomy, reconstruction, vascular proliferation, margin vessel counts

OP-454

Head And Neck Paragangliomas : An Overview From Diagnosis To Treatment.

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BACKGROUND & AIM

Paragangliomas (PGLs) are a group of neuroendocrine tumors that arise in the parasympathetic or sympathetic ganglia. Head and neck PGLs (HNPGLs) comprise 65% to 70% of all PGLs and account for 0.6% of all head and neck cancers. The majority of HNPGLs are benign, and commonly originates from the carotid body, jugular bulb, and vagal body. The aim of our study is to highlight the clinical and radiological diversity of paragangliomas of the head and neck, as well as the best therapeutic decision in each case according to the different management possibilities.

MATERIAL & METHODS

This is a descriptive analysis of a series of 27 patients with paraganglioma of the head and neck, diagnosed and treated over a 5-year period (2020-2025). This series excludes all other types of tumors of the temporal bone and cervical region. All patients underwent clinical and paraclinical examinations in our department.

RESULTS

The average age is 49 with a sex ratio of 0,28 .

The localisation was mainly tympanic (n= 13), tympanojugular (n= 6), carotid (n= 5) and vagal (n= 3). All tumors were solitary with two familial cases and no secreting or malign paraganglioma.

For glomus tympanicum and tympanojugular, the symptomatology is dominated by unilateral pulsatile tinnitus. However, cervical tumors are pauci-symptomatic. 78% of the cases present a pulsatile mass.

The HRCT scan supplemented by an MRI confirms the diagnosis of paraganglioma and specifies its origin.

Surgery was performed in all cases with glomus tympanicum (100%), 1 case of glomus tympanojugular (16%), 4 cases of carotid paraganglioma (80%) and 2 cases of vagal paraganglioma (66%) .A radiotherapy was performed in 22% of cases (with significant intracranial extension, advanced age, high comorbidities or insufficient contralateral vascular supplementation).

No tumor recurrence in patients treated surgically with a follow-up ranging from 6 months to 5 years.

CONCLUSIONS

Paragangliomas are rare vascular tumors and multiple forms are described in the head and neck region. Clinical manifestations are variable and sometimes nonspecific, delaying diagnosis and management. Imaging remains the preferred examination to guide diagnosis. Management is not standardized and depends on the patient's age, tumor location, and treatment morbidity.

KEYWORDS

Paraganglioma, head and neck neoplasm, vascular tumors.

OP-455

EVALUATION OF THYROID GLAND INVASION IN ADVANCED LARYNGEAL SQUAMOUS CELL CARCINOMA

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BACKGROUND & AIM

Total laryngectomy is considered the gold standard treatment in advanced laryngeal cancer and in cases of recurrence following organ-preserving therapies. Depending on the patterns of tumor spread, the addition of ipsilateral thyroidectomy to total laryngectomy is also recommended. However, the relatively low incidence of thyroid gland invasion (1–30%) and the risk of significant morbidities such as hypothyroidism and hypoparathyroidism following thyroidectomy make its necessity controversial.

This study aimed to identify predictors of thyroid gland invasion in patients with advanced laryngeal squamous cell carcinoma (LSCC) and to evaluate the necessity of thyroidectomy.

MATERIAL & METHODS

Patients diagnosed with advanced LSCC who underwent total laryngectomy with concurrent thyroidectomy between 2006 and 2024 were retrospectively analyzed. Patients with a history of preoperative chemotherapy or radiotherapy were excluded.

Preoperative laryngoscopic findings, radiologic imaging (CT/MRI), and histopathologic reports of 85 patients were evaluated. Statistical analysis was performed using IBM SPSS for Windows version 21.0. Chi-square tests were used for comparison of categorical variables, and a p-value <0.05 was considered statistically significant.

RESULTS

Thyroid gland invasion was detected in 9 (10.6%) out of 85 patients histopathologically.

On histopathological evaluation, full-thickness thyroid cartilage invasion (p=0.027) and extralaryngeal spread (p=0.004) were significantly associated with thyroid gland invasion. Subglottic extension (>1 cm) was found to be borderline significant (p=0.052). On radiological evaluation, thyroid cartilage destruction (p=0.045), cricoid cartilage destruction (p=0.001), subglottic extension (p=0.047), and extralaryngeal spread (p=0.006) were significantly associated with thyroid gland invasion.

There was no significant association was found between thyroid gland invasion and age, sex, tumor location, stage and lymph node involvement.

CONCLUSIONS

In our study, the rate of thyroid gland invasion was consistent with rates reported in the literature. Additionally, thyroid cartilage destruction, extralaryngeal spread, and subglottic extension were found to be associated with thyroid gland invasion and to increase this risk, in line with previous reports.

These findings suggest that ipsilateral thyroidectomy should not be performed routinely during total laryngectomy, but rather selectively in patients with thyroid cartilage destruction, extralaryngeal spread, and subglottic extension.

KEYWORDS

total laryngectomy, thyroidectomy, laryngeal squamous cell carcinoma, thyroid gland invasion

OP-456

Risk Of Thyroid Carcinoma In Patients Treated Surgically With Assumed Benign Cytology In Riyadh, Saudi Arabia

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BACKGROUND & AIM

This study aimed to report the rate of thyroid malignancy in benign fine-needle aspirations (Bethesda II) at King Abdulaziz Medical City and evaluate the factors that affect false-negative outcomes of FNA.

MATERIAL & METHODS

All patients referred for thyroidectomy from 2009 to 2019 were reviewed (n = 1968). Only patients with a benign FNA, corresponding to the Bethesda II, were included (n = 384). Information on age, gender, body mass index (BMI), serum thyroid-stimulating hormone, type of surgery and histopathological outcomes were retrieved.

RESULTS

Of the sample (n = 384) with an initial benign FNA, 63 patients had a malignancy on postoperative pathological examination, yielding an overall false-negative rate of 16.4%. The most frequently reported histopathological type was papillary thyroid microcarcinomas (n = 52). For the false-negative group, the mean age was 43.8 years (range 21-70 years) with an 84.1% female predominance. The surgical choice for 74% (n = 46) of cases was total thyroidectomy. Age, gender, thyroid function and BMI did not affect the false-negative rate of benign FNA (p > 0.05).

CONCLUSIONS

This study found a higher risk of malignancy compared to the literature related to benign FNA. The risk of malignancy should be considered, even with benign FNA.

KEYWORDS

benign cytology; fine-needle aspiration; malignancy; thyroid carcinoma.

OP-457

Is P16 Enough? The Prognostic Role Of HPV In Head And Neck Cancer Of Unknown Primary

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BACKGROUND & AIM

Head and neck cancer of unknown primary (HNCUP) typically presents as cervical lymph node metastasis without identification of the primary tumor despite comprehensive evaluation. Many cases are HPV-positive and associated with favorable prognosis, suggesting an oropharyngeal origin. In the 8th TNM edition, HNCUP is classified by HPV or p16 status, although concordance between these markers is imperfect. HPV/p16 discordance, as reported in oropharyngeal cancer, may affect treatment stratification. This study evaluated the prevalence and prognostic significance of HPV/p16 discordance in HNCUP in a high HPV-prevalence region.

MATERIAL & METHODS

This study included 141 patients diagnosed with HNCUP at Karolinska University Hospital between 2000 and 2024. For cases diagnosed from 2014 to 2024, HPV and p16 were determined using fine needle aspiration cytology (FNAC) from neck metastases or retrieved form medical records. For cases diagnosed from 2000 to 2013, relevant data were obtained from a previous study. P16 expression was assessed using immunohistochemistry, while HPV DNA status was evaluated via PCR. Survival analysis, both overall and disease-free, included 137 patients in the 2-year survival analysis and 124 in the 5-year survival analysis.

RESULTS

Of the 141 patients, 128 had both HPV and p16 status and were analyzed for discordance. Among these, 71/128 (55.4%) were HPV DNA+ and 57/128 (44.5%) were HPV DNA-. Concordance in both HPV DNA and p16 positivity (HPV DNA+/p16+) was seen in 53/71 (74.6%) whereas 18/71 (25.4%) were HPV DNA+/p16-. Patients with HPV+ HNCUP, regardless of p16 status, had a better overall survival.

CONCLUSIONS

In this cohort of patients with HNCUP from a high HPV-prevalence region, HPV/p16 discordance was observed in a substantial proportion of cases, with one quarter of HPV DNA–positive tumors lacking p16 overexpression. Despite this discordance, HPV positivity—irrespective of p16 status—was associated with improved overall survival. These findings suggest that HPV DNA status may carry important prognostic information beyond p16 expression alone. The results parallel observations in oropharyngeal cancer and highlight the potential clinical relevance of combined HPV and p16 assessment in HNCUP.

KEYWORDS

HPV, p16, CUP, OPSCC, cancer of unknown primary, head and neck cancer

OP-458

Endoscopic Surgical Anatomy Of The Parapharyngeal Space Via The Transparotid Approach: A Cadaveric Morphometric Study

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BACKGROUND & AIM

The parapharyngeal space (PPS) is a deep anatomical region with complex neurovascular relationships, posing significant challenges for surgical access. Among various approaches, the transparotid route provides a natural lateral corridor, particularly for prestyloid lesions. However, detailed endoscopic anatomical data and morphometric relationships relevant to this approach remain limited. To define the endoscopic surgical anatomy of the PPS via the transparotid approach and to quantitatively evaluate the spatial relationships of critical neurovascular structures, with particular emphasis on surgical safety corridors.

MATERIAL & METHODS

This descriptive and analytical cadaveric study was conducted on five formalin-fixed adult human cadaver heads, yielding a total of ten dissection fields (bilateral). A standardized transparotid approach was performed using both conventional and endoscopic techniques (0° and 30° optics). Morphometric measurements were obtained using digital calipers, focusing on distances between the styloid process and adjacent neurovascular structures, as well as superficial–deep anatomical correlations. Dissections were documented and analyzed to assess surgical planes and transition zones between prestyloid and poststyloid compartments.

RESULTS

A total of 10 parapharyngeal dissections were analyzed. The prestyloid compartment consistently provided a reliable surgical corridor. Quantitative assessment demonstrated a stable anatomical relationship between the styloid process and the facial nerve (4.75 ± 1.7 mm), supporting its role as a dependable landmark. In contrast, the distance between the styloid process and the internal carotid artery showed marked variability (18.35 ± 9.6 mm), whereas its relationship with the internal jugular vein remained relatively constant (12.6 ± 1.8 mm). The hypoglossal nerve exhibited the greatest positional variability (29.8 ± 9.1 mm), limiting its utility as a surgical reference. No statistically significant side-to-side differences were identified ($p > 0.05$), although minor asymmetrical trends were observed, particularly in facial nerve depth and vascular relationships. Overall, these

findings distinguish stable from variable anatomical structures within the parapharyngeal space, with important implications for surgical orientation and risk mitigation.

CONCLUSIONS

The transparotid approach offers reliable access to the parapharyngeal space, with the prestyloid compartment serving as a safe and consistent entry corridor. The styloid process is a dependable landmark for early identification of the facial nerve, whereas the internal carotid artery and hypoglossal nerve demonstrate significant variability. Recognition of these patterns is essential for optimizing surgical orientation and minimizing neurovascular risk.

KEYWORDS

Parapharyngeal space, transparotid approach, endoscopic anatomy, cadaver study, morphometry, head and neck surgery

OP-459

Predictive Value Of Continuous Intraoperative Neuromonitoring (CIONM) In Thyroid Surgery: A Study Of 166 Patients And 326 Nerves At Risk

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BACKGROUND & AIM

Continuous intraoperative neuromonitoring (CIONM) provides real-time functional assessment of the recurrent laryngeal nerve (RLN). This study evaluates the incidence, etiology, and predictive accuracy of CIONM signal loss, specifically focusing on its role as a clinical decision-making tool.

MATERIAL & METHODS

A Prospective analysis was conducted on 166 patients undergoing thyroidectomy (total and hemi), involving 326 nerves at risk (NAR). Standardized CIONM protocols were employed via vagal stimulation. Loss of signal (LOS) events were categorized by surgical cause and correlated with postoperative laryngoscopy results.

RESULTS

- Incidence of LOS: A loss of continuous signal occurred in 46 NAR (14.1%). Combined loss of both continuous and intermittent signals was observed in 5 NAR (1.5%).
- Etiology of Nerve Stress: Traction was the predominant cause of LOS (n=31), followed by thermal injury (n=11), cutting (n=2), crushing (n=1), and laceration (n=1).
- Clinical Outcomes: Postoperative laryngoscopy confirmed 37 cases of temporary vocal cord palsy and 3 cases of permanent palsy.
- Statistical Performance:

. Ten patients (False Positives) showed intraoperative LOS but normal postoperative function, while four patients (False Negatives) experienced palsy despite a stable signal.

· Sensitivity: 90.0%

· Specificity: 96.5%

· Positive Predictive Value (PPV): 78.3%

· Negative Predictive Value (NPV): 98.6%

CONCLUSIONS

CIONM serves as a highly reliable "early warning system," particularly for identifying traction, which remains the most frequent and reversible cause of nerve stress. The high Negative Predictive Value (98.6%) provides surgeons with excellent confidence to proceed with bilateral surgery. Conversely, the 78.3% PPV demonstrates that while signal loss does not always result in permanent injury, it serves as a critical trigger for intraoperative corrective maneuvers. Ultimately, the high sensitivity of CIONM justifies the practice of "staged thyroidectomy" in the event of unilateral LOS to prevent the devastating complication of bilateral vocal cord paralysis.

KEYWORDS

Thyroid surgery, Continuous intra-operative nerve monitoring , Loss of signal

OP-460

EVALUATION OF THYROID TISSUES AT 18 AND 24 MONTHS IN RATS EXPOSED TO 3.5 Ghz RADIOFREQUENCY RADIATION DURING THE PRENATAL PERIOD

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BACKGROUND & AIM

The aim of this study was to examine the thyroid glands of the offspring of maternal rats exposed to 3.5 GHz radiofrequency radiation (RFR) during the prenatal period, at postnatal months 18 and 24.

MATERIAL & METHODS

In this study, Wistar Hannover rats were obtained from an ethically approved experimental protocol (no. 2022-02) under the Ethics Committee of Bağcılar Training and Research Hospital.

The dams were exposed to 3.5 GHz RFR only during pregnancy. The offspring were not exposed to any radiation until postnatal months 18 and 24. The 18-month group consisted of a total of 15 female rats (8 control, 7 RFR-exposed), and the 24-month group consisted of a total of 15 male rats (7 control, 8 RFR-exposed). All animals were sacrificed under ketamine anesthesia, and thyroid tissues were evaluated histopathologically, morphologically, and immunohistochemically.

RESULTS

A significant increase in total score and colloid parameters was observed between the 18- and 24-month experimental groups ($p = 0.010$; $p = 0.008$). Immunohistochemical analysis of thyroid tissues in the 18-month group showed that prenatal exposure to 3.5 GHz RFR increased Ki-67 ($p = 0.002$), Caspase-3 ($p = 0.018$), and LC3B levels ($p > 0.05$). Data from the 24-month group indicated that prenatal RFR exposure increased Ki-67 ($p = 0.002$) and Caspase-3 ($p = 0.018$) while decreasing LC3B. IL-1β and NF-κB were not affected by the radiation ($p > 0.05$).

Morphological measurements revealed that RFR did not alter peripheral and central follicle diameters ($p > 0.05$) but significantly decreased peripheral epithelial height ($p = 0.016$).

CONCLUSIONS

Prenatal exposure to 3.5 GHz RFR induced selective morphological and cellular alterations in thyroid tissue at postnatal months 18 and 24.

KEYWORDS

Thyroid; Apoptosis (Caspase-3); Inflammation (IL-1β, NF-κB); Autophagy (LC3B); Proliferation (Ki-67); 3.5 GHz Radiofrequency Radiation; Histopathology and Morphology

OP-461

Ultrasonographic Measurement Of Minimum Tumor–Fascia Distance For Differentiating Deep And Superficial Parotid Tumors

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BACKGROUND & AIM

This prospective study was designed to evaluate whether the minimum tumor–parotideomasseteric fascia distance (MTFD), measured by ultrasonography, can reliably predict the preoperative localization of parotid tumors as superficial or deep lobe and assist in surgical decision-making. Accurate preoperative identification of tumor localization is essential for appropriate surgical planning and risk assessment. Based on our review of the existing literature, this study represents the first prospective investigation addressing the diagnostic role of MTFD in this context.

MATERIAL & METHODS

Between September 2024 and January 2026, 52 patients who underwent surgical treatment for parotid gland tumors at the Department of Otolaryngology, Basakşehir Cam and Sakura City Hospital were prospectively included. In all patients, the minimum tumor–parotideomasseteric fascia distance (MTFD) was measured and recorded during preoperative ultrasonographic examinations. All measurements were independently performed by two experienced radiologists who were blinded . Tumor localization was classified intraoperatively as superficial or deep lobe according to the relationship between the tumor and the facial nerve and was accepted as the reference standard. To account for operator-dependent variability inherent to ultrasonography, simulated measurement error was incorporated into MTFD values. The diagnostic performance of MTFD for predicting deep lobe localization was assessed using receiver operating characteristic (ROC) analysis. The area under the curve (AUC) was calculated, and the optimal cutoff value was determined using the Youden index. Statistical significance was defined as $p < 0.05$.

RESULTS

Based on surgical findings, tumor localization was classified as superficial lobe in 41 patients (78.9%) and deep lobe in 11 patients (21.1%).Superficial lobe tumors showed lower MTFD values than deep lobe tumors.. Tumors were located in the left parotid gland in 28 patients (53.8%) and in the right parotid gland in 24 patients (46.2%). The study cohort consisted of 17 female (32.6%) and 35 male patients (67.4%). Histopathological examination revealed pleomorphic adenoma in 20 cases, Warthin tumor in 24 cases, non-diagnostic findings in 3 cases, and neoplasms of uncertain malignant potential (SUMP) in 5 cases. After adjustment for measurement variability, ROC analysis demonstrated excellent diagnostic performance of MTFD for predicting deep lobe localization, with an AUC of 0.985 (95% CI: 0.941–1.000). At a cutoff value of 2.6 mm, sensitivity was 85% and specificity was 98%. Secondary analysis demonstrated significantly higher MTFD values with increasing surgical extent ($p = 0.0019$).

CONCLUSIONS

Ultrasonographically measured MTFD demonstrates good diagnostic performance in predicting lobar localization of parotid tumors and may provide meaningful support for preoperative surgical planning. However, the limited sample size and the relatively small number of deep lobe tumors restrict the generalizability of these findings. Larger, multicenter prospective studies are required to further validate the diagnostic and clinical utility of MTFD.

KEYWORDS

Minimum fascia-tumor distance, parotid tumor, deep lobe, ultrasonography,

OP-462

Intratumoral And Peritumoral CT Radiomics For Predicting PD-L1 Expression And Pathological Complete Response To Neoadjuvant Chemoimmunotherapy In Hypopharyngeal Carcinoma

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BACKGROUND & AIM

To construct a radiomics model based on contrast-enhanced computed tomography (CT) of intratumoral and peritumoral regions of hypopharyngeal carcinoma for noninvasive preoperative prediction of programmed death-ligand 1 (PD-L1) expression status, evaluate its predictive value for pathological complete response (pCR) after neoadjuvant chemoimmunotherapy, and provide an objective basis for individualized treatment decision-making.

MATERIAL & METHODS

364 patients with hypopharyngeal carcinoma who underwent preoperative cervical contrast-enhanced CT and neoadjuvant chemoimmunotherapy from three domestic medical centers were retrospectively enrolled. The intratumoral region of the primary lesion and peritumoral regions with 1–5 mm circumferential expansion were delineated slice by slice, and radiomic features were extracted. The optimal features were screened through analysis of variance and least absolute shrinkage and selection operator (LASSO) regression, and multiple machine learning models including random forest, extreme gradient boosting (XGBoost), and support vector machine (SVM) were constructed to establish a classification model with PD-L1 expression status as the endpoint. The receiver operating characteristic (ROC) curve, calibration curve, and decision curve analysis (DCA) were used to evaluate the discrimination, calibration, and clinical net benefit of the model. The concordance index (C-index), net reclassification improvement (NRI), and integrated discrimination improvement (IDI) were applied to further assess the predictive efficacy of the model for pCR events.

RESULTS

The positive rates of PD-L1 in the training cohort, internal validation cohort, and external validation cohort were 58.5%, 56.6%, and 55.1%, respectively, with an overall pCR rate of 36%. The combined feature model of intratumoral + 2 mm peritumoral region showed the optimal predictive efficacy, with the area under the ROC curve (AUC) of 0.812, 0.785, and 0.769 in the training cohort, internal validation cohort, and external validation cohort, respectively. The calibration curve indicated good consistency and DCA revealed that the model achieved clinical net benefit within a wide range of threshold probabilities. The results of C-index, NRI and IDI demonstrated that the radiomics model significantly improved the prediction accuracy of pCR, which was superior to the model with clinical factors alone. SHAP analysis showed that peritumoral textural heterogeneity, intratumoral attenuation gradient, and marginal morphological features were the key features driving PD-L1 prediction.

CONCLUSIONS

The CT radiomics model based on the combination of intratumoral and peritumoral regions can noninvasively and accurately predict PD-L1 expression status in hypopharyngeal carcinoma, and effectively evaluate the probability of pCR after neoadjuvant chemoimmunotherapy, which provides a noninvasive imaging stratification tool for precision immunotherapy of locally advanced hypopharyngeal carcinoma.

KEYWORDS

Hypopharyngeal neoplasms; Radiomics; Predictive model; Immunotherapy; Pathological complete response

OP-463

Diagnostic Accuracy Of The Milan Classification System For Salivary Gland Cytology: A Retrospective Validation In A Middle Eastern Tertiary Center

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BACKGROUND & AIM

The Milan System for Reporting Salivary Gland Cytopathology (MSRSGC) was introduced to standardize cytological diagnosis and provide risk of malignancy (ROM) estimates. While validation studies from Western and Asian populations have confirmed its clinical value, data from the Middle East remain scarce.

Objective: To validate the diagnostic accuracy of the Milan System in a Middle Eastern tertiary care population, calculate ROM values, assess demographic and clinical predictors of malignancy, and analyze recurrence and survival outcomes

MATERIAL & METHODS

We conducted a retrospective diagnostic accuracy study of 144 patients with salivary gland tumors who underwent fine-needle aspiration (FNA) followed by surgical excision (2014–2023). FNA results were classified using the Milan System and compared with final histopathology. Diagnostic performance metrics, including sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and overall accuracy with 95% confidence intervals (CIs), were calculated. Logistic regression was used to evaluate predictors of malignancy. Recurrence-free survival was analyzed with the Kaplan–Meier method

RESULTS

Of 144 patients, 138 had complete cytology and histopathology data. ROM values were 0% for category I, 11.8% for category II, 14.3% for AUS, 5.9% for SUMP, and 87.0% for malignant. Overall sensitivity was 71.4% (95% CI: 52.9–84.7), specificity 97.3% (95% CI: 92.4–99.1), PPV 87.0%, NPV 93.1%, and diagnostic accuracy 92.1% (95% CI: 86.4–95.5). No demographic or clinical predictors were significantly associated with malignancy. Recurrence occurred in 12.9% of malignant versus 3.5% of benign cases

CONCLUSIONS

The Milan System demonstrated high diagnostic accuracy and reliable ROM estimates in this Middle Eastern population. Cytological categorization remained the most important predictor of malignancy, while recurrence analysis reinforced its prognostic significance. These findings support wider adoption of the Milan System in the region and highlight the need for prospective, multi-institutional validation.

KEYWORDS

Salivary gland tumors, fine-needle aspiration, Milan System, diagnostic accuracy, risk of malignancy

OP-464

Epigenetic Landscape Of Laryngeal Squamous Cell Carcinoma In HPV-Negative Smokers: Distinct DNA Methylation Profiles - A Pilot Study

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BACKGROUND & AIM

Laryngeal squamous cell carcinoma (LSCC) represents a significant clinical challenge, particularly in HPV-negative patients with extensive tobacco exposure. This pilot study aimed to determine whether specific, consistent within this cohort DNA methylation patterns differentiate primary LSCC from patient-matched adjacent non-tumor mucosa. By establishing high-confidence differentially methylated positions (DMPs) in a highly controlled, homogenous patient subset, this preliminary work serves as a strict proof-of-concept for high-resolution epigenetic mapping of the tumor-versus-healthy tissue axis, establishing a foundation for identifying localized molecular mechanisms of oncogenesis.

MATERIAL & METHODS

From 38 patients with laryngeal lesions, 7 male, active-smoking, HPV-negative patients with primary G2 LSCC (T2–T4 staging) was selected (mean age: 67.43 years; mean tobacco exposure: 34.29 pack-years). DNA methylation was profiled using the Illumina Infinium MethylationEPIC v2 array on 16 samples (paired tumor/surgical-margin and two whole-blood donors). Data preprocessing, background/dye-bias corrections, and probe filtering yielded 896,754 autosomal CpGs. Differential methylation analysis between tumor and margin was performed using paired limma models on M-values, alongside parallel cellularity-adjusted models. Differentially methylated regions were identified via DMRcate. Tissue cell-type composition and immune infiltration were hierarchically deconvoluted utilizing the HEpiDISH algorithm.

RESULTS

Unsupervised hierarchical clustering of the top 50 DMPs (FDR < 0.05, $|\Delta\beta| > 0.10$) revealed a distinct, binary epigenetic switch stratifying malignant and normal tissue. Tumor hypermethylation was observed in functionally vital genes like DERL1 and DGKA. Conversely, marked tumor hypomethylation drove the epigenetic activation of oncogenic and regulatory targets, including LY6K, LINC00460, ADGRG7, CD53, and MIR1179. Exploratory comparison with whole-blood donor DNA suggested concordant directional methylation trends for selected CpGs, supporting the need for future validation in patient-matched liquid biopsy samples. HEpiDISHdeconvolution demonstrated that methylation variance strongly correlates with epithelial cancer cells, fibroblasts, and infiltrating immune populations. Tissue deconvolution revealed a profound remodeling of the malignant microenvironment, characterized by a marked enrichment of tumor-infiltrating neutrophils and a concurrent decrease in CD4+ T cells.

CONCLUSIONS

This pilot study provides preliminary evidence that HPV-negative smoking-associated LSCC may be characterized by a distinct tumor-associated epigenetic signature. The identified modifications target critical cellular processes, including proteostasis (DERL1), signaling lipolysis (DGKA), EMT/motility (LY6K, LINC00460), and immune evasion (CD53). Complete separation between normal and malignant profiles confirms the high technical quality of the pipeline. Furthermore, a specific outlier patient showed cancer-like methylation in a adjacent non-tumor mucosa before rapid disease progression, providing molecular evidence for field cancerization and demonstrating that DNA methylation profiling could serve as a highly sensitive future tool to supplement histopathological evaluation of surgical radicality.

KEYWORDS

Laryngeal squamous cell carcinoma (LSCC), DNA methylation, Epigenetics, Field cancerization, Tumor microenvironment

OP-465

Predisposing Factors For Pharyngocutaneous Fistula After Total Laryngectomy

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BACKGROUND & AIM

Pharyngocutaneous fistula (PCF) represents the most common major complication following total laryngectomy (TL), with significant impact on hospital admission duration and post-operative morbidity. Identifying factors associated with PCF may help optimize perioperative surveillance and preventive strategies, reduce its incidence, decrease patient morbidity, improve prognosis, and lessen the burden of prolonged hospital stay. This study aimed to identify predisposing factors for PCF development in patients undergoing TL for laryngeal and hypopharyngeal squamous cell carcinoma.

MATERIAL & METHODS

A retrospective review of patients undergoing TL for squamous cell carcinoma between 2020 and 2024 was conducted. Data collected included demographic information, pathological details (T and N stage, tumor site, surgical margins), treatment modality (primary or salvage), pre- and post-operative hemoglobin levels, post-operative albumin levels, and PCF development rates.

RESULTS

A total of 57 patients were included in this study. The overall incidence of PCF was 38.6%. Although not statistically significant, PCF rates were higher in salvage surgery (62.5% vs 34.7%; p=0.135), patients who underwent previous radiotherapy (50% vs 37.3%; p=0.425), presence of positive surgical margins (46.2% vs 36.4%; p=0.373), post-operative hypoalbuminemia (40.7% vs 30.4%; p=0.323) and in patients requiring blood transfusion (50.0% vs 37.3%; p=0.425). Hypopharyngeal tumors (42.9% vs 37.2%; p=0.471), the presence of comorbidities (43.3% vs 35.5%; p=0.399) and pre-operative anemia (40% vs 38.3%; p=0.594) were associated with a slight increase in PCF rate. Post-operative anemia (34.4% vs 44%; p=0.320), advanced T stage (37.2% vs 42.9%; p=0.471), and nodal involvement (33.3% vs 41.4%; p=0.365) were not associated with increased PCF frequency. Previous tracheostomy appears to reduce PCF incidence (34.8% vs 41.2%; p=0.419), while younger patients (< 65 years) demonstrated significantly higher PCF rates (53.1% vs 20%; p=0.01).

CONCLUSIONS

PCF remains a significant complication following TL, with an incidence of 38.6% in our cohort. Although the limited sample size prevented most variables from reaching statistical significance, observed trends aligned with previous studies identifying salvage surgery, prior radiotherapy, hypoalbuminemia, pre-operative anemia, positive margins, and hypopharyngeal location as risk factors. Blood transfusion requirement, but not post-operative anemia alone, showed an association with increased PCF rates. Notably, previous tracheostomy demonstrated a protective trend, while younger age was the only statistically significant predictor of PCF development.

KEYWORDS

Pharyngocutaneous Fistula; Total laryngectomy; Total Pharyngolaryngectomy; Predisposing factors; Salvage surgery; Hypoalbuminemia; Previous radiotherapy; Anemia

OP-466

CORRELATION OF SALIVARY GLAND STONES AND SALIVARY SECRETION ION CONTENT WITH RADIOLOGICAL, CLINICAL AND SURGICAL FINDINGS

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BACKGROUND & AIM

This study is grounded in the findings derived from the detailed biochemical analysis of calculi retrieved from patients. This study encompasses not only the analysis of calculi but also the evaluation of patients' salivary samples and socio-

environmental living conditions. It is posited that daily habits and environmental variables influence salivary secretions, and the subsequent impact of these alterations on stone biochemistry in calculous patients has been rigorously examined. By analyzing stone composition, salivary ionic imbalances, and the secretory influence on lithogenesis, this research aims to determine the correlation between radiological characteristics (opacity, size) and intraoperative findings (hardness, adherence, etc.)

MATERIAL & METHODS

This study included patients who underwent surgical stone extraction for sialolithiasis via open surgery, sialendoscopy, or sialendoscopy-assisted techniques at the Ankara University İbn-i Sina Hospital, Department of Otorhinolaryngology, between 2022 and 2024. Patients whose calculi were fragmented or removed using power methods, were excluded from the study. Salivary samples were collected from the participants before the extraction procedure, alongside the retrieved calculi. And we noted that a structured questionnaires datas of the patients' socio-environmental living conditions.

Furthermore, the following radiological parameters regarding the sialoliths were systematically recorded; Glandular Localization, Laterality, Radiological Datas(Dimension/Opacity/Density), Anatomical Positioning.

Biochemical and mineralogical analyses of the stone samples collected from all participants were performed using X-Ray Fluorescence Spectroscopy (XRF). Additionally, the mineral composition of the salivary secretions was evaluated via Inductively Coupled Plasma - Optical Emission Spectroscopy (ICP-OES).

RESULTS

The chemical composition of the calculi, calcium oxide (CaO) was identified as the predominant major compound, followed by phosphorus pentoxide (P2O5). The average total trace element load and heavy metal ion load in the calculi were located at Table 1.

In the salivary analysis, potassium (K) was the most abundant element, followed by sodium (Na). Furthermore, the average positive ion load in the saliva and the heavy metal ion load were located at Table 1.

When heavy metal concentrations in the calculi(Total/heavy) were evaluated based on their anatomical localization the chromium (Cr) levels were found to be significantly higher in proximal stones compared to distal stones. However, no statistically significant differences were observed between distal and proximal stones regarding the total heavy metal load or other specific metal ions.(Table 2)

A strong, significant, and negative correlation was identified between the total heavy metal load and the stone weight.(Table 3)

CONCLUSIONS

Analysis of elemental concentrations between salivary secretions and stone compositions revealed no significant correlation. This lack of correlation suggests that salivary secretions don’t contribute to lithogenesis only through direct precipitation.

The theory of biochemical sedimentary rocks was shown that outer layers of stones are predominantly encapsulated by calcium.(Picture 1) To understand the origins of salivary stone formation, investigation must be directed toward the core, as indicated by this structural stratification.

Furtheremore no significant difference was in salivary cadmium levels regarding smoking status, but variation in cadmium load between distal and proximal stones suggests that calculi may function as bioaccumulators.

KEYWORDS

Sialolithiasis, Salivary Glands, Lithogenesis, Heavy Metals, Biochemical Analysis

OP-467

Assessment For Clinical, Pathological, & Radiological Prognostic Markers In Papillary Thyroid Cancer In Adult Patients From 2014 To 2024: A Retrospective Cohort Study In King Abdulaziz Medical City, Jeddah

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BACKGROUND & AIM

Background

The most common form of thyroid cancer is papillary thyroid cancer (PTC). This type of cancer usually affects younger individuals, especially women, and is often linked to previous radiation exposure. PTC generally has a very good prognosis, with high survival rates; however, outcomes may vary depending on factors such as age, tumor size, and metastasis.

Objective

To identify long-term predictors of recurrence and persistence in patients with papillary thyroid cancer (PTC) using radiological, pathological, and clinical markers.

MATERIAL & METHODS

Methods

A retrospective cohort study was conducted at King Abdulaziz Medical City, Jeddah, Saudi Arabia, involving patients diagnosed with papillary thyroid cancer (PTC). We included patients aged 18 years or older at diagnosis, with a minimum follow-up period

of 12 months. Patients younger than 18 years, those with incomplete records, or those with anaplastic, medullary, or poorly differentiated thyroid cancer were excluded.

Outcomes were categorized as recurrence, persistence, or a combined outcome of recurrence or persistence. Patients' demographic, clinical, histopathological, radiological, and therapeutic data were extracted from electronic medical records using a standardized data collection sheet. Odds ratios (ORs) for predictors of these outcomes were calculated at the last follow-up visit. Univariate logistic regression was initially performed, followed by multivariable logistic regression for variables with significant univariate associations.

RESULTS

We analyzed 285 patients with a median follow-up of 5 years (IQR: 2–9). The median age at diagnosis was 43 years (IQR: 31–54), with 24.2% aged ≥55 years, and 67.4% were women. Overall, 21.0% experienced disease persistence or recurrence, with recurrence alone in 13.0% and persistence in 11.2%.

On univariate analysis, extra-thyroidal extension was associated with nearly fivefold higher odds of persistence or recurrence ($p < 0.001$). Positive surgical margins, vascular invasion, distant metastasis, and higher tumor stage (T4a vs T1) were similarly linked to increased risk (all $p < 0.001$)Response patterns were strongly predictive: indeterminate or partial biochemical and structural responses carried significantly higher risk compared with complete responses (all $p < 0.001$).

Age ≥55 years, primary tumor size, and lymphovascular invasion were not statistically significant. After multivariable adjustment, extra-thyroidal extension ($p = 0.003$) and partial biochemical response ($p = 0.039$) remained independent predictors of disease persistence or recurrence.

CONCLUSIONS

Extra-thyroidal extension and partial biochemical response independently predict disease persistence or recurrence, highlighting their utility in identifying high-risk patients and guiding follow-up strategies. Other variables, including margin status, vascular invasion, tumor stage, and metastasis, did not retain statistical significance in multivariable analysis. Larger multicenter studies are encouraged to confirm these observations and assess the reproducibility of our findings.

KEYWORDS

Papillary thyroid cancer, PTC, recurrence, persistence, predictors, extra-thyroidal extension, biochemical response.

OP-468

Clinicopathological Spectrum And Changing Surgical Management Of Sinonasal Tumors: A Ten-Year Review Of 167 Cases

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BACKGROUND & AIM

Sinonasal tumors are rare and histologically heterogeneous lesions ranging from benign papillomas to aggressive malignancies. Large single-center series remain valuable for understanding treatment patterns and outcomes.To evaluate the clinicopathological spectrum, management approaches, and outcomes of sinonasal tumors treated over a 10-year period at a tertiary referral center.

MATERIAL & METHODS

A retrospective review was performed of patients treated for sinonasal tumors between 2016 and 2026. Patients without adequate follow-up and benign osseous lesions were excluded. Demographic data, histopathology, tumor behavior, surgical approach, adjuvant treatment, recurrence, and survival outcomes were analyzed. Tumors were classified as benign, borderline/intermediate, or malignant.

RESULTS

A total of 167 patients were included.Mean age was 52 years (8–98) and 60% were male. Overall,103 tumors (61.7%) were benign,6 (3.6%) borderline/intermediate and 58 (34.7%) malignant.Patients with benign tumors were younger than those with malignant tumors (49-56 years),with male predominance in both groups(63% vs 58%).The most common benign diagnosis was Schneiderian papilloma(n=67), followed by vascular tumors. Benign lesions were mainly treated endoscopically with excellent disease control.Malignant tumors were mainly epithelial malignancies (n=29), followed by mucosal melanoma (n=8), olfactory neuroblastoma (n=5), and mesenchymal/sarcomatous tumors (n=16).Among malignant cases, 46.6% received radiotherapy, 32.8% chemotherapy, and 10.3% underwent neck dissection.Recurrence and mortality were higher in the malignant group, with mucosal melanoma showing the poorest outcomes. Open or combined approaches decreased from 45% (2016–2020) to 25% after 2021,reflecting the increasing predominance of endoscopic surgery. Open surgery remained necessary for extensive malignancies with orbital, premaxillary soft tissue, nasal bone, or frontal bone involvement.

CONCLUSIONS

Sinonasal tumors show marked pathological heterogeneity, with benign lesions predominating but a substantial malignant burden in tertiary practice. Over the past decade, management shifted strongly toward endoscopic surgery, while advanced malignant tumors continued to require aggressive multidisciplinary treatment.

KEYWORDS

Sinonasal tumors , Endoscopic surgery , Schneiderian papilloma , Skull base surgery , Mucosal melanoma

OP-469

Basal Cell Adenoma Of The Parotid Gland: A Series Of 5 Cases And A Literature Review

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BACKGROUND & AIM

Basal cell adenoma (BCA) is a rare, benign salivary gland tumor, accounting for 1% to 3.7% of all salivary gland neoplasms and primarily affecting the parotid gland. Histopathologically, it presents in four architectural subtypes: solid, tubular, trabecular, and membranous. Preoperative diagnosis via fine-needle aspiration biopsy faces challenges due to cytomorphological overlaps , making immunohistochemistry, particularly nuclear beta-catenin, crucial for definitive diagnosis. This study aims to present five surgically treated BCA cases with distinct clinical, radiological, and histopathological variations, correlated with a comprehensive literature review.

MATERIAL & METHODS

A retrospective chart review was performed on five patients who underwent surgical treatment for parotid gland basal cell adenoma (BCA) in our clinic. Demographic features, duration of symptoms, preoperative ultrasound and magnetic resonance imaging findings, fine-needle aspiration biopsy (FNAB) results, surgical techniques, and histopathological subtypes were comprehensively analyzed. All cases underwent either superficial or total parotidectomy with meticulous preservation of the facial nerve. Intraoperative frozen section analysis was utilized when necessary. Postoperative histopathological diagnoses were confirmed by expert pathologists, and tumors were categorized into subtypes (solid, tubular, trabecular, and membranous). Regular long-term clinical and radiological follow-ups were conducted to monitor for recurrence or malignant transformation.

RESULTS

The study included three female (60%) and two male (40%) patients with a mean age of 61.4 years. The tumors were predominantly located in the superficial lobe (60%) , with two cases involving the deep lobe. MRI findings consistently demonstrated well-demarcated masses , and cystic degeneration was prominent in one case (20%). Preoperative FNAB suggested benign neoplarsia or basaloid proliferation in three cases (60%) and was non-diagnostic in two (40%). Superficial parotidectomy was performed in four patients and total parotidectomy in one. Histopathological classification revealed two membranous (40%) , one solid (20%) , one tubular (20%) , and one trabecular (20%) subtype. All specimens exhibited characteristic nuclear beta-catenin expression. No postoperative facial nerve paralysis occurred, and no recurrence was detected during the follow-up period.

CONCLUSIONS

In conclusion, basal cell adenomas are rare benign parotid tumors that require careful histopathological evaluation for definitive diagnosis and differentiation from malignancies. Superficial or total parotidectomy with facial nerve preservation remains the mainstay of treatment, offering an excellent prognosis. However, due to the inherent risks of recurrence and potential malignant transformation,particularly associated with the membranous subtype,long-term clinical and radiological follow-up is essential for optimal post-operative patient management.

KEYWORDS

Basal cell adenoma,Parotid gland,Salivary gland tumors

OP-470

Morbidity, Clinical-Pathological Characteristics And Treatment Outcomes Of Sinonasal Carcinomas In The University Clinical Center Of The Republic Of Srpska

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BACKGROUND & AIM

Sinonasal carcinomas represent a rare and heterogeneous group of malignant tumors affecting the nasal cavity and paranasal sinuses. Due to their anatomical proximity to vital structures, such as the orbit and skull base, as well as the often nonspecific early symptomatology, these tumors represent a significant diagnostic and therapeutic challenge.

This paper aims to analyze the morbidity, clinical characteristics, pathohistological diversity and effectiveness of modern therapeutic modalities in patients diagnosed with cancer of the nasal cavity and paranasal sinuses.

MATERIAL & METHODS

A retrospective study was conducted that included patients treated at the Ear, Throat and Nose Clinic of the University Clinical Center of the Republic of Srpska, Banja Luka in the period from 2015. until 2025. Data were collected from medical records, including clinical examinations, radiological and pathohistological findings, applied treatment modalities (surgery, radiotherapy, chemotherapy).

RESULTS

The research included a total of 31 patients, of which 24 (77.5%) were men and 7 (22.5%) were women. The average age of the patients was 64.5 years, the youngest was 31 and the oldest was 85. The most common pathohistological type was squamous cell carcinoma in 14 (45.2%) patients, followed by adenoid cystic carcinoma and plasmacytoma in 3 (9.7%) patients, rhabdomyosarcoma was found in 2 (6.5%) patients, and one patient each had basal cell adenocarcinoma, chondrosarcoma, sinonasal undifferentiated carcinoma, melanoma, transitional cell carcinoma of the sinonasal tract, polymorphous low-grade adenocarcinoma, malignant peripheral nerve sheath tumor, angioimmunoblastic T-cell lymphoma and microcellular carcinoma. Endoscopic surgery was used in 13 (42%) patients, open surgical technique in 11 (35.5%) and biopsy in 7 (22.6%). Radiotherapy was included in 5 (12.1%) patients, chemotherapy in 2 (6.5%), chemoradiotherapy in 13 (42%) patients and in 11 (35.4%) patients did not demand chemoradiotherapy.

CONCLUSIONS

Sinonasal cancers are often diagnosed at a late stage, which makes treatment difficult and worsens the prognosis. Early diagnosis and a multidisciplinary approach are key to improving survival rates. Further progress in genetic profiling of tumors will enable a more personalized approach to treatment, thereby reducing morbidity and improving quality of life.

KEYWORDS

sinonasal carcinoma, paranasal sinuses

OP-471

The Bio-Nose Technique: A Two-Stage, Single-Free-Flap Approach For Total Nasal Reconstruction

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BACKGROUND & AIM

Background: Total nasal reconstruction remains one of the most complex challenges in reconstructive surgery, particularly in patients previously treated with radiotherapy. Conventional approaches often require multiple flaps and several staged procedures, resulting in significant surgical burden and prolonged rehabilitation.

Objective: To present a novel reconstructive strategy, the Bio-Nose technique (3D nasal reconstruction fostered on the forearm), based on in vivo biological integration of a patient-specific 3D-printed nasal framework combined with a single free flap.

MATERIAL & METHODS

The Bio-Nose technique relies on the implantation of a customized rigid nasal framework, manufactured using 3D printing, beneath a radial forearm skin flap corresponding to the radial artery angiosome. This first stage allows in vivo fostering and biological integration of the biomaterial. After integration, the composite radial forearm free flap containing the colonized implant is harvested and transferred to the face during a second procedure under general anesthesia, with superficial temporal vessels used as recipient vessels. Minor refinements, including definition of nasal aesthetic subunits and calibration of the nasal cavities, were performed under local anesthesia when required.

RESULTS

The technique was applied in a first case series of four patients presenting with total nasal defects following treatment for nasal cavity cancer, all with a history of radiotherapy. The surgical protocol was progressively refined through the learning curve. Complete nasal reconstruction was achieved using one free flap and only two general anesthetics. All patients achieved satisfactory esthetic outcomes with stable nasal projection and acceptable airway patency. No major flap-related complications were observed.

CONCLUSIONS

Although total nasal reconstruction remains a demanding procedure with limited reconstructive options, the Bio-Nose technique offers a promising alternative by reducing surgical complexity while preserving structural stability and esthetic outcomes. This approach may represent a valuable addition to the reconstructive armamentarium in complex oncologic and irradiated settings.

KEYWORDS

Total nasal reconstruction; bioprosthesis; biomaterial; radial forearm free flap; nasal tumor; total rhinectomy.

OP-472

Prognostic Significance Of The Worst Pattern Of Invasion (WPOI) In Laryngeal Squamous Cell Carcinoma

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BACKGROUND & AIM

Traditional staging systems for laryngeal squamous cell carcinoma (LSCC) sometimes provide limited prognostic information. This study investigates the 'Worst Pattern of Invasion' (WPOI) as a potential prognostic biomarker in LSCC. We aimed to analyze the relationship between WPOI patterns and key clinicopathological parameters, including overall survival and recurrence rates.

MATERIAL & METHODS

In this retrospective cohort study, we evaluated 115 patients surgically treated for laryngeal squamous cell carcinoma (LSCC) between 2020 and 2025. Pathological specimens were systematically re-examined by two independent pathologists to score the 'Worst Pattern of Invasion' (WPOI) as low-grade (1–3) or high-grade (4–5). Statistical analyses were performed using SPSS software; categorical variables were compared using the Chi-square test, and survival curves were estimated using the Kaplan-Meier method with log-rank testing, considering $p < 0.05$ as statistically significant.

RESULTS

High-grade WPOI (4–5) was identified in 77 patients (67.0%). Statistical analysis revealed significant correlations between high-grade WPOI and positive lymphovascular invasion ($p<0.001$), perineural invasion ($p<0.001$), and advanced clinical stage ($p=0.003$). Overall survival rates were significantly lower in the high-grade WPOI group ($p=0.012$). In early-stage (Stage I–II) disease, high-grade WPOI patterns were associated with increased recurrence rates (18.2% vs. 13.2%). High-grade WPOI consistently identified aggressive tumor behavior across both early and advanced stages.

CONCLUSIONS

WPOI is a powerful prognostic indicator for laryngeal squamous cell carcinoma. High-grade WPOI (4–5) correlates with aggressive pathological features and reduced survival rates. This staging-independent marker effectively identifies high-risk patients, particularly in early-stage disease. Incorporating WPOI into routine pathology reports facilitates more precise risk stratification and personalized treatment planning for LSCC.

KEYWORDS

Laryngeal squamous cell carcinoma, WPOI, Prognosis

OP-473

Diagnostic Accuracy Of Fine-Needle Aspiration Cytology (FNAC) For Submandibular Gland Lesions Using The Milan Classification System

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BACKGROUND & AIM

Submandibular gland masses encompass a wide spectrum of diseases, including non-neoplastic, benign, and malignant lesions.Although clinical and radiological evaluation are important in establishing the diagnosis, cytopathological examination constitutes a fundamental step in differential diagnosis.

Fine-needle aspiration biopsy(FNAB) has been used since the 1960s in the preoperative evaluation of salivary gland lesions.

In 2018,the Milan System was developed to standardize salivary gland cytopathology reporting.

The aim of this study is to evaluate the concordance between FNAB cytological diagnoses classified according to the Milan System and postoperative histopathological results in submandibular gland masses, and to determine the diagnostic reliability of FNAB in this region.

MATERIAL & METHODS

A total of 500 patients who underwent surgical excision for submandibular gland masses between January 1, 2015, and December 31, 2025, and had preoperative FNAB were included in the study.

The data were evaluated retrospectively.

Cytopathological specimens were categorized according to the Milan System. Histopathological diagnosis was accepted as the gold standard.

Suspicious for malignancy (Category V) and malignant (Category VI) results were considered “positive” tests, whereas non-neoplastic (Category II) and benign neoplasm (Category IVa) results were considered “negative” tests for malignancy.

AUS, SUMP, and non-diagnostic categories were excluded from sensitivity and specificity analyses.

Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and diagnostic accuracy were calculated.

RESULTS

According to histopathological examination, 43.2% of patients were reported as non-neoplastic,34% as benign neoplasms, and 22.8% as malignant tumors. The mean age of patients diagnosed with malignancy was 57.6 ± 12.6 years, which was significantly higher than that of the non-neoplastic and benign groups.

When FNAB results were evaluated according to the Milan classification, the most frequent category was non-neoplastic(CategoryII) at 47.7%.This was followed by benign neoplasm(CategoryIVa) at 20%,malignant(CategoryVI) at 12.6%, suspicious for malignancy(CategoryV) at 8%,SUMP(CategoryIVb) at 7%, non-diagnostic(CategoryI) at 3.6%, and atypia of undetermined significance(CategoryIII,AUS) at 1%.

ROM rates were notably high in the AUS, suspicious for malignancy, and malignant categories.

For the diagnosis of malignancy, when Categories V and VI were considered “positive” and Categories II and IVa“negative,” the sensitivity of FNAB for detecting malignant tumors in the submandibular gland was 97.8%(95% CI: 92.4–99.7), and the specificity was 92.7%(95% CI: 87.1–96.5).

CONCLUSIONS

FNAB evaluated according to the Milan System is a reliable diagnostic method with high sensitivity and specificity in submandibular gland masses.

Due to the high malignancy rates observed in the suspicious for malignancy and AUS categories, surgical planning in these patients should be undertaken with particular caution.

It should be kept in mind that ROM rates in certain categories of submandibular gland lesions may be higher than the target rates proposed by the Milan System.

In conclusion, FNAB and the Milan classification constitute important and effective tools in the preoperative evaluation and clinical decision-making process of submandibular gland masses.

KEYWORDS

Fine-Needle Aspiration Biopsy, Milan System, Submandibular Gland

OP-474

Preoperative Immune-Nutritional Scores Predict Prognosis After Total Laryngectomy

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BACKGROUND & AIM

Total laryngectomy remains a major surgical treatment for advanced laryngeal and hypopharyngeal cancer. Preoperative immune-nutritional status may influence postoperative morbidity and oncologic prognosis. This study hypothesized that Prognostic Nutritional Index (PNI), Systemic Immune-Inflammation Index (SII), and Advanced Lung Cancer Inflammation Index (ALI) are associated with disease extent, postoperative complications, mortality, and recurrence in patients undergoing total laryngectomy.

MATERIAL & METHODS

This retrospective single-center study included 134 consecutive patients who underwent primary or salvage total laryngectomy between July 2020 and December 2025. Demographic, clinical, pathological, laboratory, and follow-up data were reviewed. Preoperative PNI, SII, ALI, Charlson Comorbidity Index (CCI), smoking, alcohol use, previous treatment history, tumor stage, nodal status, flap reconstruction, and operative duration were analyzed. Main outcome measurements were pharyngocutaneous fistula, surgical site infection, Clavien-Dindo grade ≥3 complications, mortality, and recurrence. Continuous variables were compared using the Mann-Whitney U test, and categorical variables using chi-square or Fisher’s exact test. Logistic regression models were used for postoperative outcomes and mortality. Recurrence-free survival was evaluated using Kaplan-Meier analysis and univariate Cox regression.

RESULTS

The median age was 64 years, and 87.3% of patients were male. T4 disease was present in 54.5%, nodal positivity in 55.1%, and salvage surgery in 13.4%. Pharyngocutaneous fistula, surgical site infection, mortality, and recurrence rates were 36.1%, 23.1%, 35.8%, and 4.5%, respectively. PNI, SII, and ALI did not predict pharyngocutaneous fistula. Fistula was associated with higher monocyte count, alcohol use, and flap reconstruction. Surgical site infection was associated with longer operative duration, flap reconstruction, and younger age. Mortality was strongly associated with lower PNI, lower albumin, lower ALI, and nodal positivity. In multivariate analysis, PNI remained an independent protective predictor for mortality, while nodal positivity independently increased mortality risk. Mortality showed a stepwise increase across PNI risk groups: 24.2% in the good group, 35.3% in the intermediate group, and 58.8% in the poor group. Twelve- and 24-month recurrence-free survival rates were 95.6% and 94.5%, respectively.

CONCLUSIONS

Preoperative PNI is a strong and clinically useful predictor of mortality after total laryngectomy, whereas classical immune-nutritional scores do not predict pharyngocutaneous fistula. These findings suggest that PNI mainly reflects systemic

physiological reserve rather than local wound-healing risk. Patients with low PNI and nodal positivity may benefit from closer perioperative optimization and postoperative follow-up.

KEYWORDS

Total laryngectomy; Prognostic Nutritional Index; immune-nutritional score; mortality; pharyngocutaneous fistula; head and neck cancer.

OP-475

Diagnostic Value Of Shear-Wave Elastography, MRI, And Fine-Needle Aspiration Biopsy In Parotid Gland Masses: A Prospective Study

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BACKGROUND & AIM

Parotid gland masses represent the most common salivary gland tumors, and accurate preoperative differentiation between benign and malignant lesions remains challenging. Fine-needle aspiration biopsy (FNAB) is widely used but has well-known limitations in sensitivity. Shear-wave elastography (SWE) has emerged as a non-invasive tool for tissue characterization, while contrast-enhanced magnetic resonance imaging (MRI) provides detailed morphological assessment. However, studies comparing these three modalities in a prospective setting are limited. This study aims to evaluate the diagnostic value of FNAB, MRI, and SWE in differentiating benign and malignant parotid gland masses, using postoperative histopathology as the reference standard.

MATERIAL & METHODS

This prospective study included 22 patients with parotid gland lesions ≥1 cm (mean age: 57.3 ± 15.5 years; 59.1% male). Preoperative assessment included FNAB, contrast-enhanced MRI, and SWE. SWE measurements were obtained from maximum, central, and peripheral regions of interest. MRI evaluation comprised T1- and T2-weighted signal characteristics, diffusion-weighted imaging with apparent diffusion coefficient mapping, lesion contour, shape, internal composition, and contrast enhancement pattern. Final histopathology following surgical excision served as the reference standard. ROC analysis was performed to determine optimal SWE cut-off values using the Youden index. Associations between MRI features and malignancy were analyzed using Fisher's exact test. Diagnostic performance metrics including sensitivity, specificity, positive and negative predictive values, and accuracy were calculated for each modality and the combined MRI–SWE approach. FNAB was compared with the combined approach using McNemar's test

RESULTS

Histopathology revealed 4 malignant (18.2%) and 18 benign (81.8%) lesions. Among SWE parameters, peripheral measurement demonstrated the highest diagnostic performance (AUC = 0.91; 95% CI: 0.75–1.00), with an optimal cut-off of 3.32 m/s yielding 100% sensitivity and 66.7% specificity. Among MRI features, only ill-defined lesion contour was significantly associated with malignancy (p = 0.026); T2 signal characteristics (p = 0.073) and lymphadenopathy (p = 0.073) showed trends without reaching significance. FNAB demonstrated low sensitivity (25%) but perfect specificity (100%), with an overall accuracy of 86.4%. MRI positivity—defined as ill-defined contour and/or non-hyperintense T2 signal—achieved 75% sensitivity, 94.4% specificity, and 90.9% accuracy. The combined MRI–SWE approach showed identical performance to MRI alone (75% sensitivity, 94.4% specificity). McNemar's test revealed no significant difference between the combined approach and FNAB (p = 0.25).

CONCLUSIONS

SWE and MRI provide complementary diagnostic information in parotid gland masses. Peripheral SWE offers superior sensitivity (100%), making it a valuable screening tool for excluding malignancy, whereas MRI—particularly ill-defined lesion contour—achieves high specificity (94.4%), aiding in the confirmation of malignancy. FNAB remains highly specific but its limited sensitivity (25%) reduces its standalone reliability for ruling out malignancy. A multimodal approach integrating SWE and MRI may enhance preoperative diagnostic accuracy.

KEYWORDS

Parotid gland, shear-wave elastography, magnetic resonance imaging, fine-needle aspiration biopsy, salivary gland neoplasms, diagnostic accuracy, ultrasonography, ROC analysis, preoperative evaluation, head and neck

OP-476

Retrospective Analysis Of Demographic And Histopathological Characteristics Of Sinonasal Tumors

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BACKGROUND & AIM

To evaluate the demographic features and histopathological distribution of sinonasal tumors.

MATERIAL & METHODS

This retrospective study included 54 patients evaluated for sinonasal masses. Patients were analyzed according to age, sex, and histopathological diagnosis. Age groups were categorized as pediatric (0–18 years), young adults (19–40 years), middle-aged (41–65 years), and elderly (≥65 years). Tumors were classified into epithelial, mesenchymal, neuroectodermal, and other subtypes.

RESULTS

Of the 54 patients, 34 (63%) were male and 20 (37%) were female. The male-to-female ratio was approximately 1.7. Epithelial malignancies were the most common tumor group overall. In the pediatric group, mesenchymal and small round cell tumors such as Ewing sarcoma, rhabdomyosarcoma, and PNET predominated. In the middle-aged group, squamous cell carcinoma and undifferentiated carcinoma were most frequently observed. In elderly patients, an increased incidence of malignant melanoma and squamous cell carcinoma was noted. Adenoid cystic carcinoma and malignant melanoma were relatively more common in female patients.

CONCLUSIONS

Sinonasal tumors represent a heterogeneous group with distinct age- and sex-related patterns. Mesenchymal tumors are more frequent in pediatric patients, whereas epithelial malignancies predominate in adults. Awareness of these distributions may aid in early diagnosis and clinical management.

KEYWORDS

Sinonasal tumors; Histopathology; Demographic characteristics; Head and neck neoplasms; Retrospective study

OP-477

RISK FACTORS FOR FRACTURES AFTER MARGINAL MANDIBULECTOMY FOR HEAD AND NECK CANCER A GETTEC MULTICENTRE STUDY

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BACKGROUND & AIM

Marginal mandibulectomy (MM), which consists of a partial interruption of the height of a segment of the mandible, is discussed when head and neck cancer is close to the mandible because of the possible risk of secondary mandibular fracture.

MATERIAL & METHODS

To determine the incidence of secondary mandibular fracture after MM and the risk factors associated with it we conducted a multicentre study in 3 tertiary cancer care centers. We included all patients with a malignancy requiring MM who completed treatment between January 2013 and December 2023.

RESULTS

Of the 432 identified patients, 190 patients were included. 24 patients (12.7%) experienced a secondary mandibular fracture within 23.5 [13.8; 36.6] months following the MM. The majority of patients were men (74.2%) with an average age of 62 years (±10.70).

In multivariate analysis, posterior location of the MM (OR=4.08, IC 95 % 1.28 to 13.02), residual mandibular height less than 10 mm (OR=3.25, IC 95 % 1.05 to 10.05), and a MM with a length greater than 45 mm (OR=4.23, IC 95 % 1.35 to 13.22) were statistically associated with secondary mandibular fractures.

CONCLUSIONS

Segmental mandibulectomy, consisting of a complete interruption of a mandibular segment should be considered as an alternative to MM in cases of posterior location, significant length of MM or residual mandibular height less than 10 mm.

KEYWORDS

Mandibular fractures; Head and Neck Neoplasms; mandibulectomy; mandibular neoplasm; Surgical Oncology

OP-478

Oncologic Outcomes And Prognostic Factors Following Transoral Diode Laser Cordectomy For Glottic Lesions: A Retrospective Cohort Study

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BACKGROUND & AIM

Transoral laser microsurgery is an established organ-preserving treatment for early glottic lesions; however, evidence regarding diode laser outcomes remains limited, and the prognostic significance of final specimen margins is controversial. This study evaluated long-term oncologic outcomes and prognostic factors following transoral diode laser cordectomy for glottic lesions ranging from high-grade dysplasia to invasive carcinoma, with particular emphasis on margin status when intraoperative tumor-bed frozen sections confirmed complete clearance.

MATERIAL & METHODS

We retrospectively reviewed 85 consecutive patients who underwent transoral 980-nm diode laser cordectomy for high-grade dysplasia, carcinoma in situ, or invasive squamous cell carcinoma between January 2015 and December 2022. Resections were performed en bloc, with additional tumor-bed frozen sections obtained intraoperatively and resection extended until all samples were negative. Patients with close or positive final specimen margins received no routine adjuvant treatment. The primary endpoint was local recurrence-free survival (LRFS). Survival was estimated using Kaplan–Meier analysis, and prognostic factors were evaluated using Cox proportional hazards models. Median follow-up was calculated using the reverse Kaplan–Meier method.

RESULTS

Median follow-up was 52.3 months. Fourteen patients (16.5%) developed local recurrence, all as invasive carcinoma. Five-year LRFS, total laryngectomy-free survival, and overall survival were 79.6%, 94.7%, and 87.1%, respectively. T2 stage was the only statistically significant prognostic factor for local recurrence (HR 4.35, 95% CI 1.52–12.44; p=0.006). Despite withholding adjuvant treatment in all 25 patients with close or positive final specimen margins, margin status was not significantly associated with local recurrence (HR 2.05, 95% CI 0.71–5.93; p=0.184). Three of 21 patients treated for premalignant lesions developed invasive progression. Only four patients (4.7%) ultimately required total laryngectomy. Secondary primary malignancies caused more deaths than laryngeal cancer (six vs two).

CONCLUSIONS

Transoral diode laser cordectomy provided acceptable local control with high rates of laryngeal preservation across a spectrum of glottic lesions. Tumor extent, particularly T2 stage, was the strongest predictor of local failure. When intraoperative tumor-bed frozen sections confirmed clearance, the independent prognostic impact of final specimen margin status could not be demonstrated, although the limited number of events precludes excluding a clinically meaningful effect. Long-term surveillance should also address the substantial risk of secondary primary malignancies.

KEYWORDS

Glottic cancer; Diode laser; Transoral laser microsurgery; Cordectomy; Surgical margins; Laryngeal preservation

OP-479

Emerging Biomarkers For Thyroid Malignancies And The Role Of Claudin-16 In Thyroid Cancer Detection

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BACKGROUND & AIM

Background: Thyroid malignancies are the most common endocrine cancers, with rising global incidence. Increased imaging has improved detection of thyroid nodules; however, distinguishing benign from malignant lesions, particularly in indeterminate cases remains challenging. Molecular biomarkers may enhance diagnostic accuracy.

Aim: To evaluate the potential of plasma Claudin-16 (CLDN16) as a biomarker for differentiating benign and malignant thyroid disease.

MATERIAL & METHODS

Pre-operative plasma samples were collected and analysed using a commercially available ELISA. Assay performance was validated using a five-point standard curve, with predefined quality-control criteria applied. Statistical analysis included non-parametric testing to compare groups.

RESULTS

Following quality control, 33 samples were analysed (20 benign, 13 malignant). Median CLDN16 levels were higher in benign samples, but the difference was not statistically significant (Mann–Whitney U = 99.0, p = 0.253). Malignant samples showed greater variability and non-normal distribution. ROC analysis demonstrated modest discriminatory ability (AUC = 0.67).

CONCLUSIONS

Plasma CLDN16 shows limited utility as a standalone diagnostic biomarker due to significant overlap between groups. Further research in larger, stratified cohorts and in combination with other biomarkers is warranted.

KEYWORDS
biomarkers, serum biomarkers, thyroid cancer

OP-480

Systemic Inflammatory Response Index (SIRI) As A Predictor Of Poor Survival And Aggressive Pathologic Features In Advanced Laryngeal Squamous Cell Carcinoma

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BACKGROUND & AIM

Systemic inflammation plays a critical role in tumor progression and has emerged as a potential source of prognostic biomarkers in head and neck cancers. The systemic inflammatory response index (SIRI), calculated from peripheral blood parameters, reflects the balance between host inflammatory and immune status. While SIRI has shown prognostic relevance in several solid tumors, its relationship with clinicopathological characteristics and survival outcomes in advanced laryngeal squamous cell carcinoma (LSCC) remains insufficiently explored. This study aimed to investigate the association between preoperative SIRI levels and prognostic features in patients with advanced-stage LSCC.

MATERIAL & METHODS

In this retrospective cohort study, patients with stage III–IV LSCC according to the AJCC 8th edition who underwent primary surgical treatment at a tertiary referral center between 2017 and 2025 were included. Patients with prior oncologic treatment, active infection, hematologic disease, or incomplete records were excluded. Preoperative complete blood count parameters obtained within two weeks before surgery were used to calculate SIRI as neutrophil×monocyte/lymphocyte(103/µl). Age, sex, tumor subsite, pathological T and N stage, extranodal extension, lymphovascular invasion, and perineural invasion were recorded. The optimal SIRI cut-off was determined by ROC curve analysis. Associations between SIRI groups and clinicopathologic variables were evaluated using the chi-square or Fisher's exact test. Overall, disease-specific, disease-free, and recurrence-free survival were analyzed using Kaplan–Meier curves and the log-rank test. Multivariable Cox regression assessed the independent prognostic value of SIRI after adjustment for T stage, N stage, and extranodal extension.

RESULTS

A total of 118 patients were identified; 24 were excluded because of missing preoperative complete blood count parameters required for SIRI calculation, leaving 94 patients for final analysis. ROC analysis showed that SIRI significantly discriminated patients with extranodal extension, with an AUC of 0.688 (95%CI:0.535–0.841, p=0.022). The optimal SIRI cut-off was 1.99 according to the Youden index, with 73.3% sensitivity and 62.0% specificity. High SIRI was significantly associated with extranodal extension (26.8%vs.7.5%; p=0.011) and demonstrated a significant linear trend with increasing nodal burden (p=0.015). Kaplan–Meier analysis showed significantly poorer overall, disease-specific, and disease-free survival in patients with high SIRI than in those with low SIRI (log-rank p=0.034,p=0.009,and p=0.020, respectively). In multivariable Cox regression adjusted for T stage, N stage, and extranodal extension, high SIRI remained independently associated with poorer overall survival (HR:1.854, 95%CI:1.032–3.333, p=0.039), disease-specific survival (HR:2.908, 95%CI:1.147–7.371, p=0.024), and disease-free survival (HR:2.135, 95%CI:1.034–4.409, p=0.040).

CONCLUSIONS

High preoperative SIRI was associated with extranodal extension and higher nodal burden in patients with advanced laryngeal squamous cell carcinoma. Moreover, high SIRI independently predicted poorer overall survival, disease-specific survival, and disease-free survival after adjustment for established clinicopathologic factors. These findings suggest that SIRI may serve as a simple and readily available prognostic biomarker for risk stratification in advanced laryngeal cancer.

KEYWORDS

Laryngeal cancer; systemic inflammatory response index; SIRI; head and neck cancer; systemic inflammatory markers

OP-481

Current Treatment Modalities In Thyroid Diseases And Participation In Prospective Research Projects

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BACKGROUND & AIM

The current clinical evaluation of patients with thyroid diseases needs to be individualized due to a large variation of diseases and treatments. With increasing attention to personalised treatment, tertiary referral centres are expected to offer patients the full range of options. This must occur alongside integration into ongoing scientific research, a cornerstone of university hospital activity. This study describes the establishment and initial characteristics of a prospective thyroid disease cohort referred to our institution, with the dual aim of optimizing clinical care and advancing scientific knowledge.

MATERIAL & METHODS

We have prospectively enrolled thyroid patients referred to our department in a clinical registry. We collected data included demographics, disease characteristics, treatment allocation, and research participation. Treatment modalities offered

included surgery with isthmusresection, total or hemi-thyroidectomy, ultrasound-guided alcohol ablation (AA), radiofrequency ablation (RFA), active surveillance (AS), further clinical evaluation or clinical follow-up. When eligible, patients were also invited to take part in research activities, including prospective clinical trials, randomized controlled trials (RCTs) or quality-of-life assessments using validated patient-reported outcome measures (PROMs). Descriptive statistics were used to summarise the cohort.

RESULTS

We have enrolled 116 consecutive patients, 94 (81%) are females with a mean age of 57 years (range 16 – 90). The distribution of reasons for referral: 38% with suspicion of cancer, 39% nodular goiter, 12% cystic goiter and with 11% thyrotoxicosis.

Treatment recommendations included surgical resections in 50% (isthmus 3, hemithyroidectomy 34 and total thyroidectomy 15), minimal invasive treatments in 10% (AA 8, RFA 2), AS in 1%, clinical follow-up in 17% and further clinical evaluation in remaining 22%.

For all the patients with a decision of a clinical treatment/management (N=97) 29% were included in an ongoing research study. The research participation was both to RCTs (50%), prospective studies (4%) and PROM oriented projects (46%).

CONCLUSIONS

The establishment of our current thyroid cohort illustrates the variety of thyroid diseases requiring different clinical managements. Early data indicate that many patients are willing to take part in research alongside their treatment. With continued enrolment, the cohort will allow comparison of outcomes across treatment modalities and contribute to future guideline development.

KEYWORDS

Thyroid cancer, thyroid disease.

OP-482

CAN GOOGLE GEMINI SUPPORT DIAGNOSIS AND TREATMENT DECISIONS IN LARYNGEAL CANCER?

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BACKGROUND & AIM

Artificial intelligence (AI)–based language models are increasingly used as accessible sources of medical information. However, their ability to provide reliable clinical decision support—particularly in oncology and treatment planning based on examination, imaging, and pathological findings—remains unclear. We hypothesized that Google Gemini can generate clinically relevant and reliable responses to laryngeal cancer–related questions, including treatment-oriented scenarios derived from real-world clinical data. This study aims to evaluate the accuracy, consistency, and potential clinical utility of Gemini in this context.

MATERIAL & METHODS

This prospective observational study is designed to assess the performance of Google Gemini in answering laryngeal cancer–related questions. A total of 50 questions will be developed, including both general patient-oriented queries and clinically complex scenarios incorporating physical examination findings, radiological imaging results, and pathological data. Each question will be independently submitted to Gemini using a standardized format. The generated responses will be evaluated by two experienced otolaryngologists. A four-point grading system will be used: (1) comprehensive/correct, (2) incomplete/partially correct, (3) mixed (accurate and inaccurate information), and (4) completely inaccurate/irrelevant. Discrepancies between reviewers will be resolved by consensus. The primary outcome measure will be the distribution of response accuracy. Secondary outcomes will include reproducibility and clinical applicability of treatment recommendations. Statistical analyses will be performed after completion of data collection

RESULTS

Data collection and expert evaluation are currently ongoing. The study is structured to determine whether AI-generated responses can provide clinically meaningful and reliable guidance, particularly in treatment decision-making scenarios based on integrated clinical data. Final results, including accuracy rates, reproducibility measures, and statistical analyses, will be presented at the congress.

CONCLUSIONS

Although AI-based tools are not expected to replace clinical judgment, they may provide supportive value in treatment planning and decision-making processes. Google Gemini is anticipated to offer practical advantages in terms of time efficiency and workload reduction by rapidly generating structured medical information. These findings are expected to contribute to understanding the potential role and limitations of AI in clinical practice, particularly in the management of laryngeal cancer.

KEYWORDS

laryngeal cancer, gemini, artificial intelligence

OP-483

EVALUATION OF THE RELATIONSHIP BETWEEN EXTRANODAL EXTENSION GRADING AND PROGNOSIS, AND THE FACTORS AFFECTING PROGNOSIS IN ORAL CAVITY SQUAMOUS CELL CARCINOMA

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BACKGROUND & AIM

The study primarily investigates the impact of extranodal extension (ENE) grading on survival and recurrence in oral cavity squamous cell carcinoma (OCSCC), re-evaluating its role in adjuvant therapy protocols. It also assesses the relationship between ENE grading and other prognostic factors.Additionally, the research examines the influence of clinical and histological parameters on survival and explores their interrelationships. The cohort consists of OCSCC patients operated on at the Istanbul University Faculty of Medicine, Department of Otorhinolaryngology-Head and Neck Surgery.

MATERIAL & METHODS

Between the years 2011 and 2022, 499 patients diagnosed with oral cavity cancer and operated on were retrospectively screened. While 237 patients met the inclusion criteria, 262 patients were excluded. The following parameters, studied in the pathology specimens of these patients sent intraoperatively, were screened for recurrence and adjuvant therapy: Depth of Invasion (DOI), Number of Metastatic Lymphadenopathies (LAPs), Number and Density of LAPs from Neck Dissection, ENE Grading (major and minor ENE) studied in the Metastatic Lymphadenopathy, Tumor Size, Surgical Margin Status, and information contained in the patient follow-up charts. The time and details of death for deceased patients were obtained through the hospital system and from relatives. The effects of the current screened parameters and information on the prognosis were evaluated. Statistical analysis was performed using a statistical program.

RESULTS

The study analyzed 237 OCSCC patients (54.9% male; median age 60), most with tongue tumors. Most patients (90.7%) underwent neck dissection, and 69.2% received reconstruction. The 3-year Overall Survival (OS), Disease-Specific Survival (DSS), and Disease-Free Survival (DFS) rates were 70%, 73.1%, and 59.1%, respectively. Recurrence occurred in 44.7% of cases.Significant predictors for 3-year OS (70%), DSS (73.1%), and DFS (59.1%) included: metastatic LAP count, ENE presence, Depth of Invasion (DOI), Lymph Node Yield/Density (LNY/LND), tumor size, positive surgical margins, pT/pN/TNM stages, and adjuvant therapy. Recurrence also impacted OS and DSS, emphasizing the critical role of these clinical and pathological parameters.Multivariate analysis identified age >68, ≥3 metastatic LAPs, positive margins, and radiotherapy as independent risk factors for Overall Survival. For Disease-Specific Survival, ≥3 metastatic LAPs, positive margins, and radiotherapy remained significant. Positive surgical margins was the sole independent risk factor for Disease-Free Survival. ENE(+) correlated significantly with DOI, ≥ 2.20cm.

CONCLUSIONS

This study demonstrated that ENE(+) disease significantly worsens prognosis, though no survival difference was found between major (ENEma) and minor (ENEmi) ENE. Notably, chemotherapy did not significantly alter outcomes for ENEmi patients, suggesting a need for larger multi-center validation. Prognosis deteriorated with increasing metastatic LAP count, ENE(+) LAPs, LND, DOI, and tumor size. Advanced pT, pN, and TNM stages, positive surgical margins, were also associated with poorer outcomes.Among primary sites, floor of the mouth tumors exhibited the most aggressive behavior.Consequently, OCSCC patients with these poor prognostic indicators require carefully tailored adjuvant therapy and meticulous long-term follow-up.

KEYWORDS

ORAL CANCER ENE PROGNOSİS

OP-484

Oxidative Stress Markers In Benign Salivary Gland Tumors

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BACKGROUND & AIM

Malondialdehyde(MDA)-marker of lipid peroxidation and advanced oxidation protein products (AOPP) are widely recognized biomarkers of oxidative damage. Advanced Oxidation Protein Products (AOPP), a marker of protein oxidation generated by neutrophil myeloperoxidase activity, has been previously implicated in various neoplastic and inflammatory conditions of salivary glands.

MATERIAL & METHODS

Venous AOPP and MDA level was measured in 30 patients of pleomorphic adenoma parotid gland using competitive inhibition enzyme immunoassay and Elabscience Malondialdehyde Colorimetric Assay Kit respectively and was statistically analysed with the control group.

RESULTS

The MDA level was higher in the case (7.02±3.77 nmol/mL) than control (6.12 ±1.92 nmol/ML), However the difference was not statistically significant (t=1.16, p=0.249). The level of AOPP was higher in case (27.15 ± 4.83 ng/Ml) as compared to control (22.67 ± 5.74 ng/Ml) which was statistically significant (t=3.27, p=0.002). The Pearson correlation analysis between MDA and AOPP revealed a weak but statistically significant positive correlation in the overall study population (r=0.274, p=0.034), suggesting a mild association between lipid peroxidation and protein oxidation. Within the control group, the correlation was weak and not statistically significant (r=0.141, p=0.457). In the case group, a moderate positive correlation was observed (r=0.327), but this did not reach statistical significance (p=0.078), indicating a possible trend toward association in cases.

CONCLUSIONS

Circulatory AOPP levels in comparison to MDA, is more promising biomarker and it can serve as a non-invasive diagnostic adjunct to imaging and biopsy, particularly in differentiating benign from malignant salivary tumors and monitoring post-surgical recurrence.

KEYWORDS

Salivary gland, Oxidative stress markers, Pleomorphic adenoma, AOPP

OP-485

Relationship Between Temporal Muscle Thickness And Sarcopenia In Laryngeal Cancer

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BACKGROUND & AIM

Sarcopenia is increasingly recognized as a significant clinical factor in head and neck oncology. The aim of this study is to evaluate the clinical utility of temporal muscle thickness (TMT) measured on routine computed tomography (CT) scans as a practical marker for assessing sarcopenia in patients diagnosed with laryngeal squamous cell carcinoma.

MATERIAL & METHODS

This retrospective study included patients who underwent treatment for laryngeal cancer between 2009 and 2024. Pre-treatment head and neck CT scans were analyzed to measure TMT. A total of 91 patients were evaluated using standardized axial CT sections. Volumetric assessments and cross-sectional thickness were recorded for each patient. The relationship between TMT values and clinical indicators of sarcopenia was statistically analyzed. Overall survival rates were compared using Kaplan-Meier analysis and Cox proportional hazards regression was applied to adjust for confounders.

RESULTS

Among 91 patients (95.6% male; mean age 62.7±9.9 years), the mean TMT was 5.6±1.3 mm. Patients with T1-T2 tumors exhibited significantly higher TMT values (5.96±1.32 mm) than those with T3-T4 tumors (5.25±1.24 mm) (p=0.010). Median survival decreased from 28 months in T1 to 10 months in T4 stages (p<0.001). Low TMT values (<4.89 mm) strongly correlated with shortened survival. Age, BMI, and smoking history showed no significant effect on survival (p>0.05).

CONCLUSIONS

Temporal muscle thickness (TMT) is a practical, non-invasive, and cost-effective CT-based biomarker that reliably predicts sarcopenia and early mortality risk in patients with laryngeal squamous cell carcinoma, offering significant utility for the identification of high-risk patients.

KEYWORDS

Temporal muscle thickness; Sarcopenia; Laryngeal squamous cell carcinoma; Overall survival; Survival analysis

OP-486

Head And Neck Squamous Cell Carcinoma In The Geriatric Population: Chronological Age Or Frailty? A Real-World Cohort Study From A Portuguese Tertiary Centre

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BACKGROUND & AIM

Head and neck squamous cell carcinoma (HNSCC) predominantly affect older individuals; however, elderly patients remain underrepresented in clinical trials. Treatment decisions in this population are particularly challenging, as chronological age may not accurately reflect frailty or functional status. This study aimed to characterise elderly patients with HNSCC and assess the influence of age on tumour characteristics and treatment patterns.

MATERIAL & METHODS

A retrospective cohort study was conducted including patients aged ≥65 years diagnosed with mucosal HNSCC at a Portuguese tertiary centre between 2014 and 2025. Non-squamous malignancies, thyroid tumours, salivary gland neoplasms, sarcomas, melanomas and metastatic lesions were excluded. Patients were stratified into three age groups: 65–74, 75–84 and ≥85 years.

Clinical, tumour and treatment-related variables were collected, including sex, risk factors, ECOG performance status, tumour location, disease stage and treatment strategy. Associations between age groups and categorical variables were assessed using chi-square analysis.

RESULTS

A total of 269 patients were included. Treatment strategy differed significantly according to age group (p=0.022), with the proportion of untreated patients increasing progressively from 15.5% in patients aged 65–74 years to 42.3% among those aged ≥85 years. Older patients presented significantly poorer performance status (ECOG ≥2: 12.7%, 26.1% and 42.3%, respectively; p<0.001). Tumour location varied significantly according to age (p=0.002), with oral cavity tumours being proportionally more frequent among the oldest patients. No significant association was observed between age and stage at diagnosis (p=0.345), with advanced-stage disease remaining prevalent across all age groups (67.6%, 71.6% and 76.9%, respectively). Female representation increased significantly with age (p=0.003). Risk factor profiles also differed significantly (p<0.001), with tobacco and combined tobacco–alcohol exposure progressively decreasing in older age groups.

CONCLUSIONS

Although older patients were less likely to receive active treatment, no differences in stage at presentation were observed across age groups. Older age was associated with poorer performance status and distinct epidemiological profiles, suggesting that treatment decisions may be influenced more by frailty and functional status than by tumour burden alone. These findings reinforce the importance of comprehensive geriatric assessment in HNSCC management.

KEYWORDS

Head and neck squamous cell carcinoma; Geriatric oncology; Frailty; ECOG; Treatment patterns

OP-487

Clinical Features Of Clustered Head And Neck Neurofibromas In Children With NF1: A Single-Center Retrospective Study Of 24 Cases.

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BACKGROUND & AIM

To investigate the surgical-related clinical characteristics of plexiform neurofibromas associated with type I neurofibromatosis (NF1-PN) in the head and neck region of children.

MATERIAL & METHODS

A retrospective analysis was conducted on clinical data from pediatric patients with NF1-PN undergoing surgical treatment at Beijing Children's Hospital, Capital Medical University between September 2015 and October 2024. Observed indicators included tumor location, tumor size, surgical duration, blood loss, histopathological type, and postoperative complications. Data analysis was performed using SPSS 25.0 and R software v4.5.0, with all results rounded to one decimal place.

RESULTS

This study included 24 patients with type 1 neurofibromatosis-associated plexiform neurofibromas of the head and neck region, comprising 15 males and 9 females with a mean age of 73 (73.1 ± 46.2) months. The mean maximum tumor diameter was 4.1 (4.1 ± 2.1) cm. The median operative time was 103 (40, 284) min, and the median blood loss was 10 (1, 400) ml. Most patients (14/20) had intraoperative blood loss below 20 ml. Further analysis revealed significantly higher intraoperative blood loss in patients with tumors ≥ 5.9 cm diameter compared to those with tumors < 5.9 cm diameter ($P < 0.05$). Additionally, operative time was markedly prolonged when tumor diameter exceeded 5.2 cm ($P < 0.05$).

CONCLUSIONS

Plexiform neurofibromas (NF1-PN) in the pediatric head and neck caninvolve the ear, nose,throat, neck, face, or multiple areas. Most patients showed no significant differences in surgical time or blood loss. However, surgery time increased when tumors were in the neck or exceeded 5.2 cm in diameter, and blood loss increased significantly when tumors exceeded 5.9 cm. For NF1-PN in the head and neck, surgeries for tumors over 5.9 cm or located in the neck should consider risks of bleeding, prolonged anesthesia, and potential postoperative complications.

KEYWORDS

Neurofibromatosis type 1; Plexiform neurofibromas; Children; Head and neck; Surgical treatment

OP-488

High Grade Transformation In Acinic Cell Carcinoma Of The Salivary Glands: A Systematic Review

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BACKGROUND & AIM

High-grade transformation (HGT) in acinic cell carcinoma (AcCC) is a rare but clinically aggressive pathology with poor prognosis. There is limited evidence regarding optimal management, most available data are from single institution reports or

case studies. This systematic review aims to consolidate the literature available on presentation, treatment and outcomes for these patients.

MATERIAL & METHODS

A systematic review search in Pubmed and Embase up to 2025 was performed according to PRISMA guidelines. Inclusion criteria contained original human studies including case reports and retrospective cohorts in English reporting management and outcomes of histologically confirmed AcCC with HGT. Owing to the heterogeneity across included studies a formal meta-analysis was not performed. Data were extracted on demographics, tumour site, stage, treatment and survival. The Newcastle-Ottawa scale was utilised for the included retrospective cohort studies to evaluate the quality of the provided data.

RESULTS

A total of 20 eligible studies comprising of 92 patients. The combined mean age at diagnosis was 56 years (range 17 – 85). Most tumours originated from the parotid gland 78.3% and only 10% originated from submandibular gland; with distant metastases in 50.9% of cases. The most common approach was total parotidectomy 44.4% with adjuvant radiotherapy 77.1%. The combined mean overall survival was 4.1 years and disease-specific mortality of 40%.

CONCLUSIONS

AcCC with HGT demonstrates aggressive clinical behaviour with poor survival outcomes despite multimodal therapy. A collaborative multicentre MDT approach is essential in the identification of prognostic markers and help guide optimal treatment strategies.

KEYWORDS

AcCC, HGT, PRISMA, systematic review

OP-489

Pharyngocutaneus Fistula Development After Total Laryngectomy: A Review Of Risk Factors And Clinical Outcomes

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BACKGROUND & AIM

Pharyngocutaneous fistula (PCF) is recognized as the most frequent early complication following total laryngectomy. The incidence of PCF in primary total laryngectomy cases is reported to be approximately 14.3% in the literature. Various patient-related factors, such as smoking, alcohol consumption, advanced age, diabetes, anemia, and malnutrition, as well as tumor-related factors, including advanced tumor stage, presence of neck metastasis, tumor localization, have been shown to significantly influence fistula development. Surgical experience and technical approach may affect complication rates. This study aims to investigate the factors affecting the development of PCF in patients who underwent primary total laryngectomy at our clinic.

MATERIAL & METHODS

In this retrospective study, the medical records of 35 patients who underwent primary total laryngectomy were reviewed. Patients were grouped based on the development of postoperative pharyngocutaneous fistula. Demographic data, clinical characteristics (tumor/nodal stage, comorbidities, additional surgical procedures), preoperative laboratory parameters (Neutrophil-to-Lymphocyte Ratio [NLR], lymphocytes, etc.), and the time to oral feeding were recorded. For statistical analysis, the Independent Samples t-test and Mann-Whitney U test were used to compare continuous variables, while Chi-Square and Fisher's Exact tests were utilized for categorical data. ROC curve analysis was performed to determine the clinical cut-off values of the parameters found to be significant in fistula development. Finally, univariate logistic regression analysis was conducted to determine the statistical impact (Odds Ratio) of the identified risk factors ($p < 0.05$).

RESULTS

A fistula developed in 7 (20%) of the 35 patients included in the study. No significant differences were found between the groups regarding demographic and clinical characteristics (tumor stage, tracheotomy, etc.). Preoperative lymphocyte levels were significantly higher ($p<0.001$) and NLR values were significantly lower ($p=0.001$) in the fistula group. In the ROC analysis, the preoperative NLR cut-off value for fistula development was determined as ≤ 8.25 (AUC: 0.913), and the lymphocyte cut-off value as ≥ 1.12×10^3 (AUC: 0.921). Univariate logistic regression analysis demonstrated that a low preoperative NLR value (OR: 0.67, $p=0.018$) and a high lymphocyte level (OR: 66.7, $p=0.011$) were statistically significant risk factors for fistula development.

CONCLUSIONS

This study evaluated risk factors for pharyngocutaneous fistula (PCF) following total laryngectomy, finding a 20% incidence, consistent with existing literature. While classical risk factors like hypoalbuminemia,hypothyroidea and tracheostomy lacked statistical significance due to the limited cohort size (n=35), a striking, paradoxical immune relationship emerged. Contrary to conventional expectations, a low preoperative Neutrophil-to-Lymphocyte Ratio (NLR ≤ 8.25) and elevated lymphocyte counts

(≥ 1.12 × 10^3) were strong independent predictors of PCF. This suggests that a hyperactive local immune response, rather than systemic immunosuppression, may drive early neopharyngeal breakdown.

KEYWORDS

Fistula, Larynx, Laryngectomy, Pharyngocutaneus

OP-490

Beyond Readmission Rates: Contemporary Patterns And Predictors Of Readmission After Transoral Robotic Surgery For Oropharyngeal Cancer

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BACKGROUND & AIM

Transoral robotic surgery (TORS) is increasingly used in the management of oropharyngeal squamous cell carcinoma (OPSCC). Although prior national studies have evaluated 30-day readmission rates after TORS, contemporary data characterizing specific readmission etiologies and associated risk factors remain limited. This study evaluated predictors and etiologies of 30-day readmission following TORS for OPSCC using a national database cohort.

MATERIAL & METHODS

A retrospective cohort study was performed using the Nationwide Readmissions Database from 2018 to 2022. Adult patients with OPSCC undergoing TORS were identified using ICD-10-CM and ICD-10-PCS codes. The primary outcome was 30-day non-elective readmission. Readmission etiologies were categorized according to the primary readmission diagnosis. Univariable and multivariable logistic regression analyses identified factors independently associated with readmission. Multinomial logistic regression evaluated factors associated with specific readmission etiologies.

RESULTS

A total of 7,588 patients undergoing TORS for OPSCC were included, of whom 726 (9.6%) experienced 30-day readmission. The most common readmission etiologies were cancer-related conditions (21.1%), respiratory/airway complications (17.1%), gastrointestinal/nutritional complications (11.7%), and postoperative complications (11.4%). On multivariable analysis, non-elective admission (OR 1.35, 95% CI 1.06–1.71), major severity of illness (OR 1.59, 95% CI 1.20–2.10), metropolitan teaching hospital status (OR 1.59, 95% CI 1.05–2.42), discharge with home health services (OR 1.51, 95% CI 1.24–1.84), and discharge to skilled nursing or intermediate care facilities (OR 1.64, 95% CI 1.14–2.35) were independently associated with increased readmission odds, while neck dissection was associated with lower readmission odds (OR 0.79, 95% CI 0.66–0.94). Tracheostomy was strongly associated with respiratory/airway, device-related, and postoperative complication readmissions.

CONCLUSIONS

Thirty-day readmission following TORS for OPSCC remains common and is driven predominantly by cancer-related and respiratory complications rather than postoperative hemorrhage. Illness severity, non-elective admission status, and post-discharge care needs were independently associated with readmission risk, while neck dissection was associated with lower readmission odds. These findings may help inform perioperative risk stratification and targeted strategies to reduce preventable readmissions after TORS.

KEYWORDS

Oropharyngeal cancer; transoral robotic surgery; readmission; postoperative complications; nationwide database

OP-491

The Clinical Role Of ACR TI-RADS Risk Stratification In Repeat Fine-Needle Aspiration Of Thyroid Nodules

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BACKGROUND & AIM

Fine-needle aspiration biopsy (FNAB) is commonly used to evaluate thyroid nodules; however, its effectiveness is limited in cases where the initial cytology is nondiagnostic or indeterminate. In these situations, repeat FNAB is often performed, although its diagnostic value can differ. Among ultrasound-based risk stratification systems, ACR TI-RADS has been increasingly used in clinical practice. The aim of this study is to evaluate the role of ACR TI-RADS risk levels in thyroid nodules undergoing repeat FNAB, particularly in predicting changes in cytological categories, and to examine its relationship with histopathological findings in patients who underwent surgery.

MATERIAL & METHODS

In this retrospective single-center study, a total of 956 thyroid nodules that underwent repeat fine-needle aspiration biopsy (FNAB) between January 2020 and January 2026 were evaluated. Nodules with initial nondiagnostic (Bethesda I) or indeterminate (Bethesda III) cytology that had at least one repeat FNAB were included. All nodules were reclassified according to ACR TI-RADS based on their ultrasonographic features. Demographic data, nodule size, ultrasonographic findings, and both initial and repeat FNAB results were recorded. Surgical treatment with histopathological confirmation was available in 214

nodules, and this subgroup was used for diagnostic performance analysis. The main outcome was the change in cytological category, while secondary outcomes included agreement with histopathological findings and prediction of malignancy. Statistical analyses were performed using jamovi software; appropriate parametric and non-parametric tests were applied, and $p<0.05$ was considered statistically significant.

RESULTS

A total of 956 nodules that had undergone repeat fine-needle aspiration biopsy (FNAB) were retrospectively reviewed.Histopathological confirmation was available in 214 nodules, of which 139 (64.9%) were malignant and 75 (35.1%) were benign. When initial and repeat FNAB results were compared, a significant change in cytological categories was observed ($p<0.001$), with category upgrade in 11.0%, downgrade in 20.1%, and no change in 68.9% of nodules.

Malignancy rates were significantly higher in nodules classified as Bethesda ≥3, both in initial and repeat biopsy results ($p<0.001$). Notably, the malignancy rate remained above 50% even in the Bethesda 1–2 group. ACR TI-RADS categories were significantly associated with post-repeat FNAB Bethesda categories ($\chi^2=33.1$, $p=0.033$).

In ROC analysis, FNAB showed moderate diagnostic performance (AUC=0.67; 95% CI: 0.60–0.73). No significant association was found between TI-RADS, nodule size, and malignancy ($p>0.05$).

CONCLUSIONS

Repeat fine-needle aspiration biopsy (FNAB) showed moderate diagnostic performance, and higher-than-expected malignancy rates were observed, especially in low-risk cytological categories. Although repeat biopsy results were significantly associated with malignancy, their ability to distinguish benign from malignant nodules was limited. ACR TI-RADS was related to cytological findings, but it did not make a meaningful contribution to predicting malignancy. These findings suggest that current risk classification systems may not be sufficient in patients undergoing repeat FNAB, and that clinical decisions should be made more carefully.

KEYWORDS

Thyroid nodules, Fine-needle aspiration biopsy, Repeat FNAB, ACR TI-RADS, Bethesda classification

OP-492

EFFECTIVENESS OF A STANDARDIZED SURGICAL TREATMENT FOLLOWED BY ADJUVANT RADIOTHERAPY IN PATIENTS AFFECTED BY RECURRENT PLEOMORPHIC ADENOMA

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BACKGROUND & AIM

The rate of recurrence after surgery for pleomorphic adenoma (PA) is around 2-3% even in the best series. Treatment of recurrent PA (RPA) is surgical, but there is no consensus on the extent of the procedure and the indication for adjuvant radiotherapy (RT). Surgery for RPA is affected by higher rates of complications and re-recurrences.

The Authors investigate the rate of re-recurrence and complications, together with any potential associated factor, in a cohort of patients who underwent surgery following a standardized surgical approach and adjuvant RT.

MATERIAL & METHODS

Patients treated with radical intent for RPA of the parotid or submandibular gland by the ENT Department of UZ Leuven between January 1989 and September 2025 were included. Surgery always consisted in the complete removal of the scar, the macroscopic disease and the remaining glandular tissue. Rates of re-recurrence and complications were calculated, potential risk factors were investigated.

RESULTS

Eighty-two patients were included, of whom 68 underwent surgery and adjuvant RT, the remaining 14 surgery as monotherapy. Median follow-up was 9.2 years. The rate of re-recurrence among patients who underwent surgery and RT was 8.8%, while it reached 28.6% for those who underwent surgery monotherapy. There were no associations between the rate of re-recurrence and any studied variable. No patient treated with surgery and RT developed subsequent malignant transformation.

The rate of postoperative facial nerve weakness was 39.0%, higher compared to the rate after primary surgery (7.5%). The presence of a facial nerve deficit at primary surgery significantly increased the risk for the same deficit at radical surgery ($p<.0001$).

CONCLUSIONS

A standardized treatment including complete removal of the macroscopic disease, the remaining glandular tissue and the previous scar with retrograde nerve dissection followed by adjuvant RT offers optimal local control in patients treated for RPA. The addition of adjuvant RT significantly improves the rate of re-recurrence. The rate of facial nerve complications is significantly higher compared to primary surgery.

KEYWORDS

Pleomorphic adenoma, recurrent pleomorphic adenoma, parotidectomy, radiotherapy

OP-493

A BIBLIOMETRIC ANALYSIS OF SPECIALISATION THESES ON HEAD AND NECK CANCERS IN TURKEY: A MULTIDISCIPLINARY EVALUATION BASED ON YÖK NATIONAL THESIS CENTRE DATA (1970–2026)

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BACKGROUND & AIM

Head and neck cancers constitute a complex patient group that involves collaboration across multiple disciplines, including otolaryngology, radiation oncology, medical oncology, nuclear medicine, pathology and plastic rekosntructive surgery. The aim of this study is to examine the bibliometric characteristics of medical specialisation theses prepared in the field of head and neck cancers in Turkey; to reveal the distribution of theses by year, the contribution between branches, changes in research trends, and the reflection of new technologies (e.g. advanced imaging methods such as robotic surgery and FDG PET-CT) in academic studies

MATERIAL & METHODS

This study was planned as a retrospective descriptive bibliometric analysis. The data source used was the Higher Education Council (YÖK) National Thesis Centre (Turkey) database.The keywords used in the search were selected from the ETR UEMS-ORL APPROVED 2020 and Tukmos-KBB head and neck surgery sections.Medical specialisation theses were searched using the identified keywords; the obtained theses were classified by publication year, specialisation field, and thesis topic. The obtained data will be evaluated using descriptive statistics; the results will be presented graphically and chronologically.

RESULTS

A total of 510 medical specialization theses were evaluated within the scope of the bibliometric analysis. Distribution by specialty showed that Ear, Nose and Throat (ENT) produced the highest number of theses on head and neck cancers, with 179 studies (35.1%). ENT was followed by oncology (14.9%), endocrinology and metabolic diseases (14.1%), radiology and nuclear medicine (13.9%), and general surgery (10.2%).

This distribution demonstrates that head and neck cancers represent a multidisciplinary academic field rather than solely a surgical domain, involving contributions from diagnosis, imaging, and medical and radiation therapies.

While research on thyroid cancers has been mainly concentrated in general surgery and endocrinology, the past fifteen years have shown an increase in thyroid-related theses within ENT compared to the previous forty-year period. This trend reflects an academic shift consistent with evolving interdisciplinary boundaries in head and neck surgery and the expanding surgical role of the ENT specialty.

CONCLUSIONS

This bibliometric analysis shows that medical specialization theses on head and neck cancers in Turkey have gained increasing academic interest and reflect a multidisciplinary structure shaped by various specialties. The distribution of theses indicates that head and neck oncology is not solely surgical but relies on combined contributions from surgery, oncology, endocrinology, radiology, and nuclear medicine. The ENT discipline emerges as the leading contributor, producing the highest number of theses, highlighting its central and expanding role in head and neck oncology and underscoring the interdisciplinary nature of research and clinical practice in this field.

KEYWORDS

Head and neck cancers, bibliometric analysis, medical specialisation theses, multidisciplinary approach

OP-494

Preoperative Bethesda Cytology And Final Histopathology After Thyroid Loboisthmectomy

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BACKGROUND & AIM

The Bethesda System is widely used for preoperative risk stratification of thyroid nodules; however, predicting malignancy remains challenging, particularly in indeterminate cytology. This study evaluated the relationship between preoperative Bethesda cytology and final histopathology in patients undergoing thyroid loboisthmectomy for nodular thyroid disease.

MATERIAL & METHODS

This retrospective study was conducted at a tertiary referral institution between 2019 and 2024. The medical records of 122 patients who underwent thyroid loboisthmectomy were reviewed. Fifty patients were excluded due to concomitant non-thyroid tumor surgery or had missing/unavailable clinical, cytological, or pathological data. The final analysis included 72 patients. Demographic, clinical, biochemical, ultrasonographic, cytological, surgical, and histopathological data were analyzed using IBM SPSS Statistics version 31.0.

RESULTS

The cohort included 47 female (65.3%) and 25 male (34.7%) (mean age 47.54 ± 14.12 years). Forty-nine patients (68.1%) were symptomatic, whereas 23 patients (31.9%) were asymptomatic. Final histopathology was benign in 47 patients (65.3%) and

malignant in 25 patients (34.7%), including follicular thyroid carcinoma (n=1), papillary thyroid carcinoma (n=5), and papillary thyroid microcarcinoma (n=19). Malignant nodules were significantly smaller than benign ones (median 19.0 vs. 33.0 mm, p=0.005). Right-sided operations showed a higher malignancy rate than left-sided operations (50.0% vs. 22.5%, p=0.024). Bethesda classification was significantly associated with final histopathology (p=0.006), with malignancy rates of 20.0%, 10.5%, 36.0%, 40.0%, 66.7%, and 100.0% across categories, respectively. Malignancy was detected in 36.0% of Bethesda III nodules and in 37.5% of Bethesda III–IV indeterminate nodules. Age, sex, symptom presence, thyroid-stimulating hormone level, and nodule size were not significantly associated with malignancy.

CONCLUSIONS

Bethesda cytology was significantly associated with final histopathologic malignancy in patients undergoing thyroid loboisthmectomy. Bethesda III and Bethesda IV nodules showed malignancy rates of 36.0% and 40.0%, respectively. These findings support individualized assessment using Bethesda cytology, ultrasonographic risk stratification and patient characteristics, such as eligibility for surveillance, risk factors for thyroid carcinoma.

KEYWORDS

papillary thyroid carcinoma, loboisthmectomy, thyroidectomy, thyroid nodules

OP-495

Outcomes Of Drainless Day-Case Parotidectomy: A Single-Centre Retrospective Cohort Study

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BACKGROUND & AIM

Day-case parotidectomy is increasingly utilised to improve patient experience and efficiency. Most published day-case parotidectomy series report routine drain use, despite limited evidence that drains reduce complications or readmission. Robust outcome data for drainless day-case pathways remain sparse. This study evaluates the safety and postoperative outcomes of drainless day-case parotidectomy.

MATERIAL & METHODS

A retrospective cohort study was conducted of consecutive patients undergoing drainless parotidectomy with day-case intent at a single centre from May 2020 to January 2026. Surgery was delivered within a supervised training environment, reflecting routine practice. Drainless surgery was the default approach during the study period. Included procedures comprised parotid resections of varying extent, including superficial, subtotal, total, and revision procedures. Complications were prospectively recorded and reviewed at routine postoperative follow-up. Primary outcomes were successful same-day discharge and 30-day readmission. Secondary outcomes were rates of postoperative complications including facial nerve weakness (temporary and permanent), haematoma, wound infection, postoperative collections (seroma/sialocele/salivary fistula), and Frey's syndrome.

RESULTS

A total of 91 patients underwent drainless day-case parotidectomy. Same-day discharge was achieved in 84.6%, comparable with published day-case parotidectomy series. The 30-day readmission rate was 1.1%. Unplanned admission was most commonly due to social reasons (n=5) and postoperative haematoma (n=4). Temporary and permanent facial nerve weakness occurred in 17.6% and 2.2% of patients, respectively. Postoperative haematoma occurred in 7.7% of cases. Wound infection and postoperative collections occurred in 17.6% each. There were no cases of Frey's syndrome.

CONCLUSIONS

Drainless day-case parotidectomy is feasible with low readmission and acceptable facial nerve outcomes. These outcomes were achieved within a supervised training environment, supporting the wider applicability of drainless day-case parotidectomy in routine practice. Higher wound-related complications highlight opportunities for improved risk stratification and pathway optimisation. Selective drain use within structured day-case protocols may maximise safety while preserving efficiency gains.

KEYWORDS

Day case surgery, parotidectomy, ambulatory surgery, surgical drains, drainless surgery, head and neck surgery, facial nerve outcomes, postoperative complications, surgical pathways, service innovation, training environment, patient safety

OP-496

Extracranial Head And Neck Schwannomas: A Single Centre Retrospective Experience Of 102 Cases.

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BACKGROUND & AIM

Objective: Extracranial head and neck schwannomas (ECHNS) are rare benign neoplasms that present diagnostic and management challenges. This study analyses diagnostic and management strategies of ECHNS

MATERIAL & METHODS

Study design: A single centre cohort study over 10 years

Setting: Tertiary academic medical centre

Method: For all patients with ECHNS, outcome measures of patient demographics, presenting symptoms, diagnostic investigations, nerve of origin, treatment approaches and long term morbidity were gathered from electronic patient records. Independent t-tests were used to assess significant difference between surgical and conservative management approaches.

RESULTS

Results: 102 tumours were analysed. The mean cohort age was 51 yrs and 52.5% were female and 46.5% were male. The commonest anatomical locations were the neck (48%), cervical spine (19.6%), parapharyngeal space (10.8%), and parotid (9.8%). Most patients presented with external swelling (67%), while spinal lesions typically presented with neurological deficits. MRI accurately characterized lesions as benign in 95% of cases. Ultrasound-guided fine needle aspiration cytology (FNAC) demonstrated a diagnostic accuracy of 86.6%. Management was equally divided between surgical resection and active surveillance with comparable baseline patient characteristics. Post-operative complications occurred in 16 cases (31.4%), with persistent long-term sequelae in 7 patients (13.7%). No patients under surveillance required surgical intervention during follow-up to 7 years.

CONCLUSIONS

Conclusions: ECHNS demonstrate excellent outcomes with both surgical and conservative management. MRI remains the investigation of choice. This largest reported series supports a paradigm shift towards surveillance in selected patients, though optimal surveillance protocols remains undefined.

KEYWORDS

Keywords: schwannoma, head and neck schwannomas, surveillance, surgical management

OP-497

Can Preoperative Complete Blood Count-Derived Indices Predict Survival In Patients With Surgically Treated Advanced-Stage Laryngeal Carcinoma? A Retrospective Cohort Study

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BACKGROUND & AIM

CBC–derived inflammatory indices, including the neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), monocyte-to-lymphocyte ratio (MLR), systemic immune-inflammation index (SII), and pan-immune-inflammation value (PIV) have increasingly been proposed as simple, inexpensive, readily available prognostic biomarkers in oncology. The growing number of hemogram-based prognostic markers raises an important question: can complex oncological outcomes be reliably predicted by isolated preoperative inflammatory indices? Prognosis is inherently multifactorial shaped by tumor biology, disease extent, pathological risk factors, treatment-related variables, patient characteristics. We evaluated the prognostic value and practical limitations of these inflammatory indices in patients with locoregionally advanced laryngeal carcinoma who underwent surgery with curative intent.

MATERIAL & METHODS

Patients with advanced-stage (stage III–IV) laryngeal squamous cell carcinoma who underwent curative total or partial laryngectomy between 2014 and 2026 were retrospectively reviewed. Patients with distant metastasis, T4b, prior malignancy, radio-recurrent disease, neoadjuvant treatment, active inflammatory or hematologic conditions, immunosuppressive use, or incomplete data were excluded. Preoperative complete blood count parameters obtained within 15 days before surgery were used to calculate NLR, PLR, MLR, SII, and PIV. ROC analysis did not identify clinically adequate cut-off values; therefore, median values were used to classify patients into high- and low-score groups for each index. Overall survival (OS), Disease-free survival (DFS), and Locoregional recurrence-free survival (LRFS) were evaluated using Kaplan–Meier analysis and compared with the log-rank test. All statistical analyses were performed using SPSS 25.0.

RESULTS

A total of 97 patients were included in the study. The cohort was predominantly male (94.8%), with a mean age of 64 ± 9 years (43-87 Years). Stage distribution was 37.1% for stage III, 44.3% for stage IVA, and 18.6% for stage IVB. All stage IVB cases were classified as IVB due to nodal disease with ENE-positive N3b status, rather than T4b primary tumor extension. Total laryngectomy was performed in 80.4% of patients, and followed by adjuvant chemoradiotherapy in 76.3% of patients. Median follow-up was 50 months. The median values of PIV, NLR, PLR, MLR, and SII were 481.23, 2.74, 135.91, 0.27, and 827.22, respectively. When patients were stratified into high- and low-score groups according to the median value of each index, none of the inflammatory scores demonstrated a statistically significant association with OS, DFS, or LRFS.

CONCLUSIONS

Preoperative CBC-derived inflammatory indices, including NLR, PLR, MLR, SII, and PIV, did not significantly predict survival outcomes in patients with surgically treated locoregionally advanced laryngeal carcinoma. These findings suggest that the prognosis of laryngeal carcinoma, as in many other malignancies, is multifactorial and cannot be reliably predicted by isolated

preoperative hematologic parameters alone. Although such indices are simple and accessible, their clinical utility for prognostic stratification in this setting appears limited.

KEYWORDS

Serum prognostic score, Laryngeal carcinoma, survival analysis, pro-inflammatory immune value, PIV, neutrophil-to-lymphocyte ratio, NLR, platelet-to-lymphocyte ratio, PLR, monocyte-to-lymphocyte ratio, MLR,Systemic Immune-Inflammation Index, SII

OP-498

Parotid Abscesses: A Multidisciplinary Approach For Optimal Management

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BACKGROUND & AIM

Parotid abscesses, although uncommon, may lead to severe complications such as sepsis, facial nerve palsy, or mediastinitis. While surgical drainage remains the standard of care, emerging evidence suggests that ultrasound-guided needle aspiration may be a less invasive yet effective alternative. This study aims to compare the safety, efficacy, and clinical outcomes of surgical drainage versus ultrasound-guided aspiration for treating parotid abscesses.

MATERIAL & METHODS

We conducted a retrospective multicentric analysis of patients treated for parotid abscesses within a YoIFOS otolaryngology group. Evaluated variables included abscess volume, hospitalization duration, number of procedures, complication rates (bleeding, recurrence, facial nerve palsy), and microbiological profiles.

RESULTS

- Mean abscess volume: 10.1 mL (surgical) vs. 5.7 mL (aspiration), p = non-significant
- Mean number of procedures: 1.1 (surgery) vs. 1.9 (aspiration), $p < 0.01$
- Hospital stay: 7.3 days vs. 5.9 days (trend, p = non-significant)
- Complications: bleeding in 2% of surgical cases; no facial palsy in either group; recurrences in 4 surgical and 3 aspiration cases
- Predominant pathogens: Staphylococcus aureus, Streptococcus intermedius, viridans streptococci

CONCLUSIONS

A prospective randomized trial is warranted to determine the optimal treatment strategy and identify patient subgroups most likely to benefit from a conservative approach.

KEYWORDS

parotid abscess; ultrasound-guided aspiration; surgical drainage; otolaryngology; microbiology; minimally invasive

OP-499

Margin Status And Disease Control In Submandibular Gland Malignancies From A Tertiary Centre: A Preliminary Report

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BACKGROUND & AIM

Submandibular gland (SMG) malignancies represent 5 – 15% of salivary gland neoplasms and are characterised by histological heterogeneity and variable biological behaviour. Surgical margins are widely regarded as a key prognostic factor. However, the relationship between the surgical margins and other pathological features in this subgroup remains incompletely defined. We aim to evaluate how margin clearance correlates with recurrence and outcomes in SMG malignancies.

MATERIAL & METHODS

We conducted a retrospective cohort study of patients who had undergone surgical resection of malignant SMG between (2017 – 2022). Pathological variables included histological subtype, tumour grade and stage, closest margin distance (mm), perineural invasion, recurrence patterns and survival outcomes. This represents a preliminary report of an evolving dataset.

RESULTS

12 patients underwent resection of SMG malignancy, predominantly adenoid cystic carcinoma (n=8), 66.7%. Margins were <1mm or narrowly excised in (n=8), 66.7%. Overall recurrences were seen in (n=4) 33.3% of cases with distant metastasis in (n=2) 16.7%, while isolated local recurrence in (n=2) 16.7%. Death from disease was (n=2) 16.7%. Of the patients with recurrence, (n=3) 75% had perineural invasion.

CONCLUSIONS

Our preliminary report suggests close surgical margins, specifically when accompanied by perineural invasion, may be associated with adverse oncological outcomes in SMG malignancy. Given these tumours are heterogeneous and rare, a collaborative multicentre dataset with standardised margin definitions is needed to quantify prognostic factors and guide management.

KEYWORDS

SMG, preliminary, perineural invasion, margins

OP-500

Occult Papillary Thyroid Carcinoma In Patients Undergoing Total Laryngectomy For Advanced Laryngeal Cancer

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BACKGROUND & AIM

The aim of this study was to investigate the prevalence of occult papillary thyroid carcinoma (PTC) in patients undergoing total laryngectomy with concomitant thyroid surgery for advanced laryngeal squamous cell carcinoma and to evaluate its potential clinical implications.

MATERIAL & METHODS

This retrospective multicenter study included patients who underwent total laryngectomy for advanced-stage laryngeal squamous cell carcinoma between 2011 and 2025. Patients who underwent simultaneous thyroid surgery were included in the analysis. Demographic characteristics, tumor localization, TNM stage, subglottic extension, thyroid cartilage invasion, extent of thyroid surgery, and histopathological findings were reviewed. Thyroidectomy specimens accompanying total laryngectomy materials were evaluated for occult PTC. None of the patients had preoperative suspicion of thyroid malignancy.

RESULTS

Among 136 patients who underwent total laryngectomy, 97 (71.3%) underwent concomitant thyroid surgery and constituted the study cohort. Occult PTC was identified in 4 patients (4.1%). All patients were male, with a mean age of 68 years. Three patients had T3 disease and one had T4a disease. Histopathological examination revealed unifocal tumors in three patients and multifocal disease in one patient. Papillary thyroid microcarcinoma was detected in three cases. No extrathyroidal extension, vascular invasion, or cervical lymph node metastasis related to PTC was observed. Only one patient received postoperative radioactive iodine therapy. During follow-up, no recurrence or progression related to PTC was detected.

CONCLUSIONS

Occult PTC may be detected in patients undergoing total laryngectomy with concomitant thyroid surgery for advanced laryngeal carcinoma. Most lesions demonstrated low-risk pathological features and indolent clinical behavior. These findings do not support routine total thyroidectomy solely for the detection of occult malignancy; however, careful preoperative and histopathological thyroid evaluation may be beneficial in selected patients.

KEYWORDS

Incidental Papillary Thyroid Carcinoma, Total Laryngectomy, Laryngeal Squamous Cell Carcinoma, Thyroidectomy,

OP-501

Efficacy Of Fine Needle Aspiration Cytology With The Application Of The Milan System In Detecting Parotid Gland Histopathology

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BACKGROUND & AIM

The primary objective of this retrospective study was to investigate the diagnostic efficacy and clinical utility of the Milan System for Reporting Salivary Gland Cytopathology (MSRSGC) in evaluating parotid gland lesions. Furthermore, this research aimed to precisely determine the risk of malignancy (ROM) associated with each diagnostic category within this framework to better guide preoperative assessment in otorhinolaryngology practice.

MATERIAL & METHODS

A comprehensive retrospective review was conducted on patients who underwent parotidectomy surgery for parotid lesions at Başakşehir Çam and Sakura City Hospital between June 2020 and November 2025. Preoperative fine-needle aspiration cytology (FNAC) specimens were systematically re-evaluated and classified according to the standardized MSRSGC criteria. These cytological classifications were subsequently correlated with the definitive postoperative histopathological results. Statistical analyses were performed to calculate the ROM for each distinct diagnostic category, alongside core performance

metrics, including sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and overall accuracy for diagnosing malignancy.

RESULTS

The study evaluated the FNAC and histopathological results of 337 patients with parotid gland lesions. The MSRSGC-based classification demonstrated strong diagnostic performance in predicting malignant potential, yielding a sensitivity of 78 %, a specificity of 98%, a PPV of 92%, an NPV of 94%, and an overall accuracy of 96%. The calculated ROM for each MSRSGC category was observed as follows: Nondiagnostic (22.2%), Non-neoplastic (20%), Atypia of Undetermined Significance (AUS) (75%), Benign Neoplasm (1.9%), Salivary Gland Neoplasm of Uncertain Malignant Potential (SUMP) (41.7%), Suspicious for Malignancy (81.2%), and Malignant (92.9%).

CONCLUSIONS

The Milan System serves as a highly valuable, reliable, and standardized tool in the cytopathological evaluation of parotid gland lesions. Notably, the present study identified high malignancy risk rates within the indeterminate AUS and SUMP categories, highlighting their clinical complexity. Increasing the volume of published patient data across all categories in the literature is essential. Such ongoing refinement will contribute to more appropriate clinical management and optimized surgical decision-making.

KEYWORDS

parotid gland, Milan system, fine-needle aspiration, risk of malignancy

OP-502

In Vivo And Ex Vivo Intraoral Ultrasound For Depth Of Invasion And Deep Margin Assessment In TSCC: MRI And Histopathologic Correlation.

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BACKGROUND & AIM

Assessment of depth of invasion (DOI) is fundamental to T staging, surgical planning, and prognosis in TSCC. While adequate mucosal margins are generally achievable, evaluating the deep surgical margin remains technically demanding and often depends on palpation and imaging. Although MRI is routinely used preoperatively, its accuracy in early-stage and superficial tumors may be affected by technical limitations and differences from histopathological DOI measurement. Intraoral ultrasonography provides real-time imaging and enables assessment of both in vivo DOI and the ex vivo deep margin. This study aimed to evaluate its diagnostic performance in comparison with MRI and histopathology.

MATERIAL & METHODS

This retrospective study included 13 patients with histopathologically confirmed tongue squamous cell carcinoma (TSCC) who underwent primary surgical resection at a tertiary referral center between 2021 and 2024. Patients with a history of prior surgery or radiotherapy or chemotherapy to the oral cavity were excluded. Preoperative intraoral ultrasonography (US) was performed in vivo using a high-frequency linear probe (15–18 MHz) with gentle perpendicular contact to reduce tissue compression. Following tumor resection, specimens were oriented and re-evaluated ex vivo using the same ultrasonographic technique to measure the deep surgical margin. All patients underwent contrast-enhanced MRI as part of routine preoperative staging. Histopathological examination was carried out on permanent sections, and DOI was defined according to AJCC 8th edition criteria. Measurements obtained from in vivo US, ex vivo US deep margin assessment, MRI (independently evaluated by a blinded radiologist), and histopathology were analyzed using correlation, agreement (ICC) and ROC analyses.

RESULTS

In this single-center cohort study of 13 patients with TSCC, intraoral ultrasonography (US) and MRI demonstrated strong correlations with pathological DOI (US:ρ=0.820, $p<0.001$; MRI: ρ=0.870, $p<0.001$). Both modalities demonstrated systematic overestimation compared with histopathology (US bias +1.53 mm, p=0.007; MRI bias +1.92 mm, p=0.017), while no significant difference was observed between US and MRI measurements (p=0.529). Agreement with pathology was excellent (ICC≈0.91–0.92). Pathological T-stage concordance was 61.5% for US and 53.8% for MRI, with moderate-to-substantial weighted kappa agreement (κ=0.51 and κ=0.63, respectively). US-derived DOI demonstrated excellent discrimination for nodal metastasis (AUC=0.976), with an exploratory cut-off of 7mm providing 85.7% sensitivity and 100% specificity. Ex vivo US measurements of medial surgical margins demonstrated a strong correlation with histopathology ($r = 0.789$, $p = 0.001$) and no systematic measurement bias. These findings support the diagnostic accuracy and clinical applicability of intraoral US for DOI assessment and preoperative risk stratification in TSCC.

CONCLUSIONS

Intraoral ultrasonography demonstrated high reliability for DOI assessment in TSCC, with strong correlation and excellent agreement with histopathology. Although both US and MRI tended to overestimate DOI, US showed comparable T-stage accuracy and superior discrimination for nodal metastasis in this cohort. The significant association between US-derived DOI and pathological nodal status highlights its value for preoperative risk stratification and surgical planning. Additionally, ex vivo US measurements of surgical margins correlated well with histopathology without systematic bias. These findings support

intraoral US as a practical and clinically valuable tool, with potential for broader integration into routine preoperative evaluation of TSCC.

KEYWORDS

Tongue cancer , Squamous cell carcinoma , Intraoral ultrasonography , Magnetic resonance imaging , Depth of invasion , Lymph node metastasis

OP-503

Investigation Of Cornulin And Stratifin Proteins In Laryngeal Squamous Cell Carcinoma In Laryngeal Swab Samples And Laryngeal Tissue

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BACKGROUND & AIM

Laryngeal squamous cell carcinoma (LSCC) is one of the most common head and neck malignancies, and its early diagnosis is challenging. The invasive diagnostic methods increases the need for alternative non-invasive approaches. Cornulin (CRNN) is a protein specific to squamous epithelium and is associated with tumor progression; its decreased expression has been reported in squamous cell carcinomas. Stratifin is a protein that plays a role in cell cycle regulation and is associated with tumor development. This study aimed to evaluate the diagnostic contribution of laryngeal swab cytology in LSCC and to assess the expression patterns of cornulin and stratifin.

MATERIAL & METHODS

In this prospective study, laryngeal tissue and swab samples were obtained from 32 patients with a preliminary diagnosis of LSCC(group 1) who presented to the Department of Otolaryngology at Fırat University Hospital, 42 patients with a preliminary diagnosis of laryngeal polyps provided tissue and swabs samples(group 2), and 26 laryngeal swab samples were obtained from the healthy vocal cords of patients who underwent rhinoplasty/septoplasty surgery in our hospital(group 3). Swab samples were obtained under general anesthesia using silicone swab brushes from the surface of malignant and benign lesions and from the vocal cord mucosa in healthy individuals. The laryngeal swab samples were first classified cytomorphologically as squamous cell carcinoma, dysplasia, or normal cytology. Immunohistochemical staining for cornulin and stratifin proteins was performed on obtained tissue and swab samples. The prevalence and intensity of staining were evaluated in tissue samples, while only the intensity of staining was analyzed in swab samples.

RESULTS

Out of 32 laryngeal swab specimens that were histopathologically confirmed as LSCC were investigated 10 showed distinct malignant cytomorphological features, 13 showed findings consistent with dysplasia, and 9 showed normal epithelial cells. Only normal epithelial cells were observed in all swab samples obtained from group 2 and 3. Immunohistochemical examination revealed a significant decrease in cornulin and stratifin expression in malignant tissue samples. Histopathologically, cytology samples from cases diagnosed with LSCC showed lower immunohistochemical staining intensity in malignant cells, and tissue specimens showed reduced staining intensity and severity compared to normal epithelial cells. These findings yielded consistent results in terms of both cytological evaluation and immunohistochemical analysis.

CONCLUSIONS

Laryngeal swab cytology enabled the detection of malignant and dysplastic epithelial changes in a considerable proportion of LSCC specimens. The identification of normal cytological findings in benign lesions and healthy tissues further supports reliability of this method. The decreased expression of cornulin and stratifin in malignant tissues supports their potential role as diagnostic biomarkers in squamous cell carcinogenesis. Our study is the first in the literature to use the laryngeal swab method for the diagnosis of LSCC. In this respect, it offers significant promise for the early diagnosis and screening of LSCC and has the potential to guide future studies.

KEYWORDS

Laryngeal squamous cell carcinoma, laryngeal swab, cornulin, stratifin, laryngeal cytology

OP-504

Prognostic Determinants Of Mortality In Oral Cavity And Oropharyngeal Cancer Surgery: A Single-Center Retrospective Analysis

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BACKGROUND & AIM

Oral cavity and oropharyngeal cancers continue to demonstrate unsatisfactory survival outcomes despite advances in multimodal treatment. Identification of reliable pathological predictors remains essential for risk stratification and individualized treatment planning. This study aimed to determine mortality-associated prognostic factors in surgically treated patients and to evaluate site-specific oncological behavior.

MATERIAL & METHODS

A retrospective cohort study was conducted including 147 patients who underwent curative or diagnostic surgery for oral cavity and oropharyngeal cancers at a tertiary referral center between 2022 and 2025. Overall mortality was defined as the primary endpoint (20.5%). Clinicopathological variables were analyzed using Fisher's exact and Mann–Whitney U tests, and odds ratios with 95% confidence intervals were calculated. Histological grading and depth of invasion (DOI) analyses were performed in eligible cases according to AJCC 8th edition criteria.

RESULTS

The tongue represented the most common primary tumor site, whereas gingival tumors demonstrated the highest mortality rates. Positive surgical margins, perineural invasion, lymphovascular invasion, advanced nodal disease (N3b), lymph node metastasis, increased tumor size, higher histological grade, DOI greater than 10 mm, and female sex were significantly associated with mortality. Mortality increased stepwise with both DOI and tumor grade, confirming the prognostic validity of AJCC DOI thresholds. A strong correlation between increasing tumor grade and perineural invasion was identified. Tonsillar tumors demonstrated favorable outcomes associated with high HPV positivity, while gingival and mandibular tumors showed markedly poorer prognosis.

CONCLUSIONS

Depth of invasion, perineural invasion, and surgical margin status emerged as dominant predictors of mortality following surgery. Site-specific prognostic variability highlights the importance of tailored oncological assessment beyond conventional staging. The observed interaction between histological grade and perineural invasion represents a clinically relevant finding that may improve postoperative risk stratification and treatment decision-making.

KEYWORDS

Oral cavity cancer; Oropharyngeal cancer; Prognostic factors; Depth of invasion; Perineural invasion; Histologic grade; HPV; Head and neck surgery

OP-505

Preoperative And Postoperative Quality Of Life Assessment In Patients Undergoing Parathyroid Adenoma Excision

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BACKGROUND & AIM

Primary hyperparathyroidism is associated with impaired quality of life (QoL), even in patients with mild biochemical abnormalities. This study aimed to evaluate changes in QoL before and after parathyroid adenoma excision and to investigate the relationship between QoL improvement, comorbidity burden, and gender.

MATERIAL & METHODS

This retrospective observational study included patients who underwent parathyroid adenoma excision between May 2024 and May 2025. Of 52 patients, 48 with complete follow-up data were analyzed. QoL was assessed using a standardized health-related questionnaire preoperatively and at 1, 3, 6, and 12 months postoperatively. Changes over time were analyzed using repeated-measures ANOVA. The relationship between 12-month QoL improvement and Charlson Comorbidity Index (CCI) was evaluated using Pearson correlation analysis, and gender differences were assessed using an independent-samples t-test.

RESULTS

QoL scores improved significantly over time ($F=10.12$, $p<0.001$). The mean QoL score increased from 63.2 preoperatively to 65.0, 66.0, 70.5, and 73.4 at 1, 3, 6, and 12 months, respectively. The most pronounced improvement was observed after the sixth postoperative month. No significant correlation was found between QoL improvement and CCI ($r=0.02$, $p=0.87$), and no significant difference in QoL improvement was observed between genders ($p=0.82$).

CONCLUSIONS

Parathyroid adenoma excision results in a significant and progressive improvement in quality of life, particularly in the mid- and late postoperative periods. These improvements appear to be independent of comorbidity burden and gender, highlighting the patient-centered benefits of surgical treatment.

KEYWORDS

Primary hyperparathyroidism, Parathyroidectomy, Quality of life, Head and Neck surgery, Charleston Comorbidity Index

OP-506

Impact Of Adjuvant Treatment On Functional Outcomes After Supracricoid Partial Laryngectomy: A Single-Center Cohort Study Of 131 Patients

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BACKGROUND & AIM

Supracricoid partial laryngectomy (SCL) is an established organ-preservation procedure for laryngeal squamous cell carcinoma (SCC), reconstructed as cricohyoidoepiglottopexy (CHEP) or cricohyoidopexy (CHP). This study evaluates the impact of adjuvant treatment on decannulation success and feeding tube dependency following

MATERIAL & METHODS

Between January 2010 and December 2025, 164 consecutive patients underwent SCL at a single A single-center retrospective cohort study included 131 patients who underwent SCL (CHEP: n=84; CHP: n=47) between 2011 and 2025. Patients were categorized as no adjuvant therapy (n=91) versus adjuvant treatment (radiotherapy [RT] or chemoradiotherapy [CRT]; n=40). Reconstruction type (CHEP vs. CHP), arytenoidectomy status, and the addition of CT to RT (CRT vs RT-only) were also evaluated. Primary endpoints were successful decannulation within 6 months and the absence of permanent enteral tube dependency. Fisher's exact and chi-square tests were applied for group comparisons, with independent predictors identified by binary logistic regression ($p<0.05$).

RESULTS

The 6-month decannulation, overall decannulation, and long-term oral feeding rates were 81.7%, 88.5%, and 91.6%, respectively. The adjuvant group showed significantly lower 6-month decannulation (57.5% vs 92.3%; $p<0.001$), overall decannulation (72.5% vs 95.6%; $p<0.001$), oral feeding (80.0% vs 96.7%; $p=0.003$), and higher permanent percutaneous endoscopic gastrostomy (PEG) dependency (12.5% vs 2.2%; $p=0.027$) versus the no-adjuvant group. Reconstruction type significantly affected both outcomes: CHEP yielded 90.5% decannulation and 100.0% oral feeding versus CHP 66.0% and 76.6% (both $p<0.001$). The CHP+Adjuvant subgroup showed the poorest outcomes (decannulation 40.0%; oral feeding 60.0%). Arytenoidectomy had no significant impact on decannulation ($p=0.160$) or oral feeding ($p=0.435$). Within the adjuvant group, the addition of CT to RT had no significant impact on decannulation rates or permanent PEG dependency ($p>0.05$). On multivariate analysis, CHP technique (OR=0.07; 95% CI 0.02-0.32; $p=0.001$), advanced age (OR=0.83/year; $p=0.001$), and adjuvant treatment remained independent predictors of decannulation failure.

CONCLUSIONS

Adjuvant treatment significantly impairs decannulation and oral feeding following SCL, with the most critical burden in the CHP+Adjuvant subgroup. Reconstruction type (CHEP vs. CHP) is the strongest independent predictor of functional outcome, underscoring the importance of epiglottis preservation when oncologically feasible. Arytenoidectomy does not impair functional rehabilitation and should not be avoided when necessary to secure safe oncological margins. Notably, the addition of CT to RT does not significantly affect decannulation success or enteral tube dependency in the adjuvant setting.

KEYWORDS

Supracricoid partial laryngectomy Adjuvant radiotherapy Chemoradiotherapy Decannulation Dysphagia Organ preservation Laryngeal carcinoma Functional outcomes

OP-507

Spatial Transcriptomics Identifies CAF Remodeling Pathways And Immune Checkpoint Ligands In Adenoid Cystic Carcinoma

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BACKGROUND & AIM

Adenoid cystic carcinoma (ACC) is clinically therapy-resistant, and effective systemic treatment options remain limited. The tumor microenvironment, including stromal remodeling and immune regulatory signals, may contribute to ACC progression and treatment resistance. Using Visium spatial transcriptomics on formalin-fixed, paraffin-embedded (FFPE) tissue, we aimed to characterize cancer-associated fibroblast (CAF)-associated stromal pathways and immune checkpoint ligand expression in ACC within the same tissue section. These spatial features may provide insight into candidate therapeutic targets.

MATERIAL & METHODS

Spatial transcriptomes from FFPE specimens of three ACC cases were generated using 10x Genomics Visium and analyzed by Seurat-based clustering. Clusters were annotated using concordance between MCP-counter immune and stromal abundance scores and canonical marker genes from Seurat FindAllMarkers. Tumor-associated clusters were defined as a transcriptome-based tumor compartment using tumor marker expression patterns rather than morphology alone. CAF-rich clusters were defined within stromal regions, and pathway enrichment using Hallmark and KEGG gene sets was performed to compare CAF-rich and other stromal clusters. Immune checkpoint ligand expression was evaluated in tumor clusters.

RESULTS

Across all three cases, CAF-rich clusters were localized near tumor regions. Pathway enrichment highlighted activated stromal remodeling, with epithelial mesenchymal transition in Hallmark gene sets and extracellular matrix receptor interaction and

focal adhesion in KEGG gene sets consistently enriched. In tumor clusters, PD-L1 expression was low, whereas B7-H4 (VTCN1) was prominent. Additional inhibitory ligand candidates included NECTIN2 (PVRL2).

CONCLUSIONS

Visium FFPE profiling of ACC identified CAF-associated stromal remodeling pathways and tumor immune checkpoint ligand candidates, including B7-H4. These findings suggest that combined targeting of stromal remodeling and checkpoint ligands in ACC may represent a rational therapeutic strategy.

KEYWORDS

Adenoid cystic carcinoma; Spatial transcriptomics; Visium FFPE; Cancer-associated fibroblasts; Immune checkpoint ligands

OP-508

Oncological Management Of Patients With Locoregional Recurrence And/Or Metastatic Progression (R/M) Of Head And Neck Squamous Cell Carcinoma (HNSCC) In The Era Of Anti-PD1 Therapy: Results From Two Retrospective Studies Conducted At The Strasbourg Cancer Institute (ICANS)

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BACKGROUND & AIM

In the recurrent/metastatic (R/M) setting, when no longer amenable to surgery or re-irradiationImmunotherapy, has led to significant progress, initially in the second-line setting after platinum failure with nivolumab (CHECKMATE 141 study in 2016), and then in the first-line setting with pembrolizumab alone or combined with chemotherapy (Cis or Cb/5-FU) (KEYNOTE-048 study in 2019). These approaches have enabled a proportion of durable responses, with mOS increasing to 13 months and 5-year survival reaching 15%

Two questions arise:

- What is the role of taxanes in the first-line setting in terms of efficacy and tolerability?
- What second-line treatment should be proposed after platinum salts and pembrolizumab

MATERIAL & METHODS

To address the first question, we retrospectively analyzed a cohort of 39 patients treated at ICANS in the first-line R/M setting with a combination of paclitaxel (80 mg/m² weekly), carboplatin (AUC2 weekly), and pembrolizumab (200 mg every 3 weeks) for 4 to 6 cycles, followed by maintenance pembrolizumab every 3 weeks (PCP regimen).

To address the second question, we retrospectively analyzed a cohort of 26 patients treated at ICANS in the second or third-line R/M setting after failure of anti-PD1 ± platinum salts, with a combination of paclitaxel (80 mg/m² weekly), carboplatin (AUC2 weekly), and cetuximab (400 mg/m² loading dose followed by 250 mg/m² weekly) for 16 weekly infusions, followed by maintenance cetuximab (PCC regimen).

RESULTS

PCP regimen: first-line R/M Thirty-nine consecutive patients were identified and treated Median age was 63 years, PS2 in 18%, CPS>1 in 100%.

Twenty percent of patients had T4b and/or N3, 54% had loco-regional recurrence in previously irradiated areas.

The ORR was 79%, including 7 complete responses and 24 partial responses. With a median follow-up of 19 months, median progression-free survival (mPFS) was 7.9 months and mOS was 17.2 months.

PCC regimen: second or third-line R/M (platinum and/or paclitaxel-free interval ≥3 months) Twenty-six consecutive patients were treated. Median age was 59 years, PS2 in 27%.

Sixty-two percent received PCC as second-line treatment after failure of immune checkpoint inhibitors, and 38% as third-line treatment after platinum-based chemotherapy plus CTX followed by anti-PD1 at progression.

The ORR was 62%, with a disease control rate of 84%. With a median follow-up of 18 months, mPFS was 5.3 months, with 4 patients maintaining complete remission, and mOS was 14.7 months.

CONCLUSIONS

The PCC regimen in the second or third-line R/M setting yields results that appear markedly superior to paclitaxel monochemotherapy, which is usually proposed after carboplatin/5-FU + pembrolizumab.

Within the PCC regimen:

- Cetuximab plays a major role, suggesting probable synergy with anti-PD1 agents.
- Approximately 15% of durable complete responses (lasting several years) are observed, even after cetuximab discontinuation.
- After anti-PD1 therapy, rechallenge with previously used drugs is feasible, provided that the treatment-free interval is at least 3 months.

KEYWORDS

Paclitaxel, carboplatin, cetuximab, pembrolizumab

OP-509

THE ROLE OF ORAL MICROBIOTA IN ORAL CAVITY SQUAMOUS CELL CARCINOMAS

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BACKGROUND & AIM

Oral cavity cancers have a relatively high survival rate when detected early. Although treatment has improved in recent years, early diagnosis is still very important for a better prognosis. The oral cavity serves as one of the largest microbial reservoirs in the human body, and microbial variations in the oral cavity are highly associated with malignancies. The aim of our study was to evaluate the role of oral microbiota in oral cavity cancers and whether targeting them would provide diagnostic, prognostic or therapeutic benefits.

MATERIAL & METHODS

Our study included 20 patients with confirmed pathological diagnosis of OSCC between 2024-2025 and 20 healthy controls. Samples were taken from tumor tissue in the study group and from intact mucosa in the healthy group using a sterile swap method. The samples were delivered to the laboratory for DNA extraction and purification. The isolated DNA was then used in an amplicon-based metagenomic study and next-generation sequencing (NGS) was performed. Metagenomic bioinformatic analysis of V3-V4 amplicon sequences was performed. The composition and abundance of bacterial species between the groups were compared targeting them would provide diagnostic, prognostic or therapeutic benefits.

RESULTS

Capnocytophaga, Alloprevotella, TM7x (Candidatus Saccharibacteria), Prevotella, Gemella and Treponema were found more in the patient group compared to the control group. In the control group, Veillonella, Streptococcus, Haemophilus, Hoylesella and Lautropia genera were detected at higher rates. Phocaeicola and Parvimonas genera were observed to be found at higher rates in the patient group, while Oribacterium, Mycoplasma and Filifactor genera were detected more dominantly in the control group.

CONCLUSIONS

Findings indicate a possible relationship between oral microbiota and carcinogenesis. Dysbiotic changes in the microbiota may affect the tumor microenvironment through mechanisms such as chronic inflammation and immune modulation. These results suggest that the microbiota is not just a passive IX environmental component but a potentially active contributor to the development of OSCC.

KEYWORDS

Bioinformatics, Microbiota, Oral Cavity, Squamous Cell Carcinoma

OP-510

Validity And Reliability Study Of The Turkish Version Of The Parotidectomy Quality Of Life Index (PQOL-TR) In Patients Who Underwent Parotidectomy

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BACKGROUND & AIM

Parotidectomy may lead to functional, aesthetic, and psychosocial consequences that can affect patients' quality of life. Disease-specific patient-reported outcome measures are essential for evaluating postoperative outcomes. This study aimed to assess the validity and reliability of the Turkish version of the Parotidectomy Quality of Life Index (PQOL-TR) in patients who underwent parotidectomy.

MATERIAL & METHODS

A total of 114 patients who underwent parotidectomy were included in this study. The PQOLI was translated and culturally adapted into Turkish and administered postoperatively. Internal consistency was assessed using Cronbach's alpha coefficients. Construct validity was evaluated using factor analysis, including Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity. Demographic data, surgical type, histopathological findings, and postoperative facial nerve function were recorded and analyzed.

RESULTS

A total of 114 patients who underwent parotidectomy were included in the study. The mean age was 57.9 ± 14.2 years (range, 14–90). Of the participants, 59.6% were male (n=68) and 40.4% were female (n=46). Superficial parotidectomy was performed in 78.1% (n=89) and total parotidectomy in 21.9% (n=25). Histopathological examination revealed benign lesions in 89.5% of cases and malignant pathology in 10.5% (n=12). Postoperative facial nerve function was preserved in 89.5% of patients, while 10.5% (n=12) exhibited facial nerve dysfunction. The Turkish PQOLI demonstrated good internal consistency (Cronbach's α = 0.848). Domain-specific Cronbach's alpha values ranged from 0.537 to 0.895. The KMO value was 0.702, and Bartlett's test of sphericity was statistically significant ($p < 0.001$), confirming the suitability of the dataset for factor analysis.

CONCLUSIONS

The Turkish PQOLI demonstrated good overall internal consistency in patients assessed after parotidectomy. Most multi-item domains showed acceptable-to-excellent reliability, whereas the facial nerve function domain exhibited lower internal consistency. Malignant pathology was present in 10.5% of cases, and postoperative facial nerve function was preserved in the majority of patients. The significant Bartlett's test and acceptable KMO value indicate that the dataset was suitable for factor-analytic evaluation, supporting the feasibility of using the Turkish PQOLI as a patient-reported outcome measure in Turkish-speaking populations.

KEYWORDS

Parotidectomy, Quality of Life, PQOLI, Validation Study, Facial Nerve

OP-511

Lymph Node Ratio Strongly Predicts Extranodal Extension After Neck Dissection In Head And Neck Cancer

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BACKGROUND & AIM

Lymph node ratio (LNR), defined as the number of metastatic lymph nodes divided by the total number of excised nodes, has emerged as a continuous marker of nodal tumor burden in head and neck cancer. We evaluated the agreement between clinical (cN) and pathological (pN) nodal staging and determined whether LNR independently predicts extranodal extension (ENE) and other adverse pathological features.

MATERIAL & METHODS

This single-center retrospective cohort study included 119 consecutive patients who underwent neck dissection for head and neck malignancies between 2020 and 2024. Demographic and clinicopathological data, including primary tumor site, lymph node counts, LNR, ENE, perineural invasion (PNI), lymphovascular invasion (LVI), and nodal staging, were recorded.

Patients with incomplete nodal data, prior neck treatment, non-malignant pathology, or absence of formal neck dissection were excluded.

Clinical–pathological nodal agreement was assessed using Cohen's kappa, sensitivity, specificity, and the McNemar test. Receiver operating characteristic (ROC) analysis identified the optimal LNR cut-off for predicting ENE. Univariable and multivariable logistic regression analyses were performed to identify independent predictors of ENE.

RESULTS

Pathological nodal metastasis was present in 58.8% of patients, while ENE was observed in 34.5%. Clinical–pathological nodal agreement was moderate ($\kappa = 0.342$, $p<0.001$), with a sensitivity of 50.0%, specificity of 87.5%, and accuracy of 65.3%. Occult metastasis was detected in 45.5% (35/77) of clinically node-negative patients.

Higher LNR values were significantly associated with ENE ($p<0.001$), advanced pathological nodal stage ($p<0.001$), and LVI ($p<0.001$). ROC analysis demonstrated good discriminative ability of LNR for predicting ENE (AUC = 0.824, 95% CI: 0.748–0.900), with an optimal cut-off value of 0.031 (sensitivity 85%, specificity 73%).

LNR differed significantly across primary tumor sites ($p=0.013$), with the highest values observed in cancer of unknown primary and thyroid malignancies.

On multivariable logistic regression analysis, LNR remained an independent predictor of ENE ($p<0.001$).

CONCLUSIONS

Clinical nodal staging shows only moderate agreement with pathological staging and fails to reliably detect occult metastasis, supporting the use of elective neck dissection. Lymph node ratio is a strong and independent predictor of extranodal extension and reflects aggressive tumor biology. LNR may serve as a simple and clinically actionable marker to identify high-risk patients who may benefit from intensified postoperative management.

KEYWORDS

head and neck cancer; neck dissection; lymph node ratio; extranodal extension; occult metastasis; nodal staging

OP-512

Neoadjuvant Therapy Of Juvenile Nasopharyngeal Angiofibroma

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BACKGROUND & AIM

Juvenile angiofibroma of the skull base and nasopharynx is a benign neoplasm. The main directions in therapy of JNA are searching a method to reduce the risk of massive bleeding during surgical treatment of juvenile angiofibroma of the skull base and to reduce the risk of recurrence or progression of JNA in the postoperative period.

MATERIAL & METHODS

Currently at the Dmitry Rogachev NMRC of PHOI is conducting a prospective open non–randomized interventional study with a historical control group in accordance with the international standard of ethical standards and quality of scientific research - GCP (good clinical practice) since 30 may 2022r.

RESULTS

In Dmitry Rogachev NMRC of PHOI at the moment, 231 patients have received surgical treatment for JNA. At the moment, the pilot phase of the study has been completed with the achievement of control points. The main phase of the study has begun in patients with primary JNA. The recruitment of patients with recurrent angiofibroma in the pilot phase of the study continues. At the moment, 14 patients out of 15 patients with primary JNA in the pilot phase of the study have managed to achieve a reduction in tumor volume of more than 20%. In a number of several patients with recurrent JNA, surgical treatment was avoided in the absence of complaints of impaired nasal breathing and nosebleeds.

CONCLUSIONS

Surgical treatment of juvenile angiofibroma of the base of the skull is currently the method of choice of therapy, especially for patients with primary angiofibroma with a small tumor volume and with the stage I-II tumors according to the Fisch-Andrews classification. Of particular interest is the study of the effectiveness of targeted therapy with mTOR inhibitors, however, the efficacy and safety of Sirolimus requires further study.

KEYWORDS

otorhinolaryngology, pediatric oncology, head and neck surgery, vascular neoplasms, targeted therapy

OP-513

Our Results Of Thyroidectomy In Patients With Laryngeal Cancer Involving The Subglottic Extension

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BACKGROUND & AIM

Thyroid gland invasion in laryngeal carcinoma is relatively uncommon but is reported more frequently in patients with subglottic extension and advanced-stage disease. Routine thyroidectomy during total laryngectomy remains controversial because unnecessary thyroid resection may increase postoperative endocrine morbidity. To evaluate thyroidectomy outcomes and histopathological thyroid gland invasion rates in patients with laryngeal carcinoma with subglottic extension.

MATERIAL & METHODS

A retrospective review was performed on 129 patients who underwent total laryngectomy for laryngeal squamous cell carcinoma between 2013 and 2024. Demographic characteristics, tumor stage, subglottic extension, thyroidectomy type, and histopathological thyroid gland invasion were evaluated. Thyroid invasion was defined as direct microscopic tumor infiltration into thyroid parenchyma. Cases showing only thyroid proximity without invasion were excluded. Statistical analyses were performed using SPSS software, and $p<0.05$ was considered statistically significant.

RESULTS

A total of 129 patients were included in the study, of whom 80 (62.0%) had subglottic extension. Thyroidectomy was performed in 67 patients (51.9%), including total thyroidectomy and hemithyroidectomy procedures.

Among patients with subglottic extension, 80% underwent thyroidectomy. Histopathological examination demonstrated true thyroid gland invasion in 7 patients (5.4%), with 6 of these patients showing subglottic extension.

All patients with thyroid gland invasion had T4-stage disease. Although thyroidectomy was frequently performed in patients with subglottic extension, the overall incidence of thyroid involvement remained relatively low.

CONCLUSIONS

The present study demonstrated that although thyroid gland invasion was more common in patients with subglottic extension, its overall incidence remained relatively low. Furthermore, all patients with thyroid invasion had T4-stage disease. These findings suggest that thyroidectomy should not be routinely performed in all patients with subglottic extension but rather selectively considered in patients with high-risk features suggestive of thyroid involvement.

This selective approach may preserve oncologic safety while minimizing unnecessary endocrine morbidity.

KEYWORDS

Laryngeal carcinoma, Subglottic extension, Thyroidectomy, Thyroid gland invasion, Total laryngectomy

OP-514

Implementation Of Minimally Invasive Surgery In Patients With Parameningeal Rhabdomyosarcoma. Experience At The Dmitry Rogachev National Medical Research Center For Pediatric Hematology, Oncology, And Immunology.

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BACKGROUND & AIM

Rhabdomyosarcoma (RMS) is a malignant tumor of mesenchymal origin and is the most common type of soft tissue sarcoma in children, accounting for 3-4% of all cases of malignant neoplasms (MN) in childhood. Severe complications after extensive resections in children with PM localization of RMS often lead to disruption of the timing of systemic chemotherapy, and thus directly negatively affect the prognosis of the disease, which emphasizes the importance of using transnasal endoscopic surgery.

MATERIAL & METHODS

The study included 46 patients aged 1 to 17 years, diagnosed with RMS, who received special treatment from 2012 to 2025. All the patients received drug treatment according to the protocols CWS-2009 and CWS-2014. In all cases, minimally invasive endoscopic resection (MIER) was performed.

RESULTS

The volume of surgical interventions performed was distributed as follows: R0 resection was performed in 21 cases (44%), R1 in 21 cases (44%), and R2 in 4 cases (12%). 39(84%) patients are alive without signs of disease recurrence. 7 (16%) patients died after relapse/progression of the disease.

CONCLUSIONS

The introduction of minimally invasive surgery technology is of key importance in the treatment of patients with RMS of PM localization. In relation to PM localization, the introduction of minimally invasive surgery will not only improve and expand the possibilities of surgical treatment in children, but also achieve better results in terms of cosmetic defects, recovery rate and, as a result, improvement in overall and event-free survival rates.

KEYWORDS

otorhinolaryngology, pediatric oncology, head and neck surgery, rhabdomyosarcoma

OP-515

Individualised Deintensified Versus Standard Follow-Up After Curative Treatment In Head And Neck Cancer: A Randomised Pilot Study (Deintensif)

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BACKGROUND & AIM

Around 70% of head and neck cancer patients present with advanced disease. Oncological follow-up is essential for detecting recurrence and secondary malignancies, yet high-level evidence on optimal strategies is lacking. This study proposes a prospective, randomised, multicentre trial comparing traditional follow-up with a less intensive, individualised approach with active patient participation that relies on patient-reported outcome monitoring (PROM questionnaire). We hypothesise that this approach achieves similar survival outcomes with greater diagnostic efficiency. The pilot study evaluated the feasibility and compliance of monthly paper-based PROM monitoring.

MATERIAL & METHODS

This pilot study is part of a main trial. Following curative treatment, patients from three Swiss tertiary centres were randomised into an experimental (PROM-based, less intensive) or standard (traditional) follow-up group. Warning symptoms or missing PROM submissions triggered premature visits in the experimental group.

RESULTS

Feasibility was confirmed with 30 patients enrolled over 12 months; 84% of eligible patients agreed to participate. Reduced imaging motivated 55% of participants. All patients found the PROM questionnaire comprehensive and communication-enhancing, with 94% completing it in ≤10 minutes. Compliance reached 98.5%; 60% preferred an electronic version. PROM alerts led to early follow-up in 9.8% of cases, detecting recurrence or secondary malignancies in 4 patients.

CONCLUSIONS

Recruitment and PROM use proved feasible and was well accepted. The main trial will expand to 30 international sites, include 344 participants recruted over 2 years, and implement an electronic PROM monitoring to confirm non-inferiority of individualised, less intensive follow-up with active patient participation regarding overall survival.

KEYWORDS

Head and Neck Cancer, Follow-up Care, Outcome Assessment, Cancer Survivorship, Health related Quality of Life

OP-516

Neutrophil-To-Lymphocyte Ratio As A Predictor Of Clinical Management In Peritonsillar Abscess

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BACKGROUND & AIM

Peritonsillar abscess (PTA) is one of the most common deep neck infections requiring inpatient management. While several inflammatory markers are routinely evaluated, their role in predicting clinical course and management decisions remains unclear. This study aimed to investigate the predictive value of the neutrophil-to-lymphocyte ratio (NLR) in determining prolonged hospitalization and the need for radiologic evaluation in hospitalized PTA patients.

MATERIAL & METHODS

A retrospective analysis was conducted on 54 consecutive patients hospitalized with PTA. Prolonged hospitalization was defined as length of stay >4 days (median-based cut-off; 27 vs 27 patients). Inflammatory markers including white blood cell count (WBC), C-reactive protein (CRP), hemoglobin (Hb), systemic immune-inflammation index (SII), and NLR were analyzed. Univariate comparisons were performed using Mann–Whitney U tests. Logistic regression models were used to identify independent predictors. Receiver operating characteristic (ROC) analysis was performed to determine the discriminative ability of NLR.

RESULTS

Among evaluated parameters, only NLR was significantly associated with prolonged hospitalization (p=0.021). In unadjusted logistic regression, NLR independently predicted prolonged stay (OR=1.146, p=0.032). After adjustment for age, NLR remained an independent predictor (OR=1.152, p=0.029). ROC analysis demonstrated moderate discriminative ability (AUC=0.683), with an optimal cut-off value of approximately NLR ≥6.

Additionally, higher NLR values were independently associated with the need for radiologic evaluation (OR=1.230, p=0.017; AUC=0.675). WBC, CRP, Hb, SII, abscess size, and trismus showed no significant association with hospitalization duration or imaging requirement.

CONCLUSIONS

In hospitalized PTA patients, NLR appears to reflect clinical course rather than local abscess characteristics. Elevated NLR values are independently associated with prolonged hospitalization and increased likelihood of radiologic evaluation. NLR may serve as a simple and accessible biomarker to support clinical management decisions in PTA.

KEYWORDS

Peritonsillar abscess; Neutrophil-to-lymphocyte ratio; Radiologic evaluation; Inflammatory markers; Clinical management

OP-517

Surgical Approaches And Outcomes In Locally Advanced (T4) Differentiated Thyroid Carcinoma

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BACKGROUND & AIM

Locally advanced differentiated thyroid carcinoma (DTC) represents a small subset of thyroid malignancies but carries significant operative complexity due to potential invasion of the trachea, esophagus, and recurrent laryngeal nerve (RLN). Achieving negative margins while preserving vital structures remains challenging. This study aimed to evaluate surgical strategies and outcomes in patients with invasive (T4) DTC over a ten-year period at a tertiary referral centre.

MATERIAL & METHODS

A retrospective cohort study was conducted of all adult patients who underwent surgery for pathologically confirmed T4 DTC between 2013 and 2023, with ≥24 months' follow-up. Pre-operative imaging with computed tomography (CT) and/or magnetic resonance imaging (MRI) informed surgical planning through multidisciplinary team (MDT) discussion. Surgical technique was individualized according to the extent of invasion. Primary outcomes included operative approach, morbidity, recurrence, and overall survival.

RESULTS

Forty-three patients (mean age 52 years; 56% female) were included; 13 had previous surgery elsewhere. Pre-operative vocal cord palsy was present in 44% and distant metastases in 23%. RLN sacrifice occurred in 58%, tracheal resection in 28%, and sternotomy in 16%. Aggressive histological subtypes (tall-cell, diffuse sclerosing) comprised 51% of cases. Permanent vocal cord palsy occurred in 58%, transient hypoparathyroidism in 16%, and postoperative haemorrhage in 7%. No disease-specific mortality was observed; locoregional recurrence occurred in 9%.

CONCLUSIONS

Individualized, MDT-guided surgery enables effective disease control and acceptable morbidity in T4 DTC. Tailored resection, complemented by adjuvant radioiodine therapy, supports favorable long-term outcomes. Concentration of such cases in experienced, high-volume centres is crucial for optimizing results. The structure of the abstract is:

KEYWORDS

locally advanced, differentiated thyroid cancer,

OP-518

Surgical Indications And Natural Course Of Benign Parotid Tumors

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BACKGROUND & AIM

Surgical resection is often indicated for benign parotid tumors, whereas observation may be chosen for elderly or comorbid patients. Delayed intervention may lead to tumor growth, increased surgical difficulty, and delayed detection of malignancy. This study investigated factors associated with surgery and tumor-size changes during observation, focusing on Warthin tumors.

MATERIAL & METHODS

A total of 1,006 patients with parotid tumors treated from January 2000 to December 2024 were reviewed. After excluding FNAC classes 0, III, IIIb, IV, and V, missing FNAC class, pleomorphic adenoma, atypical diagnoses, epithelial cell abnormality, missing cytological diagnoses, biopsy cases, and cases treated surgically at other institutions, 547 benign or probably benign tumors were analyzed. Surgery was defined as resection within one year after the first visit; 198 patients underwent surgery and 349 were observed. Among observed patients, 131 with evaluable tumor-size changes were analyzed. Annual growth rates and postoperative pathology were reviewed for FNAC-diagnosed Warthin tumors.

RESULTS

Surgery was associated with younger age (median, 62 vs 69 years; $p<0.001$), ASA-PS 1–2 (96.0% vs 75.9%; $p<0.001$), larger tumor diameter (median, 31 vs 24 mm; $p<0.001$), FNAC class IIIa (34.3% vs 25.8%; $p=0.034$), and deep-lobe or whole-gland involvement (12.1% vs 6.9%; $p=0.037$). Sex, bilaterality, and an FNAC diagnosis of Warthin tumor were not associated with surgery. In the observation cohort, enlargement, stability, and regression were observed in 49, 44, and 38 patients, respectively. Bilaterality ($p=0.004$) and an FNAC diagnosis of Warthin tumor ($p<0.001$) were associated with tumor growth. Among 47 FNAC-diagnosed Warthin tumors for which annual growth rates could be calculated, the median growth rate was 1.85 mm/year. Among 129 surgically treated FNAC-diagnosed Warthin tumors, postoperative pathology confirmed Warthin tumor in 115 cases (89.1%), other benign lesions in 10 (7.8%), and malignancy in 4 (3.1%).

CONCLUSIONS

Age, systemic condition, tumor size, FNAC class, and tumor location influenced surgical decision-making. FNAC-diagnosed Warthin tumors were pathologically confirmed in nearly 90% of surgically treated cases, although a small proportion were malignant. Because Warthin tumors frequently enlarged during observation, surgical timing should be individualized using multiple clinical factors.

KEYWORDS

Benign parotid tumor; Warthin tumor; FNAC; surgical indication; observation; tumor growth

OP-519

DIAGNOSTIC ACCURACY OF PREOPERATIVE ULTRASONOGRAPHY IN PREDICTING POSTOPERATIVE HISTOPATHOLOGICAL DIAGNOSIS AND MASS SIZE IN THYROID NODULES

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BACKGROUND & AIM

The widespread use of high-resolution ultrasonography (USG) has substantially increased the detection of thyroid nodules, while only approximately 5–10% of these lesions are malignant. The American College of Radiology Thyroid Imaging Reporting and Data System (ACR TI-RADS) was developed to refine malignancy risk estimation and standardize reporting. The aim of this study was to evaluate the diagnostic accuracy of preoperative USG (TI-RADS score, mass size, lymph node assessment) in predicting definitive postoperative histopathological diagnosis and macroscopic mass size in patients undergoing thyroid surgery.

MATERIAL & METHODS

In this retrospective, observational, single-center study, patients who underwent subtotal or total thyroidectomy for thyroid mass at Başakşehir Çam and Sakura City Hospital between March 2020 and January 2026 were analyzed. Preoperative USG

findings (ACR TI-RADS score, maximum mass dimension, cervical lymph node positivity, sonographic extrathyroidal extension) were retrieved from the Hospital Information System and matched with definitive postoperative pathology reports (final diagnosis, macroscopic mass size, capsular invasion, lymphatic invasion, extrathyroidal extension, surgical margin status). Cases of metastases from non-thyroidal primary malignancies were excluded. A total of 76 lobes/lesions from 64 patients were analyzed. Statistical analyses included descriptive statistics, Pearson chi-square / Fisher's exact test, Mann–Whitney U test, paired t-test / Wilcoxon signed-rank test, Pearson correlation, Cohen's kappa, and Bland–Altman analysis. 95% confidence intervals (CI) for proportions were calculated with the Wilson method. Statistical significance was set at $p < 0.05$.

RESULTS

This study evaluated the diagnostic performance of preoperative ultrasonography (USG) and ACR TI-RADS classification in predicting thyroid malignancy, as well as the agreement between USG and pathological tumor size.A total of 64 patients with 76 thyroid lesions were included.The overall lesion-based malignancy rate was 76.3%.All TI-RADS 5 lesions were malignant (100%), demonstrating perfect specificity and positive predictive value, but low sensitivity (24.1%).The TI-RADS ≥4 threshold showed moderate sensitivity (56.9%) and low specificity (44.4%), with limited overall accuracy.Cervical lymph node positivity on USG had high specificity (83.3%) but low sensitivity (22.4%). USG and pathological measurements showed a strong positive correlation ($r = 0.731$, $p < 0.001$), with no significant difference between mean sizes, although agreement was limited. Papillary thyroid carcinoma was the most common histopathological subtype.These findings suggest that TI-RADS 5 and lymph node positivity are strong rule-in markers, while overall diagnostic performance may be affected by surgical cohort selection bias.

CONCLUSIONS

Preoperative ultrasonography shows strong correlation with pathological tumor size ($r = 0.731$), although wide variability limits precise dimensional planning. ACR TI-RADS 5 is a reliable rule-in marker for malignancy with perfect positive predictive value, while intermediate categories (TI-RADS 2–4) demonstrate limited discriminatory power in surgical cohorts, likely due to selection bias. Sonographic cervical lymph node positivity is strongly associated with malignancy and provides additional value in preoperative assessment. Overall, USG remains essential in thyroid evaluation, but its diagnostic performance is optimized when combined with TI-RADS-based risk stratification, cytological findings, and clinical context rather than used alone.

KEYWORDS

thyroid nodule, ACR TI-RADS, ultrasonography, histopathology, thyroid carcinoma, capsular invasion, diagnostic accuracy

OP-520

Tailored Approach To Surgical Management Of Advanced Thyroid Cancer

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BACKGROUND & AIM

Locally invasive thyroid cancer is an uncommon disease process, which carries significant morbidity and mortality. Surgical strategy should evolve from multidisciplinary discussion that integrates individual disease characteristics and patient preference. Intraoperative neuromonitoring has important applications in surgery for advanced disease and should be used to guide surgical strategy and intraoperative decision-making

I will present an algorithm tailored for surgical managment of locally advanced thyroid carcinoma

MATERIAL & METHODS

I will present varierty of cases presented with laryngotracheal , esophageal and vascular invasion

RESULTS

I will present varierty of cases presented with laryngotracheal , esophageal and vascular invasion

CONCLUSIONS

Surgical treatment of advanced thyroid cancer is complex and may be associated with significant morbidity.Thoughtful multidisciplinary planning should be tailored to balance oncologic and functional outcomes. Shifts in treatment paradigms, including staging of surgery and neoadjuvant therapy, may mitigate the morbidity associated with surgical treatment of invasive disease, as well as provideopportunity to frame the approach based on the disease characteristics and patient preferences.

KEYWORDS

Advanced thyroid cancer; neoadjuvant therapy; staged surgery; intraoperative neuromonitoring; tailored approach

OP-521

Papillary Thyroid Carcinoma In Patients With Carotid Body Tumors: Prevalence And Management In A Retrospective Surgical Series From Two Tertiary Centers

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BACKGROUND & AIM

The co-occurrence of a carotid body tumor (CBT) and papillary thyroid carcinoma (PTC) is a rare clinical event. The frequency of this dual pathology in recent reports has sparked a debate on whether it represents a true pathophysiological association or an artifact of increased diagnostic surveillance. This study aims to report the prevalence, clinicopathological characteristics, management, and outcomes of concurrent CBT and PTC in a contemporary cohort.

MATERIAL & METHODS

We conducted a retrospective review of patients who underwent CBT resection at two tertiary centers between 2014 and 2024. Data on patient demographics, tumor characteristics, preoperative imaging, surgical management (single stage vs. staged), final histopathology, and clinical outcomes were collected and analyzed.

RESULTS

Overall, 32 patients with surgically resected CBTs were included. Eleven patients (34.4%) had thyroid nodules identified on preoperative imaging. The mean age of the participants was 57.2 ± 16.3 years. Females represented the majority of the population (n = 27, 84.4%). Nine patients underwent thyroid surgery with subsequent pathological confirmation. Management involved resection at two different time intervals in five cases (55.6%) and a single-stage operation in four (44.4%). On final pathology, PTC was confirmed in eight patients (25.0%). During the follow-up period, no recurrences of either tumor type were observed.

CONCLUSIONS

The prevalence of concurrent PTC in patients with CBTs is significantly higher than previously reported, reaching 25% in our cohort. This incidental finding raises the possibility of surveillance bias or underlying genetic mechanisms. Management with either a single-stage or staged surgical approach was not associated with major complications. The prognosis for patients with this dual pathology is excellent and appears to be dictated by the independent characteristics of each tumor.

KEYWORDS

carotid body tumor; papillary thyroid carcinoma; concurrent tumors; retrospective cohort study; thyroid nodules; tumor prevalence

OP-522

Persistent Hyperparathyroidism After Parathyroidectomy: Causes Of Surgical Failure And Reoperative Outcomes In A 3-Year Single-Center Study

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BACKGROUND & AIM

Persistent hyperparathyroidism following parathyroidectomy represents a clinically significant challenge, often resulting from missed adenomas, ectopic gland localization, or multiglandular disease. Despite advances in preoperative imaging and intraoperative techniques, a subset of patients fails to achieve biochemical cure after initial surgery. This study aimed to evaluate the incidence, underlying causes, and surgical outcomes of persistent hyperparathyroidism in a three-year single-center experience.

MATERIAL & METHODS

A retrospective analysis was conducted on patients who underwent surgery for parathyroid adenoma between 2023 and 2026 at a single tertiary referral center. Demographic characteristics, preoperative localization findings, serum parathyroid hormone (PTH) and corrected calcium levels, operative details, and postoperative biochemical outcomes were reviewed. Persistent hyperparathyroidism was defined as failure of serum PTH and/or corrected calcium levels to normalize after the initial surgery. Patients requiring revision surgery were further analyzed in terms of localization, intraoperative findings, and postoperative outcomes.

RESULTS

A total of 72 patients underwent parathyroidectomy for parathyroid adenoma. Persistent hyperparathyroidism was identified in 4 patients, corresponding to a persistence rate of 5.6%. The mean age of these patients was 47.7 years, with an equal sex distribution (50% female, 50% male). Initial suspected localization was predominantly in the right-sided glands.

The mean preoperative PTH level was 248.6 pg/mL, decreasing to 186.2 pg/mL after the initial surgery, indicating an inadequate biochemical response. Following revision surgery, the mean PTH level significantly decreased to 43.8 pg/mL. Similarly, mean corrected calcium levels decreased from 12.2 mg/dL preoperatively to 11.5 mg/dL after the initial surgery and further to 9.3 mg/dL after revision.

Biochemical cure was achieved in all 4 patients (100%) following revision surgery.

CONCLUSIONS

Persistent hyperparathyroidism was observed in a small but clinically significant proportion of patients (5.6%). The primary causes of surgical failure were most likely related to missed or inadequately explored parathyroid tissue, particularly in right-sided glands.

Careful postoperative biochemical monitoring enabled early detection of persistent disease. Revision surgery resulted in marked biochemical improvement, achieving a 100% cure rate and complete normalization in all patients.

These findings highlight the importance of accurate preoperative localization, meticulous intraoperative assessment, and timely reoperation in the management of persistent hyperparathyroidism.

KEYWORDS

Parathyroid adenoma; Persistent hyperparathyroidism; Parathyroidectomy; Reoperative surgery ; Surgical failure

OP-523

En Bloc Parotidectomy: Surgical Efficacy And Clinical Outcomes In Parotid Neoplasms

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BACKGROUND & AIM

The surgical management of aggressive parotid tumors remains challenging due to the risk of capsule rupture and subsequent tumor seeding. Standard dissection techniques, while effective for most benign lesions, may yield inadequate margins for high-grade malignancies or recurrent pleomorphic adenomas. This study evaluates the efficacy of en bloc parotidectomy in achieving locoregional control while prioritizing facial nerve preservation.

MATERIAL & METHODS

We conducted a retrospective observational analysis of patients undergoing en bloc parotidectomy for benign, suspected, or proven malignant salivary gland tumors without prior facial nerve palsy. Procedures were performed at the National Institute of ENT and private centers in Bangladesh from January 2019 to December 2024. The approach involved a modified Blair incision, early identification of the facial nerve trunk, and strict adherence to the "en bloc" principle with a continuous cuff of healthy glandular tissue around the lesion. Forty cases met these criteria. Statistical analysis used descriptive methods. Institutional ethical approval was obtained.

RESULTS

Of 40 cases, 18 (45%) were male and 22 (55%) female; mean age was 24 years (range 12-60). Right parotid involvement occurred in 26 (65%) cases and left in 14 (35%). Histopathology showed benign tumors in 22 (55%) and malignant in 18 (45%). Mean follow-up was 12 months. The en bloc approach achieved negative surgical margins (R0) in 89% of primary malignancies. Tumor pseudocapsule integrity was confirmed in all pleomorphic adenomas. Temporary facial nerve paresis (House-Brackmann grade II/III) affected the marginal mandibular branch in 45% of cases and caused global paresis in 5%; 92% recovered fully within 6 months. Frey's syndrome occurred in 2.5%. No locoregional recurrences were observed.

CONCLUSIONS

En bloc parotidectomy is a robust technique that reduces the risk of local recurrence by preventing tumor spillage. Combined with intraoperative nerve monitoring, it enables maximal tumor clearance without increasing permanent facial nerve paralysis risk. This technique may be considered a preferred surgical approach for selected tumors.

KEYWORDS

Parotid, En bloc, Pleomorphic adenoma, Malignant parotid tumor

OP-524

Dynamic Whole-Body FDG PET/CT For Predicting Malignancy In Head And Neck Tumors And Cervical Lymphadenopathy

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BACKGROUND & AIM

Dynamic whole-body FDG PET/CT is a novel technique that enables the direct reconstruction of multiparametric images representing the FDGmetabolic uptake rate and “free” FDG. Applying complementary parameters with distinct characteristics compared to static images, the aims of this study are as follows: to determine the threshold values of SUV, MRFDG, and DVFDGfor malignant and benign lesions; to compare the specificity of MRFDG and DVFDG images with static SUVbw images; and to assess whether any of the dynamic imaging parameters correlate more significantly with malignancy or non-malignancy in the examined lesions based on the measured values obtained from D-WB FDG PET/CT.

MATERIAL & METHODS

The study was a retrospective analysis of D-WB PET/CT data from 43 patients (23 males and 20 females) included both in the context of primary staging as well as imaging performed due to suspicion of post-therapeutic relapse or recurrence. Standard scanning was performed using a multiparametric PET acquisition protocol on a Siemens Biograph Vision 600 PET/CT scanner.

Pathological findings were manually delineated, and values for SUVbw, MRFDG, and DVFDG were extracted. The findings were classified and statistically evaluated based on their was histological verification of a malignant or benign lesion. Multinomial and binomial logistic regression analyses were used to find parameters for data classification in different models, employing various combinations of the input data (SUVbw, MRFDG, DVFDG). ROC curves were generated by changing the threshold p-value in the regression models to compare the models and determine the optimal thresholds.

RESULTS

Patlak PET parameters (MRFDG and DVFDG) combined with mean SUVbw achieved the highest diagnostic accuracy of 0.82 (95% CI 0.75–0.89) for malignancy detection (F1-score = 0.90). Sensitivity reached 0.85 (95% CI 0.77–0.91) and specificity 0.93 (95% CI 0.87–0.98). Classification accuracy in tumors was 0.86 (95% CI 0.78–0.92) and in lymph nodes 0.81 (95% CI 0.73–0.88). Relative contribution analysis showed that DVFDG accounted for up to 65% of the classification weight. ROC analysis demonstrated AUC values above 0.8 for all models, with optimal thresholds achieving sensitivities of around 0.85 and specificities up to 0.93. Thresholds for malignancy detection were, for mean values, SUVbw > 5.8 g/mL, MRFDG > 0.05 µmol/mL/min, DVFDG > 68%, and, for maximal values, SUVbw > 8.7 g/mL, MRFDG > 0.11 µmol/mL/min, DVFDG > 202%.

CONCLUSIONS

The D-WB [^{18}F]FDG PET/CT images in this study highlight the potential for improved differentiation between malignant and benign lesions compared to conventional SUVbw imaging in patients with locally advanced head and neck cancers presenting with cervical lymphadenopathy and carcinoma of unknown primary origin (CUP). This observation may be particularly relevant in common diagnostic dilemmas, especially in distinguishing residual or recurrent tumors from post-radiotherapy changes. Further validation in larger cohorts with histopathological confirmation is warranted, as the small sample size in this study may limit the generalizability of the findings.

KEYWORDS

Head and neck cancer, lymfadenopathy, FDG, PET/CT,

OP-525

'Combined Approach' Parotidectomy For Malignant Tumours

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BACKGROUND & AIM

There is on-going debate about the best approach for parotid tumours. We refined a surgical technique called 'combined approach parotidectomy'. It is similar to the extra-capsular method but with the intention to obtain at least 5mm cuff of margin and to identify the facial nerve only if detected close to the lesion. It is suitable for most tumour size, as long as it is partially mobile. We report the outcomes for those with malignant histology. This study evaluated a decade of practice. Specifically, we recorded the margins, rate of revision surgery, adjuvant radiotherapy and post-operative complications.

MATERIAL & METHODS

This was a retrospective chart review to evaluate a single-consultant parotidectomy approach.

RESULTS

There were 27 malignant tumours. R0 margins were obtained in 10 (37%), with narrow (<1mm) margins in 11 (40.7%). There were 6 cases (22%) with involved margins, commonly due to facial nerve branches being intimately related to tumour. Post-operative radiotherapy was required in 14 cases (51.9%). Three underwent further excision with neck dissection (11%). Three cases had recurrence requiring further surgery. Facial nerve paresis was seen in 18.5% immediately post-operatively and 3.7% at 1 year, with zero cases of complete paralysis. Paraesthesia of inferior pinna was reported in 29.6% and 22.2% had sialocoele.

CONCLUSIONS

This study suggests that the combined approach parotidectomy technique is a viable primary surgical option, with acceptable outcomes for malignant tumours, which are comparable to the literature1-3. With similar or fewer complications than existing techniques it can reduce intra-operative stress to surgeons.

KEYWORDS

Parotid tumour, parotidectomy, facial nerve

OP-526

Association Of Toll-Like Receptors 3, 4, 9 Expression With Clinicopathological Features In Oral Squamous Cell Carcinoma

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BACKGROUND & AIM

This study aimed to evaluate the expression levels of Toll-like receptor 3, 4, and 9 in oral cavity squamous cell carcinoma (SCC) and their associations with clinicopathological parameters.

MATERIAL & METHODS

Fifty-three patients diagnosed with oral cavity SCC between 2010 and 2015 were retrospectively analyzed. Immunohistochemical staining for TLR-3, TLR-4, and TLR-9 was performed on formalin-fixed, paraffin-embedded tumor tissues. Expression was assessed based on staining intensity, staining status and percentage of positive tumor cells (prevalence). Associations with tumor stage (T, N, TNM), depth of invasion (DOI), lymphovascular invasion (LVI), perineural invasion (PNI), extranodal extension (ENE), histological grade, recurrence, and survival status were evaluated statistically.

RESULTS

No statistically significant correlations were found between TLR-3, TLR-4, or TLR-9 expression and any of the examined clinicopathological features ($p > 0.05$). Although an increasing trend in DOI was observed with stronger TLR-3 and TLR-4 staining, the results were not statistically significant.

CONCLUSIONS

This study did not establish a clear prognostic role for TLR-3, TLR-4, or TLR-9 in oral cavity SCC. However, the findings highlight the biological complexity of TLR-mediated pathways in cancer. Further large-scale, multi-institutional studies are necessary to better understand the clinical relevance of TLRs in oral carcinogenesis

KEYWORDS

Oral cavity cancer, squamous cell carcinoma, Toll-like receptors, TLR-3; TLR-4; TLR-9, immunohistochemistry

OP-527

Management And Outcomes Of Postoperative Salivary Leak After Total Laryngectomy

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BACKGROUND & AIM

Postoperative salivary leak is a well-known complication following total laryngectomy (TL). Prior failed radiation therapy, chemotherapy, hypothyroidism, and malnutrition are associated with a heightened risk for postoperative salivary leak. This study aimed to describe outcomes following postoperative salivary leak after TL.

MATERIAL & METHODS

This was a retrospective study of patients undergoing oncologic total laryngectomy, either in the primary or post-radiation setting, at our tertiary care medical center.

RESULTS

129 patients were included. 88 underwent primary TL and 41 underwent salvage TL. The neopharynx was closed by primary closure (84.5%), pedicled pectoralis flap (8.5%) or free flap (7.0%) reconstruction. The rate of postoperative salivary leak did not differ significantly between the primary TL (21.6%) versus salvage TL (31.7%) setting ($p=0.274$). Among the 32 patients who were found to have a postoperative salivary leak, 78.1% were managed conservatively and 21.9% required operative repair. The rate of operative repair for postoperative salivary leak was similar between patients who underwent salvage TL (15.4%) versus primary TL (26.3%, $p=0.851$). Postoperative salivary leak was associated significantly with increased hospital length of stay (18.3±12.0 versus 10.8±6.8 days, $p=0.002$), time until PO resumed (38.24±37.7 versus 9.1±4.6 days, $p<0.001$), feeding tube placement (65.0% versus 18.8%, $p<0.001$), and neopharyngeal stricture requiring dilation (25.0% versus 8.3%, $p=0.026$). 80.7% of patients with a postoperative leak ultimately resumed a PO diet.

CONCLUSIONS

Postoperative salivary leak is a complication frequently encountered after total laryngectomy due to dehiscence at the neopharyngeal anastomosis. Most patients can be managed conservatively, with resolution of the leak and resumption of a PO diet, while a minority of patients will develop a persistent pharyngocutaneous fistula. However, postoperative salivary leak after TL is associated with an increased hospital length of stay, a delay in resuming a PO diet, increased need for prolonged non-PO nutrition, and a higher rate of neopharyngeal stricture.

KEYWORDS

Laryngeal cancer, total laryngectomy, salvage laryngectomy, salivary leak pharyngocutaneous fistula

OP-528

Adult Cystic Lateral Neck Masses: Primary-Site Detection And Diagnostic Pathway Performance

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BACKGROUND & AIM

Adult cystic lateral neck masses are a diagnostic dilemma because metastatic human papillomavirus (HPV)-associated oropharyngeal squamous cell carcinoma (OPSCC), nasopharyngeal carcinoma and papillary thyroid carcinoma may mimic benign branchial pathology. Cystic aspirates can be hypocellular, and primary tumours may be occult on initial assessment. We aimed to define malignant aetiology, HPV burden, primary-site detection and diagnostic pathway performance in a large UK tertiary head and neck centre.

MATERIAL & METHODS

A retrospective cohort study was undertaken at Leeds Teaching Hospitals NHS Trust between August 2022 and August 2025. Adults with cystic or mixed cystic-solid lateral neck masses discussed at the Head and Neck multidisciplinary team (MDT) or Thyroid and Parathyroid MDT were included where tissue diagnosis was available. Variables included demographics, final pathology, p16/HPV status, imaging, cytology, primary-site identification and diagnostic intervals. Fisher's exact test and Mann-Whitney U testing were used.

RESULTS

Forty-one adults were analysed; median age was 59 years (52–68) and the male:female ratio was 34:7. Final diagnoses comprised upper aerodigestive tract carcinoma in 29/41 patients, papillary thyroid carcinoma in 8/41 and benign pathology in 4/41. Patients with upper aerodigestive tract carcinoma were older than those with papillary thyroid carcinoma: 62 versus 43 years (p=0.010). Among SCC cases, 24/27 were p16-positive (88.9%, 95% confidence interval [CI] 70.8–97.6) and 22/27 had molecular HPV confirmation (81.5%, 95% CI 61.9–93.7). Positron emission tomography-computed tomography (PET-CT) localised a primary site in 14/23 upper aerodigestive tract carcinoma cases (60.9%). In paired magnetic resonance imaging (MRI)/PET-CT cases, PET-CT added primary localisation in 4/20 cases where MRI was non-localising. PET-CT localisation was markedly lower in clinically non-localised primaries than clinically apparent primaries (1/9 versus 13/14, p<0.001). PET-CT localisation was associated with a shorter presentation-to-diagnosis interval: 23 versus 65 days (p=0.010).

CONCLUSIONS

Adult cystic lateral neck masses should be investigated as tumour-origin-specific diagnostic problems rather than presumed benign cysts. The dominant phenotype was older, male-predominant, HPV-associated oropharyngeal carcinoma, but a distinct papillary thyroid carcinoma subgroup was also identified. Clinical examination and cytology alone missed important malignant signals. These findings support early HPV/p16 testing, thyroid-directed assessment where appropriate, and escalation to PET-CT or endoscopic primary-site search when MRI is non-localising.

KEYWORDS

Adult cystic lateral neck mass; Head and neck oncology; Human papillomavirus; Oropharyngeal squamous cell carcinoma; Papillary thyroid carcinoma; Primary-site detection; PET-CT; Multidisciplinary team; Diagnostic pathway; Fine-needle aspiration cytology

OP-529

Effects Of Parotidectomy Surgery On Facial Perception And Psychosocial Status

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BACKGROUND & AIM

This study aims to evaluate patients' aesthetic perceptions, functional status, psychosocial impact, and satisfaction with the treatment process after parotidectomy surgery using the FACE-Q questionnaire, and to determine the effects of these parameters on overall quality of life.

MATERIAL & METHODS

This study was designed as a prospective cross-sectional study. Facial appearance, functional status, psychosocial effects, and overall patient satisfaction following parotidectomy were evaluated using patient-reported outcome measures. A total of 50 patients aged 18 years and older who underwent partial or total parotidectomy at the Department of Otorhinolaryngology, Samsun Training and Research Hospital, were included in the study. Inclusion and exclusion criteria were defined. Patients were administered a FACE-Q–based patient assessment questionnaire evaluating facial appearance, functional status, psychosocial effects, and treatment satisfaction after parotidectomy. Demographic data (age, gender) and clinical information were recorded from patient files. Postoperative facial paralysis was assessed according to the House–Brackmann grading system. Patients were divided into two subgroups based on the presence or absence of facial paralysis. The relationship between House–Brackmann grade and FACE-Q scores was analyzed. Additionally, partial versus total parotidectomy and postoperative duration groups were compared. Data were analyzed using SPSS 29.0 software.

RESULTS

Of the 50 patients included in the study, 28 were male and 22 were female. The mean age of the patients was calculated as 55.38 years. Of the surgeries performed on the parotid gland, 43 (86%) were superficial parotidectomy (44% right, 42% left), and 5 (10%) were total parotidectomy (6% right, 4% left). Facial nerve paralysis was not observed in 96% of the cases.

Approximately 45% of the patients were active smokers. Pathological results showed a heterogeneous distribution; however, benign lesions were predominant, particularly pleomorphic adenoma and Warthin tumor. Post-treatment satisfaction domain had the highest mean score and the lowest standard deviation, suggesting high and relatively homogeneous satisfaction levels among participants. The facial appearance domain also demonstrated a high score with low variability , indicating consistent positive evaluations. Greater variability was observed in the psychosocial impact and functional status domains, suggesting more pronounced differences in individual experiences in these areas.

CONCLUSIONS

This study demonstrates that patients generally report high satisfaction levels and positive perceptions of facial appearance following parotidectomy surgery. The low rate of postoperative facial paralysis supports the aesthetic and functional safety of the procedure. However, the variability observed in functional status and psychosocial impact domains indicates the presence of individual differences in patient experiences. These findings highlight the importance of considering patient-reported outcome measures in addition to surgical success criteria in the evaluation of patients after parotidectomy.

KEYWORDS

parotidectomy,facial nerve, social results

OP-530

Gene Expression Profiling Of High-Grade Salivary Gland Cancers: Prognostic And Diagnostic Insights In A Cohort Of 136 Patients.

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BACKGROUND & AIM

High-grade salivary gland cancer (HG-SGC) are rare and characterized by great histologic variability and poor outcomes. INDAGA is an Italian multicenter retrospective study designed to identify gene expression prognostic signatures.

MATERIAL & METHODS

HG-SGC patients were collected from 3 Italian referral centers: “ASST Spedali Civili di Brescia”, Brescia; “Ospedale di Circolo e Fondazione Macchi”, Varese; “Humanitas Research Hospital”, Rozzano. Included histology were salivary duct carcinoma (SDC), high-grade mucoepidermoid carcinoma, carcinoma ex pleomorphic adenoma, adenocarcinoma NOS, oncocytic, myoepithelial and acinic cell carcinoma.

Transcriptomic profiles were generated using a microarray-based platform. Gene filtering based on associations with clinical features was performed using individual-level Cox regression models. Differential expression (DE) analysis between histological subtypes was performed using linear models, with t-statistics computed through an empirical Bayesian approach. Unsupervised hierarchical clustering was conducted using the most variable genes across samples (coefficient of variation, CV > 20%) to identify transcriptomic subgroups independent of pathological classification and to link them with prognosis.

RESULTS

136 patients were included (mean age 64 years, 32% SDC, 43% N+, 59% T3-T4). With a median follow up of 45 months, 55 recurrences and 66 deaths were recorded. SDC, positive margins, T4 class and positive nodes were significantly associated with both disease free (DFS) and overall (OS) survivals.

Unsupervised hierarchical clustering based on the most variable genes (CV >20%) segregates HG-SGC cases independently of their pathological classification, identifying three main transcriptomic clusters: CL-1, CL-2, and CL-3. Significant association was observed between CL-3 and improved OS (HR = 0.22; 95% CI: 0.05–0.99; p = 0.049).

A four-gene signature (TSLP, PPP1R14C, NBPF3, and DLAT) effectively stratified HG-SGC patients into high- and low-risk groups, CL-A and CL-B respectively, with prognostic impact independent of age, gender, histology, margin status, pT and pN class (CL-B: HR=0.03; 95%CI: 0.01-0.16; P<0.001). TSLP and PPP1R14C may be linked to tumor–microenvironment crosstalk and contractility-related signaling that characterize more aggressive disease.

CONCLUSIONS

Transcriptomic and genomic profiling reveals molecular signals that are independent of histological type and has prognostic significance beyond conventional clinicopathological criteria, potentially influencing diagnosis and targeted therapy.

KEYWORDS

salivary gland cancer; gene expression; genomic; prognosis

OP-531

Biomarkers Predicting Flap Failure In Head And Neck Reconstruction

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BACKGROUND & AIM

Myocutaneous flap reconstruction, most commonly utilising the pectoralis major myocutaneous flap (PMMF), remains the predominant reconstructive strategy following ablative head and neck oncological surgery. Despite technical refinements, flap failure and associated complications continue to impose a substantial clinical burden, frequently necessitating unplanned revision surgery. Objective, laboratory-based predictors of flap viability would enable perioperative risk stratification and facilitate timely surgical re-intervention. This study evaluated the predictive utility of a comprehensive panel of preoperative and early postoperative haematological and inflammatory biomarker, for predicting flap outcomes and the need for secondary surgery following head and neck oncological reconstruction.

MATERIAL & METHODS

Fourteen patients (11 male, 3 females; median age 74.5 years) who underwent myocutaneous flap reconstruction for head and neck malignancies between 2023 and 2025 were retrospectively analysed. All biomarkers were measured at four time points: preoperatively and on postoperative days (POD) 1, 3, and 7. Flap outcome was classified as successful or failed. Secondary surgery was defined as any unplanned operative intervention for flap-related complications. Between-group comparisons were performed using the Mann-Whitney U test; ROC curve analysis with Youden Index-optimised cutoffs was applied to significant markers.

RESULTS

Seven patients (50%) experienced flap failure; four (28.6%) required unplanned secondary surgery, exclusively within the failure group. Among preoperative biomarkers, only hemoglobin demonstrated significant discriminatory capacity (12.6 vs. 10.6 g/dL; p = 0.047; AUC = 0.827; cutoff < 11.5 g/dL; sensitivity 85.7%, specificity 85.7%). POD7 markers yielded the strongest predictive performance: CRP (22.0 vs 90.0 mg/L; p = 0.011; AUC = 0.918; cutoff > 85 mg/L; specificity 100%) and absolute neutrophil count (3.48 vs 5.67 × 10^9/L; p = 0.021; AUC = 0.878; sensitivity 100%). No preoperative composite inflammatory index reached statistical significance.

CONCLUSIONS

POD7 CRP and neutrophil count demonstrate clinically meaningful predictive performance for flap failure following myocutaneous head and neck reconstruction, whereas preoperative anaemia is a potentially modifiable preoperative risk factor. Prospective validation in adequately powered multicenter cohorts is mandatory before clinical translation.

KEYWORDS

myocutaneous flap; pectoralis major; NLR; CRP; hemoglobin; flap failure; head and neck cancer; inflammatory biomarkers; revision surgery;

OP-532

Impact Of Ligasure Versus Conventional Suture Ligation Techniques On Postoperative Parameters In Thyroidectomy: A Clinical Comparison

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BACKGROUND & AIM

The objective of this study is to compare the effects of an energy-based vessel sealing system (LigaSure) versus the conventional suture ligation (clamp-and-tie) technique on postoperative calcium and hemoglobin levels, operative duration, and complication rates in patients undergoing thyroidectomy.

MATERIAL & METHODS

Thirty-three patients who underwent thyroidectomy (18 LigaSure, 15 Suture Ligation) were retrospectively analyzed. Preoperative and postoperative 24-hour calcium (Ca) and hemoglobin (Hb) levels, operative durations, and complications were recorded for both groups. Statistical analysis was performed using Mann-Whitney U and Fisher's Exact tests, with a significance level of p < 0.05$.

RESULTS

- Calcium Change: A statistically significant decrease in postoperative calcium levels was observed in the LigaSure group (-0.81 mg/dL) compared to the suture ligation group (-0.22 mg/dL) (p = 0.044).
- Hemoglobin Change: No significant difference was found between the groups regarding hemoglobin changes (LigaSure: -0.87 g/dL, Suture Ligation: -0.35 g/dL; p = 0.164).
- Operative Duration: Operative time was significantly shorter in the suture ligation group (mean 111 min) compared to the LigaSure group (138.6 min) (p = 0.022).
- Complications: No significant difference in complication rates was observed between the groups (p = 1.0).

CONCLUSIONS

The findings suggest that the conventional suture ligation method may be more advantageous in preserving postoperative calcium balance and optimizing operative time compared to the LigaSure technique. While both methods appear safe

regarding complications, the potential thermal impact of energy-based devices on parathyroid function should be considered during surgery.

KEYWORDS

Thyroidectomy, LigaSure, Hypocalcemia, Hemostasis, Surgical Techniques.

OP-533

Management Of High Risk Skin Squamous Cells Carcinoma In Head And Neck

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BACKGROUND & AIM

Cutaneous squamous cell carcinoma (cSCC) of the head and neck accounts for 20–50% of all skin cancers, with a steadily increasing incidence over recent decades in northern European countries. While most tumors are successfully treated with surgery, high-risk cSCC may develop regional metastases, particularly to the cervical lymph nodes and parotid gland.

MATERIAL & METHODS

We conducted a retrospective review of patients with advanced or metastatic head and neck cSCC treated in the western region of Sweden over a 10-year period. Medical records were reviewed to identify demographic data, tumor characteristics, treatment modalities, and outcomes.

The study is approved by ethics committee

RESULTS

A total of 248 patients with advanced or metastatic cSCC were identified. 19% presented with primary skin cancer and synchronous metastasis, while 81% presented with metastases secondary to cutaneous SCC. The majority of patients were male, and the most common primary tumor site was the external ear. Immunodeficiency was present in 23% of cases. Treatment with curative intention included surgery with postoperative radiotherapy, surgery alone, or radiotherapy alone. Patients of advanced age and with significant comorbidities received palliative radiotherapy or best supportive care. The best survival outcomes were observed in patients treated with surgery followed by postoperative radiotherapy.

CONCLUSIONS

Advanced and metastatic head and neck cSCC is increasing in incidence. Combined treatment with surgery and postoperative radiotherapy provides the best survival and should be considered standard of care when feasible.

KEYWORDS

Cutanneous squamous cell carcinoma, head and neck, metastasis

OP-534

Early Postoperative PTH Determination As Predictor For Post-Thyroidectomy Hypocalcemia

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BACKGROUND & AIM

Post thyroidectomy hypocalcemia is a major complication following total thyroidectomy. We sought to study the use of early post-operative parathyroid hormone (PTH) measurement as an early predictor of hypocalcemia after thyroidectomy and the impact on same-day discharge.

MATERIAL & METHODS

This was a prospective and meta-analysis study, for prospective study IRB-approved correlation study on 43 patients who underwent total thyroidectomy. PTH was measured at 1 hour after surgery and compared to the standard 4-hour post-surgical draw that had been utilized at our institution, for meta-analysis 5 observational studies were included.

RESULTS

Using Spearman's rank correlation (rho=0.59, p-value 0.01), there was a significant positive correlation between PTH measured 1H after surgery with 4 H Ionized Ca. Sensitivity of early PTH assay "Measured below 14 pg/ml" to detect hypocalcemia was 100%"AUC: 0.797 (95% CI [0.565-1])". Meta analysis of previous studies found that there was a highly positive association between early PTH and late measurements.

CONCLUSIONS

Early measurement of PTH 1H after surgery is a very sensitive tool to detect post-thyroidectomy hypocalcemia, what would help reduce hospital stay following thyroidectomy.

KEYWORDS

Thyroid, Parathyroid, Cancer, Health planning guidelines

OP-535

The Neck-Persistency-Net: A Deep Neural Network Aids In Distinguishing Vital From Non-Vital Persistent Cervical Lymph Nodes In HNSCC After Radiochemotherapy

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BACKGROUND & AIM

To evaluate the diagnostic performance (DP) of the high-resolution contrast computed tomography (HR-contrast-CT) based Neck-Persistency-Net in distinguishing vital from non-vital persistent cervical lymph nodes (pcLNs) in patients with advanced head and neck squamous cell carcinoma (HNSCC) following primary concurrent chemoradiotherapy (CRT) with [18F]-fluorodeoxyglucose positron emission tomography and high-resolution contrast-enhanced computed tomography ([18F]FDG-PET-CT). Furthermore, the Neck-Persistency-Net's potential to justify omitting post-CRT neck dissection (ND) without risking treatment delays or preventing unnecessary surgery was explored.

MATERIAL & METHODS

All HNSCC patients undergoing primary CRT followed by post-CRT-ND for pcLNs recorded in the institutional HNSCC registry were analyzed. The Neck-Persistency-Net DP was explored for three scenarios: balanced performance (BalPerf), optimized sensitivity (OptSens), and optimized specificity (OptSpec). Histopathology of post-CRT-ND served as a reference.

RESULTS

Among 68 included patients, 11 were female and 32 had vital pcLNs. The Neck-Persistency-Net demonstrated good DP with an area under the curve of 0.82. For BalPerf, both sensitivity and specificity were 78%; for OptSens (90%), specificity was 62%; for OptSpec (95%), sensitivity was 54%. Limiting post-CRT-ND to negative results would have delayed treatment in 27%, 40%, and 7% for BalPerf, OptSens and OptSpec, respectively, versus 23% for [18F]FDG-PET-CT. Conversely, restricting post-CRT-ND to positive results would have prevented unnecessary post-CRT-ND in 78%, 60%, and 95% for BalPerf, OptSens and OptSpec, respectively, versus 55% for [18F]FDG-PET-CT.

CONCLUSIONS

The DP of the Neck-Persistency-Net was comparable to [18F]-FDG-PET-CT. Depending on the chosen decision boundary, the potential to justify the omission of post-CRT-ND without risking treatment delays in false negative findings or reliably prevent unnecessary surgery in false positive findings outperforms the [18F]-FDG-PET-CT.

KEYWORDS

HNSCC, Radiomics, Artificial intelligence, Machine learning, Salvage surgery, PET/CT

OP-536

Immune Microenvironment Remodeling In Laryngeal Carcinogenesis: From Activation To Immune Suppression

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BACKGROUND & AIM

The tumor microenvironment (TME) plays a pivotal role in the development and progression of head and neck squamous cell carcinoma (HNSCC). However, data focusing on site-specific immune dynamics, particularly in laryngeal carcinogenesis, remain limited. Evidence on how immune infiltration and checkpoint pathways evolve from benign to preinvasive and invasive lesions is scarce. This study aimed to evaluate immune infiltration and checkpoint expression across the laryngeal disease spectrum, with emphasis on compartment-specific differences.

MATERIAL & METHODS

This retrospective cross-sectional study included benign laryngeal polyps (N=45), precancerous lesions (N=55), and laryngeal SCC (N=127). Immunohistochemistry on tissue microarrays was used to assess CD4, CD8, CD68, CD163, FOXP3, CTLA-4, and PD-1. Additionally, double immunohistochemistry was performed to identify regulatory T cells (Treg) co-expressing FOXP3 and CTLA-4 (FOXP3+CTLA4). All markers were evaluated separately in intraepithelial/tumoral (i-) and stromal (s-) compartments.

RESULTS

A stepwise increase in immune cell infiltration was observed from benign through dysplastic to malignant lesions, with changes being more pronounced in the stromal compartment. In the intraepithelial compartment, differences between groups were generally modest, with no significant variation observed for FOXP3 or $FOXP3^{+}CTLA\text{-}4^{+}$ Treg cells. In contrast, stromal expression of multiple markers, including sFOXP3 and sFOXP3+CTLA4, were significantly increased in SCC compared to both control and precancerous groups (all $p<0.001$), indicating expansion of immunosuppressive regulatory populations. Within SCC, advanced-stage tumors demonstrated higher sFOXP3 ($p=0.006$) and increased macrophage infiltration (total CD68 $p=0.0003$; total CD163 $p=0.001$), indicating a quantitative increase in immune infiltration. Correlation analysis revealed strong positive associations between sCD4 and sCD8 ($r=0.664$, $p<0.0001$), sPD-1 and sCD4 ($r=0.561$, $p<0.0001$), and sCD68 and sCD163

(r=0.803, p<0.0001), supporting coordinated immune infiltration and macrophage polarization. Significant correlations were also observed between regulatory and checkpoint markers, particularly involving FOXP3, CTLA-4, and PD-1 (all p<0.05).

CONCLUSIONS

Laryngeal carcinogenesis is characterized by progressive immune infiltration accompanied by stromal enrichment of regulatory T cells and checkpoint molecule expression. Despite the presence of effector immune cells, the TME appears functionally immunosuppressed, consistent with an exhausted immune phenotype. These findings underscore the importance of compartment-specific immune analysis and support the potential relevance of checkpoint-targeted therapies in laryngeal SCC.

KEYWORDS

Laryngeal squamous cell carcinoma, tumor microenvironment, FOXP3, CTLA-4, PD-1, immune infiltration

OP-537

The Voice As A Tool To Detect Recurrence Of Laryngeal And Hypopharyngeal Cancer (Voicedetect) - Interim Analysis Of A Feasibility Study

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BACKGROUND & AIM

The aim is to assess feasibility of long-term systematic voice monitoring in laryngeal and hypopharyngeal squamous cell carcinoma (LSCC/HPSCC) follow-up (FU).

The long-term goal is to utilize a smartphone application that passively analyzes voice during patient-selected telephone conversations. In case of voice changes indicating tumor suspicion, it would trigger early clinical examination.

MATERIAL & METHODS

This prospective, multicenter, feasibility study is conducted from August 2023 until December 2026 at two tertiary referral centers. Patients with curatively treated LSCC/HPSCC without distant metastases undergo 3-monthly voice recordings captured simultaneously via smartphone and a condenser room microphone, fiberendoscopic examinations, and voice quality questionnaires for at least six months. We evaluate temporal voice changes over time, their correlation with endoscopic findings and subjective voice quality.

RESULTS

To date, patient compliance is very high (95.4%). Of 87 enrolled patients, only two withdrew prematurely and one was lost to FU. The remaining 84 attended scheduled appointments regularly, with rare rescheduling. A total of 32 visits (8.6%) were postponed by 25 patients (1-3 postponements), 11 visits (34%) due to illness. There were three no-shows and no cancellations.

The mean and median FU duration were both 10 months. Overall, 370 recordings with an average of 4 recordings per patient were conducted.

CONCLUSIONS

Systematic voice monitoring in LSCC/HPSCC FU is feasible with excellent patient compliance and may support early detection of recurrence, second primary malignancy and treatment sequelae in the future.

KEYWORDS

voice, monitoring, follow-up, detection of recurrence

OP-538

Effectiveness Of Prophylactic HPV Vaccination In HPV-Positive Oropharyngeal Squamous Cell Carcinoma Partners: A Systematic Review

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BACKGROUND & AIM

Human papillomavirus (HPV)-positive oropharyngeal squamous cell carcinoma (OPSCC) is an important and growing clinical issue, and the potential role of prophylactic HPV vaccination in adult sexual partners of affected patients remains uncertain. Evidence regarding the prevention of oral HPV infection and subsequent HPV-related malignancy in this population is limited

MATERIAL & METHODS

A systematic review will be conducted using MEDLINE, Embase, and the Cochrane Library from inception to the search date. Two reviewers will independently screen studies published in English that include adults with confirmed HPV-positive OPSCC and/or their adult sexual partners, evaluating licensed prophylactic HPV vaccines and outcomes including oral HPV infection, malignancy, recurrence, uptake, acceptability, psychosocial outcomes, and adverse events. Risk of bias will be assessed with study-design-appropriate tools.

RESULTS

To systematically evaluate the evidence on the effectiveness of prophylactic HPV vaccination in preventing oral HPV infection and subsequent HPV-related malignancy among sexual partners of adults with HPV-positive OPSCC, and to summarise available data on recurrence, second primary disease, safety, and current practice

CONCLUSIONS

This review will address an important evidence gap in counselling and management for patients with HPV-positive OPSCC and their partners. The findings may help inform clinical recommendations and future research on targeted HPV vaccination strategies.

KEYWORDS

human papillomavirus", "HPV", "oropharyngeal neoplasms", "oropharyngeal squamous cell carcinoma", "HPV-positive", "vaccination", "vaccine", "Gardasil", "Cervarix", "nonavalent", "partner" and "spouse, bivalent, quadrivalent or nonavalent

OP-539

Collision Tumors of the Head and Neck: Clinicopathological Characteristics, Diagnostic Challenges, and Management Strategies: A Structured Narrative Review"

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BACKGROUND & AIM

Background

Collision tumors represent the coexistence of two histologically distinct neoplasms within the same anatomical site without intermixture. In the head and neck region, these rare entities pose diagnostic and therapeutic challenges.

Objective

To provide a contemporary structured narrative synthesis of head and neck collision tumors, focusing on clinicopathological characteristics, diagnostic considerations, management strategies, and outcomes.

MATERIAL & METHODS

Methods

A structured literature review was conducted using PubMed/MEDLINE, Scopus, and Web of Science for cases published from 2020 onward. Histopathologically confirmed head and neck collision tumors were included. Data were extracted descriptively and analyzed qualitatively.

RESULTS

Results

Twenty-eight studies comprising 30 cases were identified. The thyroid was the most frequently involved site (40%), followed by the oropharynx and sinonasal region. Malignant–malignant combinations predominated (96.7%). Surgical management was performed in 90% of cases, often supplemented by adjuvant therapy. Mortality (13.3%) was confined to patients with advanced-stage or biologically aggressive tumorcomponents. Follow-up averaged 21.8 months.

CONCLUSIONS

CONCLUSION

Head and neck collision tumors are rare, heterogeneous entities in which prognosis is determined by the dominant tumor component rather than the collision phenomenon itself. Diagnosis relies on careful histopathological evaluation, and management should be individualized with multidisciplinary follow-up.

KEYWORDS

Multiple Primary Neoplasms; Head and Neck Neoplasms; Thyroid Neoplasms; Immunohistochemistry; Neoplasm Diagnosis; Case Reports

OP-540

Masseter And C3 Muscle Measurements On PET/CT Predict Fistula Risk After Total Laryngectomy

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BACKGROUND & AIM

Laryngeal squamous cell carcinoma (LSCC) carries significant morbidity, especially in advanced disease requiring multimodal treatment. Pharyngocutaneous fistula (PCF) is a major complication after total laryngectomy, prolonging hospitalization and delaying adjuvant therapy. Sarcopenia, reflecting reduced physiological reserve, is linked to adverse surgical outcomes in head and neck cancer. Skeletal muscle mass is commonly assessed at the third cervical vertebra (C3), whereas masseter muscle area offers a practical alternative on routine imaging. We hypothesized that reduced pre-treatment C3 and masseter measurements on fluorodeoxyglucose positron emission tomography/computed tomography (FDG PET/CT) increase PCF risk and postoperative morbidity.

MATERIAL & METHODS

This retrospective cohort study included 78 patients of Kartal Dr. Lutfi Kirdar City Hospital with LSCC treated at a tertiary referral center. Pre-treatment FDG PET/CT images were used to quantify skeletal muscle area at the C3 level and bilateral masseter muscle area. Clinical data including age, body mass index (BMI), comorbidities, tumor stage, and prior radiotherapy/chemoradiotherapy were recorded. The primary outcome was PCF development. Secondary outcomes included overall postoperative complications, intensive care unit (ICU) requirement, and length of hospital stay. C3 and masseter muscle measurements were analyzed as independent variables. Statistical analyses were performed using appropriate parametric or non-parametric tests, and $p<0.05$ was considered statistically significant.

RESULTS

PCF occurred in 15 of 78 patients (19.2%). Lower C3 and masseter muscle measurements were associated with higher PCF rates, increased overall postoperative complications, greater ICU requirement, and longer hospital stay ($p<0.05$). No statistically significant association was observed between muscle measurements and 30-day mortality or certain minor complications ($p>0.05$).

CONCLUSIONS

Lower pre-treatment C3 and masseter muscle measurements are associated with increased PCF and postoperative complications in LSCC patients. Combined assessment may improve preoperative risk stratification.Masseter muscle measurement is easier and more practical to perform than C3-based assessment, making it a feasible alternative in routine clinical practice.

KEYWORDS

Laryngeal cancer, Sarcopenia, Masseter muscle, C3 vertebra, Pharyngocutaneous fistula, Total laryngectomy

OP-541

Long Term Outcomes Of Transoral CO_2 Laser Microsurgery For Early-Stage Laryngeal Carcinoma: A 10-Year Single-Center Experience

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BACKGROUND & AIM

Transoral CO_2 laser microsurgery (TOLM) is an established organ-preserving approach for early-stage laryngeal carcinoma, providing favorable oncologic and functional outcomes. This study aims to evaluate oncologic outcomes, including 5-year disease-free survival (DFS) and overall survival (OS), in patients with early-stage laryngeal carcinoma treated with TOLM.

MATERIAL & METHODS

A retrospective observational study including patients with Tis–T2 laryngeal squamous cell carcinoma treated with TOLM between 2011 and 2021 was performed. Clinical, surgical, and pathological data were analyzed. DFS and OS at 2 and 5 years were estimated using the Kaplan–Meier method.

RESULTS

A total of 42 patients were included, predominantly male (approximately 95%), with a high prevalence of smoking (approximately 75%). Most tumors were glottic (approximately 95%). At 2 years, DFS and OS were approximately 90% and 95%, respectively. At 5 years, DFS was 83% and OS was 91%. Recurrence occurred in approximately 15% of patients. Laryngeal preservation was achieved in 95% of cases. No statistically significant prognostic factors for overall survival were identified.

CONCLUSIONS

TOLM provides effective and durable oncologic control in early-stage laryngeal carcinoma, with high disease-free and overall survival at 5 years. These findings support its role as a first-line treatment in appropriately selected patients.

KEYWORDS

Transoral laser microsurgery; CO_2 laser; laryngeal carcinoma; early-stage laryngeal cancer; glottic cancer; disease-free survival; overall survival; organ preservation; minimally invasive surgery; head and neck oncology

OP-542

In Silico And Immunohistochemical Evaluation Of The JAK3 Gene And Clinical And Pathological Prognostic Factors In Head And Neck Squamous Cell Carcinomas

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BACKGROUND & AIM

Head and neck squamous cell carcinoma (HNSCC) is a biologically heterogeneous malignancy with variable clinical outcomes. Janus kinase 3 (JAK3), a key mediator of the JAK/STAT pathway, is well characterized in hematologic malignancies; however, its role in solid tumors remains unclear. This study aimed to evaluate the association between phosphorylated JAK3 (p-JAK3) expression, clinicopathological parameters, and survival outcomes in HNSCC, and to validate these findings using in silico analyses.

MATERIAL & METHODS

A retrospective cohort of 189 patients diagnosed with HNSCC between 2014 and 2025 was analyzed. p-JAK3 expression was successfully evaluated in 174 cases using tissue microarray-based immunohistochemistry, and quantified by H-score methodology. Clinicopathological parameters were recorded. Overall survival (OS) and disease-free survival (DFS) were assessed using Kaplan–Meier and Cox regression analyses. External validation was performed using The Cancer Genome Atlas (TCGA) dataset to explore gene expression, methylation patterns, and immune microenvironment correlations.

RESULTS

Reduced JAK3 expression was significantly associated with advanced tumor stage, lymph node metastasis, and perineural invasion ($p<0.001$). Higher JAK3 H-scores were significantly correlated with improved OS and DFS ($p<0.001$). In multivariate Cox regression analysis, JAK3 expression remained an independent favorable prognostic factor for OS (HR: 0.743; 95% CI: 0.681–0.811; $p=0.001$) and DFS (HR: 0.611; 95% CI: 0.528–0.708; $p=0.001$). In silico analyses demonstrated concordant findings and revealed a positive correlation between gene body methylation and JAK3 expression levels.

CONCLUSIONS

Loss of JAK3 expression is associated with aggressive clinicopathological features and poorer survival in HNSCC. These findings suggest a potential protective role of JAK3 within the tumor microenvironment and highlight its value as a prognostic biomarker with translational relevance.

KEYWORDS

Head and neck squamous cell carcinoma, JAK3, prognosis, immunohistochemistry, methylation, tumor microenvironment.

OP-543

Compressive Symptoms In Relation To Patient, Radiological And Gland Features In Thyroid Disease

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BACKGROUND & AIM

Thyroid goiter is the abnormal enlargement of the gland. Worldwide prevalence of goiter is 15.8%, and in Arab countries it ranges from 6.18 to 47.34%. Presentation of goiter vary from asymptomatic patients to obstructive symptoms. US and CT are radiological modalities used in the assessment of goiter. This study aims to assess the relationship between thyroid gland clinical features, patient's demographics, radiological measurements obtained from computerized tomography (CT) and ultrasound (US), and thyroid specific features including weight and size.

MATERIAL & METHODS

Patient's data who underwent thyroidectomy (n= 113) over the period of 2014-2022 in King Fahad University Hospital (KFUH) were reviewed in a retrospective cohort. The data included demographics, risk factors, thyroid function tests, compressive symptoms, intraoperative and post-operative complications, histopathological findings, and radiological measurements extracted from CT scans and neck US.

RESULTS

Subject's average age was 44 years. Dyspnea and lump globus were significantly related to thyroid volume and tracheal deviation. Tracheal compression ratio was significantly related to dysphagia (0.41±0.23), dyspnea (0.42±0.23), cough (0.46±0.22) and lump globus (0.39±0.22). Lump globus was significantly related to retrosternal extension. Obstructive symptoms were significantly related to tracheal deviation at C7 level. Final pathology was not related to compressive symptoms, whereas specimen weight was significantly related to dysphagia and lump globus. Average specimen weight was significantly high among patients who had post operative complications ($p=0.032$). Obese patients had significantly high specimen weight ($p=0.007$).

CONCLUSIONS

Goiter presentation vary from asymptomatic to obstructive symptoms. This study reports significant correlation between clinical symptoms and patient BMI, thyroid specimen weight/size. Also, significant association between specimen weight and post operative complications and patient BMI. Furthermore, significant correlation between obstructive symptoms and radiological parameters was found. Further research on the utilization of radiological data to predict compressive symptoms in asymptomatic thyroid goiter is recommended.

KEYWORDS

Thyroid goiter, compressive symptoms, tracheal compression ratio

OP-544

FACTORS ASSOCIATED WITH SURGICAL MANAGEMENT OF PHARYNGOCUTANEOUS FISTULA AFTER LARYNGECTOMY

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BACKGROUND & AIM

Pharyngocutaneous fistula (PCF) is one of the most common complications after laryngectomy and is associated with delayed oral intake, prolonged hospitalization, and increased morbidity. Although many fistulas can be managed conservatively, a substantial proportion require surgical intervention. Early identification of patients unlikely to respond to conservative treatment may facilitate timely surgical intervention. We aimed to compare the characteristics and clinical outcomes of patients managed conservatively versus surgically for PCF and to identify factors associated with the need for surgical management.

MATERIAL & METHODS

We retrospectively reviewed patients who developed PCF after laryngectomy at our tertiary referral center between 2021 and 2026. Patients were categorized according to management strategy as conservative treatment or surgical repair. Demographic characteristics, comorbidities, tumor-related factors, laboratory parameters, and clinical outcomes were compared. Correlation analyses were performed to assess factors associated with prolonged fistula duration and hospitalization.

RESULTS

A total of 42 patients with PCF were included; 27 were managed conservatively and 15 required surgical intervention. The surgical group had significantly lower serum albumin levels (30.6 ± 4.5 vs 36.5 ± 4.9 g/L, p=0.001), higher rates of anemia (80.0% vs 18.5%, p<0.001), and larger primary tumor size (47.7 ± 15.0 vs 33.9 ± 14.8 mm, p=0.009). They also had significantly longer hospital stay (59.8 ± 24.7 vs 31.6 ± 14.1 days, p<0.001) and longer fistula discharge duration (55.8 ± 43.6 vs 14.7 ± 10.7 days, p<0.001). Serum albumin was negatively correlated with both hospital stay and fistula duration, while fistula duration strongly correlated with length of hospitalization. Among surgically treated patients, closure techniques included primary suture repair (n=8), pectoralis major flap (n=4), deltopectoral flap (n=2), and regional rotation flap (n=1). Outcomes did not significantly differ according to reconstructive technique (p=0.856), although interpretation was limited by small subgroup numbers.

CONCLUSIONS

Hypoalbuminemia, anemia, and larger tumor burden are strong predictors of refractory PCF requiring surgical management after laryngectomy. Early recognition of these systemic risk factors may help identify patients unlikely to benefit from conservative treatment and support timely surgical planning, potentially reducing morbidity and hospitalization.

KEYWORDS

pharyngocutaneous fistula, laryngectomy, hypoalbuminemia, anemia, surgical management

OP-545

Age-Related Trends Of Thyroidectomies In Saudi Arabia: A Multicenter Retrospective Study

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BACKGROUND & AIM

Understanding the relationship between aging and postoperative complications is critical because it may influence how the condition is managed. The safety of thyroidectomy in the older age group is debated in literature. All previous studies were conducted outside of the Middle East, and there is a scarcity of data in the literature describing the relationship between age and postoperative outcomes after thyroidectomy. This study aimed to compare the clinical trends of patients undergoing thyroidectomy between younger and older age groups.

MATERIAL & METHODS

A multicenter retrospective study was conducted at 3 tertiary care centers in Jeddah, Saudi Arabia. Our inclusion criteria consisted of patients of all ages of both sexes who underwent thyroidectomy. Patients were divided into 2 age groups, <60

years and ≥60 years. Chi-square test and independent t test were used to evaluate the differences between qualitative and continuous variables. Logistic regression analysis was performed with postoperative complications and length of hospitalization as the dependent variables.

RESULTS

798 patients were included in this study. The ≥60 years age group had a statistically significant longer mean postoperative length of hospitalization (5.37 ± 7.21 days) compared to the <60 age group (3.33 ± 4.24 days; P = .003). A total of 14.4% of the patients in the <60 years age group developed at least one postoperative complication compared to 17.9% of the patients in the ≥60 years age group (P = .385). Seroma and recurrent laryngeal nerve injury occurred more commonly in the ≥60 years age group compared to the <60 years age group with a statistically significant difference (P = .003 and P < .001, respectively). In contrast, hypocalcemia occurred more commonly in patients of the <60 years age group with a statistically significant difference (P = .044). These findings were further verified by multivariate logistic regression after adjustment for gender, type of procedure, and type of diagnosis.

CONCLUSIONS

In our region, the overall risk of developing postoperative complications was not different between the younger and older age groups. However, certain complications were more likely to develop in the older age group which requires vigilance from surgeons performing thyroidectomy. Likewise, the length of hospitalization was significantly longer in the older population. Awareness of complications and challenges of thyroidectomy in the older age group is crucial to improve care.

KEYWORDS

thyroidectomy, elderly, postoperative complications, length of stay

OP-546

Surgical Practice Patterns And Educational Feedback Among Participants Of The Turkish School Of Head-Neck And Thyroid Surgery: A Cross-Sectional Survey Study

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BACKGROUND & AIM

Head and neck and thyroid surgery is a rapidly evolving subspecialty that requires continuous surgical skill development and up-to-date knowledge. Although specialized training schools play a crucial role in this process, there is limited data regarding the current surgical practice patterns and educational satisfaction of the participants attending these programs. The aim of this study was to evaluate the current surgical practice patterns, training experiences, and educational feedback of participants attending the Turkish School of Head-Neck and Thyroid Surgery (SHNTS).

MATERIAL & METHODS

A 22-question electronic survey was distributed to ENT specialists of all ages and levels of experience who participated in and graduated from the Turkish SHNTS. Descriptive statistics were used to summarize responses and demographics of respondents.

RESULTS

Eighty-one otorhinolaryngologists participated, most with 11-20 years of experience and working in tertiary referral hospitals. While 40% reported the presence of a dedicated head and neck surgery team in their institution, only 49.4% considered their residency training in this field sufficient. Most participants enhanced their experience through post-residency efforts, particularly courses and congresses (87.5%) and the Turkish SHNTS (98.8%).

In clinical practice, 58% of respondents reported performing more than five head and neck procedures per month, with salivary gland (88.9%) and laryngeal surgeries (66.7%) being the most common. The most reported challenges were lack of multidisciplinary collaboration (55.7%), team insufficiency (39.2%), and limited experience (34.2%). Motivation to perform head and neck surgery was primarily driven by professional interest (84.6%) and perceived patient benefit (76.9%); however, only 42.5% reported high motivation levels. Heavy workload (44.1%) and low patient volume (41.2%) were the leading reasons for reduced surgical activity.

CONCLUSIONS

Participants of the Turkish SHNTS maintain active engagement in post-residency education and clinical practice; however, limited multidisciplinary support and workload-related constraints continue to hinder optimal surgical performance.

KEYWORDS

Otolaryngology, Head and Neck Neoplasms, Thyroidectomy, Continuing Medical Education, Surveys and Questionnaires

HEARING AIDS

Oral Presentations · OP-547 – OP-560 · 14 abstracts

OP-547

Hearing Aid Fitting Based On Automated Real-Ear Measurements 'Autorem-Based Fitting'

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BACKGROUND & AIM

Hearing aid fitting guidelines recommended the use of real ear measures (REM) as a verification step during hearing aid fitting process. In order to increase the clinical use of REMs, hearing aid manufacturers developed and incorporated integrated REMs (Auto-REM) in the fitting software with subsequent automatic fitting to target.The objective of this study was to Compare the AutoREM-based hearing aid fitting and the default manufacturer's first-fit approaches objectively and subjectively.

MATERIAL & METHODS

Thirty-eight adults sensorineural hearing loss subjects (40 ears) were included in the present cross sectional study with an age range from 18 to 60 years. The degree of hearing loss varied from mild to moderate severe degree in the tested ears. All subjects of the study group were fitted with Bernafon Zerena 9 receiver-in-the-canal (RIC) hearing aid. The hearing aid was programmed using either the Manufacturer's first fit or the AutoREM-based fitting. The outcome of the two fitting procedures were evaluated through REM, aided sound field thresholds, aided word recognition score and the Arabic version of client-oriented scale of improvement (COSI) questionnaire.

RESULTS

The AutoREM-based fitting was superior than default first fit in all measures tested. the Auto-REM aided sound field and insertion gain showed statistically significant better thresholds than that of the Manufacturer first fit and DSLv5 formula gives higher gain than BernafitNL formula.

CONCLUSIONS

Automated real ear measurements–based fitting can enhance how well the hearing aid matches prescription targets, resulting in better listening experiences. This will add more precision, efficiency, and ensures benefit in difficult to fit or pediatric population.

KEYWORDS

Auto-REM Based Fitting, REM, DSL formula

OP-548

Assessment Of Audiological Findings And Neurodevelopmental Characteristics In Children With Suspected Hearing Loss: Preliminary Results

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BACKGROUND & AIM

In children, the suspicion of hearing loss can also arise from various different etiologies. Therefore, it is important to evaluate not only hearing, but also otherdevelopmental characteristics.

The aim of this study is to evaluate the relationshipbetween audiological findings and neurodevelopmentalcharacteristics.

MATERIAL & METHODS

The study included children aged 2-7 years whopresented to the Kayseri City Hospital ENT outpatient clinicwith suspected hearing loss. Children who passed the newbornhearing screening test for the audiological evaluation, age-appropriate hearing tests were performed for each child. Theseincluded diagnostic ABR, transient evoked otoacousticemissions (TEOAEs), tympanometry, sound-field testing, andlanguage development tests. Neurodevelopmental outcomeswere also evaluated.

RESULTS

According to the audiological test battery, hearingwas within normal limits in the vast majority of cases. Amongchildren with normal hearing who presented with suspectedhearing loss, the most frequently encountered conditions werediagnoses within the autism spectrum. Daily screen exposureaveraged approximately 4.6 hours/day, and approximately halfof the children reported screen exposure of 4 hours or moreper day.

CONCLUSIONS

Based on the data currently obtained from ourpatients (56 patients), our study shows that the vast majorityof children who passed newborn hearing screening but laterpresented to the clinic with suspected hearing loss in childhood do not have an actual hearing loss, and that theirsymptoms may be more attributable to neurodevelopmentalproblems.

KEYWORDS

Hearing loss, Autism, ADHD, Delayed speech, screen exposure, Neurodevelopment

OP-549

Sight Is Routine, Sound Is Overlooked: Perceived Barriers To Hearing Aid Utilization In Lebanon

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BACKGROUND & AIM

Hearing loss is a growing global health issue affecting over 430 million people, projected to reach 700 million by 2050. It is associated with depression, social isolation, and cognitive decline. Hearing aids improve communication and may reduce dementia and depression risk, yet utilization remains low, with studies reporting rates as low as 9.7% among individuals with hearing loss. Use is limited by financial and psychosocial barriers. In contrast, eyeglasses are widely accepted, highlighting differing perceptions of sensory impairment. Data on perceptions of hearing and hearing aid use in Lebanon are limited; this study evaluates related perceptions and barriers.

MATERIAL & METHODS

A retrospective cross-sectional study at the American University of Beirut Medical Center reviewed EPIC records of patients evaluated between January 1 and December 31, 2024, in private (full-fee) and resident-run (low-cost) clinics, with equivalent care under the same attending supervision. Following IRB approval, adults aged 18–85 years with sensorineural or mixed hearing loss were included (n=870). Sample size was calculated using Cochran's formula ($n=Z^2 \cdot p(1-p)/d^2$) based on WHO estimates, requiring 246 participants; 600 were randomly recruited and equally distributed between clinics, of whom 274 completed the questionnaire. A structured questionnaire assessed five domains: demographics, clinical characteristics, perceptions and attitudes, awareness of untreated hearing loss, and experience with hearing aid use, and was administered via structured telephone interviews with responses recorded on 5-point Likert scales. Data were analyzed using SPSS v29 with chi-square and correlation tests, with $p<0.05$ considered significant.

RESULTS

274 patients completed the questionnaire, of whom 46.4% were from private clinics and 53.6% from the resident-run clinic. Patients in the resident-run clinic were older ($p=0.014$), with lower education and employment ($p<0.001$). Sensorineural hearing loss was most common (61.3%), and more prevalent in the resident-run clinic ($p=0.004$), while hearing aid use was 24.5% with no difference ($p=0.406$). Difficulty accessing care (25.5%), financial burden (62%), and loss to follow-up (63.9%) were common without differences ($p>0.05$). 47.4% perceived eyesight as more important than hearing ($p=0.013$), and 46.4% considered hearing aids less effective than eyeglasses ($p=0.002$), both higher in the resident-run clinic. 59.1% reported greater stigma ($p=0.006$), and lack of knowledge (28.5%) was higher in the resident-run clinic ($p=0.009$). Hearing aid satisfaction was higher in private clinics ($p=0.003$), while negative reactions were higher in the resident-run clinic ($p=0.012$). Quality of life correlated more with subjective than objective severity ($p<0.001$).

CONCLUSIONS

Hearing aid utilization in Lebanon remains limited and is shaped less by audiometric severity than by individuals' perceived hearing difficulty, functional impact, awareness, and socioeconomic context. Although vision and hearing represent

comparable sensory functions, corrective eyewear is socially prioritized, whereas hearing aids are still influenced by negative social attitudes. This contrast highlights the need to present hearing rehabilitation as a normal, proactive step to preserve communication, relationships, and independence. Improving affordability and access, providing structured counseling with post-fitting support, and advancing public awareness efforts are essential to normalize hearing aid use and support healthy aging.

KEYWORDS

Hearing Aids, Hearing loss, Stigma, Lebanon, Awareness

OP-550

Psychosocial Factors Affecting Hearing Aid Adjustment: A Turkish Validity And Reliability (Pilot Study)

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BACKGROUND & AIM

The effectiveness of a hearing aid depends not only on the device settings but also on psychological and social factors. In response to this need, “Psychosocial Factors Affecting Hearing Aid Adjustment” questionnaire was developed in Denmark to assess hearing aid users’ satisfaction from a psychosocial perspective (Ceylan & Hudemann, 2011). It is planned to adapt it into Turkish under the title “Psychosocial Factors Affecting Hearing Aid Adjustment: A Turkish Validity and Reliability Study”.

MATERIAL & METHODS

This study was conducted as a pilot study and included 19 participants (8 women - 42.1%, 11 men - 57.9%) who has been actively using hearing aids for at least 3 months. The data collection tool used was the Turkish version of the 32-item questionnaire, which assesses expectations, motivation, social life, adaptation to hearing aid use, and usage habits related to hearing aid use. The questionnaire was adapted using the back-translation method and administered to participants in person.

RESULTS

The participants, aged between 7 and 84 years, had a mean device usage duration of 97.1±134.89 months; 11 reported using their devices for more than 10 hours daily. Based on hearing aid satisfaction and expectation scores, users were found to be highly satisfied. However, 73.7% reported encountering at least one issue, such as ear mold problems or device adjustment issues, which made it difficult to use the devices. Despite this, only 3 of them (15.8%) considered general usage difficult. While 88.9% are satisfied with the information provided regarding device use, they consider the training insufficient. Overall, 77.8% reported being satisfied or very satisfied with their hearing aids.

CONCLUSIONS

Although most users reported high satisfaction, the presence of usage-related difficulties highlights the importance of psychosocial factors in hearing aid adjustment. Further research is needed to establish the validity and reliability of the Turkish adaptation.

KEYWORDS

hearing aids, device adjustment, psychosocial factors

OP-551

The Role Of Audiogram Configuration In Sound Intolerance Among Patients Undergoing Hearing Aid Fitting

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BACKGROUND & AIM

Hearing loss is increasingly recognized as a complex phenotype characterized not only by elevated peripheral thresholds but also by decreased sound tolerance (DST) disorders, including tinnitus, hyperacusis, and misophonia. While audiometric configuration has been linked to tinnitus, misophonia and hyperacusis are reported to correlate more strongly with uncomfortable loudness levels (UCL) than with pure-tone thresholds. We hypothesized that audiogram configuration independently influences the prevalence and severity of DST symptoms in sensorineural hearing loss (SNHL), and aimed to evaluate misophonia, hyperacusis, and tinnitus across three configuration groups to inform individualized hearing-aid fitting strategies.

MATERIAL & METHODS

In this cross-sectional study, adults (≥18 years) with audiometrically confirmed SNHL, candidates for hearing aids, were classified into three groups by audiogram configuration: low-frequency loss, high-frequency loss, and flat configuration. The misophonia scale, hyperacusis questionnaire, and tinnitus handicap inventory (THI) were administered. Groups were compared using one-way ANOVA or the kruskal-wallis test (bonferroni-corrected pairwise comparisons) depending on normality (shapiro-wilk), and categorical variables with chi-square testing (cramér's v). Significance was set at $p<0.05$.

RESULTS

This preliminary analysis included 50 patients (low-frequency n=9, high-frequency n=25, flat n=16) of a target sample of 108. Hyperacusis scores differed significantly across groups (kruskal-wallis h=8.12, p=0.017), being lower in the low-frequency group than in the high-frequency (p=0.009) and flat groups (p=0.013), with no difference between the latter two (p=0.678). Misophonia and THI scores did not differ significantly between groups (p=0.944 and p=0.771, respectively). Uncomfortable loudness levels also differed significantly across groups (p<0.001), consistent with the hyperacusis findings. Sex distribution differed between groups (p=0.031); age, UCL, and speech-discrimination correlations with symptom scores were not significant.

CONCLUSIONS

Preliminary findings suggest that audiogram configuration is independently associated with hyperacusis severity, but not with misophonia or tinnitus handicap, in patients with SNHL. Steeply configured (low-frequency) losses were associated with lower hyperacusis burden, potentially reflecting reduced high-frequency trigger exposure. These findings, once confirmed in the full target cohort, may help tailor hearing-aid output and compression strategies to individual sound-tolerance profiles.

KEYWORDS

Audiogram HearingAids Intolerance HearingLoss

OP-552

Investigation Of The Factors That Affect The Beliefs And Attitudes Of The Elderly People Regarding The Use Of Hearing Aids, Based On The Health Belief Model.

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BACKGROUND & AIM

Presbycusis is a common disorder with significant negative impact in daily life, emotional status and quality of life of older people. Despite the fact that the application of hearing aids is the gold standard treatment for this disease, there are many people suffering from hearing loss who do not choose to use them. The aim of the study is to analyze the beliefs of the people older than 60 years regarding the use of hearing aids and to investigate the predictive factors that affect them.

MATERIAL & METHODS

The Health Belief Model was used for the main purpose of the study. Participants also completed questionnaires for the evaluation of the five fundamental factors of personality, locus of control, coping strategies and perceived social support.

RESULTS

142 individuals older than 60 years with normal hearing were included in the study. The main finding was that most of the participants reported high perceived severity, gains and cues to action. Perceived susceptibility and self-efficacy were found lower, while a significant proportion of individuals reported high perceived barriers regarding the use of the hearing aids. Another finding was that people who were of higher socio-economic status and had higher education level were found to have more chances to use the hearing aids. Additionally, individuals high on agreeableness, extraversion, conscientiousness, openness, internal locus of control and positive coping style preferences were found to have more positive opinions for the hearing aids. Further, perceived social support was found to significantly affect the participants' beliefs related to the hearing aids.

CONCLUSIONS

The Health Belief Model in combination with the evaluation of the personality, the locus of control, the coping strategies and the perceived social support may be a useful tool for the planning of health policy programs aiming at the older people's awareness of the benefits of the hearing aids' use for the treatment of presbycusis.

KEYWORDS

Presbycusis, Hearing Aids, Health Belief Model, Personality, Locus of Control, Coping Strategies, Social Support

OP-553

Determinants Of Delayed Hearing Aid Purchase After Hearing Loss Diagnosis

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BACKGROUND & AIM

Untreated hearing loss can negatively affect communication, social participation, emotional well-being, and quality of life. Although hearing aids are an effective rehabilitation option, many individuals delay obtaining them after diagnosis. This study

aimed to determine the time interval between hearing loss diagnosis and hearing aid purchase and to identify demographic, social, and clinical factors associated with this delay.

MATERIAL & METHODS

This cross-sectional survey study included 150 adults aged 18 years and older who had been diagnosed with hearing loss and were using hearing aids. Participants consisted of 75 females and 75 males. Hearing loss was classified according to the four-frequency pure-tone average of 500, 1000, 2000, and 4000 Hz in the better ear. A 23-item questionnaire was administered face-to-face to evaluate demographic characteristics and factors potentially influencing the hearing aid purchase process. The interval between the date of hearing loss diagnosis and the date of hearing aid purchase was calculated. Statistical analyses were performed using Mann–Whitney U and Kruskal–Wallis tests, with significance set at $p < 0.05$.

RESULTS

The mean time between hearing loss diagnosis and hearing aid purchase was 3.03 years. A significant association was found between purchase delay and educational level ($p = 0.02$). High school graduates purchased hearing aids later than primary school graduates, with mean delays of 4.31 and 0.73 years, respectively. Concerns about deterioration in social relationships or fear of social exclusion were also significantly associated with delayed purchase ($p = 0.03$). Participants reporting poor social reactions to their decision to use hearing aids showed the longest delay, with a mean of 13.60 years ($p < 0.01$). Previous ear or head-neck surgery was also associated with longer purchase time ($p = 0.03$). Hearing aid cost and maintenance showed a borderline but non-significant association ($p = 0.05$).

CONCLUSIONS

Adults with hearing loss may delay hearing aid purchase for several years after diagnosis. Educational level, perceived social stigma, social circle reactions, and previous ear or head-neck surgery appear to influence this process. Interventions addressing stigma, counseling, and patient education may support earlier hearing aid adoption.

KEYWORDS

Hearing loss; Hearing aids; Rehabilitation delay; Social stigma; Audiology

OP-554

The Impact Of Psychiatric Symptoms On Hearing Aid Adherence

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BACKGROUND & AIM

Hearing aid adherence may be influenced not only by audiological factors but also by patients' psychological well-being and perceptions of their physical appearance. Psychiatric symptoms may interfere with the acceptance and consistent use of hearing aids, while concerns regarding body image and the visibility of the device may contribute to avoidance or reduced adherence. This study aimed to investigate the associations between psychiatric symptoms and hearing aid adherence among adult hearing aid users. A secondary aim was to determine whether psychiatric symptom severity and body image perception were significant predictors of hearing aid adherence.

MATERIAL & METHODS

This cross-sectional study included 30 adult (≥18 years) hearing aid users. Participants completed the Symptom Checklist-90-Revised (SCL-90-R) and the Body Image Scale. Sociodemographic and clinical data were recorded, and hearing aid adherence was assessed. The associations between psychiatric symptoms, body image, and hearing aid adherence were analyzed using appropriate statistical methods. A p-value of <0.05 was considered statistically significant.

RESULTS

A significant positive correlation was observed between the duration of hearing aid use in years and all SCL-90-R symptom dimensions except somatization. This finding indicates that longer-term hearing aid use was associated with higher levels of psychiatric symptoms across multiple domains. In addition, daily hearing aid use was positively correlated with the interpersonal sensitivity and depression subscales of the SCL-90-R. No significant association was found between the somatization subscale and either the duration of hearing aid use or daily hearing aid use.

CONCLUSIONS

Our findings suggest that psychological factors are associated with patterns of hearing aid use. Longer duration of hearing aid use was associated with higher levels of psychiatric symptoms across most SCL-90-R dimensions, while greater daily hearing aid use was specifically associated with depressive symptoms and interpersonal sensitivity. These findings highlight the complex interplay between psychological well-being and hearing aid use and suggest that psychiatric assessment may be valuable as part of the comprehensive management of individuals with hearing impairment. Further studies with larger samples and longitudinal designs are needed to clarify the direction and clinical significance of these associations.

KEYWORDS

depression, hearing aids, interpersonal sensitivity

OP-555

Hearing Aid Usage Habits Among Individuals Aged 80 Years and Older

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BACKGROUND & AIM

This study aimed to investigate the relationships among hearing aid outcomes, quality of life, and depressive symptoms in hearing aid users aged 80 years and older, and to evaluate the associations of daily hearing aid use duration and demographic and audiological characteristics with these outcomes.

MATERIAL & METHODS

This cross-sectional study included 50 hearing aid users aged 80–96 years. Participants were initially assessed using the Mini-Mental State Examination (MMSE). Hearing aid outcomes were evaluated using the International Outcome Inventory for Hearing Aids (IOI-HA); quality of life was assessed using the physical health, psychological health, social relationships, and environment domains of the Turkish version of the World Health Organization Quality of Life-BREF (WHOQOL-BREF-Tr); and depressive symptoms were evaluated using the 30-item Geriatric Depression Scale (GDS-30). Demographic and audiological characteristics, as well as hearing aid use characteristics, were recorded. Associations between variables were analyzed using Spearman's rank correlation coefficient. Comparisons between two groups were performed using the Mann–Whitney U test, whereas comparisons among more than two groups were conducted using the Kruskal–Wallis test. For significant Kruskal–Wallis results, Dunn's post-hoc test with Holm correction was applied.

RESULTS

The mean age of the participants was 84.86±3.63 years, and 58.0% were female. The total IOI-HA score showed strong positive correlations with all WHOQOL-BREF-Tr domains, including physical health (r_s=0.848), psychological health(r_s=0.709), social relationships(r_s=0.752), and environment(r_s=0.777) (all p<0.001). Significant differences according to daily hearing aid use duration were observed in IOI-HA scores (p<0.001) and in the physical health (p<0.001), psychological health (p=0.012), social relationships (p<0.001), and environment(p=0.005) domain scores. In particular, individuals who used their hearing aids for less than 1 hour per day had poorer outcomes. No significant correlations were found between GDS-30 scores and IOI-HA scores (r_s=-0.075; p=0.604) or any of the four WHOQOL-BREF-Tr domains (all p>0.05). However, age was significantly and positively correlated with GDS-30 scores (r_s=0.315; p=0.026). No significant differences in the primary outcome variables were observed according to sex, degree of hearing loss, total years of hearing aid use, or unilateral versus bilateral hearing aid use.

CONCLUSIONS

Among hearing aid users aged 80 years and older with Mini-Mental State Examination scores above 24, better hearing aid outcomes were strongly associated with higher quality-of-life scores across the physical, psychological, social, and environmental domains.The association of daily hearing aid use duration with both IOI-HA outcomes and quality-of-life domains highlights the importance of evaluating daily hearing aid use behavior alongside patient-reported outcomes in the auditory rehabilitation of very old adults.These findings support a person-centered approach to hearing rehabilitation in advanced age that integrates audiological assessment with quality-of-life and psychosocial evaluations.

Keywords: Hearing Aids; Geriatric Depression Scale; IOI-HA; Quality of Life; WHOQOL-BREF-Tr

KEYWORDS

Hearing Aid Usage Habits

OP-556

Technology Anxiety and Social Appearance Anxiety as Predictors of Hearing Aid Outcomes

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BACKGROUND & AIM

Hearing aid outcomes are influenced by audiological, technological, and psychosocial factors. Technology anxiety may reduce users' confidence in managing hearing aids, whereas social appearance anxiety may discourage hearing aid use because of concerns about social evaluation and stigma. However, their contribution to patient-reported hearing aid outcomes remains unclear. This study aimed to investigate whether technology anxiety and social appearance anxiety are associated with hearing aid outcomes in adult hearing aid users.

MATERIAL & METHODS

This quantitative, cross-sectional, correlational study was approved by the Lokman Hekim University Scientific Research Ethics Committee (Project No. 2026060; Decision No. 2026/078; February 25, 2026) and conducted in accordance with the Declaration of Helsinki. Adult hearing aid users attending the Department of Otolaryngology were recruited using consecutive sampling. Inclusion criteria were age ≥18 years, hearing aid use for ≥6 months and ≥1 hour/day, mild-to-severe hearing loss, voluntary participation, and absence of cognitive impairment. Participants underwent otolaryngological examination and

audiological assessment and completed a Demographic Information Form, Abbreviated Technology Anxiety Scale (ATAS), Social Appearance Anxiety Scale (SAAS), and International Outcome Inventory for Hearing Aids (IOI-HA). The primary outcome was the IOI-HA total score. ATAS and SAAS were examined as independent variables. Spearman correlation and multiple linear regression analyses were performed, with $p<0.05$ considered statistically significant.

RESULTS

A total of 82 hearing aid users were included. Mean scores were 26.48±9.94 for ATAS, 32.38±13.60 for SAAS, and 27.30±5.78 for IOI-HA. SAAS was moderately and negatively correlated with IOI-HA scores ($\rho=-0.550$; $p<0.001$), whereas ATAS was not significantly correlated with IOI-HA scores ($\rho=-0.145$; $p=0.211$). In univariate regression analysis, SAAS significantly predicted IOI-HA scores ($\beta=-0.572$; $p<0.001$; $R^2=0.327$). In the multiple regression model including SAAS and ATAS, the model explained 34.4% of the variance in IOI-HA scores ($R^2=0.344$). SAAS remained a significant negative predictor ($\beta=-0.572$; $p<0.001$), whereas ATAS was not a significant predictor ($\beta=-0.076$; $p=0.169$). Older age was positively correlated with technology anxiety ($\rho=0.333$; $p=0.003$).

CONCLUSIONS

Social appearance anxiety, but not technology anxiety, was independently associated with poorer patient-reported hearing aid outcomes. These findings highlight the importance of addressing social appearance concerns in hearing aid rehabilitation and counseling.

KEYWORDS

Anxiety HearingAids Intolerance HearingLoss

OP-557

Hearing, Social Connection, And Cognition: Evidence From The ACHIEVE Clinical Trial

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BACKGROUND & AIM

Social connection may mediate an association between hearing loss and cognitive decline. This secondary analysis of the Aging and Cognition Health Evaluation in Elders (ACHIEVE) hypothesizes that hearing care impacts social connection and social connection functions as a mechanistic pathway through which hearing intervention affected cognition among older adults.

MATERIAL & METHODS

ACHIEVE (United States,2018-2022) was a multicenter, parallel-group, unblinded 1:1 randomized controlled trial of 977 community-dwelling older adults (70-84 years) with mild-moderate hearing loss that examined the effects of a best-practice hearing intervention (n=490) versus a health education control (n=487) on 3-year change in cognition. Global cognition (10 test battery), Social (Cohen Social Network Index with network size, diversity, and embedded subcategories), loneliness (UCLA Loneliness scale) were included. The intervention effect of hearing care on social and loneliness outcomes over 3 years were estimated using a 2-level linear mixed-effects model under the intention-to-treat principle. In casual mediation analysis models, each of the social network subdomains and loneliness were operationalized as baseline to 3-year change across separate models to estimate indirect effects. Each indirect effect quantified the extent to which a mediator functioned as a mechanistic pathway between hearing intervention and cognition. Missing data was addressed using multiple imputations by chained equations.

RESULTS

In fully adjusted models, hearing intervention (vs health education control) reduced social isolation (social network size [difference, 1.05; 95%CI,0.01-2.09], diversity [difference, 0.19;95%CI,0.02-0.36], embeddedness [difference, 0.27;95%CI,0.09-0.44], and reduced loneliness [difference, −0.94 95%CI,−1.78 to −0.11]) over 3 years. Results were substantively unchanged in sensitivity analyses by recruitment source. A statistically significant indirect effect was detected for embedded networks ($\beta=0.015$;95%CI,0.001, 0.030, $p=0.036$) in the full sample. Indirect effects for other components were not statistically significant. When stratified by recruitment source, point estimates of the indirect effect were larger among participants recruited from ARIC compared to de novo participants, but none of the indirect effects were statistically significant.

CONCLUSIONS

Best practice hearing care resulted in the retention of 1 additional person in a social network over a 3-year period compared to a healthy education control. The effect of a best-practice hearing intervention on subsequent cognitive function was partially mediated by network embeddedness, which represents the depth of an individual's engagement in different social network domains. These results provide the first preliminary evidence suggesting that social connection functions as a mechanistic pathway through which hearing intervention may reduce cognitive decline in older adults with hearing loss.

KEYWORDS

Hearing, Social, Cognition, Loneliness, Trials

OP-558

Hearing Aid Usage Patterns Among Hearing Aid Users

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BACKGROUND & AIM

This study seeks to identify patterns of hearing aid (HA) use through users' retrospective reports regarding their device use. Specifically, it aims to collect retrospective data—at least one year after fitting—on the contexts in which hearing aids are consistently worn and the situations in which they are removed. Furthermore, the study attempts to explore the common underlying factors associated with both use and non-use among participants in order to better understand hearing aid utilization behaviors.

MATERIAL & METHODS

The target population of the study consists of adult individuals with hearing loss in Turkey who obtained their hearing aids through public or private clinics. The sample includes a total of 150 adult patients who were followed at Lokman Hekim University Hospital and its Audiology Departments and who agreed to participate in data collection. Inclusion criteria were: being 18 years of age or older, having a diagnosed hearing loss, being a native Turkish speaker, and being a hearing aid user.

RESULTS

Identifying underlying subpopulations of hearing aid users is important for understanding how hearing aid use and outcomes are associated with sociodemographic characteristics, auditory differences, and hearing aid–related factors. It is assumed that demographic, audiological, and device-related characteristics of users may vary across different usage conditions (e.g., social activities, gardening, workplace settings, rainy days, exercising), and that these variations may be reflected in self-reported outcomes related to hearing aid use in specific contexts.

CONCLUSIONS

The findings demonstrate that hearing aid users exhibit distinct patterns of use influenced by demographic, socioeconomic, and individual factors. The most prominent finding is that individuals who report regular use of their devices achieve better self-reported outcomes compared to other user groups. Overall, consistent hearing aid use is associated with greater perceived benefit and satisfaction, highlighting the importance of supporting regular use in clinical practice.

KEYWORDS

hearing aids , audiology, Otology, hearing loss.

OP-559

Effects Of Frequency Composition On Temporal Processing In Hearing Aid Users

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BACKGROUND & AIM

High-frequency sensorineural hearing loss reduces consonant perception and speech intelligibility. Frequency-lowering (FL) strategies address this by shifting inaudible high-frequency cues into audible regions. The frequency composition (Fcomp) algorithm keeps high-frequency information while replicating it at lower frequencies, a process that could alter temporal cues. Because temporal processing is critical for speech perception, the aim of this study was to examine the effect of Fcomp on temporal processing and to test the hypothesis that preserving high-frequency information would support temporal abilities in hearing aid users.

MATERIAL & METHODS

Seventeen adults (45-64 years; mean = 55.71) with bilateral, symmetrical, mild-to-moderately severe high-frequency sloping sensorineural hearing loss who had used receiver-in-the-ear (RITE) hearing aids for ≥1 year and no prior FL experience were included in the study. Measurements were conducted in two sessions using participants' own hearing aids: (1) before FL activation (Fcomp off), and (2) after four weeks of daily use with Fcomp on. To assess temporal processing, all participants completed the Random Gap Detection Test (RGDT) at 500, 1000, 2000, and 4000 Hz, which measures temporal resolution, and the Frequency Pattern Test (FPT) and Duration Pattern Test (DPT), which evaluate temporal sequencing. Data were analyzed with paired-sample t-test or Wilcoxon signed-rank test depending on normality, with a significance level set at $p < 0.05$.

RESULTS

After Fcomp activation, FPT performance improved significantly ($p = 0.012$). No significant difference was found in the DPT results ($p = 0.287$). In the RGDT analyses, a significant enhancement in temporal resolution performance was detected only at 4000 Hz ($p = 0.020$); however, no significant differences were found at 500 Hz ($p = 0.467$), 1000 Hz ($p = 0.623$), and 2000 Hz ($p = 0.450$) or in the composite score (average across all frequencies) ($p = 0.380$).

CONCLUSIONS

The improvement in RGDT at 4000 Hz likely reflects increased audibility of high-frequency temporal cues through Fcomp, whereas unchanged lower RGDT frequencies indicate no benefit in those bands. The FPT improvement may stem from better access to high-frequency spectral detail. The absence of DPT changes suggests negligible effects of Fcomp on duration-based tasks. These findings indicate limited improvements of Fcomp on temporal processing.

KEYWORDS

Frequency composition, Frequency lowering, Hearing aids, Temporal processing, Sensorineural hearing loss

OP-560

Perceived Stigma, Hearing Aid Outcomes, Health-Related Quality Of Life

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BACKGROUND & AIM

Hearing loss and hearing aid (HA) use are frequently associated with social stigma, which may negatively influence device benefit and health-related quality of life (QOL). However, the relationship between perceived stigma, HA outcomes, and QOL remains inconsistently characterized in adult HA users. This study aimed to examine the associations between perceived stigma, HA outcomes, and QOL in adults using hearing aids. We hypothesized that higher perceived stigma would be associated with poorer HA outcomes and lower QOL.

MATERIAL & METHODS

This is an ongoing cross-sectional, descriptive-correlational study. Adults aged 18–80 years with a confirmed hearing loss diagnosis, using hearing aids for at least six months, were recruited from otolaryngology and audiology clinics. Data were collected face-to-face using a Sociodemographic/Clinical Information Form, a 9-item hearing loss-related Stigma scale (1–5 Likert), the International Outcome Inventory for Hearing Aids (IOI-HA, 7 items), and the EUROHIS-QOL 8-item scale. Pearson/Spearman correlation analyses examined associations between total scale scores. Preliminary analysis included the first 44 enrolled participants (target sample: 120–150).

RESULTS

The sample (N=44) had a mean age of 45.8±17.8 years (range 18–82), with equal sex distribution (50% female). Mean scores were: Stigma 17.4±7.4 (range 9–45), IOI-HA 28.7±4.4 (range 16–35), and EUROHIS-QOL 30.8±6.8 (range 14–40). No statistically significant correlations were found between Stigma and IOI-HA (r=0.07, p=0.665), Stigma and QOL (r=-0.18, p=0.237), or IOI-HA and QOL (r=0.14, p=0.376).

CONCLUSIONS

In this interim analysis, perceived stigma was not significantly associated with hearing aid outcomes or quality of life, contrasting with some prior literature. This may reflect the limited preliminary sample size and cross-sectional design rather than a true absence of relationship. Data collection is ongoing toward the target sample, and final analyses—including multivariable regression—are planned to clarify these associations.

KEYWORDS

Perceived HearingAids Quality HearingLoss

LARYNGOLOGY

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OP-561

Cumulative Musical Exposure And Early High-Frequency Hearing Loss: Implications For Preventive Screening In Musicians

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BACKGROUND & AIM

This study aimed to evaluate the impact of cumulative musical exposure on hearing thresholds in professional musicians and to determine the role of extended high-frequency audiometry (EHF) in detecting early cochlear vulnerability.

MATERIAL & METHODS

The study included 54 music students and instructors and 30 healthy controls. Participants completed a 16-item questionnaire assessing hearing health awareness and exposure patterns. All subjects underwent extended high-frequency audiometric evaluation covering 0.25–20 kHz. As data were not normally distributed, non-parametric tests (Mann–Whitney U and Kruskal–Wallis) were applied for frequency-based group comparisons. Statistical significance was set at $p<0.05$.

RESULTS

There was no significant difference in age between the musician and control groups ($p=0.092$), indicating comparable demographic characteristics. Musicians demonstrated significantly elevated hearing thresholds compared to controls across multiple frequencies. In the left ear, significant differences were observed between 0.25–8 kHz and particularly within the 12.5–16 kHz range ($p<0.05$). In the right ear, threshold elevations extended from 0.25 kHz up to 20 kHz ($p<0.05$), with the most pronounced differences detected in the 14–16 kHz range. Instrument category was not significantly associated with threshold variation, and no significant left–right asymmetry was identified among violinists. Although age was evaluated as a potential contributing factor, high-frequency threshold elevation appeared to reflect cumulative occupational exposure rather than age-related changes alone. Approximately 76% of musicians reported not using any hearing protection, while only 7% reported regular use. Nearly 48% reported experiencing post-performance tinnitus and/or aural pressure.

CONCLUSIONS

Extended high-frequency audiometry reveals early cochlear vulnerability in professional musicians, particularly within the 14–16 kHz range. Threshold elevation appears to reflect cumulative occupational stress. These findings strongly support incorporating EHF testing into routine preventive screening programs and implementing structured hearing conservation strategies early in musicians' careers.

KEYWORDS

Extended high-frequency audiometry; musicians; occupational noise exposure; cumulative exposure; hearing conservation; cochlear damage.

OP-562

EFFECT OF HYPERICUM PERFORATUM ON WOUND HEALING AFTER VOCAL FOLD INJURY

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BACKGROUND & AIM

Vocal fold function depends on an intact histological structure and a balanced extracellular matrix (ECM) organization. Scar formation post surgery and trauma disrupts the viscoelastic properties of lamina propria, restricts mucosal wave propagation and may lead to persistent voice disorders. Therefore, biological agents that reduce scar formation are of considerable importance. Although Hypericum perforatum is known for its wound-healing effects, its impact on vocal fold scar healing has not yet been investigated. In this study, we evaluated the effects of Hypericum perforatum extract on histopathological healing and ECM remodeling in a rat model of experimentally induced vocal fold injury.

MATERIAL & METHODS

Thirty-five male Sprague–Dawley rats were included in the study. Under endoscopic visualization, we created tissue injury on the left vocal fold of all rats using a laser. The animals were randomly assigned to the following groups: Group A (untreated group, n = 7), Group B (HP extract, n = 14; B1: single dose, B2: four doses), and Group C (pure olive oil, n = 14; C1: single dose, C2: four doses). The right vocal fold of Group A was used as the control group. Treatments were applied to the injured left vocal fold using sponges soaked with the extract or olive oil for 10 minutes. On day 21, all animals were euthanized, and laryngeal tissues were harvested for histopathological examination. Each specimen was semi-quantitatively graded for epithelial regeneration, inflammation, granulation tissue, submucosal fibroblast density, collagen deposition, and elastin content.

RESULTS

Histopathological evaluation demonstrated that in the repeated-dose Hypericum perforatum group (B2), fibroblast density and collagen deposition were significantly reduced compared with the injury-only group, while elastin fiber organization was significantly more regular. In the single-dose Hypericum perforatum group (B1), collagen deposition was significantly reduced compared with the injury group; however, changes in fibroblast density and elastin deposition were not statistically significant. No significant differences were observed among the groups in terms of epithelial regeneration, inflammation or granulation tissue formation. No significant difference was detected between Groups C1, C2 and Group A in terms of extracellular matrix components.

CONCLUSIONS

Traditionally prepared Hypericum perforatum oil extract modulated extracellular matrix remodeling in rat vocal fold injury by limiting fibroblast proliferation and reducing excessive collagen deposition. Preservation of elastin fiber architecture was also observed, suggesting attenuation of excessive fibrotic scar formation. This experimental study is the first in the literature to demonstrate the histological effects of Hypericum perforatum on vocal fold scar healing, thereby providing a pioneering contribution to the field. These findings suggest that Hypericum perforatum may represent a potential adjunctive agent for reducing scar formation following vocal fold surgery.

KEYWORDS

Vocal folds, scar, wound healing, Hypericum Perforatum

OP-563

Laryngeal Pathology In Law Enforcement And Legal Professionals: Does It Mirror Professional Voice Users?

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BACKGROUND & AIM

Professional voice users (PVUs) are known to present with a spectrum of laryngeal disorders that differ from those seen in the broader population of dysphonic patients.[1] In this study, we hypothesised that individuals working in law enforcement and legal professions demonstrate a laryngeal pathology profile more similar to PVUs than to the general dysphonic ENT population.

MATERIAL & METHODS

We performed a retrospective review of all new adult patients from law enforcement and legal backgrounds who attended our tertiary Voice Clinic between December 2010 and December 2025. Patient demographics, diagnostic findings, investigation results, and treatment modalities were extracted and analysed.

RESULTS

A total of 70 patients were included. The mean age was 46 years, with a female-to-male ratio of 21:14. Mean Voice Handicap Index-10 (VHI-10) was 18.7, Reflux Symptom Index (RSI) 19.8, Maximum Phonation Time (MPT) 8.6 seconds, and mean GRBAS score 4.3.

Multiple laryngeal pathologies were present in 60% of patients. The most common diagnosis was muscle tension imbalance (52.8%), comparable to professional voice users (41%) and higher than the general dysphonic population (24.3%). 1 Structural

and neoplastic lesions were identified in 41.4%, exceeding rates in professional voice users (31%) and the general population (29.2%) in the literature. 1 Inflammatory pathology was present in 32.8% and neuromuscular dysfunction in 17.1%.

Management included Speech and Language Therapy in 60% of patients. Phonosurgery was performed in 25.7%, higher than in the general dysphonic population (16.5%). 2 Additional treatments included osteopathy (17.1%) and reflux management (15.7%).

CONCLUSIONS

Law enforcement and legal professionals appear to exhibit a pattern of laryngeal pathology more closely aligned with PVUs than with the general dysphonic population. Muscle tension imbalance and structural abnormalities were the predominant findings. There was a higher requirement for phonosurgical management compared to the reported general population.

KEYWORDS

law enforcement, legal professionals, professional voice users, dysphonia, laryngeal disorders

OP-564

Age-Related Changes In The Cricoarytenoid Unit: A Postmortem Computed Tomography And Histopathology Study

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BACKGROUND & AIM

Preservation of at least one functional cricoarytenoid unit is a prerequisite for open partial horizontal laryngectomy, and advanced age often counts against candidacy. Whether the unit deteriorates structurally with age is unknown, and radiological ageing findings have never been histopathologically validated. We hypothesised that age causes histopathologically demonstrable degeneration and that age-related computed tomography (CT) findings have histopathological counterparts.

MATERIAL & METHODS

Cross-sectional ex vivo postmortem study, Council of Forensic Medicine, Istanbul. Eighty-two consecutive larynges without laryngeal disease, trauma, surgery, radiotherapy or intubation were studied (66 male, 16 female; mean age 56.6 ± 15.6 years, range 31–95). Each larynx underwent high-resolution CT after formalin fixation, then histopathology of both joints and the posterior and lateral cricoarytenoid muscles. Outcomes were CT calcification appearance, surface irregularity/subchondral cysts, joint space width and muscle attenuation, graded independently by two radiologists, plus histopathological inflammation, fibrosis and calcification (0–3). Independent variables were age (continuous) and sex. Analyses comprised sex-adjusted Firth penalized logistic regression, Spearman correlation, Cohen kappa, intraclass correlation, Bland-Altman analysis and Benjamini-Hochberg correction. No primary endpoint was pre-specified; all results are exploratory.

RESULTS

The only age-related CT finding reproduced by both radiologists was the appearance of cricoarytenoid joint calcification (OR 1.63 per 10 years; 95% CI 1.17–2.38; p=0.003), with predicted prevalence increasing from 44% at age 35 to 90% at age 85. No histopathological variable showed a significant association with age. Although CT suggested joint calcification in approximately 70% of cases, histopathological calcification was present in only 8.5% of right and 3.7% of left joints. Independently of age, increasing histopathological fibrosis of the posterior cricoarytenoid muscle was associated with higher CT muscle density in a dose-response pattern (rho=0.290; p=0.008). Cricoarytenoid joint-space width was not associated with age.

CONCLUSIONS

No clear age-related histopathological structural deterioration of the cricoarytenoid unit was demonstrated. CT-detected joint calcification became more frequent with age but often lacked a histopathological correlate, suggesting that chronological age and isolated radiologic calcification should not be used alone as indicators of structural impairment. The correlation between posterior cricoarytenoid muscle fibrosis and CT density also suggests that CT may provide a non-invasive marker of muscle fibrosis.

KEYWORDS

Cricoarytenoid joint; Computed tomography; Histopathology; Aging; Larynx; Postmortem study

OP-565

Clinical Outcomes Of Systemic Bevacizumab In Recurrent Respiratory Papillomatosis: A Preliminary Study From Azerbaijan

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BACKGROUND & AIM

Recurrent respiratory papillomatosis (RRP) remains a surgically driven disease characterized by repeated airway obstruction and high procedural burden. While systemic bevacizumab has emerged as a promising anti-VEGF therapy, optimal dosing strategies and real-world outcomes remain under investigation. This study aimed to evaluate the clinical impact of single-dose systemic bevacizumab on recurrence patterns and surgical burden in pediatric and adult patients with severe RRP.

MATERIAL & METHODS

A retrospective observational series was conducted including five patients (four pediatric, one adult) with confirmed RRP and high surgical dependence. All patients underwent surgical debulking followed by a single intravenous dose of bevacizumab (5–10 mg/kg). No maintenance cycles or repeat dosing were administered.

Clinical follow-up included serial endoscopic examinations and assessment of recurrence requiring surgical intervention. Primary outcome measures included change in inter-surgical interval and duration of clinical remission.

Ethical approval was obtained from the Azerbaijan State Advanced Training Institute for Doctors (Approval No. LAR.4. [10.01.2026], 01.02.2026). Written informed consent was obtained from adult participants and from the legal guardians of pediatric patients.

RESULTS

At the time of abstract submission, follow-up is ongoing. To date, all five patients have demonstrated clinically meaningful prolongation of disease-free intervals following a single systemic dose of bevacizumab.

Pre-treatment recurrence intervals ranged from 2–4 months in aggressive cases. Post-treatment remission currently ranges from 6 to 24 months (median 9 months). Four patients (80%) remain surgery-free to date, and two pediatric patients have maintained sustained remission for 24 months at the time of reporting.

The adult patient with extensive tracheobronchial involvement and a history of 112 prior surgical procedures has achieved a 6-month surgery-free interval thus far, representing the longest interval observed in more than a decade of prior disease activity.

No clinically significant bevacizumab-related adverse events have been observed during the current follow-up period.

CONCLUSIONS

Single-dose systemic bevacizumab was associated with meaningful prolongation of inter-surgical intervals and reduction of procedural burden in both pediatric and adult patients with severe RRP.

Although follow-up is ongoing, early real-world outcomes from this first national experience in Azerbaijan suggest that even a single systemic administration may provide clinically relevant disease suppression in selected surgically dependent patients. Larger prospective studies are required to define optimal dosing strategies and long-term safety.

KEYWORDS

Recurrent respiratory papillomatosis; systemic bevacizumab; anti-VEGF therapy; pediatric RRP; airway papillomatosis; surgical burden; real-world outcomes; Azerbaijan

OP-566

Patient-Perceived Empathy In Otolaryngology: A Randomized Evaluation Of AI-Assisted Consultations

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BACKGROUND & AIM

Patient-perceived empathy is linked with higher satisfaction, improved therapeutic adherence and better patient reported outcomes. AI-based tools may reduce administrative burden and cognitive load, potentially increasing physician attentional availability. However, their impact on validated empathy outcomes in ENT remains limited. The aim of this study is to Patient-perceived empathy is linked with higher satisfaction, improved therapeutic adherence and better patient reported outcomes. AI-based tools may reduce administrative burden and cognitive load, potentially increasing physician attentional availability. However, their impact on validated empathy outcomes in ENT remains limited.

MATERIAL & METHODS

Eighty adult ENT outpatients were randomized to AI-assisted or standard care and completed the Consultation and Relational Empathy (CARE) Measure and Jefferson Scale of Patient's Perceptions of Physician Empathy (JSPPPE) at their first consultation. Patients in AI group provided medical history, symptom severity, and other classical information from the consultation before presenting to the consultation through an AI-mediated consultation (Bingli® system). Patients in the standard care group follow the classical consultation with medical history and other information requested directly by the otolaryngologist. Consultation duration was recorded and groups were compared for empathy outcomes.

RESULTS

A total of 80 patients were included (median age 52 years [41–60]; 63.8% female). AI-assisted consultations were associated with significantly higher patient-perceived empathy on both validated instruments. Median CARE scores were significantly higher in the AI-assisted group (47 [42.5–49.2]) compared with standard consultations (42 [35.8–45]; p = 0.0017; r = 0.35).

Similarly, JSPPPE scores were markedly higher in the AI-assisted group (31 [29.5–35]) compared with controls (25 [22–28]; p < 0.001; r = 0.49). Consultation duration was slightly longer in AI-assisted consultations (14.5 [13–15] minutes) than in standard consultations (13 [10–16] minutes), although this difference did not reach statistical significance (p = 0.072). No significant gender-related differences in empathy perception were observed. Notably, higher scores in the AI-assisted group were consistently observed across all individual items of both empathy scales.

CONCLUSIONS

AI-assisted consultations were associated with higher patient-perceived empathy, without significantly increasing consultation time. Recruitment is ongoing, and final results will be presented at IFOS 2026.

KEYWORDS

Artificial Intelligence; Otolaryngology; Empathy; Patient-physician relationship; Digital Health

OP-567

Acoustic And Perceptual Analysis Of Laryngeal Involvement In Systemic Lupus Erythematosus: Effects Of Disease Activity On Voice Characteristics

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BACKGROUND & AIM

Systemic Lupus Erythematosus (SLE) is a chronic autoimmune disease characterized by multisystem inflammation. Although laryngeal involvement and alterations in voice parameters have been reported in SLE, the relationship between these changes and disease activity remains unclear. This study aimed to evaluate vocal characteristics in patients with SLE using objective acoustic measurements, patient-reported outcome measures, and clinician-based perceptual assessments, and to investigate their association with disease activity.

MATERIAL & METHODS

This prospective, cross-sectional controlled study included 35 patients diagnosed with SLE according to the American College of Rheumatology (ACR) criteria and 35 age- and sex-matched healthy controls (n=70). Sustained /a/ phonation was recorded under standardized conditions. Acoustic analysis included fundamental frequency (F0), jitter, shimmer, harmonics-to-noise ratio (HNR), maximum phonation time (MPT), and s/z ratio. Subjective voice assessment was performed using the Voice Handicap Index-10 (VHI-10), and perceptual evaluation was conducted using the GRBAS scale. Disease activity in the SLE group was assessed using the SLE Disease Activity Index (SLEDAI). Correlation analyses were performed to evaluate the relationship between disease activity, clinical parameters, and voice measures.

RESULTS

Thirty-five SLE patients (30 females, 5 males) were analyzed. Mean F0 was 220 Hz in female patients and 116 Hz in male patients. Group mean jitter (0.28%), shimmer (1.98%), and HNR (24.1 dB) were within normative limits. However, mean maximum phonation time (11.4 seconds) was lower than reported values for healthy adults. No significant correlations were found between SLEDAI scores and F0, jitter, shimmer, HNR, MPT, s/z ratio, or VHI-10 scores (all p>0.05). Disease duration and daily steroid dose were also not significantly associated with voice parameters. In contrast, patients with serositis demonstrated significantly higher shimmer values (2.87 vs 1.91; p=0.014). Additionally, patients receiving mycophenolate mofetil showed higher shimmer values (2.39 vs 1.71; p=0.044).

CONCLUSIONS

Voice parameters in SLE may be independent of overall disease activity; however, specific clinical manifestations and treatment subgroups may exhibit measurable acoustic alterations. Multidimensional voice assessment may contribute to better characterization of laryngeal involvement in SLE. Larger studies are needed to clarify these findings.

KEYWORDS

Systemic Lupus Erythematosus, Laryngology, Voice Analysis, Acoustic Parameters, Disease Activity

OP-568

Regenerating The Vocal Fold: PRP Versus Stem Cell Therapy In An Experimental Model

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BACKGROUND & AIM

Vocal fold injury leads to scarring and impaired vibration, resulting in persistent dysphonia. Regenerative approaches such as platelet-rich plasma (PRP) and stem cell therapy show promising results, yet comparative data remain limited. This study aimed to compare the regenerative effects of PRP and stem cell therapy on vocal fold healing in an experimental model. We hypothesized that both treatments would improve tissue regeneration compared to controls, with differences in extracellular

matrix organization and inflammation. These findings may guide future clinical applications and optimize treatment strategies for vocal fold disorders and improve patient outcomes in clinical practice settings worldwide and beyond.

MATERIAL & METHODS

An experimental study was conducted using an established animal model of vocal fold injury. Subjects were randomly assigned to three groups: control, PRP-treated, and stem cell-treated. Standardized vocal fold injury was induced under general anesthesia. In the treatment groups, PRP or stem cells were injected into the injured vocal fold immediately after injury. Animals were sacrificed at predefined time points for histopathological and immunohistochemical analysis. Outcome measures included epithelial regeneration, collagen deposition, inflammatory cell infiltration, and vascularization. Additionally, extracellular matrix organization was evaluated using specific staining techniques. Blinded observers performed all assessments to minimize bias. Statistical analysis was conducted to compare differences between groups, with significance set at $p<0.05$. This methodology allowed for a controlled comparison of regenerative effects between PRP and stem cell therapies.

RESULTS

Both PRP and stem cell groups demonstrated significantly improved healing compared to the control group. Histological analysis revealed enhanced epithelial regeneration and reduced inflammatory infiltration in the treatment groups. The PRP group showed moderate improvement in collagen organization and vascularization, whereas the stem cell group demonstrated more organized extracellular matrix structure and lower fibrosis levels. Quantitative analysis indicated significantly decreased inflammatory markers and improved tissue architecture in both treatment groups ($p<0.05$). The stem cell group exhibited superior outcomes in terms of collagen alignment and reduced scar formation compared to PRP. No adverse effects were observed in any group. Overall, regenerative therapies contributed to improved structural and functional recovery of the vocal folds, with stem cell therapy showing a more pronounced effect.

CONCLUSIONS

Both PRP and stem cell therapies enhance vocal fold healing by promoting tissue regeneration and reducing inflammation. While PRP provides beneficial effects, stem cell therapy appears to offer superior outcomes in terms of extracellular matrix organization and fibrosis reduction. These findings suggest that stem cell-based approaches may represent a more effective strategy for the treatment of vocal fold injuries. However, further studies are needed to evaluate long-term functional outcomes and to translate these results into clinical practice. Comparative clinical trials will be essential to determine the optimal regenerative treatment and to establish standardized protocols for patient management in laryngology.

KEYWORDS

Vocal fold, PRP, stem cell therapy, regeneration, fibrosis, dysphonia, larynx, experimental model

OP-569

The Effect Of A Patient-Specific Dental Guard On Upper Dental Injury In Microlaryngeal Surgery

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BACKGROUND & AIM

Microlaryngeal surgery requires rigid transoral instrumentation and suspension laryngoscopy, during which the maxillary teeth, gingiva, lips, tongue, and oropharyngeal mucosa may be exposed to considerable mechanical stress. Dental trauma is a clinically relevant complication of this procedure. This study aimed to evaluate whether a patient-specific upper dental guard reduces postoperative traumatic dental findings compared with a standard silicone dental guard in patients undergoing microlaryngeal surgery.

MATERIAL & METHODS

This two-center, prospective, controlled clinical study was conducted in patients scheduled for microlaryngeal surgery under general anesthesia. All patients underwent preoperative dental and periodontal assessment by the same dentist. Patients were allocated to either the study group, in which a patient-specific upper dental guard was fabricated using a 3.0-mm soft thermoplastic material based on maxillary dental impressions, or the control group, in which a standard silicone dental guard was used. Demographic characteristics, operative duration, periodontal status, dental vitality, overjet, overbite, and mouth opening were recorded. Postoperative dental evaluation was performed within three weeks by the same dentist, who was blinded to group allocation. The primary outcome was the presence of newly developed postoperative traumatic dental findings. Secondary outcomes included dental vitality changes, postoperative pain/sensitivity assessed with the visual analogue scale (VAS), periodontal deterioration, and the relationship between dentoalveolar measurements and traumatic dental findings.

RESULTS

Results: A total of 31 patients were analyzed: 13 in the patient-specific dental guard group and 18 in the standard guard group. The groups were comparable regarding demographic, clinical, periodontal, vitality, and dentoalveolar characteristics. Newly developed traumatic dental findings occurred in 1 patient in the study group (7.7%) and 8 patients in the control group (44.4%),

with a significantly lower incidence in the patient-specific guard group (p=0.045). New dental vitality loss was observed in 2 patients in the study group (15.4%) and 1 patient in the control group (7.7%), without statistical significance (p=1.000). Postoperative VAS scores and periodontal deterioration rates were similar between groups. No significant association was found between traumatic dental findings and dentoalveolar measurements.

CONCLUSIONS

The use of a patient-specific upper dental guard significantly reduced the incidence of newly developed traumatic dental findings compared with a standard silicone dental guard in patients undergoing microlaryngeal surgery. However, no significant differences were observed between groups in terms of dental vitality changes, postoperative pain/sensitivity, periodontal deterioration, or dentoalveolar measurements. Patient-specific dental guards may provide a clinically useful protective strategy against dental trauma during microlaryngeal surgery, although larger multicenter studies with longer follow-up are needed to confirm these findings and evaluate long-term pulpal and periodontal outcomes.

KEYWORDS

Microlaryngeal surgery; suspension laryngoscopy; dental trauma; dental guard; patient-specific mouthguard; dentoalveolar injury; vocal fold surgery

OP-570

Idiopathic Subglottic Stenosis And GLP-1 Receptor Agonists: Attitudes, Barriers And Facilitators

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BACKGROUND & AIM

Idiopathic subglottic stenosis (iSGS) is a rare disease of unknown etiology. There has been growing interest within the patient community regarding the potential therapeutic role of GLP-1 receptor agonists (GLP-1 RA) in iSGS, through both weight loss-mediated and direct anti-inflammatory mechanisms. The objective of our study was to analyze patient's perspective and attitudes towards the possible benefits and impact of GLP-1 RA on the global management of iSGS.

MATERIAL & METHODS

We conducted a cross-sectional observation study through a structured online anonymous survey, that allowed us to understand patient's perspective and attitude towards GLP-1 RA. The survey comprised 53 items organized across four domains: demographics;attitudes, barriers and facilitators to GLP-1 RA use;therapy details and adverse effects; and perceived therapeutic impact.

RESULTS

A total of 1382 patients with iSGS completed the survey. Diagnostic delay of iSGS was a prominent finding, with patients reporting a substantial lag between symptom onset and confirmed diagnosis. Overall, 407 patients used GLP-1 RA therapy. Among these patients, a significant proportion reported a perceived reduction in airway symptoms and reduced time interval between procedures following initiation of GLP-1 RA. Key barriers included cost, access, and limited physician awareness. Thematic analysis revealed patients' attitudes toward GLP-1 RA therapy were largely favorable, with patients citing anti-inflammatory benefits and quality of life improvements as primary motivators for use.

CONCLUSIONS

GLP-1 RA is positively perceived amongst iSGS patients, as it may reduce subjective symptoms and increase the inter-dilation interval. More research will be needed to establish the mechanistic basis of therapeutic benefit and clinical management details.

KEYWORDS

Airway management; Glucagon-Like Peptide-1 Receptor Agonists; idiopathic subglottic stenosis; patient outcome assessment; weight loss.

OP-571

The Effectiveness Of Non-Selective Recurrent Laryngeal Nerve Reinnervation In The Treatment Of Unilateral Vocal Cord Paralysis: A Comparative Retrospective Study With Combined Medialization Laryngoplasty And Arytenoid Adduction

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BACKGROUND & AIM

This study aims to compare the outcomes of medialization laryngoplasty combined arytenoid adduction (ML+AA) and non-selective laryngeal reinnervation (NSLR) in patients with unilateral vocal fold paralysis presenting with arytenoid malposition, vocal fold atrophy, and interfold level asymmetry.

MATERIAL & METHODS

Data from patients who underwent ML+AA or NSLR surgery due to unilateral vocal cord paralysis between July 1, 2024, and July 1, 2025, were retrospectively reviewed. Based on subjective (GRBAS and CAPE-V) and objective voice assessments (Acoustic Voice Quality Index (AVQI), Cepstral Peak Prominence (CPPS/a/), Maximum Phonation Time (MPT), Jitter, Shimmer) and questionnaire-based measurements (Voice Handicap Index(VHI-30), Voice-related quality of life (V-RQOL)) conducted preoperatively and at 1, 3, 6 and 12 months postoperatively, the effects of both surgical methods on voice quality were compared.

RESULTS

Statistically significant improvement in the ML+AA group was only observed in the Acoustic Voice Quality Index (AVQI) and GRBAS parameters ($p<0.032$, $p<0.022$) . In contrast, statistically significant improvements were obtained in the NSLR group in sound quality assessment parameters such as VHI-30, V-RQOL, MPT, CAPE-V, GRBAS, CPPS/a/, and AVQI, and the effect sizes of these changes were determined to be high ($p<0.003$, $p<0.001$, $p<0.005$, $p<0.001$, $p<0.001$, $p<0.001$, $p<0.001$). Only the two youngest patients who underwent NSLR demonstrated complete perceptual voice recovery, with scores of 0 on the average GRBAS and CAPE-V assessments. Additionally, no improvement was observed in any parameter for the oldest patient who underwent NSLR. No statistically significant change was observed in the EAT-10 questionnaire scores used to assess swallowing function in either group (NSLR; $p> 0.184$, ML+AA; $p>0.244$); however, patients who underwent ML+AA achieved average EAT-10 scores within the normal range.

CONCLUSIONS

Both surgical methods improve voice quality in appropriate patients with unilateral vocal fold paralysis. However, the NSLR method is considered a more reliable and effective option for achieving normal or near-normal voice quality, while ML+AA appears to have a potentially greater positive impact on swallowing function.

KEYWORDS

Non-selective laryngeal reinnervation (NSLR), unilateral vocal cord paralysis (UVFP), medialization laryngoplasty with arytenoid adduction (ML+AA)

OP-572

Voice Alterations And Laryngeal Function Assessment In Patients With Multiple Sclerosis

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BACKGROUND & AIM

Multiple Sclerosis (MS) is a demyelinating disorder of the central nervous system that affects motor, sensory, and cognitive functions and may also impair vocal fold function, leading to disturbances in speech and voice production. Although dysarthria and dysphonia are common in patients with MS, comprehensive objective laryngological evaluations of vocal fold function remain limited. In particular, multidisciplinary investigations integrating acoustic analysis, videostroboscopic examination, and patient-reported outcome measures are scarce in the current literature.

MATERIAL & METHODS

After obtaining approval for the study from the University Local Ethics Committee, firstly MS patients were examined using objective (acoustic parameters and maximum phonation time(MPT)), perceptual (GRBAS scale), and subjective (Voice Handicap Index) measures and to compare the findings with those of a healthy control group. In addition, flexible laryngoscopy and videolaryngostroboscopy will be performed to assess vocal fold mobility, glottic closure patterns, and vibratory characteristics in detail. The obtained data will be analyzed in relation to neurological disability severity, as determined by the Expanded Disability Status Scale (EDSS).

RESULTS

Forty healthy patients and forty MS patients were included in the evaluation. Care was taken to ensure that the age and gender characteristics of the patients in the groups were similar. It was observed that MPT scores were lower in MS patients compared to the healthy group, and GRBAS scores were also significantly worse. No significant pathology was detected in laryngostroboscopic evaluations compared to the healthy group. Evaluation of disease severity and voice parameters and statistical studies are still ongoing.

CONCLUSIONS

This study aimed to facilitate the identification of subclinical laryngeal dysfunction in MS patients, clarify the relationship between voice parameters and disease severity, and demonstrate that these measurements can be used as potential biomarkers for the early detection of bulbar involvement. The findings can contribute to the development of early diagnosis

and rehabilitation strategies for MS with simple telephone applications, especially in the digital age, and shed light on clinical approaches aimed at improving quality of life in this patient population.

KEYWORDS

Expanded Disability Status Scale, Multiple Sclerosis, Maximum Phonation Time, Voice Handicap Index, Videolaryngostroboscopy

OP-573

Challenges In The Surgical Management Of Recurrent Laryngeal Papillomatosis

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BACKGROUND & AIM

Recurrent laryngeal papillomatosis (RLP) is a rare benign pathology caused by Human Papilloma Virus (HPV), especially type 6 and 11. The disease has two forms: adult onset and juvenile onset with the latter being more aggressive. The course of laryngeal papillomatosis is variable and unpredictable when it comes to recurrence and sites of further involvement. The symptomatology is characterized by dysphonia and -rarely- by dyspnea, when the lesions affect the glottis. The treatment of choice is surgical resection of the lesions with CO2 laser; in cases with multiple recurrences adjuvant therapies (HPV vaccination, immunotherapy) are also considered.

MATERIAL & METHODS

The aim of this presentation is to emphasize the challenges of the surgical management of RLP and illustrate them with selected clinical cases. The recurrence rate, the location and the extent of the lesions beyond the larynx might be elements that increase the complexity and difficulty of the surgical procedure.

RESULTS

Surgical resection of the lesions with CO2 laser is suitable for most cases; for tumor ablation though, photoangiolytic lasers can also be taken into account. Due to the high rate of recurrence multiple surgeries are often necessary.

CONCLUSIONS

Surgical resection with CO2 laser represents the treatment of choice in RLP. Constant endoscopic follow-up of the patients is required for early detection of the recurrent lesions and prompt resection. Adjuvant therapies are available; nevertheless, their effectiveness in terms of increasing the timeframe between surgeries is variable.

KEYWORDS

Recurrent laryngeal papillomatosis, CO2 laser surgery

OP-574

Lrig1-Expressing Quiescent Stem Cells Sustain Vocal Fold Mucosal Homeostasis And Exhibit Organoid-Forming Capacity

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BACKGROUND & AIM

Identifying progenitor cells in laryngeal and vocal fold (VF) mucosa is essential for advancing stem cell–based therapies for VF diseases. In this study, we used Lrig1 (leucine-rich repeats and immunoglobulin-like domains 1) gene to label tissue-resident stem cells within laryngeal and VF mucosa, aiming to investigate cellular networks underlying VF homeostasis and regeneration.

MATERIAL & METHODS

To investigate the role of Lrig1 expressing cells in laryngeal and VF tissues, we combined lineage tracing in Lrig1CreERT2/+;ROSALSL-tdTomato/+ reporter mice with single-cell RNA sequencing (scRNA-seq) of flow cytometry-sorted tdTomato$^+$ (tdTom) cells. This approach enabled spatial characterization and transcriptional profiling of Lrig1 cells. In addition, we induced epithelial injury using naphthalene to assess the regenerative contribution of Lrig1-expressing cells in vivo. To identify LRIG1$^+$ cells in human VFs, we performed histological analyses. Finally, to test the regenerative properties of Lrig1$^+$ cells in vitro, tdTom$^+$ cells were isolated and cultured to generate organoids.

RESULTS

Our data demonstrate, that Lrig1$^+$ cells exhibited hallmark features of quiescent stem cells—including slow cycling, long-term persistence, and differentiation potential—and contributed to sustained VF epithelial homeostasis and repair after naphthalene injury. By one week post-injury, Lrig1$^+$ progeny restored the VF epithelium. Transcriptionally, these cells

suppressed cell type specific genes and proliferation while activating global transcriptional programs related to RNA metabolism, epigenetic regulation, and protein ubiquitination, consistent with quiescence and readiness for activation. Lrig1$^+$ cells were enriched in basal, parabasal, and immature secretory populations within surface epithelium and submucosal glands, residing in niches characterized by transcriptional flexibility and spatial shielding from direct stress - features that likely prevent premature or chronic mobilization. Notably, analogous Lrig1 expressing cells were identified in human laryngeal and VF tissues, highlighting the translational relevance of our findings. When cultured in vitro, these cells are capable of assembling into organoids that fully re-establish epithelial stratification.

CONCLUSIONS

In summary, Lrig1 marks a conserved, quiescent stem cell population in the larynx and VFs that supports long-term tissue homeostasis and repair. These cells can be harnessed to create a novel experimental system for investigating the mechanisms underlying laryngeal and VF diseases.

KEYWORDS

Quiescent stem cells, vocal fold homeostasis, regeneration, organoids

OP-575

Tezepelumab In Refractory Eosinophilic Sialodochitis Associated With Severe Asthma: A Multidomain Case Follow-Up

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BACKGROUND & AIM

Eosinophilic sialodochitis is a rare obstructive inflammatory disorder of the major salivary glands, characterized by recurrent gland swelling, eosinophil-rich mucus plugs and frequent atopic comorbidity. Evidence on biologic therapy is scarce and has mainly involved IgE, IL-4/IL-13 or IL-5/IL-5Rα targeting. Tezepelumab blocks thymic stromal lymphopoietin, an upstream epithelial alarmin involved in type 2 inflammation. This report aims to describe, to our knowledge, the first multidomain follow-up of refractory eosinophilic sialodochitis after initiation of tezepelumab for severe uncontrolled asthma.

MATERIAL & METHODS

We report the prospective follow-up of a woman with refractory eosinophilic sialodochitis, defined by recurrent obstructive swelling of the major salivary glands, ductal involvement, eosinophil-rich salivary material and exclusion of relevant differential diagnoses. The patient also had severe uncontrolled asthma, with insufficient response to conventional therapy and previous anti-IL-5Rα biologic treatment. Tezepelumab was initiated for the respiratory indication. A standardized six-month multidomain assessment was designed. Asthma control was evaluated using the Asthma Control Test and Asthma Control Questionnaire. Sinonasal disease burden was assessed using the 22-item Sino-Nasal Outcome Test. Salivary disease-related quality of life was evaluated using the Chronic Obstructive Sialadenitis Questionnaire, applied at gland level.

RESULTS

This structured follow-up allowed simultaneous assessment of lower airway, sinonasal and major salivary gland outcomes after upstream TSLP blockade. The multidomain approach enabled evaluation of whether clinical response was concordant across inflammatory compartments or dissociated between asthma control, sinonasal burden and obstructive salivary symptoms. The use of a salivary-specific questionnaire allowed glandular disease activity to be assessed independently, rather than inferred from respiratory or sinonasal outcomes. This is particularly relevant because ductal obstruction, mucus plug formation and chronic glandular inflammation may influence treatment response differently from airway disease.

CONCLUSIONS

This preliminary case report explores the use of tezepelumab in eosinophilic sialodochitis associated with severe refractory asthma. TSLP inhibition represents a conceptually distinct strategy from direct eosinophil depletion, acting on an upstream epithelial target involved in several type 2 inflammatory pathways. In multisystem eosinophilic disorders, therapeutic response should be evaluated with organ-specific outcome measures. Salivary-specific instruments may help characterize disease activity and define the potential role of biologic therapy in this rare condition.

KEYWORDS

Eosinophilic sialodochitis; tezepelumab; TSLP; biologic therapy; severe asthma; type 2 inflammation; salivary glands; COSQ.

OP-576

Association Between Extended High-Frequency Hearing Thresholds And Tonal Perception In Professional Musicians

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BACKGROUND & AIM

Professional musicians are exposed to prolonged high sound levels, increasing the risk of early high-frequency cochlear changes. While extended high-frequency (EHF) audiometry can detect subtle peripheral hearing shifts, it remains unclear whether such changes affect functional auditory performance. Tonal discrimination is essential for musical accuracy and auditory processing. This study aimed to investigate the association between extended high-frequency hearing thresholds and tonal perception performance in professional musicians.

MATERIAL & METHODS

Fifty-four professional musicians underwent EHF audiometry (0.25–20 kHz). For standardization purposes, 30 age-comparable individuals without regular noise exposure also underwent EHF assessment. Musicians were categorized according to their mean 14–16 kHz threshold (≥20 dB vs <20 dB).Tonal perception was evaluated using a 15-item same/different discrimination task consisting of paired three-note melodic motifs. In “different” trials, one note was altered by one semitone. Stimuli were generated using a Kawai ES120B digital piano and recorded via direct line connection (Behringer UMC204HD) into Cubase 12. Files were stored in WAV format (24-bit, 44.1 kHz). Playback was delivered through M-Audio Forty Sixty active studio monitors at approximately 70–80 dB SPL in a controlled indoor environment. Total tonal scores (0–15) were calculated for analysis.

RESULTS

Among musicians, 13 participants demonstrated elevated EHF thresholds (≥20 dB at 14–16 kHz), while 41 had lower thresholds. Tonal discrimination performance showed minimal variability, with nearly all musicians achieving maximum scores. No significant difference in tonal performance was observed between musicians with elevated and non-elevated EHF thresholds (Mann–Whitney U, p=1.00). Correlation analysis between mean 14–16 kHz thresholds and tonal scores did not reveal a significant association. These findings indicate that early high-frequency threshold elevations were not associated with impairment in basic tonal discrimination within this trained cohort.

CONCLUSIONS

EHF threshold elevations were not associated with reduced basic tonal discrimination performance in professional musicians. These results suggest that early cochlear changes may not immediately translate into measurable deficits in simple tonal perception tasks. A possible dissociation between peripheral auditory sensitivity and functional auditory performance may exist in trained musicians. More sensitive psychoacoustic measures may be required to detect subtle perceptual consequences of early high-frequency hearing changes.

KEYWORDS

Extended high-frequency audiometry, tonal perception, professional musicians, hearing thresholds

OP-577

Our Clinical Approach To Patients With Bilateral Vocal Cord Paralysis: A 10-Year Retrospective Review

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BACKGROUND & AIM

Bilateral vocal cord paralysis (BVCP) is a critical clinical condition that poses significant challenges for airway safety and laryngeal functions. Management strategies vary widely depending on etiology, symptom severity, and patient-specific requirements. This study aims to evaluate the demographic characteristics, etiological distribution, and treatment outcomes of patients diagnosed, treated, and followed up for BVCP in our tertiary academic center

MATERIAL & METHODS

A retrospective chart review was conducted on 47 patients treated for BVCP between January 2016 and December 2025. Patient demographics, etiology, the time interval between etiology and first intervention, primary and secondary treatment modalities, types of endolaryngeal surgery, the total number of interventions, and recent follow-up status were analyzed.

RESULTS

The cohort comprised 38 females (80.9%) and 9 males (19.1%), with a mean age of 50 years. Surgical trauma (predominantly thyroidectomy) was the leading cause of BVCP (n=38, 80.9%), followed by idiopathic (n=4, 8.5%), malignant (n=2, 4.3%), and neurological (n=2, 4.3%) etiologies. No cases were linked to endotracheal intubation. The mean time from etiology to initial treatment was 54 months.

Primary treatments included tracheotomy (n=17, 36.2%), botulinum toxin injection (n=16, 34.0%), and endolaryngeal laser surgery (n=11, 23.4%). Most patients required multiple, staged procedures (n=39, 83.0%), averaging 3.4 interventions. In secondary treatments, endolaryngeal laser surgery was the most frequent modality (n=24, 61.5%). Posterior cordotomy was the most common endolaryngeal procedure utilized in both primary (n=12) and secondary (n=15) interventions, showing a 40% revision rate, compared to 7.7% for arytenoidectomy. The overall decannulation rate was 77.2% (17/22).

CONCLUSIONS

Surgical trauma remains the primary etiology of BVCP, and the vast majority of patients require custom-tailored, staged, and multi-modal interventions. Endolaryngeal laser surgery, specifically posterior cordotomy, serves as a highly effective and

preferred tool in both primary and revision settings. Long-term follow-up and adaptive, symptom-driven management are essential to achieving a safe airway while preserving functional voice quality.

KEYWORDS

Bilateral vocal cord paralysis, Posterior cordotomy, Botulinum toxin, Tracheotomy, Decannulation, Surgical trauma

OP-578

MANAGEMENT OF TRACHEAL STENOSIS IN EMERGENCY SITUATIONS VIA A NOVEL TECHNIQUE

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BACKGROUND & AIM

Tracheal stenosis is one of the most formidable situations in medicine and is encountered in ENT emergencies. We introduce here our method of emergency hand-held rigid zero-degree Hopkins endoscope-guided endotracheal tube placement through tracheostoma

MATERIAL & METHODS

This technique is performed in the supine, or rose positionA hand-held rigid Hopkins zero degree 4mm endoscope attached to battery operated light source istaken and introduced into the previously made tracheostoma. The level of the stenosis below the tracheostoma and the grade of stenosis is visualized through the eyepiece. Then the endotracheal tubewas prepared and an endoscope was introduced into the tube. The endotracheal tube was pushed through the tracheostoma bypassing the stenotic segment by direct visualization. Later once the airway is secured, defenetive treatment like coablation stenotic release, stenting etc can be done.

RESULTS

We have encountered 6 cases with tracheal stenosis at the level of the thoracic trachea. The cause for developing tracheal stenosis is post-decannulation following tracheostomy for neurological cause. All patients presented to ENT emergency with stridor. All patients underwent uneventful tracheostomal endotracheal tube placement and stridor was immediately ceased.

CONCLUSIONS

In the case of Tracheal Stenosis showing severe stridor, the clinician should perform airway maintenance even in an emergency or OPD setting apart from a more monitored environment like an operation theatre. This technique resembles the usual endoscopy and can be done in an ENT opd or emergency room. . This method is also less invasive for patients.

KEYWORDS

Tracheal stenosis; decannulation, stridor; endoscopy

OP-579

Multifactorial Pathophysiology Of Globus Pharyngeus: Psychological Distress, Laryngopharyngeal Reflux, And Muscle Tension Dysphonia

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BACKGROUND & AIM

Globus pharyngeus is considered a multifactorial disorder involving psychological distress, laryngopharyngeal reflux (LPR), and laryngeal muscle dysfunction. Previous studies demonstrated significant associations between globus symptoms and anxiety/depression, while others suggested a possible role of muscle tension dysphonia and LPR in symptom generation. However, the relationship between psychological distress, reflux findings, and videolaryngoscopic muscle tension patterns remains unclear. This study aimed to evaluate the association between Glasgow Edinburgh Throat Scale (GETS) and Hospital Anxiety and Depression Scale (HADS) scores, laryngopharyngeal reflux findings, and Morrison–Rammage muscle tension patterns in patients with globus pharyngeus

MATERIAL & METHODS

This prospective observational study included adult patients diagnosed with globus pharyngeus in a tertiary otorhinolaryngology clinic. Demographic data, smoking status, and reflux-related symptoms were recorded. Patients who smoked, under 18 years of age, and patients with a mass larger than 1 cm in the neck detected by any imaging method were removed.Symptom severity was assessed using the Glasgow Edinburgh Throat Scale (GETS), while psychological status was evaluated with the Hospital Anxiety and Depression Scale (HADS). Laryngopharyngeal reflux findings were assessed using videolaryngoscopy and Reflux Finding Score criteria. Videolaryngoscopic examinations were independently reviewed for

Morrison–Rammage muscle tension patterns (Types I–IV). Associations between GETS scores, HADS scores, reflux findings, and muscle tension patterns were analyzed. Correlation and subgroup analyses were performed to determine whether globus symptoms were predominantly associated with psychological distress, laryngeal muscle hyperfunction, or reflux-related pathology.

RESULTS

The total of 72 patients with globus pharyngeus were included in the study. GETS scores showed a significant positive correlation with HADS-anxiety ($r=0.61$, $p<0.001$) and HADS-depression scores ($r=0.54$, $p<0.001$). Patients with high psychological distress demonstrated significantly higher symptom severity compared to those with low HADS scores ($p<0.001$). Although mild laryngopharyngeal reflux findings were detected in 38.1% of patients, Reflux Finding Scores were not significantly associated with GETS severity ($p=0.27$). Morrison–Rammage muscle tension patterns were observed in 29.8% of patients; however, no significant relationship was found between muscle tension type and globus symptom severity ($p=0.34$). These findings suggest that globus pharyngeus is more strongly associated with psychological distress than with objective laryngeal pathology or reflux-related abnormalities.

CONCLUSIONS

The findings of this study support the multifactorial nature of globus pharyngeus; however, psychological distress appears to play a more prominent role than objective laryngeal pathology or reflux-related abnormalities. Consistent with previous literature, higher anxiety and depression scores were strongly associated with increased globus symptom severity, whereas videolaryngoscopic muscle tension patterns and laryngopharyngeal reflux findings showed limited clinical significance. These results suggest that globus pharyngeus should be considered predominantly a functional and stress-related disorder, highlighting the importance of psychological assessment in the diagnostic and therapeutic approach to affected patients.

KEYWORDS

Globus pharyngeus, Muscle Tension Dysphonia, Psychological Distress, Laryngopharyngeal Reflux, Glasgow Edinburgh Throat Scale, Hospital Anxiety and Depression Scale, Morrison–Rammage muscle tension patterns

OP-580

Retrospective Analysis Of Patient Management With Subglottic Stenosis

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BACKGROUND & AIM

Subglottic stenosis is a challenging clinical entity characterized by the narrowing of the airway due to congenital or acquired etiologies. Currently, prolonged intubation is recognized as the most prevalent iatrogenic etiological factor. While laryngoscopy remains the gold standard for diagnosis, treatment planning is strictly individualized based on the localization, length, and Cotten-Meyer grade of the stenosis. The aim of this study is to contribute to the current literature by analyzing the demographic characteristics, treatment modalities, and surgical outcomes of patients with subglottic stenosis followed in our clinic over a 14-year period.

MATERIAL & METHODS

In this study, the data of patients diagnosed with subglottic stenosis at a tertiary referral center between August 2013 and March 2026 were retrospectively reviewed. Patients' demographic data, etiological factors, comorbidities, and presenting clinical findings were recorded. The characteristics of the stenosis were determined through preoperative radiological (CT) and endoscopic evaluations. Surgical techniques performed (dilatation, reconstruction, resection, etc.), postoperative complications, and the requirement for revision surgeries were analyzed.

RESULTS

A total of 24 patients (17 males, 7 females) were included in the study, with ages ranging from 1 month to 60 years. 45.8% (n=11) of the patients were in the pediatric age group. According to the Cotten-Meyer grading system, 12.5% (n=3) were diagnosed with Grade 1, 66.6% (n=16) with Grade 2, 12.5% (n=3) with Grade 3, and 8.3% (n=2) with Grade 4 stenosis. The three most frequently performed surgical techniques were balloon dilatation in 66.6% (n=16), laser surgery in 45.8% (n=11), and cold dissection with micro-scissors in 12.5% (n=3) of the cases. A history of recurrent surgery was present in 12.5% (n=3) of the patients, and revision surgery was recorded three times in one specific case. While balloon dilatation was the most preferred adjuvant method in endoscopic interventions, the use of laser was particularly prominent in the adult group and in recurrent cases.

CONCLUSIONS

In the management of subglottic stenosis, the stage and duration of the stenosis and the patient's age play a critical role in the selection of treatment modalities. Our study indicates that minimally invasive endoscopic balloon dilatation and laser applications are implemented as primary options with high success rates, particularly in low-grade (Grade 1-2) stenoses. Conversely, open surgical techniques and resection procedures remain the mainstay of treatment for advanced-stage (Grade

3-4) or recurrent stenoses. A multidisciplinary approach and individualized treatment planning based on the anatomical characteristics of the stenosis are essential for enhancing surgical success and minimizing complication rates.

KEYWORDS

Dilatation, Laryngostenosis, Retrospective Studies, Tracheal Stenosis.

OP-581

COMPARISON OF METHYLPREDNISOLONE AND TOCILIZUMAB IN THE PREVENTION OF LARYNGOTRACHEAL STENOSIS FOLLOWING A SUBGLOTTIC TRAUMA MODEL IN RATS

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BACKGROUND & AIM

Laryngotracheal stenosis (LTS) is a challenging disease to manage due to its multifactorial pathogenesis, inflammatory nature, and high recurrence rates. Despite surgical interventions, additional medical therapies are often required. This study aimed to investigate the effect of interleukin-6 (IL-6) blockade on the development of laryngotracheal stenosis in an experimental subglottic stenosis model and to compare the histopathological and morphometric effects of systemic tocilizumab and methylprednisolone.

MATERIAL & METHODS

In this experimental study, 33 female Sprague– Dawley rats were randomly divided into three groups after creation of a subglottic stenosis model. The control group underwent surgery alone, while the other groups received intraperitoneal methylprednisolone (2 mg/kg) or tocilizumab (2 mg/kg) following surgery. Animals were sacrificed on day 10, and laryngotracheal segments were excised. Luminal stenosis percentage was calculated using area-based morphometric measurements. Histopathological evaluation included semi-quantitative scoring of inflammation, fibroblast proliferation, collagen formation, and neovascularization. Statistical analyses were performed using Kruskal–Wallis and Fisher's exact tests ($p<0.05$).

RESULTS

No statistically significant differences were observed among groups in terms of inflammation or neovascularization ($p=0.354$ and $p=0.669$, respectively). Severe inflammation was detected in the control and methylprednisolone groups but was not observed in the tocilizumab group. Fibroblast proliferation differed significantly between groups ($p=0.005$); severe fibroblast activity was predominant in the control group, whereas no severe proliferation was observed in the methylprednisolone or tocilizumab groups. Although collagen formation did not differ significantly among groups, severe collagen deposition was seen only in the control group. No statistically significant differences were found in luminal stenosis or wall thickness measurements; however, the tocilizumab group demonstrated a trend toward lower stenosis values.

CONCLUSIONS

Both methylprednisolone and tocilizumab significantly reduced fibroblast proliferation, while their effects on inflammation and stenosis were limited. Tocilizumab may be considered a potential agent that modulates the progression of inflammatory and fibrotic processes in laryngotracheal stenosis.

KEYWORDS

Laryngotracheal stenosis, tocilizumab, methylprednisolone, fibroblast proliferation, IL-6.

OP-582

Turkish Validation Of The Reflux Sign Assessment-10 Scale

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BACKGROUND & AIM

The aim of this study was to evaluate the psychometric properties of the Turkish version of the Reflux Sign Assessment-10 scale in a sample of patients and healthy controls, specifically assessing internal consistency, construct validity, and discriminant validity.

MATERIAL & METHODS

A prospective, cross-sectional case-control study design was employed. The internal consistency of the scale was evaluated using Cronbach's alpha coefficient with 95% confidence intervals. To assess construct validity, the suitability of the dataset for factor analysis was verified using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity.

RESULTS

A total of 110 participants were analyzed (patients n = 57, controls n = 53). Gender distribution was similar between groups ($p = .323$); however, the patient group was significantly older than the control group (51.17 ± 12.84 vs. 39.41 ± 16.08 years; $p < .001$). The internal consistency of the scale was found to be at a borderline level, with a Cronbach's α of .665 (95%

CI: .526–.777). A statistically significant and strong positive correlation was observed between the Reflux Sign Assessment-10 scores and the physician-assessed Reflux Finding Score (RFS) (r = .661, p < .001). Suitability tests for factor analysis yielded adequate results (KMO = .697; Bartlett's χ^2 = 164.20, p < .001).

CONCLUSIONS

The Turkish version of the Reflux Sign Assessment-10 is a valid and reliable measurement tool that demonstrates high concordance with clinical examination findings (RFS) and possesses excellent ability to discriminate between patients and healthy individuals.

KEYWORDS

Reflux Sign Assessment-10, scale validation, Cronbach's alpha, exploratory factor analysis.

OP-583

Treatment Of Vocal Cord Polyps: Institutional Experience And Outcomes.

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BACKGROUND & AIM

One of the most common benign lesions of the vocal cords (VC) is presented by VC polyps. According to the results of several studies, benign VC lesions consist of polyps in 45.1%, Reinke's edema in 25.7%, nodular disorders in 18.9%, and VC cysts in 4.1%. Suspended microlaryngoscopy is a minimally invasive surgical solution for these lesions. There is no unanimous opinion regarding the choice micro-surgical endoscopic technique, whether using CO2 laser or "cold" instruments, for the treatment of VC polyps. The decision on the surgical method is conditioned by the medical institution's equipment, the individual preferences and surgeon's skills.

MATERIAL & METHODS

A retrospective analysis of data from 108 patients diagnosed with VC polyps and subjected to endoscopic microsurgical treatment using the "cold" method (CM) or CO2 laser method (LM) between 2019 and 2023, at the ENT clinic of the "Timofei Moșneaga" Republican Clinical Hospital was performed.

RESULTS

Approximately 1/4 (26.9%) of all polyploid VC formations were pedunculated, while 79 (73.1%) were sessile. Eighteen (16.7%) patients had small VC polyps, 82 (75.9%) had medium-sized polyps, and only 8 (7.4%) had giant polyps. In 16 (14.8%) patients, the polyp was located paracommissural, in 62 (57.4%) it was in the anterior third of the VC, and in 30 (27.8%) it was in the middle third of the VC. Unilateral polyp was observed in 94 (87.0%) patients, while bilateral formations were founded in 14 (13.0%) patients. Fifty (46.3%) patients were treated with CM, and 58 (53.7%) with LM (P>0.05).

CONCLUSIONS

Postoperative results were favorable at follow-up visits at 2 weeks, 1 month, 3, 6, and 12 months, showing a significant reduction in glottic insufficiency (statistically significant only at the 2-week mark, P<0.01).

KEYWORDS

vocal polyps, microlaryngoscopy, laser CO2

OP-584

A 3D-Printed Dynamic Larynx Model For Teaching Laryngeal Movement

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BACKGROUND & AIM

The larynx's complex anatomy and dynamic motions are difficult to grasp through textbooks or videos. Traditional training with animal or cadaver larynges can enhance understanding but is limited by ethical, cost, and logistical issues. To address these challenges, we developed a 3D-printed larynx model that illustrates key laryngeal movements to facilitate learning about laryngeal anatomy.

MATERIAL & METHODS

The model consists of multiple 3D-printed parts connected with elastic bands, allowing simulation of major laryngeal motions. It was designed to emphasize intuitive understanding of movement rather than detailed anatomical fidelity. We integrated the model into a medical student airway management workshop to evaluate its utility. Over one academic term, weekly small-group sessions (4–5 students each, ~100 students total) were held. In each session, students practiced a tracheostomy on an excised porcine larynx, followed by a laryngeal anatomy dissection session. Throughout the session, the 3D-printed dynamic larynx model was used as a visual aid to review key laryngeal structures and movements. After the session, participants completed a survey on the clarity of instruction, pacing, materials, difficulty, and overall learning experience.

RESULTS

Approximately one hundred students participated, and nearly all completed the post-session survey. All respondents reported that the content was easy to understand. The majority felt the session pacing was “just right,” and almost all considered the materials (including the model) sufficient. Most participants rated the overall difficulty as easy. The most frequently valued aspects were the hands-on anatomy experience (reported by about 90% of respondents), clear instruction (over 80%), and a positive learning environment (around 70%). Most participants reported no suggestions for improvement, indicating high overall satisfaction.

CONCLUSIONS

The 3D-printed larynx model focusing on laryngeal movement proved to be a valuable educational tool. It enabled repeated, realistic demonstrations of laryngeal motion in a cost-effective, ethical manner, addressing limitations of cadaver-based teaching. Integrating this model into airway training sessions enhanced students’ understanding and confidence, as reflected by very positive feedback. This accessible, interactive model is a useful addition to traditional laryngeal education for medical trainees, speech-language therapy students, and even patient education, by providing a clear, hands-on visualization of laryngeal function.

KEYWORDS

3D printing, Larynx model, Medical education, Laryngeal movement

OP-585

ON THE METHODOLOGICAL FOUNDATIONS OF THE FORMATION OF A STABLE TUBELESS TRACHEOSTOMY

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BACKGROUND & AIM

Introduction. Tracheostomy and tracheotomy remain among the most frequently performed operations on the cervical trachea, while the problem of choosing between cannular and non-cannular tracheostomy remains relevant. The formation of a stable tubeless tracheostomy is a more complex surgical procedure that requires a high level of technical training and consideration of the anatomical features of the neck, as well as concomitant pathological changes.

MATERIAL & METHODS

Materials and methods. The study material consisted of 434 patients with laryngeal and tracheal stenoses of various etiologies who underwent various tracheostomy options; in 44 patients, the previously formed cannular tracheostomy was replaced with a tubeless one. The main causes of tracheostomy failure were scarring, granulation, tracheomalacia, deformation of the tracheal rings, tumor or fatty compression of the trachea, as well as technical errors in the primary intervention. The retracheostomy technique was selected individually depending on the clinical task and included excision of the cutaneous tracheal canal, removal of pathological tissues, mobilization of the trachea, correction of its deformities and the formation of gentle contours of the tracheostomy. The key principles of the formation of a stable tubeless tracheostomy were: complete excision of altered tissues, sufficient mobilization of the trachea, suturing the skin with the edges of the trachea without overlapping the mucous membrane and creating moderate suture tension.

RESULTS

Results. The application of the developed methodological approaches made it possible to achieve stable gaping of a tubeless tracheostomy and free breathing in 38 out of 44 patients; in 6 cases, repeated narrowing was noted, requiring additional intervention or cannula insertion. The formation of a stable tubeless tracheostomy instead of a cannula in all cases led to a marked improvement in the subjective and objective condition of patients and an improvement in their quality of life. The use of modern tracheostomy cannulas remains justified in certain clinical situations associated with compression and displacement of the trachea by tumor or fatty tissues.

CONCLUSIONS

Conclusions. The described methodological foundations for the formation of a stable tubeless tracheostomy in cannula carriers are effective and can be recommended for widespread implementation in clinical practice. At the same time, we do not ignore the use of modern tracheostomy cannulas, because in some cases, the formation of a stable tracheostomy was not enough without the use of a cannula.

KEYWORDS

Tracheostomy and tracheotomy remain, Cannular tracheostomy, Retracheostomy

OP-586

Deep Learning–Based Computer Vision System For Screening Laryngeal And Ear Diseases: Development And Clinical Validation In Moscow

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BACKGROUND & AIM

Early detection of laryngeal and middle ear pathology remains challenging in high-volume outpatient ENT practice. Objectives: To develop and clinically evaluate a deep learning–based computer vision system for screening and quality control of endoscopic examinations of the larynx, external and middle ear.

MATERIAL & METHODS

Convolutional neural networks using transfer learning (VGG16 backbone with subsequent experiments involving lightweight MobileNetV3) were trained on large, expert-annotated otoscopic and laryngoscopic image datasets from a tertiary ENT institute in Moscow, covering normal findings and the most prevalent pathologies. Data augmentation (random rotation, scaling, and brightness shifts) was applied to improve generalization. For binary otoscopic classification (normal vs pathology), performance was assessed on an independent test set of 100 images (50 normal, 50 pathological); an analogous pipeline was adapted for primary classification of common laryngeal diseases.

RESULTS

The baseline VGG16 ear model achieved accuracy 92%, sensitivity 94%, specificity 90%, F1-score 0.924 and ROC-AUC 0.938 on the independent test set, demonstrating robust discrimination between normal and pathological findings. Confusion-matrix analysis showed few false negatives, mainly very early or subtle lesions, and slightly more false positives related to mild hyperemia or edema. Extension of the architecture to laryngeal images yielded promising performance and ROC-curve characteristics, supporting generalizability of the approach across ENT subsites. The models were integrated into a cloud platform and piloted in three Moscow medical organizations; 3451 patients were examined between May and November 2025, with a 25% relative increase in detected laryngeal neoplasms and high physician satisfaction.

CONCLUSIONS

A deep learning–based computer vision system for ear and laryngeal endoscopy demonstrates high diagnostic accuracy and clinically meaningful impact when used as a real-world screening and quality-control tool, warranting further multicenter validation.

KEYWORDS

deep learning; computer vision; endoscopy; otorhinolaryngology; laryngeal cancer; middle ear diseases; screening; decision support systems

OP-587

The Effect Of Nintedanib In Vocal Fold Damage: An Experimental Animal Model

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BACKGROUND & AIM

Vocal fold scar is histologically characterized by fibroblast proliferation, collagen deposition, elastin fiber loss, and changes in ECM components in the mucosa and superficial lamina propria after trauma, resulting in dysphonia.

Nintedanib is an antiangiogenic, antineoplastic, and antifibrotic molecule used in the treatment of idiopathic pulmonary fibrosis, acting on FGFR 1, VEGFR 2, PDGFR α, and β. Clinical studies have shown its efficacy in reducing fibroblast proliferation and migration, inhibiting the transformation of fibroblasts into myofibroblasts, suppressing inflammation, and reducing neoangiogenesis.

The success of nintedanib in fibrosis driven diseases suggests a potential role for its treatment in vocal fold scar.

MATERIAL & METHODS

Three experimental groups, each consisting of 10 rats, were formed. The control group underwent vocal fold injury by microscissor to the left vocal fold and received oral saline for 14 days. The low-dose experimental group underwent vocal fold injury by microscissor to the left vocal fold and received 25 mg/kg of nintedanib once daily via oral gavage for 14 days. The high-dose experimental group underwent vocal fold injury by microscissor to the left vocal fold and received 50 mg/kg of nintedanib once daily via oral gavage for 14 days.

The rats were sacrificed on day 15, and laryngeal specimens were examined histopathologically.

RESULTS

The groups were scored separately on a scale of 0-3 by a pathologist in a double-blind method for histopathological analysis of lymphocyte and neutrophil infiltration, fibroblast proliferation, presence of vascular organization, and collagen deposition.

Lymphocyte infiltration in the control group was found to be significantly higher than in the low-dose and high-dose experimental groups (p: 0.0, p: 0.0).

No difference was observed between the groups in terms of fibroblast proliferation (p: 0.519), however, collagen deposition was significantly lower in the high-dose experimental group than in the control group (p: 0.037).

No statistically significant difference was found between the groups when comparing the scores for the presence of vascular organization (p: 0.214).

CONCLUSIONS

Our study demonstrated the anti-inflammatory and the antifibrotic effects of nintedanib on scar formation in vocal cord injuries. Its effect on angiogenesis was not observed after 2 weeks of treatment.

Further studies are needed to determine long-term effects.

KEYWORDS

Vocal fold scar, Nintedanib

OP-588

Recovery Of Vocal Fold Paralysis After Chemotherapy And/Or Radiotherapy: A Case Series

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BACKGROUND & AIM

The recurrent laryngeal nerve (RLN) is the primary motor nerve responsible for innervating the intrinsic muscles of the vocal folds. Because its course extends from the carotid sheath through the mediastinum, along the tracheoesophageal groove, and up to the thyroid region, it is vulnerable to dysfunction caused by a wide range of pathologies in these areas. Nerve paralysis due to invasion by malignant tumors has traditionally been considered irreversible. The purpose of this study was to analyze 18 cases in which recovery of RLN function was observed following chemotherapy and/or radiotherapy.

MATERIAL & METHODS

This is a single-center retrospective review. We collected data on sixteen patients who experienced recovery of vocal fold function after chemotherapy and/or radiotherapy. We analyzed their demographics, primary diagnosis, side of vocal fold paralysis (VFP), anatomical cause of the paralysis, treatment modality, treatment regimen, duration of paralysis, and tumor burden reduction documented on imaging studies.

RESULTS

Eleven (61.1%) patients had lung cancer, three (16.7%) had thyroid cancer, two (11.1%) had esophageal cancer, one (5.56%) had lymphoma, and one (5.56%) had common bile duct cancer. Twelve (66.7%) patients underwent chemotherapy only, two (11.1%) patients underwent radiotherapy only, and four (22.2%) patients underwent chemotherapy and radiotherapy. Median time to recovery of VFP was 84 days (range, 6-361). Thirteen (72.2%) patients showed complete recovery from immobile vocal folds, whereas five (27.8%) patients exhibited partial recovery. Imaging studies demonstrated tumor size reduction ranging from 47.0% to 100% in patients with available pre-VFP and post-VFP imaging.

CONCLUSIONS

This study included the largest reported series of patients whose VFP recovered after chemotherapy and/or radiotherapy. Our findings indicate that nerve paralysis due to cancer invasion can be reversible when tumor burden is effectively reduced through treatment.

KEYWORDS

vocal fold paralysis, recovery, recurrent laryngeal nerve invasion

OP-589

Can A 30-Second Smartphone Sustained /A/ Triage Dysphonia? Acoustic–Cepstral Classification Of Benign Lesions And Glottic SCC

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BACKGROUND & AIM

Dysphonia is a common reason for ENT consultation and may reflect benign vocal fold lesions or early glottic squamous cell carcinoma (SCC). We evaluated whether a single 30-second smartphone-recorded sustained /a/ can support voice-based triage. Hypothesis: Acoustic/cepstral features can discriminate (1) normal vs pathological laryngeal status and enable exploratory (2) benign vs glottic SCC discrimination.

MATERIAL & METHODS

Prospective single-centre pilot study including 76 adults: 30 controls with normal laryngoscopy/stroboscopy, 30 benign vocal fold lesions, and 16 histopathology-confirmed glottic SCC. A standardized smartphone protocol was used (WAV, 44.1 kHz/16-bit, mono; 15–20 cm). Praat-derived features included jitter, shimmer, mean F0, HNR, intensity, and CPPS (dB). VHI-10 was collected in pathological groups only and assessed only for the benign–SCC task. Two binary SVM classifiers were evaluated using repeated stratified k-fold cross-validation: Model-1 (control vs pathological) and Model-2 (benign vs SCC). Discrimination was summarized by AUC-ROC (and PR-AUC for Model-2) with bootstrap 95% confidence intervals. For reporting threshold-

dependent metrics (sensitivity, specificity, PPV, and NPV), an operating threshold was selected using the Youden index on cross-validated out-of-fold predictions.

RESULTS

The SCC group was older than controls/benign and comprised males only (p<0.001). For Model-1, CPPS alone achieved an AUC of 0.804 (95% CI 0.701–0.896); at the selected operating point, sensitivity was 63.0%, specificity 96.7%, PPV 96.7%, and NPV 63.0%. For Model-2, the multifeature SVM achieved an AUC of 0.798 (95% CI 0.658–0.915); at the selected operating point, sensitivity was 68.8%, specificity 83.3%, PPV 68.8%, and NPV 83.3%. Adding VHI-10 did not improve discrimination (AUC 0.743). In exploratory analyses, adding demographic/smoking variables increased Model-2 AUC to 0.946, likely reflecting cohort imbalance. CPPS differed across groups (p<0.001).

CONCLUSIONS

A single 30-second sustained vowel recorded on a smartphone provides clinically relevant discrimination of normal vs pathological voice in this pilot cohort. Benign–glottic SCC discrimination using voice features alone is feasible but exploratory; larger, demographically balanced cohorts with external validation are required. A simple 30-second smartphone sustained /a/ can help prioritize dysphonic patients for prompt laryngoscopic evaluation, supporting practical clinic-level triage.

KEYWORDS

dysphonia; CPPS; acoustic analysis; cepstral analysis; vocal fold lesions; glottic squamous cell carcinoma; machine learning

OP-590

Vocal Fold Muscle Reduction As A Second-Line Voice Feminisation Procedure

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BACKGROUND & AIM

Voice feminisation surgery using the modified Wendler glottoplasty (MWG) remains the gold standard surgical intervention for transfeminine patients seeking pitch elevation. However, a subset of patients continue to experience unsatisfactory pitch elevation following MWG. Given the significant role of voice in gender perception and quality of life, there remains a need for effective second-line interventions. In this study, we present vocal fold muscle reduction (VFMR) as a secondary procedure for voice feminisation in patients with suboptimal outcomes following MWG.

MATERIAL & METHODS

A retrospective review was conducted of 20 patients who underwent VFMR following previous glottoplasty.

Reading and free-speaking fundamental frequency (F0), Voice Handicap Index-10 (VHI-10), and Trans Woman Voice Questionnaire (TWVQ) scores were compared pre- and post-operatively.

Two experienced speech and language therapists, who were not directly involved in patient care, acted as independent blinded assessors of vocal quality using the GRBAS scale, and of perceived vocal femininity using a visual analogue scale (VAS).

RESULTS

Mean reading F0 increased from 152 Hz preoperatively to 196.4 Hz at 4 weeks ($p < 0.0001$) and 188.5 Hz at 3 months postoperatively ($p < 0.0001$). Similarly, mean free-speaking F0 increased from 149.5 Hz to 190.8 Hz at 4 weeks ($p = 0.0002$) and 184.3 Hz at 3 months ($p < 0.0001$).

Mean VHI-10 scores improved from 18.05 preoperatively to 11.38 postoperatively ($p = 0.0008$). TWVQ scores also demonstrated significant improvement, decreasing from 73.26 to 52.85 ($p = 0.0005$).

Perceived vocal femininity showed significant improvement on visual analogue scale (VAS) assessment for both reading voice ($p = 0.0154$) and free-speaking voice ($p = 0.0068$), as rated by two blinded assessors.

However, there was a small deterioration in perceptual overall grade (Grade, GRBAS scale) for free-speaking voice quality following surgery (1.0 vs 1.3, $p = 0.0312$). A similar trend was observed for reading voice quality ($p = 0.0654$).

CONCLUSIONS

VFMR appears to be an effective second-line intervention for transfeminine patients in whom glottoplasty fails to achieve satisfactory pitch elevation. The procedure demonstrates significant improvements in both objective acoustic measures and patient-reported outcomes, while maintaining acceptable voice quality.

KEYWORDS

Voice feminisation surgery, modified Wendler glottoplasty, pitch elevation,

OP-591

The Effectiveness Of Platelet Rich Plasma (PRP) Injection In The Treatment Of Sulcus Vocalis

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BACKGROUND & AIM

Sulcus vocalis and vocal fold atrophy present significant challenges in phonosurgery due to the loss of lamina propria volume and elasticity. Platelet-Rich Plasma (RPP) has emerged as a regenerative therapy to improve vocal fold vibration and glottal closure. This study aims to evaluate the clinical efficacy of PRP injections using subjective and objective voice parameters.

MATERIAL & METHODS

This clinical study included 20 patients diagnosed with sulcus vocalis. Patients were followed for 6 months using Voice Handicap Index (VHI), Reflux Symptom Index (RSI), Dysphonia Severity Index (DSI), and Maximum Phonation Time (MFS) for vowels /A, S, Z, İ/.

RESULTS

A significant improvement was observed in RSI scores, decreasing from a pre-operative mean of 15.6 to 9.0 post-operatively ($p < 0.05$). Objective phonatory endurance showed marked enhancement; specifically, MFS-A (Maximum Phonation Time for /A/) improved by 67%, increasing from 11.2s to 18.7s by the 6th month. MFS-Z scores also showed a 55% increase (11.3s to 17.5s). VHI scores remained stable, while DSI showed clinical trends toward improvement.

CONCLUSIONS

PRP injection is an effective and safe regenerative treatment for sulcus vocalis, significantly improving reflux-related symptoms and objective vocal endurance over a 6-month period.

KEYWORDS

sulcus vocalis, prp, dysphonia, voice

OP-592

Zopapogene Imadenovec-Drba, A Novel Adenovector-Based Immunotherapy, Induces Complete And Durable Responses In Recurrent Respiratory Papillomatosis

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BACKGROUND & AIM

Recurrent respiratory papillomatosis (RRP) is a rare, neoplastic disorder caused by chronic human papillomavirus (HPV) type 6 or 11 infection. Repeat surgical debulking has historically been the most common treatment for RRP symptom management. Zopapogene imadenovec-drba (zopa), a novel adenoviral vector-based immunotherapy, is the first and only FDA-approved treatment for adults with RRP. Zopa is now recommended as the first-line treatment for adults with RRP in an RRP Foundation position statement authored by 16 key opinion leaders (Best et al, Laryngoscope 2026.)

MATERIAL & METHODS

The pivotal trial (NCT04724980) evaluated zopa in patients with RRP requiring ≥3 clinically indicated interventions 12 months (m) prior to treatment. 12m follow-up data was reported and demonstrated that 4 subcutaneous injections of zopa (5x1011 particle units per injection; n=35) were well-tolerated, with no serious adverse events, no grade >2 treatment-related adverse events, and no early treatment discontinuations. The most common adverse events were injection-site reaction, fatigue, chills, fever, and myalgia.

Robust efficacy was observed following zopa treatment with 51% (34 to 69; 95% CI) of patients achieving a complete response (CR), defined as no requirement for interventions in the 12m following treatment. Here we present data up to 51m of follow-up.

RESULTS

As of December 15, 2025, with a median duration of follow-up of 36m (range: 30-51m), 83% (15/18) of patients who achieved a CR at 12m remain in CR with no recurrence of papilloma requiring surgical or medical intervention. Out of the 15 patients remaining in CR, 3 patients have reached 4 years of follow-up.

No new safety events were observed during long-term follow-up.

CONCLUSIONS

Zopa treatment demonstrated significant clinical benefit with the vast majority of CR patients experiencing ongoing durable complete responses for up to 4 years with excellent long-term safety. Updated follow-up results for all patients achieving CR will be available at the time of presentation.

KEYWORDS

Zopapogene, imadenovec, imadenovec-drba, zopa, papzimeos, recurrent respiratory papillomatosis, RRP, human papillomavirus, HPV

OP-593

Clinical Variation In The Surgical Management Of Idiopathic Subglottic Stenosis: An International Multidisciplinary Quantitative And Qualitative Study

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BACKGROUND & AIM

Idiopathic subglottic stenosis (iSGS) is a rare, fibroinflammatory airway disorder with non-standardized management. This study aimed to quantify the global clinical variation in surgical strategies for iSGS and identify barriers and facilitators to the adoption of both established and novel techniques.

MATERIAL & METHODS

An international cross-sectional online survey was responded by 193 clinicians (Otolaryngologists, Thoracic Surgeons, and Interventional Pulmonologists) across 42 countries. Data on demographics, technique execution, treatment algorithms, clinician satisfaction (7-point Likert scale), and adoption barriers were collected. Both statistical analysis and thematic analysis were done.

RESULTS

Otolaryngologists constituted the majority of respondents (84%), predominantly from Europe (52%) and North America (28%). Endoscopic Dilation was nearly universal (95%), but execution was heterogenous (85% used occlusive balloons, 56% CO2 laser). Newer techniques showed varied adoption: In-office Serial Intralesional Steroid Injections were used by 57% of clinicians, and the Maddern Procedure by 17%. Overall satisfaction with current treatment strategies was moderate (mean Likert score 5.07; SD=1.15). Significant variation was found in the definition of treatment failure. Fellowship-trained surgeons managed higher case volumes and were more likely to perform complex open surgery (p=0.019). Key barriers to adoption included lack of experience and insufficient supporting evidence.

CONCLUSIONS

Significant global clinical variation exists in the management of iSGS, affecting surgical technique, adjuvant therapy, and the definition of treatment failure. Standardization of clinical outcomes, continued large-scale comparative effectiveness trials, and newer efforts aimed at implementing emerging evidence are needed to reduce variability, establish evidence-based guidelines, and improve global patient care for this complex disease.

KEYWORDS

Idiopathic subglottic stenosis; Airway stenosis; airway reconstruction; physician experience; Otolaryngology; Otorhinolaryngology;

OP-594

Tissue Expression Of IL-6/LIF/LIFR And CXCL9 Is Associated With High-Risk NBI Patterns And Squamous Cell Carcinoma In Vocal Fold Lesions

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BACKGROUND & AIM

Laryngeal squamous cell carcinoma (LSCC) carries substantial mortality, and preoperative risk stratification remains imperfect. Narrow-Band Imaging (NBI) visualizes mucosal microvascular remodelling, yet the molecular correlates of high-risk vascular phenotypes are incompletely defined. We hypothesized that epithelial expression of interleukin-6 (IL-6), leukaemia inhibitory factor (LIF), its receptor (LIFR) and C-X-C motif chemokine ligand 9 (CXCL9) tracks NBI-defined microvascular patterns and histopathological severity, and that combining tissue markers with NBI refines discrimination of squamous cell carcinoma (SCC).

MATERIAL & METHODS

In a prospective single-centre cohort of 145 patients with vocal fold lesions (2020–2023), NBI patterns were graded with the Ni classification and dichotomized at Ni ≥ 4. Histopathology followed WHO 2017. Epithelial IL-6, LIF, LIFR and CXCL9 were quantified by immunohistochemistry using the immunoreactive score (IRS). Inter- and intra-observer reliability was assessed (Cohen's κ, intraclass correlation coefficient). Group differences were analyzed with non-parametric tests; predictors of SCC were evaluated by univariable and multivariable logistic regression, with discrimination quantified by area under the ROC curve (AUC).

RESULTS

SCC was diagnosed in 63/145 (43.4%) lesions. Ni category showed a stepwise association with histopathology (Cramér's V = 0.56; trend $p = 2.1 \times 10^{-17}$). The Ni ≥ 4 threshold yielded sensitivity 82.5%, specificity 82.9%, accuracy 82.8%. Epithelial LIF and LIFR decreased with histological severity and with higher NBI grade (Spearman ρ = −0.56 and −0.48, both $p < 10^{-9}$); CXCL9 increased modestly (ρ = +0.23, p = 0.006); epithelial IL-6 did not differ across categories. In multivariable logistic regression, Ni ≥ 4 was the strongest independent predictor of SCC (adjusted odds ratio [OR] 8.90, 95% CI 2.97–26.62), while LIF (adjusted OR 0.73) and LIFR (adjusted OR 0.78) were independently inversely associated with SCC (model AUC 0.943).

CONCLUSIONS

NBI Ni ≥ 4 grading is the dominant single discriminator of vocal fold SCC. Tissue LIF/LIFR and CXCL9 show distinct, biologically plausible associations with NBI risk phenotypes—LIF/LIFR consistent with loss of differentiation-associated signalling, CXCL9 with immune–vascular activation and may complement NBI. Absence of an epithelial IL-6 signal supports microenvironmental trans-signalling rather than epithelial abundance as the operative IL-6 mechanism in LSCC.

KEYWORDS

laryngeal cancer; narrow band imaging; interleukin 6; leukemia inhibitory factor; leukemia inhibitory factor receptor; CXCL9; biomarkers

OP-595

CELLULAR ATLAS OF HUMAN VOCAL FOLD EPITHELIUM ACROSS THE LIFESPAN AND VOCAL FOLD ORGANOID BIOLOGY

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BACKGROUND & AIM

The vocal fold (VF) epithelium is a critical barrier required for maintaining healthy VF function, and its disruption can lead to changes in the lamina propria and impaired phonation. Defining cell types that constitute VF epithelium—and how they develop across the lifespan—is therefore essential for understanding their roles in VF diseases. In this study, we performed histological evaluation and single-cell RNA sequencing to characterize epithelial cell development during fetal stages and adulthood. We also cultured these cells in vitro, generating VF organoids that recapitulated epithelial stratification.

MATERIAL & METHODS

Human larynges and VFs were collected at multiple stages of fetal development and adulthood. Collected tissues were enzymatically dissociated and processed for single-cell RNA sequencing to generate transcriptional profiles across developmental time points. In parallel, tissue samples were fixed and processed for histological analysis to assess tissue architecture and cellular organization, while additional specimens were used to establish three-dimensional organoid cell cultures for functional studies.

RESULTS

Our data show that early fetal VF epithelium is a two-layered structure composed of basal (BEC) and immature suprabasal cells (SBEC) that are highly enriched for cell adhesion and migration pathways. This is consistent with early morphogenetic events, such as epithelial invagination and cavitation required for laryngeal tube recanalization and separation of false and true VFs. In later fetal stages, VF epithelium becomes multilayered and functionally specialized, forming respiratory-lineage cell types along the superior VF margin and subglottis, and stratified squamous epithelium in VF contact region. Notably, many of the cell types that first emerge in early VF development persist into adulthood—including highly specialized BEC and SBEC linked to innate immunity and enriched for macrophage-related genes.

When harvested and cultured in vitro, epithelial cells assemble into organoids that reestablish the full epithelial architecture, including basal, suprabasal, and terminally differentiated superficial layers.

CONCLUSIONS

Together, these findings advance our understanding of VF epithelial development and biology and offer new models for investigating mechanisms underlying VF diseases.

KEYWORDS

Vocal fold development, histology, single cell RNA sequencing, organoids

OP-596

Impact Of COVID-19 On Tracheostomy Training Of Indian Otorhinolaryngology–Head And Neck Surgery (ORLHNS) Residents

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BACKGROUND & AIM

The COVID-19 pandemic reshaped surgical training worldwide. This study compares tracheostomy training among Indian ORLHNS residents before and after the pandemic, using a 2020 national survey as a baseline.

MATERIAL & METHODS

A structured survey was conducted in 2024 among ORLHNS residents and senior residents across India. Responses were compared with the 2020 national survey to evaluate changes in clinical exposure, procedural responsibility, operative technique, and trainee confidence.

RESULTS

Post-pandemic, residents reported substantially greater hands-on tracheostomy experience. More procedures were performed by second- and third-year trainees, including in emergencies. A shift toward faster incision techniques in acute scenarios was noted. Trainee confidence improved significantly, with more residents feeling prepared to perform the procedure independently. However, exposure to advanced methods such as percutaneous tracheostomy remained limited.

CONCLUSIONS

Tracheostomy training in the post-pandemic era shows earlier engagement, increased autonomy, and higher self-assurance among trainees. Despite progress, variability in exposure and technique highlights the need for a unified, competency-based national curriculum to standardize training across programs.

KEYWORDS

Tracheostomy; Training; Covid 19; Survey

OP-597

Chatgpt Hallucination Frequency In Clinical Text Mining And Comparative Performance With ENT Residents In Laryngeal Cancer Risk Classification

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BACKGROUND & AIM

The increasing use of large language models (LLMs) in clinical text analysis has introduced new opportunities for clinical decision support systems. However, hallucination—defined as the generation of information not supported by source data—remains a major limitation for clinical reliability. In otorhinolaryngology, evidence regarding the reliability of artificial intelligence in malignancy risk assessment from clinical texts is limited. This study aimed to evaluate the hallucination frequency of ChatGPT during clinical text mining and to compare its performance with ENT resident physicians in laryngeal cancer risk classification using histopathological diagnosis as the reference standard.

MATERIAL & METHODS

Materials & MethodsThis single-center retrospective study included clinical records of patients who underwent direct laryngoscopy at the Department of Otorhinolaryngology, Ondokuz Mayıs University. Approximately 350 patients were analyzed.The study has three sequential phases:Calibration phase: adaptation of the AI system to clinical terminology using 50 patient files.Hallucination assessment phase: evaluation of hallucination frequency in 200 patients by comparing AI-generated outputs with original clinical records.Blind risk classification phase: independent malignancy risk classification of 100 patients by ChatGPT and five ENT residents using only clinical texts.Histopathological diagnosis was accepted as the gold standard. Sensitivity, specificity, overall accuracy, and Spearman correlation coefficients were calculated using SPSS software.

RESULTS

At least one hallucination was detected in 46% of evaluated patients, while major hallucinations occurred in 13%.

In malignancy risk classification, ChatGPT demonstrated a sensitivity of 59.4% and specificity of 80.9%, showing performance comparable to several ENT residents. Statistically significant correlations between risk classification and histopathological diagnosis were observed for all evaluators ($p < 0.001$). ChatGPT demonstrated moderate ordinal agreement with pathology results (Spearman $\rho = 0.478$).

CONCLUSIONS

ChatGPT demonstrated clinically comparable performance to ENT residents in laryngeal cancer risk classification based on clinical texts. However, the presence of hallucinations represents an important limitation affecting reliability. Artificial intelligence systems may serve as supportive tools in clinical decision-making processes but should be used under physician supervision rather than as independent diagnostic systems.

KEYWORDS
Keywords Artificial intelligence ChatGPT Hallucination Clinical text mining Laryngeal cancer Risk classification Otorhinolaryngology

OP-598

Correlation Between Vocal Tract Dimensions And Patient Tolerance In Office-Based Laryngeal Surgery

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BACKGROUND & AIM
Office-based laryngeal surgery (OBLS) using the transnasal approach has become an effective alternative to procedures under general anesthesia. Although generally well tolerated, patient discomfort remains a limiting factor and may affect procedural success. While psychological and anesthetic factors have been studied, the impact of upper airway anatomy on tolerance has not been clearly established. Variations in vocal tract dimensions may influence endoscope passage and sensory stimulation during surgery. This study aimed to evaluate the correlation between radiologically measured vocal tract dimensions and patient tolerance to transnasal OBLS using the IOWA Satisfaction with Anesthesia Scale.

MATERIAL & METHODS
The medical records and video-recordings of all patients who underwent OBLS between September 2024 and May 2025 were reviewed. Only patients who had a pre-operative computed tomography (CT) scan of the neck and had filled out the IOWA tolerance questionnaire were included in this study. A total of 11 anatomical measurements of the upper airway were evaluated. These included: Velum Length, vertical position of the larynx, distance from nostril to the vocal folds, distance from nostril to hard/Soft palate junction, distance from nostril to posterior nasopharyngeal mucosa, nasopharyngeal width, length of the oral component of the vocal tract, velopharyngeal width, oropharyngeal width, opening of the Hypopharynx, hypopharyngeal width. Patient tolerance to the procedure was assessed using the IOWA Satisfaction with Anesthesia Scale, which ranges between -3 and +3 (completely satisfied).

RESULTS
Twenty patients, with a mean age of 62.55 ± 14.93 years, were included. The most common voice diagnosis was unilateral vocal fold paralysis (60%), followed by laryngeal squamous cell carcinoma (25%). The most commonly performed procedures were injection laryngoplasty (65%) and laryngeal biopsy (15%). There was a moderate negative correlation between velum length and IOWA scores ($r = -0.568$, $p = 0.009$). There was no statistically significant correlation between any other vocal tract measurements and IOWA scores.

CONCLUSIONS
This investigation showed that the longer the velum, the lower the tolerance score for office-based laryngeal surgery.

KEYWORDS
laryngeal surgery; office-based; patient tolerance; vocal tract.

OP-599

Botulinum Toxin Dosing Trends For Vocal Tremor At A Single Tertiary Centre

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BACKGROUND & AIM
Botulinum toxin injection dosing trends for vocal tremor (VT) remain poorly understood. This study aimed to identify longitudinal dosing patterns, to assess changes between initial and final doses, associations with treatment duration and adverse event frequency.

MATERIAL & METHODS
A retrospective analysis of adult VT patients undergoing laryngeal botulinum toxin injection at a single tertiary centre (01/01/2024-31/12/2024) was performed. All injections used Dysport® (abobotulinumtoxinA) under electromyographic guidance. Dosing trend analysis included only patients receiving three or more injections. Longitudinal dose changes were analysed using linear mixed-effects models: model fit was compared using likelihood ratio testing. First and last doses were compared using the Wilcoxon signed-rank test ($p<0.05$).

RESULTS
547 injections across 39 patients were analysed (median 14 injections/patient, IQR 6-18). A small dose reduction per injection was observed in the random-intercept model ($\beta = -0.010$ units/injection, SE = 0.003, $t = -3.33$) but not in the random-slope specification ($\beta = -0.003$ units/injection, SE = 0.005, $t = -0.50$), which showed superior fit ($p<0.001$). Longer treatment duration

was independently associated with higher doses (β = 0.010 units/month, SE = 0.003, t = 3.29). No statistically significant difference was observed between first and last doses (p=0.64). At the individual level, 92.3% of patients (36/39) demonstrated stable dosing within the predefined ± 0.5 unit threshold; dose reduction occurred in two patients (5.1%) and escalation in one (2.6%). No patient developed tolerance. The adverse event rate was 1.6% (9/547 injections).

CONCLUSIONS

Botulinum toxin dosing remained stable in most VT patients. Apparent dose reductions are better explained by inter-individual variability rather than a true trend. Longer treatment duration was associated with higher doses, though this may reflect confounding rather than true dose escalation. These findings support an individualised dosing approach, with no clear evidence for systematic dose escalation over time. The absence of tolerance development and low adverse event rate support the long-term safety of laryngeal botulinum toxin injection in VT.

KEYWORDS

Botulinum toxin, Vocal tremor, Dysphonia, Laryngology

OP-600

AI-Based Frame-Level Classification Of Vocal Cord Lesions Using Endoscopic Images: A Three-Class Pilot Study

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BACKGROUND & AIM

Differentiating malignant from benign vocal cord lesions during routine endoscopic examination remains challenging and frequently requires histopathological confirmation. Artificial intelligence (AI)-based image analysis has the potential to support clinical decision-making by providing objective real-time assessment. This study aimed to evaluate the performance of a deep learning model for frame-level classification of vocal cord endoscopic images into malignant, benign, and normal categories.

MATERIAL & METHODS

This clinical translational study included endoscopic recordings obtained from patients aged 18–65 years undergoing vocal cord evaluation. Final diagnoses were confirmed histopathologically following planned biopsy. A total of 96 cases were included (38 malignant, 38 benign, and 20 normal). Eighteen videos (5 normal, 7 benign, 6 malignant) were isolated as an independent test set. A YOLOv11s-based deep learning model was trained for three-class classification. Performance analysis was performed at a confidence threshold of 0.79 using frame-based evaluation on detected frames only. Accuracy, precision, recall, and F1 scores were calculated from confusion matrix analysis.

RESULTS

The test set included 18 videos comprising 4561 frames, processed at a mean speed of 21.66 frames per second. Frame-level overall accuracy for detected frames was 85.7%. Malignant lesion detection demonstrated high performance with 100% precision, 93.3% recall, and an F1 score of 96.6%, indicating strong capability in recognizing clinically critical lesions. Normal frames showed a precision of 75.2%, recall of 93.4%, and F1 score of 83.3%. Benign lesion classification was comparatively lower (precision 70.5%, recall 56.4%, F1 score 62.6%). Macro F1 score was approximately 80.8%. The overall dataset detection rate was 6.52%.

CONCLUSIONS

AI-based analysis of vocal cord endoscopic frames demonstrated strong performance in identifying malignant lesions, highlighting its potential clinical value in supporting early recognition during endoscopic examination. Although benign lesion differentiation remains more challenging, the model achieved robust three-class performance with real-time processing capability. These findings suggest that AI-assisted endoscopic assessment may serve as a clinically relevant decision-support tool, potentially reducing diagnostic uncertainty and supporting clinician performance. Further large-scale, patient-level validation studies are warranted before clinical integration.

KEYWORDS

Laryngeal cancer screening, Vocal cord lesions, Laryngoscopy, Deep learning, Artificial intelligence

OP-601

Standardized Office-Based Injection Laryngoplasty For Unilateral Vocal Fold Paralysis: Early Multimodal Outcomes

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BACKGROUND & AIM

Office-based injection laryngoplasty is an established minimally invasive treatment for unilateral vocal fold paralysis (UVFP), enabling early restoration of glottic competence and functional voice improvement. Although widely studied, variability persists in the application of standardized multimodal voice assessment protocols in clinical practice. This study aimed to

evaluate early outcomes of a structured office-based injection laryngoplasty protocol using subjective, perceptual, acoustic, aerodynamic, and endoscopic measures.

MATERIAL & METHODS

A retrospective analysis included 6 patients with UVFP. Injection laryngoplasty was performed under local anesthesia using hyaluronic acid (n=5) or calcium hydroxyapatite (n=1), via percutaneous thyrohyoid or transoral approaches.

Pre- and post-procedure assessment included the Voice Handicap Index-10 (VHI-10), Reflux Symptom Index (RSI), Eating Assessment Tool-10 (EAT-10), acoustic parameters (fundamental frequency, jitter, shimmer, harmonic-to-noise ratio [HNR], vocal intensity), aerodynamic measures (maximum phonation time [MPT], s/z ratio), and perceptual voice evaluation (GRBAS scale). Glottic closure was assessed using nasofibrolaryngoscopy according to the modified Södersten and Lindestad classification. Statistical analysis was performed using the Wilcoxon signed-rank test.

RESULTS

The cohort was predominantly female (83.3%) with a mean age of 55.7±17.7 years. Most vocal folds were in paramedian position (83.3%), with left-sided paralysis in 83.3% of cases; etiology was heterogeneous. Significant improvement was observed in VHI-10 (median 18.0 to 7.5; p=0.028) and RSI scores (18.5 to 10.5; p=0.027). Aerodynamic assessment demonstrated increased MPT (5.9 to 8.4 seconds; p=0.046) and reduced s/z ratio (1.48 to 1.05; p=0.046), indicating improved glottic efficiency. Perceptual voice quality improved significantly in GRBAS grade (p=0.014). Glottic closure improved in all patients. Acoustic parameters showed reductions in jitter and shimmer and increased HNR and vocal intensity; however, these changes did not reach statistical significance. No procedure-related complications were observed.

CONCLUSIONS

A standardized office-based injection laryngoplasty protocol is a safe and effective approach for early management of UVFP. Multimodal assessment demonstrates consistent improvement in subjective, perceptual, aerodynamic, and endoscopic outcomes, supporting its role as a reliable outpatient intervention. Larger studies are required to confirm acoustic parameter trends.

KEYWORDS

unilateral vocal fold paralysis, injection laryngoplasty, office-based procedure, hyaluronic acid, voice outcomes, acoustic analysis

OP-602

Accuracy Of Chatgpt Responses On Questions Related Tp Tracheostomy Care

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BACKGROUND & AIM

The emergence of artificial intelligence-powered language, such as Chatbot Generative Pre-Trained Trans- former (ChatGPT) is evolving in medicine. ChatGPT-5.2 is one of the most used chatbots by patients and practitioners, leading to an increase in the number of studies dedicated to the evaluation of the accuracy of information provided by ChatGPT-5.2. This paper aims to evaluate the accuracy of ChatGPT-5.2 Responses for tracheostomy care related questions by six experienced otorhinolaryngologists.

MATERIAL & METHODS

A total of thirty-three questions related to tracheostomy indication, procedure details, weaning, care and maintenance and psychosocial care. Using the Quality Analysis of Medical Artificial Intelligence (QAMAI) tool which is a validated and standardized tool dedicated to the evaluation of Chatbot accuracy, answered were graded. It includes six domains (Accuracy, Clarity, Relevance, Completeness, Provision of sources and references, usefulness) and each item is assessed with a 5-point Likert scale (Strongly disagree, disagree, neutral, agree, strongly agree). The interrater reliability and the stability of the ChatGPT-5.2 responses were evaluated with intraclass correlation coefficient (ICC) and Pearson correlation analysis.

RESULTS

A total of 33 answers were evaluated by 6 expert otolaryngologists, and a total of 1,188 ratings were analyzed. ChatGPT-5.2 demonstrated high relevance (4.10 ± 0.12) and accuracy (4.03 ± 0.13), though it scored significantly lower in completeness (3.37 ± 0.19) and provision of sources (2.37 ± 0.20). Inter-rater reliability for the group consensus was moderate (ICC = 0.59), reflecting varying expert thresholds for AI-generated medical content.

CONCLUSIONS

The accuracy of ChatGPT-5.2 response is moderate-to-high in providing information related to the tracheotomy care related questions. However, patients or caregivers need to be cautious about the information related to tracheotomy care, steps, and the differences between temporary and permanent tracheotomies.

KEYWORDS

Tracheotomy, Artificial intelligence, patient safety, education

OP-603

Management Of Globus Pharyngeus: A Review Of Current UK-Wide Practice

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BACKGROUND & AIM

Globus Pharyngeus is a common reason for referral to Ear, Nose and Throat outpatient clinics. Its aetiology continues to be an area of much debate and may be multifactorial in a significant proportion of patients. This has led to wide variation in its management by clinicians. The last published survey of UK practice was completed over 25 years ago. With improving knowledge and development of better investigational technologies, we have sought to gain insight into the current management of patients presenting with globus symptoms in the UK.

MATERIAL & METHODS

Through the Robert White Centre for Airway, Voice and Swallowing at University Hospitals Dorset, we have conducted a UK-wide survey of practising Ear, Nose and Throat consultants. We aimed to identify how they would triage, investigate a manage a patient presenting with classical Globus Pharyngeus symptoms. We look at regional variations in the availability of investigative technologies, and approaches to management.

RESULTS

We see significant variation in the management of Globus Pharyngeus across the UK. This occurs at all stages of the patient's journey from the triage of referral to management. We find that the majority of clinicians would initially manage with re-assurance and lifestyle advice, after a normal examination and flexible nasoendoscopic examination. However, the routine use of transnasal oesophagoscopy, manometry, and pH monitoring varies more widely across regions.

CONCLUSIONS

Globus Pharyngeus remains an area for debate, with no clear guidelines for investigation and management in the UK. Due to the variation in responses to our survey, we believe there is a role for a more comprehensive consensus document on this condition.

KEYWORDS

Globus Pharyngeus, Laryngology, Transnasal Oesophagoscopy, Swallow, Manometry

OP-604

Clinical Outcomes And Safety Of Novel Portable Device For Real-Time Light-Guided Vocal Fold Injection: A Prospective Study

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BACKGROUND & AIM

Accurate needle placement is difficult in the cricothyroid (CT) approach to vocal fold injection (VFI) due to the invisibility of the needle tip. While the initial 'Real-time light-guided VFI (RL-VFI) device' helped mitigate this issue by providing real-time light guidance, its clinical utility was constrained by the need for external hardware and connecting cables. Recently, a novel second-generation portable device was developed to eliminate external connections. The purpose of this study was to assess the safety and feasibility of office-based RL-VFI using this advanced, wireless system.

MATERIAL & METHODS

This single-center, prospective clinical trial enrolled patients with unilateral vocal fold paralysis (UVFP) aged 20–85 years. All procedures were performed via a cricothyroid approach in an outpatient setting by a single experienced laryngologist using cross-linked hyaluronic acid (HA) fillers. Intraoperative parameters (injection volume and procedure times) were measured. Subjective and objective voice assessments, including the Voice Handicap Index (VHI-10), GRBAS scale, aerodynamic studies, and acoustic analyses, were performed preoperatively and 1 month postoperatively.

RESULTS

A total of 36 patients completed the 1-month follow-up. Left-sided paralysis was predominant, and the primary etiologies were surgical interventions (75.0%) followed by idiopathic causes (13.9%). The mean administered filler volume was 0.9 ± 0.4 mL, and the mean total procedure time for initial injections was 103.9 ± 59.8 seconds. Following RL-VFI, the mean VHI-10 score significantly improved from 37.6 ± 5.4 to 21.6 ± 14.3 ($P < 0.001$). Significant improvements were also observed in the GRBAS scale, aerodynamic parameters (maximum phonation time, mean expiratory airflow, and mean sound pressure level), and acoustic parameters (jitter, shimmer, and noise-to-harmonic ratio etc.) (all $P < 0.05$). No acute or delayed complications occurred.

CONCLUSIONS

RL-VFI using the novel portable device is a safe, swift, and effective outpatient procedure for patients with UVFP, demonstrating excellent safety profiles and significant subjective and objective voice improvements.

KEYWORDS

Laryngology, Vocal fold palsy, Vocal fold injection, Light guidance, Medical Device

OP-605

Understanding Tracheostomy: A Systematic Review Of Knowledge Among Healthcare Workers

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BACKGROUND & AIM

Background: Tracheostomy is a surgical procedure used to create a stoma in the neck to provide an alternate airway for people who are having difficulty breathing. It used to be the only feasible method for releasing upper airway obstruction. In an emergency, tracheostomy is typically the primary line of treatment, even if there are now alternative options.

Objective: This study aimed to assess the healthcare professionals' level of tracheostomy knowledge.

MATERIAL & METHODS

Method: The study used Preferred Reporting Items for Systematic Reviews and Meta-Analyses PRISMA guidelines to search five medical databases for relevant scholarly publications published between 2015 and 2024, focusing on terms like "tracheostomy", "stoma", "knowledge", and "health personnel". The study includes publications based on pre-defined criteria, such as peer-reviewed journals, papers focused healthcare worker with validated knowledge levels, English publication with full-text available from 2005 onward. The quality and item risk of bias of RCT studies were assessed using RevMan software version 5.1.4, and the risk of publication bias was shown using a funnel plot. In contrast, the risk of bias in the observational, cross-sectional, retrospective, and descriptive studies was evaluated using the Newcastle Ottawa Quality Assessment Scale.

RESULTS

Results: The results of the study indicate that healthcare providers have considerable knowledge gaps in tracheostomy care, with just 17% completing the essential care criteria. Many practitioners are unfamiliar with tracheostomy management, emergency interventions, and the prevention of ventilator-associated pneumonia. Training increases self-efficacy, but there are no long-term improvements in suctioning skills after training.

CONCLUSIONS

Conclusion: This study highlights the need for improved training and education for medical personnel about tracheostomy care. To fill in knowledge gaps, hone skills, and improve patient outcomes, it recommends creating extensive programs, conducting frequent assessments, creating customized content, using simulation-based learning, and fostering interdisciplinary teamwork.

KEYWORDS

Tracheostomy, Airway management, Healthcare workers, Knowledge assessment, Systematic review, Clinical training, Patient safety

OP-606

INVESTIGATION OF THE VALUE OF CERTAIN MORPHOMETRIC MEASUREMENTS AND CLASSIFICATIONS IN THE PREDICTABILITY OF DIFFICULT LARYNGEAL EXPOSURE DURING DIRECT LARYNGOSCOPY WITH RIGID LARYNGOSCOPE

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BACKGROUND & AIM

This study aims to investigate the value of preoperative morphometric measurements and clinical classifications in predicting difficult laryngeal exposure (DLE) during direct laryngoscopy performed with a rigid laryngoscope. Furthermore, we aimed to analyze the effects of different patient positions and laryngoscope sizes on glottic visibility.

MATERIAL & METHODS

Eighty-two patients scheduled for direct laryngoscopy at Başakşehir Çam and Sakura City Hospital were prospectively included. Preoperative demographic data, BMI, Modified Mallampati Score, Delilkan score, and various linear/angular morphometric measurements were recorded. Intraoperative glottic visibility was comparatively evaluated using four methods: narrow-lumen (IA) and wide-lumen (IB) laryngoscopes in a shoulder-supported position, and narrow-lumen (IIA) and wide-lumen (IIB) laryngoscopes in a neutral position without shoulder support.

RESULTS

The highest full view rate was achieved with method IIA at 84.1%, while the lowest was method IB at 20.7%. In method IB, advanced age (OR: 1.060) and an increase in thyromental distance in full extension (TMD-FE) (OR: 2.386) were independent predictors. Threshold values were 56.5 years for age, 8.50 cm for TMD-FE, and 6.50 cm for mentohyoid distance. Paradoxically, increased body weight and BMI improved visibility in method IIA ($p<0.05$), while mouth opening decreased the likelihood of a full view (OR: 0.378). In method IIB, MMS and TMD-NP showed significant differences.

CONCLUSIONS

Dynamic measurements such as thyromental distance in full extension (TMD-FE) are superior to static measurements in predicting difficult laryngeal exposure. Furthermore, our findings suggest that glottic visibility is significantly influenced by the choice of laryngoscope size and patient positioning. Utilizing a wide-lumen laryngoscope in a neutral position may optimize the view in challenging cases, providing clinicians with more reliable preoperative predictors for surgical planning.

KEYWORDS

Direct Laryngoscopy, Glottic Visibility Level, Morphometric Measurements, Difficult Laryngeal Exposure

OP-607

Voice as a Digital Biomarker: Preliminary Comparison of Classical Acoustic Analysis and Self-Supervised Learning Models

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BACKGROUND & AIM

Laryngeal diseases, with a clinical presentation ranging from functional dysphonia to malignant neoplasms, pose a significant challenge in terms of early diagnosis. In this context, the vocal signal emerges as a promising non-invasive clinical biomarker, capable of reflecting the structural integrity and efficiency of the vocal cords. However, many pathological acoustic alterations manifest as sub-acoustic patterns imperceptible to traditional clinical auscultation or before becoming visible on endoscopy. The objective of this study is to validate a system based on Artificial Intelligence (AI) aimed at the automatic identification of vocal pathologies through advanced machine learning models.

MATERIAL & METHODS

This prospective, controlled observational study included 200 adults, equally divided into healthy controls (n=100) and patients with laryngeal pathology (n=100), recruited from three clinical centers. Participants performed three standardized voice tasks via smartphone: sustained /a/, repetition of /pa/, and reading of phonetically balanced sentences. After pre-processing, acoustic features such as F0, jitter, shimmer, and HNR were extracted. Classical approaches based on Praat features and machine learning classifiers were compared with self-supervised learning models, including wav2vec2, HuBERT, and Voc2Vec, evaluated both with fixed weights and end-to-end fine-tuning. Finally, predictions from individual recordings were combined through majority voting to obtain a single classification for each subject.

RESULTS

Evaluations performed on the independent test set (40 unrelated speakers) highlighted the clear superiority of end-to-end (E2E) trained models over fixed-weight configurations and classical acoustic analysis. The best overall system was the E2E approach based on the Voc2Vec (HuBERT) model, specialized in nonverbal vocalizations, which achieved 95.0% accuracy, sensitivity, and specificity at the patient level, with an AUC of 0.992 (correctly identifying 19 out of 20 pathological patients and 19 out of 20 healthy subjects). Among traditional approaches, the Praat + SVM combination showed solid sensitivity (95.0%), but lower specificity (75.0%).

CONCLUSIONS

Self-supervised learning (SSL) models that have been appropriately optimized end-to-end demonstrate excellent performance in the automated and non-invasive screening of laryngeal pathologies. The specialization of these models for specific vocalization tasks (Voc2Vec) offers a clear competitive advantage over generic language models. Despite the promising results supporting clinical triage, external validations on larger, more balanced cohorts will be necessary to confirm their reliability and applicability in heterogeneous clinical settings.

KEYWORDS

Artificial Intelligence, Dysphonia, Vocal Analysis, Deep Learning, Mobile Health, Laryngeal Screening.

OP-608

Procedure-Specific Phonatory Outcomes In Unilateral Vocal Fold Paralysis

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BACKGROUND & AIM

Unilateral vocal fold paralysis (UVFP) is a common cause of dysphonia and can be treated with type I thyroplasty (TP1), arytenoid adduction (AA), combined TP1+AA, or fat injection laryngoplasty (FIL), depending on the glottal gap and the presence of vertical level difference. While TP1 and FIL primarily address horizontal glottal insufficiency with closely approximated vocal processes during phonation, AA is indicated for a posterior glottal gap at the vocal processes, often with a vertical level difference. We hypothesized that procedure selection based on these pathophysiologic features would yield favorable postoperative phonatory outcomes.

MATERIAL & METHODS

We retrospectively reviewed 309 consecutive patients with UVFP who underwent TP1, AA, TP1+AA, or FIL at a single institution between 1996 and 2024. Patients lacking preoperative data or any postoperative phonatory assessment were excluded, leaving 293 patients for analysis: AA alone, 20; TP1 alone, 77; TP1+AA, 68; and FIL, 128. Postoperative values at 3-6 months were preferentially analyzed; when unavailable, the nearest later postoperative value or the 1-month value was adopted. Maximum phonation time (MPT), mean flow rate (MFR), pitch perturbation quotient (PPQ), and amplitude perturbation quotient (APQ) were compared before and after surgery and across procedure groups.

RESULTS

All procedures showed significant postoperative improvement in aerodynamic and acoustic parameters overall ($p<0.0001$). Because AA alone was uncommon and accounted for few cases, between-group interpretation mainly focused on TP1 alone, TP1+AA, and FIL. Preoperatively, TP1 showed significantly shorter MPT and higher MFR, PPQ, and APQ than FIL, despite both procedures generally being indicated for patients without marked vertical level difference. Postoperatively, FIL and TP1+AA showed significantly longer MPT than TP1 alone. FIL and TP1+AA also demonstrated significantly lower postoperative MFR than TP1 alone. In addition, FIL showed significantly lower postoperative PPQ and APQ than either TP1 alone or TP1+AA.

CONCLUSIONS

Procedure-specific surgical management for UVFP was associated with favorable postoperative phonatory outcomes. TP1+AA provided better postoperative aerodynamic outcomes than TP1 alone, while FIL was associated with more favorable postoperative acoustic outcomes than TP1 alone or TP1+AA. Although TP1 alone improved voice function, FIL and TP1+AA appeared more advantageous in postoperative phonatory performance when appropriately selected.

KEYWORDS

Unilateral vocal fold paralysis, Type I thyroplasty, Arytenoid adduction, Autologous fat injection laryngoplasty

OP-609

Disease Regression Of Contralateral Reactive Lesions Following Office-Based Laryngeal Surgery

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BACKGROUND & AIM

Contralateral reactive lesions (CRLs) have been described in patients with benign vocal fold lesions but their treatment have rarely been described. The aim of this study is to describe the prevalence and morphology of vocal fold contralateral reactive lesions in patients with vocal fold polyps or cysts, and to report disease regression following office-based laryngeal surgery (OBLS).

MATERIAL & METHODS

Medical records and video recordings of patients with vocal fold polyps or cysts who underwent OBLS between November 2023 and September 2025 were reviewed. Demographic data included age, gender, history of smoking, history of reflux disease, type of vocal fold pathology, and type of office-based laryngeal procedure. Prevalence, morphology, and disease regression of CRLs were assessed by two otolaryngologists who independently reviewed the video recordings of patients included in this study.

RESULTS

Twenty-six males and 19 females were included in the study. The mean age was 48.9 ± 14.9 years. The prevalence of CRLs was 60%. Most of these lesions were fibrous. Eighteen lesions were treated with ILSI, and 8 lesions were treated with the blue laser and steroid injection. Five patients were lost to follow-up. Analysis of 21 CRLs showed complete disease regression in 52.4% of cases, and partial disease regression in 47.6% of cases. There was no statistically significant difference in disease regression between the two treatment subgroups ($p = 0.284$). There was a statistically significant difference in total disease regression of the primary lesion between those who had partial vs. complete disease regression of their CRL ($p < 0.001$).

CONCLUSIONS

CRLs are common in patients with vocal fold polyps and cysts. All lesions regressed partially or completely following OBLS using the blue laser and/or steroid injection.

KEYWORDS
contralateral reactive lesion; office-based; vocal fold cysts; vocal fold polyps.

OP-610

Biomechanical Voice Analysis As A Screening Tool For Reinke's Edema Identification In Women

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BACKGROUND & AIM
Reinke's edema is a benign disease of the vocal fold caused by smoking and excessive vocal effort, that usually leads to chronic dysphonia, especially in women. Diagnosis requires direct evaluation of the vocal folds using videolaryngoscopy. The biomechanical analysis of the voice makes it possible to obtain from a sound sample a set of parameters that describe the pattern of voice production associated with the specific architecture of each vocal fold. The objective is to identify the characteristic vocal production pattern in Reinke's edema, as well as analyzing the validity of this methodology for screening the pathology.

MATERIAL & METHODS
The study was performed with a sample of 188 women from 26 to 74 years old separated in 3 groups: Control group, 52 participants; Reinke's edema Group, 39 patients; Vocal Fold Pathology-no Reinke's edema, 97 patients. All the patients were evaluated by biomechanical analysis tool App Online Lab VCS® by Voice Clinical Systems®.

RESULTS
It is observed that a decrease in F0 (Pr01), an increase in the mucosal wave in the opening phase (Pr20), a shortened closure phase (Pr04) and the presence of mass effect (Pr22) are the main features that characterize Reinke's edema compared to the control group with broad statistical significance (p<0,001). These results establish that the screening based on the joint presence of the decrease in F0 (Pr01) and the increase in the mucosal wave effect (Pr19/Pr20) presents high sensitivity and specificity indices: Group control vs. Reinke's edema, Specificity: 0.85, Sensitivity: 0.85; Reinke's edema vs. Vocal Fold Pathology-no Reinke's edema, Specificity: 0.93, Sensitivity: 0.85.

CONCLUSIONS
Biomechanical voice analysis objectively identifies voice patterns in women with Reinke's edema, aiding in effective screening.

KEYWORDS
Laryngeal cancer; Reinke's edema; Voice pathology; Biomechanical Analysis; Mucosal wave; Laryngeal Anatomy.

OP-611

Presbylarynx And Laryngeal Asymmetry As Predictors Of Dysphonia In Patients 65 And Over

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BACKGROUND & AIM
Objectives/Hypothesis: Presbyphonia and presbylarynx are both common and readily observed in an aging population. Presbylarynx and laryngeal asymmetry increase in incidence with age and are visible on videostroboscopy. However, neither presbylarynx nor laryngeal asymmetry have been definitively connected with patient-reported dysphonia related to the aging voice. The purpose of this study was to determine if videostroboscopy could be used to link presbylarynx or laryngeal asymmetry with patient-reported dysphonia (pathologic presbyphonia) in the absence of additional laryngeal pathology.

MATERIAL & METHODS
Methods: This was a retrospective chart review of consecutive patients 65 and over presenting to an academic voice and swallowing center. 200 patients were included: 100 with voice complaints and 100 without voice complaints. Their videostroboscopic exams were reviewed during concurrent sessions by three fellowship-trained laryngologists for findings of presbylarynx and laryngeal asymmetry.

RESULTS
Results: Of 200 patients, the median age was 72 (65-95) and 127 (63.5%) were female. 146 (73%) had all 3 measured findings of presbylarynx (vocal fold bowing, vocal process prominence in abduction, and vocal process contact preceding midfold contact at initial adduction). 171 (85.5%) patients had overall laryngeal asymmetry, 166 (83%) had phase asymmetry, and 131 (65.5%) had asymmetric speed or range of motion of the vocal folds on videostroboscopy. Only 24 had all 3 asymmetric findings of increased ventricular show, contralateral false vocal fold contraction, and interarytenoid cleft tilt. The dysphonia group had a significantly higher VHI-10 (13 vs 2) and lower BMI (26.5 vs 28.3) than the non-dysphonia group but did not differ in age, gender, nor height. No videostroboscopic exam features differed

between those two groups. Gender, age, and height were associated with findings of presbylarynx but not with dysphonia.

CONCLUSIONS

Conclusions: In this study, standard clinical videostroboscopy could not be used to associate laryngeal asymmetry nor findings of presbylarynx with dysphonia in patients 65 and over. The complaint of dysphonia was consistent with VHI-10 scores. Pathologic presbyphonia remains a complaint without a universal distinguishing group of predictive features, complicating patient care and treatment.

KEYWORDS

presbylarynx, vocal fold paresis, laryngeal asymmetry, pathologic presbyphonia

OP-612

Objective Voice Outcomes Following Thyroid Surgery: Prospective Assessment Using Acoustic Analysis, Videolaryngostroboscopy, And VHI-10

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BACKGROUND & AIM

Thyroid surgery is widely performed for benign and malignant thyroid diseases. Although preservation of the recurrent laryngeal nerve is a primary surgical goal, patients may still experience postoperative voice alterations even in the absence of overt nerve injury. These changes are thought to arise from surgical manipulation, intubation-related trauma, or transient neuromuscular dysfunction. This study aimed to comprehensively evaluate early and mid-term voice outcomes following thyroid surgery using objective acoustic analysis, videolaryngostroboscopy (VLS), and patient-reported voice handicap.

MATERIAL & METHODS

All patients underwent standardized preoperative, postoperative 1-month, and postoperative 3-month assessments including acoustic voice analysis (F0, jitter, shimmer, harmonicity), VLS examination, and Voice Handicap Index-10 (VHI-10).

Paired comparisons were performed between time points using appropriate statistical methods. Continuous variables were analyzed using paired tests, while categorical VLS findings were evaluated using McNemar analysis. Statistical significance was defined as $p<0.05$.

RESULTS

Sixteen patients were prospectively included.The mean age was 51.4 ± 11.4 years; 68.8% were female and 31.2% were male.Surgical procedures included lobectomy (87.5%) and total thyroidectomy (12.5%).

Preoperatively,all patients demonstrated normal VLS findings.

At postoperative 1 month, jitter increased significantly from 0.543 ± 0.181 to 0.578 ± 0.394 (p=0.031), accompanied by a significant rise in VHI-10 scores from 4.81 ± 9.44 to 7.63 ± 9.37 (p=0.012), indicating early subjective voice deterioration. No significant changes were observed in F0 or shimmer.

VLS evaluation at 1 month revealed significant deterioration in glottic closure (p=0.039), mucosal wave (p=0.021), amplitude (p=0.021), and periodicity (p=0.021).

At postoperative 3 months, shimmer decreased significantly from 3.33 ± 1.26 to 2.01 ± 0.59 (p=0.041), while VHI-10 scores improved significantly to 1.81 ± 3.27 (p=0.018).

Direct comparison between postoperative 1-month and 3-month findings demonstrated significant recovery in jitter (p=0.027), shimmer (p=0.018), VHI-10 scores (p=0.006), and VLS parameters including mucosal wave, amplitude, and periodicity (p=0.046).

CONCLUSIONS

Thyroid surgery is associated with early postoperative voice alterations detectable both objectively and subjectively. However, significant functional recovery occurs by the third postoperative month, suggesting that most voice changes are transient rather than permanent.

KEYWORDS

Thyroid Surgery, Voice Outcomes, Videolaryngostroboscopy, Acoustic Voice Analysis, VHI-10

OP-613

Development And Validation Of A Transformer Electronic Laryngoscope Deep Learning Model For Diagnosis Of Vocal Cord Lesions

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BACKGROUND & AIM

Vocal fold lesions have diverse morphology, making accurate diagnosis challenging. Artificial intelligence (AI) can aid laryngoscopic analysis, but robust multi-modal and multi-center models remain limited. This study developed and validated a

Pyramid Transformer model for simultaneous classification and segmentation of vocal fold lesions using white light imaging (WLI) and narrow-band imaging (NBI), aiming to improve diagnostic accuracy and support clinical decision-making.

MATERIAL & METHODS

A total of 3,543 WLI and 1,906 NBI images from three medical centers were retrospectively analyzed. Lesions were categorized into six types. A Pyramid Transformer model integrating feature pyramid and reverse attention modules was developed. Ten-fold cross-validation was used for internal validation, with two independent cohorts for external validation. Model performance was assessed via AUC, accuracy, mIoU, and clinical utility metrics including Grad-CAM and DCA.

RESULTS

The model achieved high AUCs in internal (WLI: 0.9956; NBI: 0.9881) and external validation cohorts (WLI: 0.9616–0.9799; NBI: 0.9736–0.9852). Mean mIoU reached 0.7429 internally and 0.7287–0.7231 externally. It accurately localized lesions. Model assistance significantly improved junior and senior surgeons' diagnostic accuracy and efficiency.

CONCLUSIONS

The Pyramid Transformer model enables accurate, simultaneous classification and segmentation of vocal fold lesions on WLI/NBI images with robust multi-center generalizability. It enhances diagnostic performance and efficiency for clinicians, especially juniors. This AI tool holds promise as a real-time auxiliary system for precise laryngeal lesion diagnosis in clinical practice.

KEYWORDS

Vocal fold lesions; Electronic laryngoscopy; White light imaging; Narrow-band imaging; Transformer; Deep learning; Artificial intelligence; Medical image analysis

OP-614

Clinical And Radiological Predictors Of Retropharyngeal Abscesses In Deep Neck Infections

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BACKGROUND & AIM

Retropharyngeal abscesses (RPAs) are severe deep neck infections that require rapid intervention to prevent life-threatening complications. This study aimed to evaluate the clinical, laboratory, and radiological risk factors that predict the need for intensive care unit (ICU) admission and surgical drainage in adult patients with RPAs.

MATERIAL & METHODS

A retrospective review was conducted on patients treated for RPAs at our center between January 2013 and December 2023. Of the 64 initial cases, 57 adults were included in the final analysis after excluding pediatric patients and incomplete records. We analyzed the impact of demographics, diabetes mellitus (DM) status, admission laboratory markers (C-reactive protein [CRP], white blood cell [WBC] count), and radiological abscess size on the necessity for ICU admission and surgical intervention. Additionally, Receiver Operating Characteristic (ROC) curves were generated to assess the predictive value of these variables for ICU admission.

RESULTS

The cohort's mean age was 37.7 ± 16.7 years, with 9 patients (15.8%) requiring ICU care. Multivariate logistic regression identified DM (OR=3.61, 95% CI: 1.31–9.92, p=0.01), admission CRP level (OR=1.01, 95% CI: 1.00–1.02, p=0.03), and abscess size (OR=1.09, 95% CI: 1.02–1.18, p=0.02) as independent predictors of ICU admission. ROC analysis for CRP yielded an area under the curve (AUC) of 0.87; a 200 mg/L cut-off achieved 100% sensitivity and 80.9% specificity. Abscess size demonstrated an AUC of 0.81, with a 30 mm cut-off providing 88.9% sensitivity and 71.4% specificity. None of the evaluated parameters significantly correlated with the need for surgical drainage.

CONCLUSIONS

Comorbid DM, elevated CRP levels, and larger abscess dimensions independently predict the need for intensive care in adults with RPAs. The strong discriminative capacity of admission CRP and radiological abscess size highlights their critical utility in early clinical risk stratification and guiding targeted treatment strategies.

KEYWORDS

Retropharyngeal abscess; deep neck infection; C-reactive protein; abscess size; intensive care unit; risk factors

OP-615

Type III Thyroplasty For Refractory Puberphonia: A Step-By-Step Surgical And Anaesthetic Guide

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BACKGROUND & AIM

Background

Puberphonia, or mutational falsetto, is a functional voice disorder characterized by the failure of the male voice to transition to a lower pitch during puberty. Despite a morphologically normal larynx, the persistence of a high-pitched voice can lead to profound psychosocial distress, social withdrawal, and professional limitations. While voice therapy remains the gold standard for initial management, a cohort of patients exhibits resistance to vocal exercises, necessitating surgical intervention to achieve a lower pitch.

Aim

To describe the surgical technique of Type III Thyroplasty, evaluate its efficacy in long-term pitch reduction, and discuss intraoperative strategies to optimize vocal outcomes in refractory puberphonia.

MATERIAL & METHODS

Methods & Surgical Technique

This presentation outlines a standardized approach to Type III Thyroplasty performed under local anesthesia with conscious sedation. Key surgical steps include:

· Anaesthesia explaining the details of an Ultrasound-Guided Cervical Plexus Block.

· Positioning & Exposure,

· Detailed surgical steps,

· Intraoperative voice monitoring Utilizing real-time patient phonation,

· Stabilization and securement of the thyroid framework.

RESULTS

Results

Postoperative analysis demonstrates a significant reduction in the fundamental frequency (F0), typically shifting from a pre-operative range of 200–250 Hz to a gender-appropriate 100–120 Hz. Beyond objective acoustics, patients report marked improvements in the Voice Handicap Index (VHI-10). We address common challenges such as local anaesthetic over dose and avoiding endolaryngeal mucosal penetration.

CONCLUSIONS

Conclusion

Type III Thyroplasty is a robust and predictable corrective procedure for patients with puberphonia who fail conservative therapy. By physically shortening the vocal folds, this "relaxation" technique provides immediate and permanent pitch lowering. Success hinges on precise chondrotomies and intraoperative vocal feedback to ensure the patient's "new" voice aligns with their physical identity.

KEYWORDS

Thyroplasty, Puberphonia, Fundamental frequency , VHI

OP-616

Visual Diagnostic Performance Of Untrained Generic Llms In Benign-Malignant Differentiation Of Laryngeal Lesions: Comparison With ENT Specialist And Resident

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BACKGROUND & AIM

The objective of this study is to determine the inherent diagnostic tendencies toward benign or malignant classifications of non-fine-tuned, generic Large Language Models (LLMs) when evaluating endoscopic photographs of laryngeal lesions. Furthermore, by comparing their diagnostic performance with an otolaryngology specialist and a resident using a visual-only approach—without any clinical patient history—this study aims to investigate the suitability and reliability of these artificial intelligence tools for daily use (for preliminary evaluation or consultation purposes) by resident physicians or individuals without medical expertise.

MATERIAL & METHODS

This retrospective study included 65 patients who underwent laryngeal biopsy between August 2025 and January 2026. Based on histopathology, lesions were categorized as benign (n=38; including low-grade dysplasia) or malignant (n=27; including moderate/high-grade dysplasia and carcinoma). A single physician extracted standardized high-resolution JPEG frames from laryngostroboscopy recordings. An otolaryngologist, a resident, and two non-fine-tuned LLMs (Gemini, ChatGPT) evaluated these single static images, completely blinded to clinical history. To prevent context contamination, images were uploaded to LLMs in independent chat sessions (zero-shot approach) using a standardized prompt forcing binary classification. Diagnostic metrics (Sensitivity, Specificity, PPV, NPV, Accuracy) and inter-rater agreement (Cohen's/Fleiss' Kappa) were calculated. Cochran's Q and McNemar tests were used for comparisons. Post-hoc power analysis via G*Power (v3.1) for the Exact McNemar test confirmed 87.6% statistical power (>80% threshold) at $p < 0.05$.

RESULTS

In the conducted analyses, while the correct classification rate of laryngeal lesions as benign or malignant by the otolaryngologist was 76.9%, the overall accuracy of the generic LLMs (Gemini and ChatGPT) was determined to be 55.4%, revealing a statistically significant difference in favor of the specialist physician ($p < 0.05$). Although the accuracy of the resident (67.7%) was higher than that of the artificial intelligence models, no statistically significant difference was detected between them ($p > 0.05$). Even though the artificial intelligence models demonstrated high sensitivity in detecting malignant cases (Gemini 82.8%, ChatGPT 69.0%), their specificity rates (33.3% and 44.4%, respectively) remained considerably low compared to the otolaryngologist (77.8%). Fleiss' Kappa analysis indicated that the diagnostic agreement between the two artificial intelligence models was poor ($\kappa=0.156$). The tendency of the models to label benign lesions as malignant (false positivity) was found to be markedly higher compared to the specialist physician.

CONCLUSIONS

While generic LLMs show potential in detecting laryngeal malignancies, their overly defensive nature and low specificity lead to high false-positive rates. An expert physician's visual discriminative ability on two-dimensional images remains vastly superior. Currently, using these models as clinical decision support risks increasing unnecessary biopsies, while layperson use for preliminary triage may trigger unwarranted anxiety. Ultimately, AI is not a standalone diagnostic tool for laryngeal cancer based solely on visual data; it functions only as an adjunct requiring integration with comprehensive clinical history and expert physical examination to achieve true clinical value

KEYWORDS

Artificial Intelligence,Large Language Models,Laryngeal Neoplasms,Laryngoscopy,Diagnostic Accuracy

OP-617

Chronic Laryngopharyngeal Reflux And Associated Benign, Premalignant, And Malignant Laryngeal Lesions

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BACKGROUND & AIM

To evaluate the prevalence of benign, premalignant, and malignant laryngeal lesions among adult patients diagnosed with chronic laryngopharyngeal reflux.

MATERIAL & METHODS

A retrospective observational study was conducted at a tertiary otorhinolaryngology center. Medical records of 46 adult patients diagnosed with chronic laryngopharyngeal reflux (LPR) between January 2026 and May 2026 were retrospectively reviewed. The study population consisted of 28 males and 18 females aged 18–65 years. Clinical characteristics, reflux-related symptoms, smoking status, videolaryngoscopic findings, and associated laryngeal lesions were analyzed.

RESULTS

A total of 46 patients with chronic LPR were included in the study. Thirty-six patients (78.3%) were active smokers. Videolaryngoscopic examination revealed a spectrum of laryngeal lesions. Vocal fold leukoplakia was identified in 3 patients (6.5%), vocal fold polyps in 3 patients (6.5%), Reinke's edema in 2 patients (4.3%), and a vocal fold cyst in 1 patient (2.2%). Histologically confirmed laryngeal squamous cell carcinoma was diagnosed in 2 patients (4.3%). Chronic inflammatory laryngeal findings, including erythema, edema, pachydermia, and posterior commissure hypertrophy, were observed in the majority of patients. Premalignant and malignant lesions were predominantly identified among smokers with persistent reflux-related symptoms.

CONCLUSIONS

The presence of premalignant and malignant laryngeal lesions among patients with chronic laryngopharyngeal reflux suggests a potential association between long-term reflux exposure and laryngeal mucosal pathology. Although tobacco smoking remains the principal established risk factor for laryngeal carcinogenesis, chronic reflux-related inflammation may act as an additional contributing factor. Early recognition and management of LPR, particularly in smokers, may help reduce chronic mucosal injury and facilitate earlier detection of laryngeal lesions. Larger prospective studies are needed to clarify the independent role of LPR in laryngeal carcinogenesis.

KEYWORDS

Laryngopharyngeal reflux (LPR); Laryngeal cancer; Premalignant laryngeal lesions; Leukoplakia; Smoking; Carcinogenesis.

OP-618

Embryonal Rhabdomyosarcoma Of The Larynx In An Adult: A Systematic Review And Case Report

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BACKGROUND & AIM

Embryonal rhabdomyosarcoma (ERMS) of the larynx in adults is an

exceptionally rare and aggressive malignancy, accounting for less than 1% of laryngeal tumors. Its tendency to mimic benign laryngeal pathology frequently results in delayed or missed diagnosis. Furthermore, the extreme scarcity of documented cases has precluded the establishment of standardized, evidence-based treatment protocols.
The study aims to systematically evaluate the clinical characteristics, diagnostic challenges, and therapeutic strategies for adult laryngeal ERMS, synthesizing current evidence alongside a novel case report to guide multidisciplinary clinical management.

MATERIAL & METHODS

A systematic review was conducted searching PubMed, Embase, Scopus, Web of Science, Google Scholar, and ClinicalTrials.gov (updated through February 5, 2026). The inclusion criteria encompassed case reports and case series detailing adult patients (≥18 years) with histopathologically confirmed laryngeal ERMS. Risk of bias was evaluated independently using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Case Reports.

RESULTS

The review identified 15 eligible literature studies, which, alongside the present case, yielded a total cohort of 16 patients. The population was predominantly male (n=12; 75.0%), with a mean age of 39.8 years. The primary clinical presentations were hoarseness (n=12; 75.0%) and dyspnea (n=8; 50.0%), frequently masquerading as benign exophytic lesions. Distant metastasis at initial diagnosis was extremely rare (n=1; 6.3%). Surgical resection served as the primary therapeutic modality in 81.3% (n=13) of cases. Among the 14 patients with available follow-up data (median follow-up, 32 months; range, 6–216 months), local recurrence was observed in two cases (12.5%). Adjuvant therapy was highly individualized; 50.0% of patients received no further oncological treatment following primary surgery. The newly reported case details a 69-year-old female successfully managed with organ-preserving transoral laser microsurgery after an initial misdiagnosis of a benign polyp.

CONCLUSIONS

Adult laryngeal ERMS presents a profound diagnostic challenge due to its benign macroscopic appearance. Clinicians must maintain a high index of suspicion for atypical or rapidly recurring laryngeal lesions. Definitive diagnosis relies strictly on immunohistochemical profiling (desmin, myogenin, MyoD1). Complete surgical excision with negative margins, often attainable via organ-preserving approaches, constitutes the optimal primary intervention for the disease.

KEYWORDS

larynx, laryngeal rhabdomyosarcoma in adults, laryngeal neoplasms, systematic review

OP-619

Tracheal Stoma: A Classification Proposal For Tracheostomy

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BACKGROUND & AIM

Tracheostomy is a critical airway procedure performed across diverse acute and chronic conditions. While tracheal stoma complications including stenosis, dehiscence, and peristomal infection significantly impact ventilation, phonation, and quality of life, no standardized classification system currently exists. This paper proposes a structured, morphology-based classification of tracheal stoma complications to improve interdisciplinary communication, guide individualized management decisions, and provide an educational and research framework applicable to both temporary and permanent tracheostomies.

MATERIAL & METHODS

A structured classification system was developed through systematic review of the literature and expert clinical experience in tracheostomy management. Complications were categorized based on three parameters: tracheal lumen patency, directionality of tissue breakdown, and presence of inflammatory or physiological markers. Four primary types were defined, each with two subtypes, yielding a tiered eight-subtype framework. The system was designed for practical application across ICU, surgical, and outpatient settings by multidisciplinary teams.

RESULTS

Four types of tracheal stoma complications were identified. Type 1 (Stenotic Stoma) involves fibrotic concentric narrowing, subdivided by degree: subtype a (<50% lumen narrowing) and subtype b (>50% lumen narrowing). Type 2 (Lateral Dehiscence without Lumen Change) describes lateral peristomal tissue breakdown, subdivided by presence or absence of erythema. Type 3 (Superior-Inferior Dehiscence without Lumen Change) represents vertical tissue separation without lumen compromise, similarly subdivided by erythema. Type 4 (Dehiscence with Lumen Change) describes severe structural disruption with tracheal distortion, subdivided by the presence or absence of air leak, indicating the degree of physiological compromise.

CONCLUSIONS

This novel classification system provides a clinically grounded, actionable framework for evaluating tracheal stoma complications. By integrating anatomical and functional parameters, it standardizes documentation, facilitates interdisciplinary communication, and supports both clinical education and research. Applicable to temporary and permanent tracheostomies, it has the potential to improve patient outcomes. Prospective validation studies assessing interobserver reliability and clinical correlation are warranted.

KEYWORDS

Tracheostomy, tracheal stoma, stoma complications, stoma classification, tracheal stenosis, stoma dehiscence, airway management, peristomal wound, tracheostomy tube, airway complications

OP-620

Sociodemographic And Diagnostic Characteristics Of Patients With Dysphonia At A Tertiary Voice Unit In Chile

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BACKGROUND & AIM

Dysphonia is a prevalent health condition that affects communication, quality of life, and work productivity. Globally, prevalence estimates vary widely and are influenced by age, occupational voice demands, lifestyle factors, and comorbidities. Dysphonia is associated with multiple etiologies, including benign vocal fold lesions, inflammatory conditions, functional disorders, laryngopharyngeal reflux, neurologic diseases, and age-related changes. In Chile, there is a lack of comprehensive data regarding sociodemographic and diagnostic characteristics of this population. This study aims to characterize the sociodemographic profile and describe the diagnoses of patients who consult for dysphonia at a voice unit in a University healthcare network in Chile.

MATERIAL & METHODS

A total of 1,079 patients with dysphonia were assessed at the Voice Unit of a university hospital. The variables analyzed included age, sex assigned at birth, occupation, smoking status, laryngeal diagnoses, patient-reported outcome measures (PROMs), and GRBASI perceptual voice ratings.

RESULTS

Of the 1079 patients with dysphonia who were included in this study, 418 were male(38.7%) and 661 were female(61.3%). The age groups were as follows: under 18 years(n=68); 19–40 years(n=353); 41–60 years(n=383); and >60 years(n=162). The predominant professions of the patients were teachers, retired individuals and students. Smoking was reported by 17.7% patients. With regard to the etiology of dysphonia, in children(1–17 years old), cyst(n=23;33,8%), nodules(n=20;29,4%). In adults (18–60 years old), polyps(n=142;19.3%), muscle tension dysphonia(n=107;14.5%) and vocal paralysis(n=67;9.1%) predominated. In patients >60 years, vocal paralysis(n=47;17%), presbylarynx(n=30;10.9%), and vocal fold neoplasm(n=22;8%) predominated. Based on videolaryngoscopic findings, the sample group was divided into functional dysphonia(n=174), organic dysphonia(n=679) and movement disorders(n=226). The most frequently laryngeal pathologies were polyps, muscle tension dysphonia and vocal fold paralysis. Organic dysphonia was more common in all age groups and movement disorders dysphonia presented a worse voice quality and voice-related quality of life.

CONCLUSIONS

Among the 1,079 patients evaluated for dysphonia, adults and women represented the majority. The underlying causes varied according to age group: cysts and nodules were more frequent in children, polyps and muscle tension dysphonia predominated in adults, and vocal fold paralysis was more common in older individuals. This is the first study in Chile to report the prevalence and diagnostic distribution of dysphonia across a large, age-diverse cohort attending a Voice Unit within an Otolaryngology Department.

KEYWORDS

Dysphonia, Voice disorders, Laryngeal pathology, Etiology, Quality of life.

OP-621

Standards Of Care In Gender-Affirming Laryngeal Surgery For Transfeminine Individuals: An International Delphi Consensus Study

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BACKGROUND & AIM

Gender-affirming voice interventions are a recognized and valued aspect of gender-affirming care, yet standardized clinical guidelines remain limited, highlighting the need for evidence-based directives. This study aims to establish consensus-based recommendations for standards of care in gender-affirming laryngeal surgery (GALS) for transfeminine individuals.

MATERIAL & METHODS

A modified Delphi consensus methodology was designed to achieve agreement among expert clinicians who demonstrated experience in performing or managing GALS. A consensus committee was established, and a panel of experts, including laryngologists and speech-language therapists were chosen. The panel consisted of full and associate members of the IATVS (International Association of Transvoice Surgeons), supplemented by select non-member physicians and speech-language therapists with recognized academic and clinical expertise. Statements were derived from current clinical practices, published literature, and expert input, and rated by panelists using a Likert scale across three anonymized online survey rounds. Essentiality items were additionally incorporated, to prioritize perioperative management recommendations. Consensus was defined as more than 70% agreement.

RESULTS

The consensus process was conducted over a 5-month period, with three iterative voting rounds. The expert panel comprised 33 experts. Twenty-three initial statements were included in the first voting iteration. After the initial round, 10 statements were modified, 8 statements were not accepted and 1 new statement was added. All new statements were accepted in round 2 and 2 new statements were added and subsequently accepted in round 3. A total of 18 statements have been included in the final consensus. Final statements are covering all aspects surrounding GALS, including preoperative evaluation, indication for surgery, surgical consent and postoperative management.

CONCLUSIONS

This study represents the first standard of care recommendations for gender-affirming laryngeal surgery, using a modified Delphi design. We believe this consensus will allow standardized perioperative management and overall better quality of care in GALS for transfeminine individuals. Further research is still needed to refine voice therapy protocols, surgical techniques, and the socioeconomic impact of GALS.

KEYWORDS

Gender-affirming surgery; Gender-affirming care; Transgender persons; Phonosurgery; Practice guidelines

OP-622

Risk Factors Predicating Desaturation And Complications During Jet Ventilation In Endoscopic Airway Surgery

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BACKGROUND & AIM

Endoscopic airway surgery is a shared a sahred field between anaesthesia and surgeons to address this challenge. Jet ventilation is used in these procedures to maitain surgical access. However, it does not come without complications. The imapct of patient characteristics regarding intraoperative complications remains unclear, highlighting the need to identify risk factors for jet ventilation failure.

MATERIAL & METHODS

502 patients between May 2015 and November 2024 were reviewed. complications were recorded. Types of endoscopic surgery were recorded. The patients who destaureated beloiw 89% were identified.

RESULTS

of 52 cases who desaturated, 23/52 (44.2%) were males and 29/52 (55.8%) were females.

the average age is 52.6 years and jetting time was 32.1 minutes.

obesity was present in 33/52 (63.5%)

26.9% was ex-smoker.

CONCLUSIONS

Jet ventilation is well tolerated . Smoking and obesity are risk factors for desaturation and they need to be taking with extra precuation.

KEYWORDS

Jet ventilation , Airway surgery , endoscopic airway surgery, desaturation

OP-623

Impact Of HPV Vaccination On Surgical Burden In Recurrent Respiratory Papillomatosis: Preliminary Multi-Centre Hong Kong Data

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BACKGROUND & AIM

Recurrent respiratory papillomatosis (RRP) is a chronic HPV-driven disease requiring repeated surgeries. The intersurgical interval (ISI) reflects disease control, but real-world data on adjuvant HPV vaccination and other modifiers in Asian populations remain scarce. This multi-centre study evaluated RRP burden in Hong Kong and whether adjuvant HPV vaccination increases ISI independent of baseline disease severity and other therapies.

MATERIAL & METHODS

This ongoing multi-centre review includes all patients with clinically diagnosed RRP treated at three tertiary hospitals in Hong Kong from January 2000 to December 2026. Demographic, clinical, and operative data were collected. The primary outcome was ISI; for patients without recurrence, ISI equalled the time from last surgery to latest follow-up. Key variables included juvenile- versus adult-onset RRP, initial and highest Derkay scores, adjuvant therapies (e.g. cidofovir), and HPV vaccination status. For patients receiving adjuvant treatment, pre- and post- treatment ISI were compared. Statistical analyses were performed using SPSS version 27.0.

RESULTS

At interim analysis, 23 patients (16 male, 7 female) were included, with mean age at diagnosis 42.4 years old (95%CI 35.0-49.8) and mean follow-up 146.9 months (95%CI 92.1-201.6). Most (91.3%) had adult-onset RRP. Hoarseness of voice was the most common presenting symptom, with the true vocal folds the predominant site. The mean number of operations per patient was 9.48 (95%CI 3.1-15.9). The median ISI was 20.2 months (1-125.5), corresponding to 0.05 (0-0.33) surgeries per month. Nine patients received HPV vaccination a mean of 57.4 months (95%CI 6.2-108.7) after diagnosis. In these patients, median ISI increased significantly from 10 months (2.4-18.2) pre-vaccination to 29 months (4.8-73) post-vaccination ($p < 0.05$). ISI did not differ significantly with cidofovir use, Derkay scores, or age of onset. Six patients (27.3%) experienced surgical complications, most commonly anterior glottic webbing. HPV genotyping and serological response data are being collected.

CONCLUSIONS

Preliminary data from this Hong Kong multi-centre study suggest that adjuvant HPV vaccination is associated with longer ISI in RRP, independent of baseline severity or adjuvant therapy. Ongoing recruitment and HPV subtype may clarify predictors of vaccine response and refine adjuvant treatment strategies.

KEYWORDS

Recurrent respiratory papillomatosis, RRP, HPV vaccine

OP-624

Office-Based Steroid Injection For Benign Vocal Fold Lesions

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BACKGROUND & AIM

Hoarseness is a common complaint in laryngology outpatient clinics and can be classified into organic and functional causes. Among organic causes, benign vocal fold lesions—such as nodules, polyps, and cysts—are the most frequently observed. In recent years, office-based steroid injection under endoscopic guidance has become a new treatment option for patients with mild lesions. The aim of this study is to evaluate pre- and post-treatment voice quality and change of lesion size in patients diagnosed with benign vocal fold lesions and treated with office-based steroid injections by two physicians at a single medical center.

MATERIAL & METHODS

This study retrospectively reviewed patients diagnosed with benign vocal fold lesions who received outpatient steroid injections between 2018 and 2024 at a single medical center by two practitioners via cricothyroid approach. Pre- and post-treatment voice analyses were conducted, including VHI-10, GRBAS, MPT, intensity, F0, highest/lowest frequency, NHR, jitter, shimmer. Size of lesions were also measured. Statistical analysis was performed using paired t-tests with SPSS.

RESULTS

Out of 120 patients, 37 with complete data were included. Results showed significant improvements in VHI-10 and GRBAS after treatment ($p<0.05$). The mean lesion size decreased by 43.84%, which was statistically significant.

CONCLUSIONS

Outpatient endoscopic steroid injection is an effective alternative for patients unable or unwilling to undergo general anesthesia or microlaryngoscopic surgery, and it can significantly improve voice quality and lesion size.

KEYWORDS

Benign vocal fold lesions, office-based steroid injection

OP-625

Inhaled Methoxyflurane – A Novel Adjunct For Office-Based Laryngeal Procedures

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BACKGROUND & AIM

Methoxyflurane, an inhaled anesthetic introduced in the 1960s, has been repurposed at low doses as an emergency analgesic and is delivered via a handheld inhaler (Penthrox®). Its analgesic and anxiolytic properties may benefit patients undergoing awake laryngeal interventions. This study evaluated the safety and effectiveness of adding inhaled methoxyflurane to standard local anesthesia protocols for office-based laryngeal procedures.

MATERIAL & METHODS

A retrospective chart review was conducted on patients who self-administered Penthrox® prior to and during elective awake laryngeal procedures. Standard local anesthesia included nasal and topical laryngeal lidocaine application. Collected data included demographics, procedure type, and peri-procedural vital signs (HR, RR, O_2 saturation, SBP, DBP). Pain was rated on a 0–10 visual analogue scale. Descriptive analyses were performed, and the Wilcoxon Signed Rank test compared paired vitals.

RESULTS

Thirty-eight patients [22 men, median age 57 years (range 32–91), mean weight 78.2±14.1 kg] were included. Most underwent in-office laser ablation (32/38, 84.2%), with 6/38 (15.8%) receiving subglottic steroid injections. Average lidocaine use was 328.6±57.9 mg. Procedural completion was achieved in 37/38 cases (97.4%). Median intraoperative pain was 3/10 (range 0–10). Post-procedure O_2 saturation was slightly lower than baseline (96.1±2.0% vs 97.7±1.8%, $p<0.05$), while DBP increased modestly (87.6±11.6 vs 84.8±10.8, $p<0.05$). HR, RR, and SBP showed no significant changes. Reported side effects included drowsiness (23.7%), vomiting (10.5%), and dizziness (7.9%), with no major adverse events.

CONCLUSIONS

Inhaled methoxyflurane provides a safe and well-tolerated adjunct to local anesthesia for awake laryngeal procedures, supporting its role in optimizing patient comfort.

KEYWORDS

in office procedures, awake laryngeal procedures, in office laryngeal procedures

OP-626

Is Voice Rest Necessary After Vocal Fold Surgery?

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BACKGROUND & AIM

After vocal fold surgery it is common to recommend total voice rest for some days. A few latest studies reveal that it does not show significant differences in voice outcomes. Therefor this study may bring a new insight for future perspectives.

MATERIAL & METHODS

To perform a current literature review regarding latest knowledge of voice restrictions after vocal fold microsurgery and obtain suggestions for future voice use guidance.

RESULTS

The results of reviewed studies and collected data will be presented later.

CONCLUSIONS

The conclusions of this study with future proposals will be presented later.

KEYWORDS

Voice rest, normal voice use, micro-laryngeal surgery

OP-627

Laryngeal Diadochokinesis As A Potential Marker Of Vocal Stability Following Vocal Loading

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BACKGROUND & AIM

Acoustic and electroglottographic (EGG) measurements are commonly used to assess phonatory changes that occur following vocal loading tasks, which are used to determine the physiological limits and endurance of the voice. However, the sensitivity of laryngeal motor performance measures, such as laryngeal diadochokinesis (LDDK), regarding vocal stability remains unclear. This study investigated changes in EGG-jitter, cepstral peak prominence (CPP), and LDDK following vocal loading and evaluated whether LDDK can serve as a marker of vocal stability.

MATERIAL & METHODS

Vocal loading was induced by asking participants to read a text for 1 hour at approximately 80 dBA. Measurements were obtained at three time points: before vocal loading (T0), immediately after vocal loading (T1), and after a 15-minute rest period (T2). EGG and acoustic recordings were collected simultaneously. The data were derived from adductor LDDK (rate of /a/ syllable repetitions) and sustained vowel /a/ phonation tasks. LDDK-rate was analyzed using Motor Speech Profile software, while CPP was analyzed using the Analysis of Dysphonia in Speech and Voice software. Repeated measures ANOVA was conducted to examine changes over time, and Bonferroni correction was applied for pairwise comparisons.

RESULTS

EGG-jitter values showed a significant effect of time. A significant increase in jitter was observed following vocal loading (T0: 0.880±0.310; T1: 1.058±0.438; $p < .001$). After the rest period,EGG-jitter significantly decreased (T1–T2: $p < .001$); however, T2 values remained significantly different from baseline (T2: 0.987±0.343; T0–T2: $p = .043$). LDDK-rate values significantly decreased following vocal loading (T0: 4.373±0.945; T1: 3.887±0.743; $p < .001$) and increased again after rest (T2: 4.239±1.016; T1–T2: $p = .004$). CPP values significantly increased following vocal loading (T0: 10.73±1.33; T1: 11.90±1.42; $p = .001$) and significantly decreased after rest (T2: 10.98±1.54; T1–T2: $p = .016$).

CONCLUSIONS

The findings indicate that vocal loading leads to significant changes in both acoustic and electroglottographic voice parameters. The decrease in LDDK performance following vocal loading and its subsequent recovery after rest suggest that laryngeal motor performance may be sensitive to changes in vocal stability. These results support the potential use of laryngeal diadochokinesis as a marker for assessing functional changes associated with vocal loading.

KEYWORDS

Vocal loading; Laryngeal diadochokinesis (LDDK); Vocal stability

OP-628

AIRWAY MANAGEMENT IN THE PRESENCE OF CERVICAL CEREBROSPINAL FLUID FISTULA: A RARE AND HIGH-RISK CLINICAL DILEMMA

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BACKGROUND & AIM

Airway management in patients with complex cervical trauma is challenging. Prolonged mechanical ventilation in the presence of a cervical cerebrospinal fluid (CSF) fistula complicates tracheostomy due to the risk of CNS contamination, fistula worsening, and impaired tissue healing. Such cases are rare, and guidance for ventilator-dependent patients with active CSF fistula is limited. A literature review was performed to identify reported strategies and outcomes, highlighting the scarcity of data and reinforcing the clinical relevance of this scenario.

MATERIAL & METHODS

A 59-year-old male patient with traumatic tetraplegia underwent C7–T1 microdiscectomy, posterior fixation from C4 to C6, and C3–C7 laminectomy. By postoperative day 32, he remained ventilator-dependent via orotracheal intubation, exceeding conventional thresholds for prolonged intubation. Imaging revealed a right parathyroid hypodense collection (7.8 × 3 × 3.5 cm) extending into the superior mediastinum, with MRI confirming a cervical CSF fistula. The fistula's proximity to the tracheostomy site posed a high-risk clinical dilemma. A multidisciplinary team, including neurosurgery, otolaryngology, and intensive care specialists, conducted detailed anatomical assessment and coordinated surgical planning.

RESULTS

A stepwise airway management strategy was developed, prioritizing CSF fistula preservation while addressing the need for definitive airway access. Planning focused on minimizing intracranial contamination and tissue disruption. Airway management was executed according to this coordinated plan, emphasizing careful anatomical and procedural considerations throughout.

CONCLUSIONS

Cervical CSF fistula in ventilator-dependent patients represents a rare and complex airway challenge. Prolonged intubation requiring tracheostomy necessitates meticulous anatomical evaluation and multidisciplinary coordination. Integrating evidence from the literature can guide decision-making, while structured risk assessment and individualized planning are essential to ensure safe airway management in similarly high-risk cases.

KEYWORDS

Cervical cerebrospinal fluid fistula, Airway management, Prolonged intubation, Tracheostomy, Complex cervical trauma.

OP-629

Malignancy Rate Among Patients Presenting With Dysphonia

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BACKGROUND & AIM

The aim of this study was to determine the frequency of laryngeal malignancy among patients presenting with dysphonia and to evaluate malignancy rates according to age, sex, and accompanying clinical findings. Additionally, we aimed to analyze the association between symptom duration, risk factors, and malignancy in order to identify potential predictive parameters that may facilitate early diagnosis in clinical practice.

MATERIAL & METHODS

The patients included in the study were divided into six age groups: 30–40, 40–50, 50–60, 60–70, 70–80, and ≥80 years. The rate of malignancy was analyzed separately for each age group, and the distribution between groups was compared.

RESULTS

While dysphonia in the 30–40 age group was primarily attributable to vocal cord paralysis secondary to thyroid malignancy, primary laryngeal malignancies constituted the leading cause of dysphonia in patients over 40 years of age.

CONCLUSIONS

Dysphonia should be regarded as a potential warning symptom for underlying malignancy, especially in older adults. The age-dependent shift in etiology underscores the need for an age-stratified diagnostic approach in patients presenting with voice complaints.

KEYWORDS

Dysphonia, age, malignancy, voice disorder

OP-630

Surgical Treatment And Voice Therapy In Benign Vocal Fold Lesions: Evaluation Of Voice Quality With Objective And Subjective Voice Analysis

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BACKGROUND & AIM

This study aimed to evaluate the effects of postoperative voice therapy on voice quality in patients who underwent surgery for benign vocal fold polyps. The comparison was based on objective (PRAAT-based acoustic measures: fundamental frequency [F0], jitter, shimmer, noise-to-harmonics ratio [NHR], and maximum phonation time [MPT]) and subjective (GRBAS, Voice Handicap Index-10 [VHI-10], Voice-Related Quality of Life [V-RQOL]) voice assessment methods.

MATERIAL & METHODS

Twenty-seven patients aged between 18 and 65 years who were diagnosed with vocal fold polyp and underwent phonomicrosurgery were included. Patients were divided into two groups based on their treatment preferences: surgery only (n=14) and surgery combined with voice therapy (n=13). Voice analyses were performed preoperatively and at 3 months postoperatively. Objective parameters were measured using PRAAT software, and subjective evaluations were conducted using the GRBAS scale, Voice Handicap Index-10 (VHI-10), and Voice-Related Quality of Life (V-RQOL) questionnaire.

RESULTS

Both groups showed a general trend of improvement in voice parameters after surgery. However, a statistically significant difference was found only in the MPT parameter, which improved more prominently in the surgery+therapy group (p=0,014). No statistically significant differences were observed in other acoustic or subjective measures between groups.

CONCLUSIONS

Surgical treatment effectively improves phonatory efficiency in patients with vocal fold polyps. Postoperative voice therapy appears to provide an additional advantage, particularly by further enhancing phonation time, and contributes to overall functional recovery. The subtle changes in acoustic and perceptual measures may require longer follow-up periods to become

more pronounced. These findings support the integration of voice therapy as a complementary component of postoperative care to achieve optimal vocal rehabilitation.

KEYWORDS
laryngeal diseases, speech therapy, vocal cords, voice training

OP-631

Impact Of Endotracheal Intubation Duration On Voice Quality: Objective Acoustic Analysis And Subjective Outcomes

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BACKGROUND & AIM
Endotracheal intubation (ETI) is recognized as a potential source of mechanical trauma to laryngeal structures, resulting in postoperative hoarseness in up to 50% of patients undergoing general anesthesia. Among the variables associated with postoperative voice changes, operative duration has received comparatively little attention, particularly when assessed through both objective and subjective outcome measures. Studies simultaneously incorporating objective acoustic analysis and validated patient-reported outcome measures across different intubation durations remain scarce. This study aimed to evaluate the effect of intubation duration on voice quality using both modalities across the preoperative and postoperative periods.

MATERIAL & METHODS
This prospective observational study included 105 patients undergoing elective surgery under general anesthesia (51 female, 54 male; mean age 47.21±15.89 years), stratified by operative duration: <60 minutes (n=39), 60–120 minutes (n=24), and >120 minutes (n=42). Voice quality was assessed preoperatively and on postoperative days one and five using the Voice Handicap Index (VHI), Voice-Related Quality of Life scale (V-RQOL), fundamental frequency (F0), jitter (%), shimmer (%), and harmonics-to-noise ratio (NHR). Statistical analyses were performed using IBM SPSS Statistics 23.0. Generalized Estimating Equations were applied for repeated measures analysis, with age and comorbidities as covariates. Statistical significance was set at p<0.05.

RESULTS
No significant differences were observed between operative duration groups in any voice parameter, and no group-by-time interaction reached statistical significance. VHI scores transiently increased on postoperative day one and returned to baseline by day five (p=0.007). V-RQOL improved significantly by postoperative day five compared to day one (p<0.001). Jitter (%) peaked on postoperative day one and showed significant improvement by day five (p=0.009). NHR reached its highest value on postoperative day five (p<0.001). Shimmer (%) and F0 showed no significant temporal variation.

CONCLUSIONS
ETI causes transient, self-limiting voice changes independent of operative duration, with objective and subjective outcomes returning to preoperative levels by postoperative day five. To our knowledge, this is one of the few studies integrating both acoustic parameters and patient-reported voice outcomes across varying intubation durations, addressing a meaningful gap in the literature. These findings provide an evidence-based framework for preoperative counseling, particularly for professional voice users undergoing elective surgery.

KEYWORDS
Hoarseness, Intubation, Voice, Voice quality

OP-632

Effectiveness Of Supraglottoplasty In Supraglottic Exercise Induced Laryngeal Obstruction

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BACKGROUND & AIM

Background: Exercise-induced laryngeal obstruction (EILO), is a transient inspiratory narrowing of the laryngeal airway during exercise, causing exertional dyspnoea and limiting physical performance. When conservative therapy fails, supraglottoplasty may be considered as treatment for patients with severe supraglottic EILO.

Aims: To elaborate the effects of supraglottoplasty on laryngeal obstruction and respiratory symptoms in EILO patients compared to not treated controls.

MATERIAL & METHODS

Material & Methods: In a randomized controlled clinical trial patients with verified EILO who remained symptomatic after conservative management were by consent randomized to surgical intervention or a wait-and-see control group. Conservative treatment included respiratory advice to all patients before randomization to either inspiratory muscle strength training, speech therapy or a combination of both. Supraglottoplasty was performed by bilateral aryepiglottic fold incisions with excision of the cuneiform tubercle tip. Continuous laryngoscopy during exercise (CLE) (Heimdal, 2006) was performed at baseline and at follow-up, 3-6 months after either surgery or the waiting period for controls. Laryngeal obstruction was graded using a validated CLE-score (Maat, 2009). Subjective breathing difficulties were assessed with symptom rating scales (SRS). Analyses compared within-group and between-group differences using appropriate statistical tests; significance was defined as $p < 0.05$.

RESULTS

Results: Twenty-six patients were randomized (13 in each group). Baseline CLE-scores did not differ between groups. CLE scores improved from pre- to post-surgery, by showing reduced obstruction mainly at the supraglottic level, both at moderate and maximal exercise intensity. Of the 13 surgically treated patients, six normalized their supraglottic CLE sub-score. Residual supraglottic adduction was within normal limits in six others, while one patient exhibited persistent marked supraglottic obstruction, indicating limited surgical effect. The control group showed no changes in CLE scores after waiting period. The SRS showed reduced overall symptom-score for respiratory distress in patients treated with supraglottoplasty compared to controls.

CONCLUSIONS

Conclusions: In patients with severe supraglottic EILO who did not respond to conservative management, supraglottoplasty proved superior to wait-and-see control.

KEYWORDS

supraglottic EILO, Supraglottoplasty, RCT

OP-633

Effect Of Serial Intra-Lesional Steroid InjectionsOn Risk Of Recurrence In Idiopathic Subglottic Stenosis (Isgs)

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BACKGROUND & AIM

Serial intralesional steroid injections (ILSIs) have been suggested to be an effective adjunct treatment for idiopathic subglottic stenosis (iSGS) by maintaining airway patency and extending inter-surgical intervals. However, evidence for the effectiveness of serial ILSIs remains inconclusive. The current study aimed to assess whether ILSIs reduce the risk of subsequent surgical dilation (i.e., recurrence) in a cohort of patients with iSGS.

MATERIAL & METHODS

Prospectively collected clinical data for 75 female iSGS patients with 1-4 years of follow-up were analyzed. To assess the effect of ILSI use on the risk of recurrence, we assessed both the time-to-first recurrence using a standard Cox proportional hazards model and all recurrences per patient using a recurrent-events model. Overall, there were 36 patients who had received ILSIs at any point in the follow-up period and 39 patients who had not.

RESULTS

ILSI use was associated with a significantly reduced risk of recurrence in both time-to-first event (hazard ratio (HR) = 0.20, 95% confidence interval (CI) 0.08-0.49) and recurrent events (HR = 0.44, 95% CI 0.26-0.75) multivariate Cox proportional hazard models, along with older age at diagnosis and longer time since diagnosis (all $p < 0.05$). In the time-to-first event analysis, the median time to recurrence among those who had received ILSIs was 2.5 years compared to 1.4 years among those who had not. The number needed to treat with ILSIs to avoid one recurrence by 2 years follow-up was two.

CONCLUSIONS

Serial ILSIs were associated with reduced risk of recurrence, along with older age at diagnosis and longer time since diagnosis.

KEYWORDS

subglottic stenosis, steroir injections, in office

OP-634

Proactive Therapy For Treated Head And Neck Cancer

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BACKGROUND & AIM

Dysphagia is a significant and persistent side effect following treatment for head and neck cancer (HNC), severely impacting patients' nutritional status, overall health, and quality of life. Surgical resection and chemoradiotherapy frequently damage swallowing-related structures, resulting in impairments in both the oral and pharyngeal phases. In clinical practice, early intervention through proactive swallowing therapy based on the "use it or lose it" principle has been increasingly emphasized.

MATERIAL & METHODS

This study synthesizes findings from two retrospective analyses involving patients with advanced HNC, including cancers of the oral cavity, oropharynx, and hypopharynx. Participants underwent tailored proactive swallowing rehabilitation programs targeting specific physiological deficits. Interventions included range-of-motion exercises, strengthening exercises, and compensatory swallowing maneuvers (e.g., Mendelsohn and Masako maneuvers), administered before, during, and after cancer treatment. Swallowing function was assessed using subjective measures (EAT-10, Reflux Symptom Index [RSI], MD Anderson Dysphagia Inventory [MDADI]) and objective evaluations (Functional Oral Intake Scale [FOIS], Penetration-Aspiration Scale [PAS], and Modified Barium Swallow Impairment Profile [MBSImP]). Assessments were conducted at baseline and at 1, 3, and 6 months post-treatment.

RESULTS

In both cohorts, swallowing function significantly deteriorated at 1 month post-treatment, reflecting the acute effects of cancer therapy. However, patients who participated in proactive rehabilitation demonstrated significant recovery over time. In a cohort of 90 advanced HNC patients, three months of rehabilitation resulted in significant improvements in FOIS, EAT-10, PAS, RSI, and pharyngeal delay time (PDT), outperforming non-rehabilitation controls. Similarly, among 118 oral cancer patients, substantial improvements in EAT-10, FOIS, and MBSImP scores were observed at 6 months post-surgery. Tube-feeding dependency decreased from 11.5% at 1 month to 5.4% at 6 months.

CONCLUSIONS

Early and continuous proactive swallowing therapy is essential in survivorship care for patients with head and neck cancer. Initiating rehabilitation prior to or during treatment and maintaining individualized programs for at least 3–6 months can effectively reverse acute swallowing dysfunction, reduce aspiration risk, and restore functional oral intake and quality of life. Regular, comprehensive swallowing assessments are critical for guiding treatment and monitoring long-term recovery.

KEYWORDS

proactive therapy, swallowing rehabilitation, dysphagia, head and neck cancer

OP-635

Risk Factors Predicting Open Surgical Tracheotomy Complications: A Retrospective Analysis

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BACKGROUND & AIM

Tracheotomy is a life-saving surgical procedure performed to secure the airway (1). However, as with all surgical interventions, it carries potential risks that may increase morbidity, prolong hospitalization, and burden healthcare resources. (2,3) This study aimed to identify risk factors associated with postoperative complications, morbidity, and mortality following open surgical tracheotomy.

MATERIAL & METHODS

Medical records of patients who underwent open surgical tracheotomy between 2018 and 2024 at Kocaeli University Hospital were retrospectively reviewed. Demographic characteristics, comorbidities, surgical indications, urgency of the procedure, anesthesia type, history of chemoradiotherapy, and postoperative complications were analyzed.

RESULTS

A total of 315 patients (201 males, 114 females; median age: 64 years) were included. The most common indication for tracheotomy was prolonged intubation (62.5%). Complications occurred in 34.3% of patients, including 10.2% intraoperative, 22.5% early postoperative, and 4.1% late postoperative complications. Pneumonia was the most common complication (11.1%), while minor bleeding was the most frequent surgical complication (8.3%). Overall complication rates differed

significantly according to tracheotomy timing, being highest in emergency and lowest in elective procedures (61.1%, 42.0%, and 30.8%; p=0.015). Surgical complications showed a similar distribution (50.0%, 24.0%, and 15.8%; p=0.001). Patients with prior radiotherapy had higher surgical complication rates than those without radiotherapy (31.8% vs. 17.0%; p=0.020). Surgical complications were more frequent under local than general anesthesia, but this was not statistically significant (25.8% vs. 17.4%; p=0.130).

CONCLUSIONS

Open surgical tracheotomy is associated with a considerable rate of complications, particularly in emergency settings and in patients with prior neck radiotherapy. Elective procedures performed under general anesthesia demonstrated lower complication rates. Identifying and addressing modifiable risk factors, careful preoperative planning, and multidisciplinary management may help reduce morbidity and improve overall patient outcomes.

KEYWORDS

Tracheotomy, Postoperative Complications, Risk Factors, Airway Management, Time Factors.

OP-636

Early Effects Of Nebulized Ciprofloxacin/Dexamethasone In An In Vivo Tracheal Stenosis Rabbit Model

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BACKGROUND & AIM

Acquired tracheal stenosis often develops through a sustained fibroinflammatory response following mucosal insult. Ciprofloxacin/dexamethasone has shown promise as an adjunctive therapy for airway stenosis, with prior work from our group demonstrating reduced mucosal thickening and inflammation in a rabbit model following 3 weeks of treatment. However, the early effects of treatment during the acute post-injury phase remain incompletely characterized. This study evaluated whether nebulized ciprofloxacin/dexamethasone attenuates early mucosal thickening 24 hours after tracheal injury.

MATERIAL & METHODS

New Zealand White rabbits (n=4) underwent open tracheal injury using our previously established model in which the trachea was exposed through a midline cervical incision and mucosal injury was created using a nylon brush. Following injury, animals were randomized to receive either nebulized ciprofloxacin/dexamethasone (1mL of 0.3% ciprofloxacin / 0.1% dexamethasone diluted in 3mL saline) or no treatment. Rabbits were sacrificed 24 hours after injury, and tracheas were harvested for analysis. Specimens were imaged using microCT, and cross-sectional airway area was measured using ImageJ.

RESULTS

Untreated tracheas demonstrated increased mucosal thickness in injured regions compared with uninjured control regions (mean difference = 2.53 ± 0.17 mm2), consistent with an acute inflammatory response following mucosal disruption. We found that nebulized ciprofloxacin/dexamethasone significantly reduced the injury-associated change in mucosal thickness compared with untreated controls (p = 0.0309).

CONCLUSIONS

Nebulized ciprofloxacin/dexamethasone significantly attenuated early mucosal thickening 24 hours after tracheal injury in a rabbit model of acquired airway stenosis. Our previously published work demonstrated that nebulized ciprofloxacin/dexamethasone reduced subsequent stenosis development in this model. These findings suggest that treatment may act during the acute inflammatory phase of airway injury, even prior to the development of mature scar formation.

KEYWORDS

tracheal stenosis, acquired stenosis, ciprofloxacin, dexamethasone

OP-637

A Retrospective Analysis Of 113 Cases With Deep Neck Space Infections: Mediastinal Progression And Prognostic Factors

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BACKGROUND & AIM

Deep neck infections (DNIs) represent a life-threatening clinical entity that can culminate in sepsis and multi-organ failure, particularly when progressing to mediastinitis. Literature indicates that the mortality rate rises to 16–40% upon the development of mediastinitis, exceeding 60% in certain cohorts. This study aims to retrospectively evaluate the clinical characteristics and predictors of poor prognosis/mortality among 113 patients followed for DNIs in our clinic, with a specific emphasis on cases complicated by mediastinitis.

MATERIAL & METHODS

In this single-center retrospective study, a total of 113 patients diagnosed and treated for DNIs between January 2023 and May 2026 were evaluated. Patient data regarding age and sex distribution, primary infectious focus, duration of symptoms, length of hospital stay, intensive care unit (ICU) admission, and duration of mechanical ventilation/intubation, white blood cell (WBC) count and C-reactive protein (CRP) levels at admission, involved anatomical neck compartments, and therapeutic interventions (antibiotic therapy alone, drainage, or surgical intervention) were analyzed. Cases that developed secondary mediastinitis due to DNI were subjected to a detailed subgroup analysis.

RESULTS

The mean age of 113 patients was 38.3±21 years (71.6% male). Pain and swelling were the most common complaints, with a median symptom duration of 5 days (IQR 3–7). The median length of hospital stay was 5 days (IQR 3–7; range: 1–55 days). Multi-compartment involvement occurred in 43.4% of cases. All patients received intravenous antibiotics. Regarding management, medical therapy alone was administered in 56.6% (n=64), needle aspiration or local/spontaneous drainage in 39.8% (n=45), and surgical exploration in 3.54% (n=4). Mediastinitis developed in 5 patients; 4 had a fatal outcome, resulting in a 3.54% overall mortality rate. For these critical cases, the median ICU stay was 4 days (IQR 2–15.75) and the median intubation duration was 4 days (IQR 3–10.5). Prolonged symptoms, multi-compartment involvement, and elevated baseline CRP/WBC levels emerged as prominent risk factors associated with mediastinitis and mortality.

CONCLUSIONS

Deep neck infections are poor-prognosis clinical entities that can rapidly progress to mediastinitis and death, particularly in the presence of delayed presentation, elevated CRP levels, and multi-compartment or retropharyngeal–anterior visceral space involvement. Early diagnosis, close clinical monitoring, aggressive medical therapy, and prompt surgical drainage/exploration when indicated are of critical importance in reducing mortality. Our findings underscore that this disease group must never be overlooked and that high-risk cases should be managed under intensive care conditions using a multidisciplinary approach.

KEYWORDS

Deep Neck Infections; Mediastinitis; Intensive Care Units; Intubation, Intratracheal; Mortality; Prognosis.

OP-638

Basic Research On Recurrent Laryngeal Nerve Regenerative Therapy Aimed At Restoration Of Vocal Fold Mobility

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BACKGROUND & AIM

Functional recovery after recurrent laryngeal nerve (RLN) injury is impeded by motor neuron loss in the nucleus ambiguus, degeneration and insufficient regeneration of neuro-musclar junctions, laryngeal muscle atrophy, and misdirected reinnervation. We have previously demonstrated beneficial effects of gene- and pharmacological therapies using neurotrophic factors, including GDNF, BDNF and IGF-I, on neuronal survival, neuro-musclar regeneration, and nerve regeneration. However, misdirected reinnervation remains the most challenging obstacle. We hypothesized that selective inhibition of reinnervation to the posterior cricoarytenoid (PCA) muscle—the sole vocal fold abductor—would relatively enhance reinnervation of the adductor muscles and thereby improve glottal closure.

MATERIAL & METHODS

Sprague–Dawley rats underwent transection of the left RLN main trunk followed by bridging with a nerve regeneration tube (Nerbridge®). In the experimental group, the PCA branch was additionally transected (PCA branch transection group). Animals receiving RLN transection and tube bridging alone served as controls. At 15 weeks postoperatively, glottal movements were endoscopically recorded and quantitatively analyzed. Electrophysiological and histological evaluations of the regenerated RLN were subsequently performed.

RESULTS

Distinct glottal closure was observed more frequently in the PCA branch transection group. In contrast, little to no glottal closure was observed in the control group, although synkinetic movements were noted in a subset of animals. The glottal closure angle was significantly greater in the PCA branch transection group (2.3 ± 0.5° vs 0.8 ± 0.4°, $p < 0.05$). The compound muscle action potential of the adductor muscles was significantly higher in the experimental group (2.60 ± 0.54 V vs 0.76 ± 0.14 V, $p < 0.05$). No significant difference in nerve conduction velocity was observed between groups. The number of axonal fibers was significantly greater in the PCA branch transection group (172 ± 18 vs 120 ± 21, $p < 0.05$), whereas axonal diameter did not differ significantly between groups.

CONCLUSIONS

Selective suppression of reinnervation to the PCA branch of the RLN induced preferential reinnervation of the glottal adductor muscles and resulted in dynamic recovery of glottal closure. This approach may represent a potential therapeutic strategy for RLN injury.

KEYWORDS
recurrent laryngeal nerve (RLN), nerve regeneration, vocal fold movement, glottal closure, glottal abduction, laryngeal function

OTOLOGY/NEUROTOLOGY

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OP-639

A Noble Combined Otoneurolological And Middle Fossa Approach For Post Mastoidectomy Meningoencephalocele

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BACKGROUND & AIM

The post-mastoidectomy meningoencephaloceles are not suspected early at times. They are usually referred to a neurosurgeon.

MATERIAL & METHODS

Two cases of large post-mastoidectomy herniations were treated using a combined middle fossa and otological approach. A posterior-based post-aural incision allowed for the elevation of a periosteal flap towards the external auditory canal herniation site. Drill holes were created to breach the skull and enlarge for dura exposure. The skull cap was removed to access the dura, revealing herniated meninges and brain. Nonfunctional brain tissue was resected, followed by dural suturing. A split calvarial bone graft reinforced the tegmen defect, and surgical glue secured the assembly. A lumbar drain was used postoperatively for three days, along with antibiotics and acetazolamide to manage cerebrospinal fluid production.

RESULTS

Both patients successfully underwent repair of large post-mastoidectomy meningoencephaloceles using a combined neuro-otological middle fossa approach, with no major intraoperative complications. The procedure allowed for adequate exposure, excision of herniated tissue, and effective dural closure. Reconstruction utilized split calvarial bone graft, preventing recurrent herniation. Postoperative recovery was smooth, with no cerebrospinal fluid leaks or infections. Lumbar drainage and acetazolamide therapy minimized intracranial pressure, aiding healing. Hearing function was maintained, and follow-up indicated good wound healing and stable outcomes, showcasing the technique's safety and effectiveness.

CONCLUSIONS

The combined neuro-otological middle fossa approach is a safe and effective technique for managing large post-mastoidectomy meningoencephaloceles. It provides excellent exposure for dural repair and reconstruction while minimizing brain retraction and preserving hearing function. Simultaneous management of associated middle ear pathology can also be achieved. The use of split calvarial bone grafts, lumbar drainage, and adjunctive medical therapy contributes to successful healing and prevention of recurrence. This multidisciplinary approach offers favorable immediate and long-term outcomes with minimal postoperative complications.

KEYWORDS

Post-mastoidectomy meningoencephalocele Middle fossa approach Neuro-otological surgery Tegmen defect Cerebrospinal fluid leak Dural repair Split calvarial bone graft Temporal bone surgery Mastoidectomy complications

OP-640

Neither Wave Nor Vibration: Harmonic Hydromechanical Motion As A New Theory Of Auditory Physiology

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BACKGROUND & AIM

The aim of this study is to demonstrate that the traveling wave does not exist. Von Békésy's theory was based on observations of an inert cochlea stimulated at high sound pressure levels, where he described basilar membrane movement and phase differences between basal segments and the resonance site. By extrapolating existing mathematical models, he predicted basilar membrane displacement at threshold levels; however, these values were implausible and later contradicted by Khana and Leonard. Because the classical wave equation cannot be directly applied to cochlear fluids, Békésy proposed a "slow wave", a concept that still lacks a defining algebraic expression.

MATERIAL & METHODS

In this primary investigation in auditory physiology, we developed a theoretical model termed the Harmonic Hydromechanical System. This model strictly adheres to established principles of fluid dynamics, electromagnetism, acoustics, Newtonian mechanics, and Pascal's law, among others. It provides a mathematical framework for analyzing cochlear behavior under various acoustic stimuli without introducing hypothetical physical entities inconsistent with known laws.

RESULTS

We developed a set of coupled equations enabling both Lagrangian and Eulerian analyses of cochlear fluid motion through hydromechanical and particular impedances. These formulations demonstrate that Békésy's interpretations are physically insufficient and that cochlear physiology requires a more comprehensive framework—one that, while conceptually novel, remains fully consistent with established physical and mathematical principles.

CONCLUSIONS

The proposed equations offer a coherent explanation of cochlear physiology and account for phenomena such as the auditory threshold curve, the Fletcher–Munson equal-loudness contours, the Tullio phenomenon, and the predominance of higher-frequency loss in auditory fatigue testing. Although in vivo measurements are still required, experimental validation in artificial models is currently underway to further substantiate this theory.

KEYWORDS

cochlear physiology, basilar membrane, inner ear mechanics, auditory biomechanics, hydromechanical models, fluid dynamics, harmonic systems, non wave propagation mechanism, auditory threshold, equal-loudness contours, resonance mechanism

OP-641

Role Of MRI Diffusion-Weighted Imaging (DWI) In Cholesteatoma Diagnosis And Surgical Planning

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BACKGROUND & AIM

Magnetic resonance imaging with diffusion-weighted sequences (MRI-DWI) is increasingly used to detect and monitor cholesteatoma. This study evaluates its diagnostic accuracy and impact on surgical decision-making over five years.

MATERIAL & METHODS

A retrospective analysis was conducted of MRI-DWI scans performed between April 2020 and June 2025 for suspected primary or recurrent cholesteatoma. Radiology, operative, and follow-up data were reviewed to determine diagnostic accuracy, surgical outcomes, and recurrence.

RESULTS

A total of 391 MRI-DWI scans were identified. Of these, 56 were positive in 52 patients, including 28 first-time diagnoses and 28 recurrence assessments. MRI-DWI demonstrated 48 true positives, 8 false positives, and 1 false negative, with a sensitivity of 98% and specificity of 97.6%. Diagnostic errors were more common in scans reported by non–head and neck radiologists.

Of the positive cases, 45 patients underwent surgery, including limited attico-antrostomy (n=10), combined approach tympanoplasty (n=13), canal wall down (CWD) mastoidectomy (n=13), and CWD with obliteration (n=5). MRI-DWI informed operative planning by defining disease extent, although three cases required intraoperative conversion to more extensive surgery due to underestimated disease. Postoperative follow-up identified 9 cases of recurrence or residual disease.

CONCLUSIONS

MRI-DWI demonstrates high diagnostic accuracy for both primary and recurrent cholesteatoma. It plays a key role in confirming diagnosis, guiding surgical approach, and supporting postoperative surveillance.

KEYWORDS

Cholesteatoma, MRI DWI, Atticoantrostomy, Sensitivity

OP-642

Development Of An Innovative App For The Diagnosis And Treatment Of Tinnitus Using Sound Therapy And Nutritional Supplements

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BACKGROUND & AIM

Tinnitus is the perception of sound—such as ringing, buzzing, or hissing—in the absence of an external auditory stimulus. It affects approximately 10–15% of the adult population worldwide and can significantly impair quality of life by causing sleep disturbance, concentration problems, anxiety, and depression.Tinnitus is often associated with hearing loss, noise exposure, ototoxic medications, or neurological and psychological factors. However, its exact pathophysiology remains complex, involving abnormal neural activity and maladaptive plasticity in the auditory pathways and brain networks responsible for sound perception and attention.

MATERIAL & METHODS

Current tinnitus management is largely symptomatic, emphasizing psychological adaptation and sound-based therapies. Nowdays, emerging digital and neuromodulation technologies offer new possibilities for personalized, accessible, and effective care. The integration of AI-driven tools like mobile apps, represents a significant step toward individualized tinnitus management and potentially better clinical outcomes.

RESULTS

Since the sound is unlikely to disappear entirely, the focus is on reducing intrusiveness and impact on life: improving sleep, concentration, reducing annoyance, emotional distress. Not everyone responds the same. Some predictors of better response include relatively recent onset of tinnitus, better hearing, less severe hearing loss, positive attitude toward therapy. By Logging daily experiences allows users (and clinicians) to identify factors that make tinnitus better or worse we can monitor patterns, triggers, and symptom severity. Also tthrough the app we encourages personalized management and empowers self-awareness.

CONCLUSIONS

the App offers significant benefits for patients. These tool enable real-time tracking of symptoms, medication adherence, and lifestyle habits, leading to early detection of health issues and more effective tinnitus management. It also promotse patient engagement and self-awareness. Overall, disease monitoring apps enhance accessibility, improve health outcomes, and support a more proactive approach to healthcare.

KEYWORDS

tinnitus, app, gaba, TRT, sound, music, 432hZ

OP-643

Symptomatic Vs. Asymptomatic Semicircular Canal Dehiscence: Evaluating The Clinical Correlation Between Radiological Findings And Symptomatology

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BACKGROUND & AIM

Since its 1998 identification, semicircular canal dehiscence (SCD) has emerged as the pathognomonic 'third window' pathology. Although its pathophysiology is well-defined, the ubiquity of high-resolution CT (HRCT) has precipitated a surge in incidental findings among asymptomatic cohorts, complicating the clinical interpretation of radiological defects. This study is predicated on the hypothesis that anatomical dehiscence does not inherently dictate clinical manifestation. The objective is to delineate the correlation between HRCT evidence and actual symptomatology. It is contended that clinical presentation, rather than isolated imaging, must remain the primary diagnostic determinant to mitigate overdiagnosis and unwarranted interventions.

MATERIAL & METHODS

A retrospective cohort study was conducted using temporal bone high-resolution computed tomography (HRCT) reports from a tertiary university hospital over a ten-year period (2015–2025). A total of 405 patients with radiologically confirmed semicircular canal dehiscence (SCD) were initially identified. To minimize potential confounding factors, 53 patients with a history of chronic otitis media, otosclerosis, or prior otologic surgery were excluded. The final cohort comprised 352 patients, who were categorized into ‘symptomatic’ and ‘asymptomatic’ groups based on clinical records. Statistical analyses were performed using IBM SPSS Statistics v26.0 (IBM Corp., Armonk, NY, USA). Categorical variables were analyzed using Pearson’s chi-square test, and continuous variables were compared using the independent samples t-test or Mann–Whitney U test, as appropriate. Normality was assessed using the Shapiro–Wilk test. A p-value <0.05 was considered statistically significant.

RESULTS

Among 352 evaluated cases, 57 (16.2%) were classified as symptomatic, while 295 (83.8%) were asymptomatic. No statistically significant difference was observed in gender distribution between the groups. The symptomatic group had a significantly higher mean age (50.6 ± 15.5 years) compared to the asymptomatic group (45.0 ± 16.0 years) (p = 0.031). Imbalance was the most frequently reported clinical complaint, observed in 44 patients (12.5%). Characteristic physical findings, including sound- or pressure-induced nystagmus (Tullio phenomenon and Hennebert sign), were present in 11 symptomatic patients (19.3%). Among the subgroup that underwent cervical Vestibular Evoked Myogenic Potential (cVEMP) testing (n = 40), pathological thresholds were detected in 25 cases (62.5%). Bilateral dehiscence was identified in 63 patients (17.9%), with no significant association between bilaterality and symptom presence (p = 0.939).

CONCLUSIONS

The findings demonstrate that a significant proportion of individuals with radiological dehiscence remain asymptomatic. Consequently, diagnostic evaluation should prioritize clinical presentation over isolated imaging findings. The detection of radiological dehiscence in younger asymptomatic patients, followed by symptomatic manifestation in older cohorts, suggests a dynamic disease progression influenced by aging. While objective markers such as nystagmus and cVEMP are valuable diagnostic adjuncts, treatment decisions should be primarily guided by complaints that impair quality of life. To prevent unwarranted surgical interventions, clinical practice should focus on addressing the patient's symptomatic status rather than isolated radiological abnormalities.

KEYWORDS

Semicircular canal dehiscence, Third window syndrome, High-resolution computed tomography, Incidental findings, Vestibular Evoked Myogenic Potentials, Asymptomatic.

OP-644

Dynamic Endoscopic Assessment Of Tympanic Membrane Mobility In Eustachian Tube Disorders

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BACKGROUND & AIM

Assessment of Eustachian tube (ET) function remains challenging, as most available tools provide indirect or static evaluation. Endoscopic visualization of tympanic membrane (TM) mobility offers a dynamic and real-time method to assess ET patency. This study aims to propose a practical endoscopic classification system for TM mobility and evaluate its clinical utility in diagnosing and monitoring Eustachian tube disorders, including obstructive dysfunction and patulous Eustachian tube (PET).

MATERIAL & METHODS

Endoscopic ear examination was performed to assess TM mobility under controlled conditions, including modified Valsalva maneuver and nasal breathing. TM motion patterns were categorized into six types based on mobility and recoil characteristics:

- Type I–II: Reduced or absent mobility
- Type III: Normal mobility
- Type IV–VI: Increasing hypermobility associated with PET

The classification was applied in routine clinical assessment and follow-up of patients with suspected ET dysfunction.

RESULTS

The proposed classification allowed clear differentiation between obstructive ET dysfunction, normal ET function, and varying degrees of patulous ET. Dynamic TM behavior demonstrated consistent correlation with clinical presentation and provided a practical framework for bedside evaluation and follow-up.

CONCLUSIONS

Endoscopic dynamic assessment of TM mobility represents a simple, reproducible, and clinically applicable tool for functional evaluation of the Eustachian tube. The proposed classification system facilitates diagnosis, grading, and longitudinal monitoring of both obstructive and patulous ET disorders.

KEYWORDS

Eustachian tube dysfunction; Patulous Eustachian tube; Tympanic membrane mobility; Endoscopic ear examination; Classification; Otology

OP-645

A Retrospective Review Of Revision Cochlear Implant Surgery

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BACKGROUND & AIM

Cochlear implantation (CI) is a safe and effective surgical procedure for the rehabilitation of hearing in patients with severe sensorineural hearing loss. However, some patients may require revision surgery during follow-up.

To evaluate the clinical and surgical characteristics of patients who underwent revision cochlear implant surgery.

MATERIAL & METHODS

In this retrospective study, patients who underwent CI between 2008 and 2026 were reviewed. Patients who underwent revision surgery were included in the analysis. Demographic datas, implant characteristics, revision ages, intervals between revisions, causes of revisions, and surgical procedures performed were analyzed.

RESULTS

Among 1,375 patients, revision surgery was required in 83 patients (6.04%), with a total of 121 revision procedures performed. Patients had a mean age of 6.1 ± 11.6 years; 53.1% were female and 46.9% male. Most patients undergoing revision required only one procedure (73.4%), while smaller proportions underwent multiple revisions.

The leading cause of revision surgery was device failure (40.6%), predominantly hard failure (96.2%). Other common causes included skin defects (19.5%), electrode migration (7%), device migration (6.3%), and electrode tip fold-over (3.9%).

Among the 121 procedures, the most frequently performed intervention was explantation with ipsilateral reimplantation during the same session (42.1%). Other common procedures included electrode repositioning (11.6%) and isolated skin defect repair (9.1%). Explantation with contralateral implantation combined with flap repair of the skin defect during the same session accounted for 6.6% of procedures. Ipsilateral reimplantation of the existing device was performed in 5.8% of procedures.

CONCLUSIONS

Revision CI was observed more frequently in young children and was most often performed due to device hard failure problems and skin defects. Explantation and ipsilateral reimplantation during the same session and skin defect repair were among the most frequently performed surgical procedures.

KEYWORDS

Cochlear implantation; revision surgery; device failure; hard failure; reimplantation; sensorineural hearing loss

OP-646

Modified Canal Wall Up Facial Recess Approach In Cholesteatoma: Anatomical And Hearing Outcomes Versus Canal Wall Down

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BACKGROUND & AIM

Cholesteatoma surgery requires complete disease removal while preserving hearing and middle ear anatomy. Canal wall down techniques provide reliable disease control but sacrifice normal anatomy, whereas canal wall up techniques with facial recess approach aim to preserve anatomy but may risk residual disease. This study compares anatomical preservation, residual cholesteatoma rates, and hearing outcomes between canal wall up (facial recess) and canal wall down techniques in a single-surgeon series.

MATERIAL & METHODS

A retrospective single-surgeon study was conducted on 20 patients with middle ear cholesteatoma. Patients were divided into two groups: 10 underwent canal wall up surgery using a facial recess approach, and 10 underwent canal wall down mastoidectomy. Outcomes assessed included anatomical preservation, residual disease, and postoperative hearing improvement. Follow-up evaluations were performed clinically and audiologically to compare surgical results between the two techniques.

RESULTS

All patients were successfully operated without major intraoperative complications. In the canal wall up group, normal middle ear anatomy was preserved in all cases, with one case of residual cholesteatoma. Hearing improvement was observed postoperatively in most patients. In the canal wall down group, one case of residual disease was also identified; however, anatomical disruption of the middle ear and mastoid cavity was present in all cases, with comparatively less favorable hearing outcomes.

CONCLUSIONS

Canal wall up cholesteatoma surgery using the facial recess approach provides superior anatomical preservation with comparable residual disease rates to canal wall down surgery in this single-surgeon series. Additionally, canal wall up technique demonstrated better postoperative hearing outcomes, supporting its role as a preferred approach in selected patients when complete disease removal is achievable while preserving middle ear function.

KEYWORDS
Cholesteatoma; canal wall up; canal wall down; facial recess approach; middle ear surgery; hearing outcomes

OP-647

Serum Paraoxonase-1 And Carbonic Anhydrase IX Levels In Patients With Chronic Otitis Media With And Without Cholesteatoma:A Case-Control Study

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BACKGROUND & AIM

To evaluate serum levels of the antioxidant enzymes Paraoxonase-1 (PON1) and Carbonic Anhydrase IX (CA-IX) in patients with chronic otitis media (COM), with and without cholesteatoma, and to assess the influence of systemic comorbidities and nasal septum deviation on these enzyme levels.

MATERIAL & METHODS

This single-center case–control study was conducted at the Department of Otorhinolaryngology, Ankara Bilkent City Hospital, between September and December 2022. Written informed consent was obtained from all participants.This study included 41 patients aged 18–65 years diagnosed with COM and 39 healthy controls. Patients with a history of previous ear surgery were excluded. Based on high-resolution computed tomography (HRCT) findings, patients were classified into two subgroups: COM without cholesteatoma (simple COM) (n=27) and COM with cholesteatoma (n=14).Clinical and demographic data were collected, and venous blood samples were obtained from all participants. Serum PON1 and CA-IX levels were measured using spectrophotometric methods. Statistical analyses were performed to compare enzyme levels between groups and to evaluate the effects of cholesteatoma, comorbidities, and nasal septum deviation.

RESULTS

Serum PON1 levels were significantly lower in patients with COM compared with healthy controls ($p < 0.001$). Although CA-IX levels were lower in the COM group, this difference did not reach statistical significance. Among COM patients, those with nasal septum deviation showed significantly reduced PON1 levels ($p = 0.001$), whereas higher PON1 levels were observed in patients with systemic comorbidities ($p = 0.033$). Both PON1 and CA-IX levels were significantly decreased in patients with COM and cholesteatoma compared with those without cholesteatoma ($p < 0.001$ and $p = 0.021$, respectively).

CONCLUSIONS

Reduced serum levels of PON1 and CA-IX may be associated with chronic inflammatory processes in COM, particularly in patients with cholesteatoma. These enzymes may serve as potential biomarkers for disease severity and progression, although further prospective studies are needed.

KEYWORDS
Chronic otitis media, Paraoxanase, Carbonic anhydrase

OP-648

Artificial Intelligence-Based Prognostic Prediction In Sudden Sensorineural Hearing Loss

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BACKGROUND & AIM

Sudden sensorineural hearing loss (SSNHL) is an otologic emergency defined as a hearing loss of at least 30 dB across three consecutive frequencies within 72 hours, most often of idiopathic origin. Its prognosis varies widely depending on factors such as time to treatment initiation, baseline hearing thresholds, and accompanying vertigo, making individualized prediction difficult. Although recent studies have applied nomograms and deep learning models to analyze these complex data, prognostic research has largely focused on deep learning approaches. The role of non–deep learning artificial intelligence methods in clinical decision-making remains limited.This study evaluates their predictive value in SSNHL prognosis.

MATERIAL & METHODS

Adult patients diagnosed with SSNHL between 2015 and 2026 at the Department of Otorhinolaryngology, Eskişehir Osmangazi University, were included in the study. Patients with insufficient follow-up, history of trauma, or incomplete data were excluded. Demographic characteristics, symptom duration, audiometric patterns, accompanying symptoms, comorbidities, and treatment protocols were transformed into a standardized dataset. These data were processed using non–deep learning machine learning algorithms that leverage artificial intelligence's ability to analyze past clinical experiences and complex relationships between variables. Individual hearing prognoses were predicted using systems trained on existing clinical data.

RESULTS

A total of 208 patients were included in the study. Preliminary analyses demonstrated that initial hearing thresholds, time to treatment initiation, and audiometric patterns were key determinants of prognosis. Non–deep learning machine learning

models successfully captured nonlinear relationships among clinical variables and achieved high accuracy in predicting hearing recovery. Particularly in cases with complex symptomatology, these models provided more comprehensive predictive insights compared to traditional statistical methods.

CONCLUSIONS

This study demonstrates that non–deep learning artificial intelligence approaches can serve as reliable and interpretable tools for predicting SSNHL prognosis. The developed models have the potential to provide clinicians with an objective decision-support mechanism for individualized treatment planning and patient counseling.

KEYWORDS

Sudden sensorineural hearing loss; prognosis; machine learning; artificial intelligence; audiometry

OP-649

Retrospective Evaluation Of Our Primary Stapedotomy Outcomes

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BACKGROUND & AIM

Stapedotomy is the standard surgical treatment for otosclerosis-related conductive hearing loss. Although it is a well-established procedure, debate continues regarding the influence of surgical approach, piston diameter, and laterality on hearing outcomes. The aim of this study was to evaluate the postoperative hearing results of patients who underwent primary stapedotomy in our clinic over the past decade and to assess potential factors affecting these outcomes in light of the current literature. We hypothesized that surgical approach, piston diameter, and operated side would not significantly influence hearing gain.

MATERIAL & METHODS

Demographic data, surgical characteristics, and pre- and postoperative audiological assessments of patients who underwent stapedotomy at Dokuz Eylul University, Department of Otorhinolaryngology, between January 2014 and May 2024 were retrospectively reviewed. Patients with at least 6 months of postoperative audiological follow-up were included; revision surgeries were excluded. Pure-tone audiometry results obtained preoperatively and at the postoperative 6th month were analyzed. Air and bone conduction thresholds at 0.5, 1, 2, and 4 kHz were used for evaluation. Surgical approach (microscopic/endoscopic), piston diameter, and operated side (right/left) were assessed as independent variables.

RESULTS

Of 177 stapedotomies performed, 118 ears of 107 patients met inclusion criteria. Mean air-bone gap (ABG) decreased from 29.88 ± 8.30 dB preoperatively to 7.62 ± 6.99 dB at 6 months, with a mean gain of 22.26 ± 8.85 dB ($p<0.001$). Postoperative ABG was <10 dB in 76 ears (64.4%), 10–20 dB in 39 (33.1%), and 21–30 dB in 3 (2.5%). A 0.6 mm piston was used in 95 ears (80.5%) and 0.4 mm in 23 (19.5%). Microscopic endaural approach was applied in 86 ears (72.9%) and endoscopic transcanal in 32 (27.1%); 67 (56.8%) were right-sided. No significant differences in hearing gain were found by piston diameter, approach, or side ($p=0.1218$, 0.8547, 0.2063). Bone conduction deterioration >10 dB occurred in 5 ears (4.25%). Transient vertigo/nystagmus occurred in 10 patients (8.5%), all resolving conservatively. Intraoperative tympanomeatal perforations in 10 patients (8.5%) were repaired in the same session without sequelae.

CONCLUSIONS

Primary stapedotomy provides reliable and significant hearing improvement in otosclerosis. Hearing outcomes were not significantly affected by piston diameter, surgical approach, or operated side, supporting the surgeon's preference-based selection of these parameters.

KEYWORDS

Otosclerosis; Stapes Surgery; Hearing Loss, Conductive; Audiometry, Pure-Tone; Treatment Outcome

OP-650

Is Galvanic VEMP A Prediction Of The Nerve Origin And Damage In Patients Of Vestibular Schwannoma

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BACKGROUND & AIM

Recent studies proved that certain proportions of vestibular schwannoma (VS) originated other than vestibular nerve of the eighth cranial nerve.Unlike air-conducted sounds (ACS) and bone-conducted vibration (BCV), galvanic vestibular stimulation (GVS) evokes vestibular evoked myogenic potentials (VEMPs) from the vestibular nerve.

MATERIAL & METHODS

Case-control study was conducted in unilateral VSpatients pre-operatively. Healthy ears were controls. Patients examined ACS, BCV and GVSocular VEMP (oVEMP) and cervical VEMP (cVEMP), caloric test, video head impulse test (vHIT), suppression head impulse paradigm (SHIMP) and pure tone audiometry (PTA).

RESULTS

Seven (26.9%) tumors affected left ear and 19 (73.1%) on the right($p < .05$). Response rates in VSgroup were statistically lower than control except for ACS-cVEMP ($p < .05$). Response rates of VEMPs in VSpatients decreased with the tumor size grows. But not all BCV and GVSVEMPs disappeared in the largest tumor group. Abnormal rates of caloric test, vHITgains and SHIMP were found.

CONCLUSIONS

Response rates of GVSVEMPs decreased with the residual functional nerve fibers. GVSVEMPs help to differentiating labyrinthine and retro-labyrinthine lesions. GVScombined with BCV VEMPs probably reflex the tumor origin from the eighth cranial nerve and/or the remaining vestibular function

KEYWORDS

Vestibular schwannoma; vestibular evoked myogenic potentials; caloric test; video head impulse test; suppression head impulse paradigm

OP-651

Beyond Graft Take: Determinants Of Post-Myringoplasty Infection And Myringitis In A Retrospective Cohort Study

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BACKGROUND & AIM

Myringoplasty is performed to achieve a dry, stable tympanic membrane (TM), yet a proportion of patients remain troubled by a persistent “wet ear” due to post-operative infection or myringitis despite closure of TM. The incidence and determinants of these complications, particularly late-onset myringitis, are not well defined. This study aimed to determine the incidence of post-myringoplasty infection and myringitis and to identify clinical predictors. We hypothesized that host and middle-ear factors would outweigh surgical variables in driving these outcomes.

MATERIAL & METHODS

We conducted a retrospective clinical study of 152 consecutive myringoplasties for chronic TM perforation in adults in a single institution. Collected variables were smoking, diabetes, atopy, immunocompromised status, middle-ear (ME) mucosa, perforation site, graft type, surgical technique, and use of post-operative prophylactic topical or oral antibiotics. Outcomes were post-operative infection and post-operative myringitis, defined as persistent erythema or granulation of the TM with otorrhoea beyond the expected healing period. Myringitis was categorized as early onset (<6 weeks) or late onset (>6 weeks). Associations were examined using χ^2 or Fisher’s exact tests and multivariable logistic regression, reported as odds ratios (OR) with 95% confidence intervals (CI).

RESULTS

Post-operative infection occurred in 19/152 patients (12.5%). Infection was more common in smokers than non-smokers (25.7% vs 8.5%; p=0.007), with smoking independently associated with a higher infection risk (adjusted OR 4.23; 95% CI 1.13–15.82; p=0.032). Post-operative myringitis developed in 23/152 patients (15.1%). On multivariable analysis, atopy (adjusted OR 4.68; 95% CI 1.16–18.86; p=0.03) and abnormal ME mucosa (adjusted OR 9.24; 95% CI 2.22–38.47; p=0.002) were strong independent predictors of myringitis, while anterior perforations were protective compared with central perforations (adjusted OR 0.19; 95% CI 0.04–0.80; p=0.024). A history of atopy was significantly associated with late-onset myringitis: 75.0% of atopic patients had late onset versus 26.7% of non-atopic patients (OR for late vs early onset 8.25; 95% CI 1.15–59.00; p=0.039). Surgical technique, graft material, and prophylactic antibiotics were not significantly associated with infection or myringitis.

CONCLUSIONS

After myringoplasty, clinically relevant rates of post-operative infection (12.5%) and myringitis (15.1%) contribute to persistent wet ear. Smoking is a key modifiable risk factor for infection, whereas atopy and abnormal ME mucosa strongly predispose to myringitis, with atopic patients particularly vulnerable to late-onset disease. In contrast, surgical technique, graft choice, and prophylactic antibiotics appear to have limited impact on these complications. Pre-operative optimization of ME status, smoking cessation, and extended surveillance plus targeted counselling for atopic patients may help reduce persistent wet ear following myringoplasty.

KEYWORDS

myringoplasty, myringitis, infection, wet ear

OP-652

CT-Like Images Of The Temporal Bone From MRI Using Machine Learning: Development, Validation And Usefulness

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BACKGROUND & AIM

For otological diagnostics and pre-surgical planning both MRI and CT are frequently wanted to visualise soft tissues and bone structures. A single, radiation-free imaging modality generating both soft and bony tissue information would be ideal.

Aim: To train and evaluate a machine-learning algorithm for generating synthetic-CT images (sCT) from MRI of the head.

MATERIAL & METHODS

Paired MRI and CT scans have been obtained from 73 patients. Sixty-seven paired scans were used to train a machine-learning algorithm to generate sCT images from MRI data. Fifteen MRI scans were used to create sCT images for evaluation purposes (technical accuracy, clinical accurateness and clinical suitability.)

RESULTS

Geometry and radiodensity on sCT were sufficiently accurate. Conspicuity of 12 clinically relevant landmarks was independently rated by two otologists and two radiologists on a 4-point Likert scale ranging from poor to excellent. The conspicuity was generally deemed comparable. However, the thickness of the tegmen bone was sometimes overestimated, while on the other hand, the ossicles were often not depicted by the algorithm. The four raters assessed most sCT scans (>80%) as been suitable for localisation, not for diagnostic purposes.

CONCLUSIONS

CT-like images of the temporal bone can be successfully generated from MR images of the head using a machine learned algorithm. This is making visualisation of bony next to soft tissues, using a single, radiation-free imaging modality possible. Synthetic CT-images are considered suitable for localisation in otologic procedures.

KEYWORDS

Imaging, Otology, Ear surgery, Artificial Intelligence, MRI, CT, Radiation reduction

OP-653

Management Of Petrous Apex Cholesterol Granuloma

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BACKGROUND & AIM

Petrous apex cholesterol granulomas are benign inflammatory cystic lesions of the temporal bone. Although many patients are asymptomatic, symptoms may develop as the lesion enlarges. Diagnosis relies on a combination of CT and MRI findings, and management options include a “wait-and-scan” strategy or surgical intervention.

MATERIAL & METHODS

Patients with petrous apex choelsterol granuloma who underwent surgical treatment between 2014 and 2024 were included. Clinical presentation, imaging findings, surgical approach, and postoperative complications were analyzed. CT scans were classified into Type A (preserved petrous apex cellularity), Type B (erosion of the petrous apex cellularity), and Type C (involvement of the bony boundaries of critical neurovascular structures). The presence of potential connections between the lesion and the infracochlear, perilabyrinthine, and sphenoidal air cell tracts was also evaluated.

RESULTS

Nineteen symptomatic patients presenting with diplopia, headache, and sensorineural hearing loss were included. According to the proposed classification, 1/19 patients were classified as Type A, 4/19 as Type B, and 14/19 as Type C. Five patients underwent total resection, seven subtotal resection, and seven surgical drainage. Only two postoperative complications were observed, and 17/19 patients demonstrated symptom regression and disease stability during follow-up.

CONCLUSIONS

Although the management of petrous apex cholesterol granulomas remains controversial, our classification and surgical outcomes suggest a tailored approach. Type A lesions, which are usually asymptomatic, should be managed with a “wait-and-scan” strategy. Type B lesions should be surgically treated when symptomatic, whereas Type C lesions warrant surgical intervention in all cases because of their invasive nature and potential for serious complications. When feasible, surgical drainage should be preferred; otherwise, resection is indicated, with the extent of removal guided by the patient’s preoperative general condition and hearing status.

KEYWORDS

petrous apex, middle cranial fossa approach, wait and scan, cholesterol granuloma

OP-654

Vestibular Organ Surgery: A Piezo Of Cake? Using A Piezoelectric Drill To Fenestrate Semicircular Canals

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BACKGROUND & AIM

To investigate the effects of piezoelectric drill use for semicircular canal fenestration on the endolymphatic membrane, hearing, and vestibular function.

MATERIAL & METHODS

The piezoelectric drill was used to fenestrate semicircular canals in five patients undergoing surgical plugging of a semicircular canal. This involved posterior canal plugging (n=4) for intractable BPPV and superior semicircular canal plugging (n=1) for superior canal dehiscence syndrome. Primary outcome measures included: Preservation of endolymphatic membrane intraoperatively; Bone conduction Pure Tone Average of 1, 2 and 4 kHz (PTA1,2,4); Air conduction 8 kHz threshold; Lateral semicircular canal VHIT vestibulo-ocular reflex gain (VOR gain) and asymmetry; 4) cVEMP and oVEMP thresholds. Secondary outcome measures included VHIT VOR gain and asymmetry of the plugged and non-plugged vertical canals of the operated ear. Audiovestibular testing was performed preoperatively, and at 1 week and 2 months postoperatively (VEMPs only at 2 months postoperatively).

RESULTS

The membranous labyrinth was preserved in all cases following fenestration of the canals using the piezoelectric drill. No endolymphatic leakage was observed.

No significant sensorineural hearing loss was found in PTA1,2,4 at one week and two months postoperatively. Two out of five patients demonstrated a high-frequency hearing loss of >10dB at 8 kHz, assessed two months postoperatively (both 15 dB increase).

Nu unintended loss of vestibular function was found at 1 week and 2 months postoperatively.

CONCLUSIONS

The piezoelectric drill appears safe for semicircular canal fenestration. Findings of this study should be validated in a larger cohort of patients. If replicated, vestibular surgery might become a ‘piezo of cake’.

KEYWORDS

vestibular surgery, piezoelectric, piezo drill, semicircular canal, bppv, scd, scds, sscd, superior canal dehiscence

OP-655

Composite Patient-Specific 3D Printed Models For Complex Temporal Bone Pathology: A Case Series

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BACKGROUND & AIM

Temporal bone surgery involves navigating complex anatomy with a narrow margin for error. Patient-specific 3D printed temporal bone (PS-TB) models facilitate surgical planning, but traditional methods are costly, resource-intensive, and typically limited to bony anatomy, omitting critical soft tissues and pathology. This study introduces a rapid, cost-effective workflow utilizing consumer-grade 3D printing to create composite PS-TB models and evaluates their clinical utility in four unique complex cases.

MATERIAL & METHODS

We conducted a prospective case series of four complex temporal bone surgeries at the Massachusetts Eye and Ear Infirmary, Boston, USA. Clinical CT and MRI data were semi-automatically segmented to generate 3D models incorporating bony matrix, neurovascular structures, and target pathology. Models were manufactured using consumer-grade multi-material FDM and resin 3D printers as either drillable preoperative rehearsal models or pre-drilled intraoperative inspection models. Model utility was assessed postoperatively by surgeons using the Schlegel questionnaire.

RESULTS

Composite patient-specific 3D printed models were successfully produced for four distinct challenging cases: revision translabyrinthine resection of a vestibular schwannoma, congenital external auditory canal duplication with an aberrant facial nerve, petrous apex chondrosarcoma, and complex cholesteatoma with a labyrinthine fistula. All four surgeries were performed safely with no postoperative complications.

Surgeons rated the models excellent in user experience, reporting increased confidence and ease of use across all cases. The semi-automated workflow required approximately 1-2 hours of processing time. Material costs were vastly reduced compared to industrial methods, ranging from USD 2 for inspection models to USD 15 for drillable rehearsal models. Break-even analysis indicated the models become cost-effective if they save just 4 minutes of operative time.

CONCLUSIONS

Composite patient-specific 3D printed models, integrating soft tissues and pathology, can be rapidly and affordably manufactured using consumer-grade technology. These accessible models provide surgical confidence and spatial awareness, offering a practical and cost-effective tool for preoperative rehearsal and intraoperative navigation in complex temporal bone surgery.

KEYWORDS

patient-specific, 3D printing, Schwannoma, Temporal bone, Skull base

OP-656

Pediatric Endoscopic Cholesteatoma Surgery

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BACKGROUND & AIM

The aim of this study was to evaluate the effectiveness of an endoscopic approach in the surgical treatment of chronic suppurative otitis media (CSOM) with cholesteatoma in children.

MATERIAL & METHODS

Between 2021 and 2025, 85 endoscopic surgeries were performed on children with chronic suppurative otitis media andconfirmed cholesteatoma. Patients age ranged from 2 to 17 years. The follow-up period ranged from 3 to 39 months. The study included patients with CSOM and cholesteatoma without signs of spreading into the mastoid cells. Surgical technique involved a transcanal approach, creation of a meato-tympanic flap, and sequential removal of the cholesteatoma under the control of 0°, 45° and 70° Karl Storz rigid endoscopes. All patients underwent not only the debridement but also a reconstructive stage of the surgery using a chondro-perichondrial tragal graft. Treatment effectiveness was assessed based on the integrity and vascularization of the neotympanic membrane, as well as the absence of signs of residual cholesteatomaor its recurrence, using control studies (CT and MRI fusion imaging) at 6 and 12 months postoperatively.

RESULTS

All patients in the postoperative period showed satisfactory vascularization of the neotympanic membrane, with no signs of lateralization or deformation of the cartilage graft. During the follow-up, no signs of residual or recurrent cholesteatoma were detected based on postoperative examinations. The only intraoperative complication was injury to the jugular bulb in one patient; the bleeding was stopped intraoperatively with local packing, and the surgery was completed.

CONCLUSIONS

The endoscopic approach provides optimal visualization of hard-to-reach areas of the middle ear that are inaccessible without additional bone removal when using a microscope. The ability to look around the corner allows for the precise removal of residual cholesteatoma tissue, thereby preventing further interventions. Furthermore, the endoscopic approach is associated with less surgical trauma and less postoperative pain, which is particularly important in pediatric practice. However, the isolated endoscopic approach is not universal and has limitations, primarily related to anatomical features or the spread of cholesteatoma into the mastoid process.

KEYWORDS

cholesteatoma, children, endoscopic otosurgery, chronic suppurative otitis media, endoscopy

OP-657

Facial Tumors: Symptoms, Diagnosis And Management

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BACKGROUND & AIM

Study the characteristics and surgical approaches of the Facial tumors, including the long-term outcomes of the grafts used after surgical sacrifice of the nerve itself.

MATERIAL & METHODS

The retrospective study involved all cases of the Facial tumors between July 1989 and July 2025 treated at our Quaternary Reference Center for Skull Base Surgery. The characteristics, treatment strategies, and results in terms of improvement of facial paralysis at 1 and 3 years after intraoperative sural nerve grafting were studied.

RESULTS

The patients showed improvement of facial paresis up to grade III according to House-Brackmann at the last postoperative follow-up. A low-grade preoperative facial paresis according to HB is an important predictive factor for postoperative improvement.

CONCLUSIONS

The facial tumors can affect multiple segments of the nerve itself. A low-grade preoperative facial paresis according to HB shows a greater improvement compared to a high-grade preoperative facial paresis. The greatest improvement that can be achieved in the long term is a grade III according to HB.

KEYWORDS

facial tumor, House-Brackman, management

OP-658

A Case Of Otitis Media With ANCA-Associated Vasculitis Comorbid With Asthma And Chronic Rhinosinusitis Treated With Tezepelmab, An Anti-TSLP Antibody

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BACKGROUND & AIM

Otitis media with anti-neutrophil cytoplasmic antibody (ANCA)-associated vasculitis (OMAAV) is a disease that produces refractory otitis media and/or progressive sensorineural hearing loss in association with ANCA-associated vasculitis.

MATERIAL & METHODS

The patient was a 42-year-old man with severe asthma and peripheral blood eosinophilia. Dupilumab, an anti-interleukin-4 (IL-4) receptor alpha antibody, was first used to treat his asthma. Thereafter, he developed myeloperoxidase specific (MPO)-ANCA positive EGPA. Hence, glucocorticoid (GC) administration was commenced, and mepolizumab, an anti-IL-5 antibody, was introduced, leading to sustained remission for 15 months.

RESULTS

After gradually tapering off the GC, he developed bilateral CRS, for which endoscopic sinus surgery (ESS) was performed. After mepolizumab was tapered, the respiratory symptoms flared up again, along with left-sided hearing loss, earache, and otorrhea, which was diagnosed as OMAAV. The treatment was switched to benralizumab, an anti-IL-5 receptor antibody. However, as the GC was gradually tapered, serum MPO-ANCA levels increased again, with relapse of coughing and shortness of breath. Hence, the treatment was switched to tezepelumab. Immediately thereafter, his MPO-ANCA level became negative, and the various symptoms, including OMAAV, CRS, and respiratory symptoms, improved, with sustained remission despite tapering of GC.

CONCLUSIONS

This is the first reported case of the efficacy of tezepelumab for treating OMAAV comorbid with CRS and asthma due to EGPA.

KEYWORDS

Otitis media with ANCA-associated vasculitis； chronic rhinosinusitis； eosinophilic granulomatosis with polyangiitis； TSLP； tezepelumab

OP-659

Audiological And Histopathological Investigation Of The Ototoxic Effects Of Bee Venom: An Experimental Study

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BACKGROUND & AIM

Due to its anti-inflammatory, antibacterial, antioxidant and antineoplastic properties, bee venom is being used increasingly in various fields of medicine. There are also some publications regarding its potential use in treating ear diseases. However, while the neurotoxic side effects of bee venom are well known, its ototoxic effects have not yet been clearly determined.This study aims to evaluate potential ototoxic effects of bee venom using audiological and histopathological methods.

MATERIAL & METHODS

A total of 40 Wistar albino rats were included in the study. The animals were divided into five groups for intratympanic injection: Group A received 0.5 mg/mL of bee venom; Group B received 1 mg/mL of bee venom; Group C received 0.1 mg/mL of bee venom; Group D received an isotonic solution, and Group E received a solution of 70% isopropyl alcohol and 2%

chlorhexidine. Baseline hearing thresholds were measured using an auditory brainstem response (ABR) test. Each rat subsequently received three intratympanic injections of 0.03 ml administered every two days. ABR measurements were repeated on days 7 and 21. Following the final measurements, the rats were sacrificed and their temporal bones underwent histopathological examination.

RESULTS

The baseline hearing thresholds of all groups were within normal limits. Administering increasing doses of bee venom was associated with dose-dependent ototoxicity. This effect was more pronounced at higher frequencies (e.g. 32 kHz). This was particularly evident in Group B, which received the highest dose of bee venom, and in the alcohol group. Significant changes were also observed in Group A, which received a moderate dose. In contrast, Group C, which received the lowest dose, showed limited changes in ABR measurements, and no significant ototoxic effect compared to the isotonic solution group. Histopathological examinations revealed progressively more pronounced degenerative changes with increasing doses, consistent with the audiological findings.

CONCLUSIONS

This study is the first to demonstrate the ototoxic effects of bee venom using audiological and histopathological methods. The findings suggest that bee venom poses an ototoxic risk, especially at high doses, although the impact may be more limited at lower doses. These results suggest that the potential ototoxic effects of bee venom must be carefully considered when it is used in clinical practice.

KEYWORDS

Bee venom, ototoxicity, histopathology, audiological evaluation

OP-660

Early Taste Disturbance After Middle Ear Surgery, The Role Of Chorda Tympani Manipulation

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BACKGROUND & AIM

One of the most common postoperative complication after middle ear surgery is temporary or permanent taste disturbance, which is due to the anatomical location of the chorda tympani nerve. A detailed knowledge of the characteristics of this complication is essential for optimal intraoperative decision-making. Our goal is to investigate taste disturbances in the early postoperative period. We aimed to clarify the consequences of the different types of surgeries and the effects of chorda tympani manipulation during surgery.

MATERIAL & METHODS

A prospective investigation was carried out using questionnaires one day before and on the day after the procedure. 14 patients underwent stapes surgery and 25 patients underwent tympanoplasty. We examined the change using a visual analogue scale (VAS, 0-10) and simple decision questions. The manipulations were divided into 5 categories based on the degree of nerve damage.

RESULTS

There was no significant difference in postoperative taste complaints between tympanoplasty and stapes surgery (VAS score 9 vs. 8.9; (p=0.914)). The mean VAS values in the '0', '1' and '2' groups were 10, 9.23, and 8.5, respectively. A significant difference was found between the 'no manipulation' (0) and the 'significant manipulation without visible injury' (2) groups (VAS 10 vs. 8.5; (p=0.044)). No significant taste-related complications (VAS<5) occurred in the stapes surgery group.

CONCLUSIONS

With appropriate microscopic ear surgery technique, a relatively low complication rate was found, and the type of surgery did not influence the complication rate. Postoperative taste disturbance can be kept to a low level, preservation of the chorda tympani is possible in most cases. The presence of postoperative complaints depend on the degree of nerve manipulation and not on the type of surgery.

KEYWORDS

taste disturbance, chorda tympani, ear surgery, middle ear

OP-661

Contemporary Surgical Management Of Malignant Tumors Of The External Auditory Canal

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BACKGROUND & AIM

Malignant tumors of the external auditory canal (EAC) are rare and aggressive neoplasms, with squamous cell carcinoma (SCC) accounting for approximately 80% of cases. Optimal surgical management, particularly regarding elective neck dissection and

parotid resection in clinically node-negative patients, remains controversial. The aim of this study was to evaluate surgical outcomes and define treatment strategy according to tumor stage.

MATERIAL & METHODS

Between 2021 and 2025, 14 patients (9 men, 5 women; age 45–66 years) with histologically confirmed EAC malignancies were treated. Ten patients were diagnosed with SCC and four with basal cell carcinoma. Tumor staging was as follows: T1N0M0 (n=4), T2N0M0 (n=4), T3N0M0 (n=3), T3N1M0 (n=1), and T4N0M0 (n=2). Surgical management was tailored to tumor stage and included lateral temporal bone resection, subtotal temporal bone resection, parotidectomy, and neck dissection where indicated. Adjuvant radiotherapy was administered in eight patients.

RESULTS

Patients with T1–T2 disease underwent lateral temporal bone resection, with selective soft tissue and auricular reconstruction when required. Advanced-stage tumors (T3–T4) were treated with subtotal temporal bone resection combined with parotidectomy and neck dissection, even in the absence of clinically evident metastasis. Histopathology confirmed SCC in 10 cases and basal cell carcinoma in 4. Positive surgical margins were identified in two advanced-stage cases. During follow-up (3–42 months), local recurrence occurred in one patient (T3N0M0) 1.5 months postoperatively; combined chemoradiotherapy achieved disease stabilization for 12 months. No recurrence was detected in other patients based on serial contrast-enhanced MRI. One patient (T4N0M0) died of unrelated causes.

CONCLUSIONS

Early diagnosis and a multidisciplinary approach are critical for achieving oncologic radicality in EAC malignancies. Combined treatment, including temporal bone resection with adjuvant radiotherapy, improves disease control in T2–T4 stages. Elective neck dissection and parotidectomy should be considered in advanced tumors regardless of clinical nodal status. Positive surgical margins remain an adverse prognostic factor.

KEYWORDS

External auditory canal carcinoma; temporal bone resection; squamous cell carcinoma; parotidectomy; neck dissection

OP-662

Mind The Gap: A Comprehensive Review Of Facial Nerve Dehiscence In Chronic Otitis Media And Its Surgical Challenges

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BACKGROUND & AIM

Background: Facial nerve dehiscence (FND) remains a formidable "silent hazard" in middle ear surgery, particularly in the context of chronic otitis media and cholesteatoma. While anatomical literature provides a framework for its prevalence, a significant clinical "gap" persists between preoperative radiological suspicion and intraoperative reality, posing a constant risk of iatrogenic injury.

Aim: To analyze the prevalence, anatomical distribution, and surgical implications of FND by integrating a literature review with a retrospective clinical series, and to propose a standardized "safety-first" management algorithm.

MATERIAL & METHODS

We conducted a hybrid study combining a systematic review of Fallopian canal anatomy with a retrospective analysis of 444 patients undergoing otological surgery at our institution over a 2-year period (January 2024 to December 2025). Preoperative High-Resolution Computed Tomography (HRCT) scans and intraoperative microscopic findings were compared to assess diagnostic accuracy. Surgical modifications and protective maneuvers employed upon FND discovery were recorded.

RESULTS

In our clinical series, FND was identified in 18,24% of cases. The tympanic segment was the most frequent site of exposure 97%, particularly near the oval window. Our data highlights a significant "radiological-surgical mismatch," where HRCT sensitivity for FND was only 21,43%, often failing to distinguish true dehiscence from a thin bony lamella. Intraoperative discovery of FND necessitated a modification of the surgical plan was noted in the majority of our patients. We describe a specific "Step-Back" technique for incidental discovery and the use of cartilage for nerve reinforcement. 8,65% of the patients with FND presented a transitory facial nerve palsy. No cases of permanent postoperative facial palsy occurred.

CONCLUSIONS

Facial nerve dehiscence is a common "trap" for the otologist. "Mind the Gap" is a dual imperative: narrowing the diagnostic gap through critical imaging interpretation and bridging the surgical gap through systematic nerve identification and protective protocols. We advocate for a high index of suspicion and a standardized surgical approach to minimize risks during middle ear procedures, regardless of preoperative imaging results

KEYWORDS
Facial Nerve Dehiscence; Chronic Otitis Media; Cholesteatoma; Iatrogenic Injury; HRCT Sensitivity; Fallopian Canal

OP-663

Readability Analysis Of Online Patient Education Materials In Otology: A Cross-Sectional Study

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BACKGROUND & AIM

Patients with otologic concerns rely on written information for education; yet, ~60% of adult Canadians lack the minimum health literacy. Therefore, this study evaluates the readability of web-based otology patient education materials. We also seek to answer: Can artificial intelligence reduce the reading level of otology resources to meet health literacy guidelines?

MATERIAL & METHODS

This cross-sectional study, conducted in November 2025, examined online patient education materials on 7 otologic conditions. Four large language models were used to write original text for each otologic condition, allowing direct comparison with the existing materials. The primary outcome measures consisted of extracting validated readability metrics, including Flesch Kincaid Grade Level (FKGL). The independent variables include outcome source (AI vs webpage) and otologic condition. Preliminary analyses obtained descriptive statistics, 95% confidence intervals, t-tests, one-way ANOVA, and Wilson confidence intervals.

RESULTS

70 otology websites were analyzed. Mean FKGL score was 9.94 (SD 2.64; 95% CI 9.31–10.57), significantly exceeding the recommended sixth-grade reading level (95% CI 3.31–4.57; $t(69)=12.50$, $p< 0.001$). Only 10.0% of webpages met a sixth-grade level (95% CI 4.9%–19.2%). Comparing the 28 AI-generated rewrites to webpage content, AI revisions were significantly less readable, with a mean FKGL score of 11.08 ($p=0.0018$).

CONCLUSIONS

Online otology patient education consistently exceeds the recommended readability standards, with uniform complexity across all otology topics. Contrary to expectation, AI revisions significantly worsen readability rather than improving it. Current online otology information remains difficult for most patients to read, underscoring barriers to informed decision-making and equitable care.

KEYWORDS
Otology; Patient education; Readability analysis; Health literacy; Artificial intelligence; Digital health; Cross-sectional study

OP-664

A Hidden Surgical Risk: Intratympanic Aberrant Internal Carotid Artery

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BACKGROUND & AIM

Intratympanic aberrant internal carotid artery (ICA) is a rare congenital vascular anomaly characterized by an abnormal course of the ICA within the middle ear cavity. It may present with pulsatile tinnitus, conductive hearing loss, and a retrotympanic mass, and carries a significant risk of life-threatening hemorrhage if misdiagnosed and surgically manipulated. Carotid–cochlear dehiscence (CCD) has recently been described as a potential “third-window” lesion at the basal turn of the cochlea. We present a case report that aims to highlight the coexistence of these entities and discuss their clinical and radiological implications.

MATERIAL & METHODS

A 51-year-old patient presented with a 15-year history of progressive right-sided hearing loss, ear fullness, and continuous pulsatile tinnitus. Otoscopic examination showed a right white pulsatile retrotympanic mass in the anteroinferior quadrant. Audiological evaluation revealed a right-sided Jerger type B tympanogram and moderate conductive hearing loss, with an air–bone gap of 25 dB and a pure-tone average of 50 dB. Computed tomography and magnetic resonance imaging/angiography demonstrated a right aberrant ICA with an intratympanic course in close contact with the ossicular chain, with focal CCD involving the basal turn of the cochlea, and a left persistent trigeminal artery (Saltzman type I). The patient was proposed for rehabilitation with a bone-anchored hearing aid and is currently awaiting implantation.

RESULTS

Imaging confirmed the diagnosis and excluded other retrotympanic vascular or neoplastic lesions. The conductive hearing loss is best explained by impaired ossicular mobility secondary to contact with the aberrant ICA. Although CCD may theoretically contribute via a third-window mechanism, its clinical relevance in this case appears limited.

CONCLUSIONS

Intratympanic aberrant ICA should be considered in the differential diagnosis of pulsatile retrotympanic masses. Accurate radiological identification is essential to prevent potentially catastrophic hemorrhagic complications during middle ear procedures. Hearing rehabilitation with bone-anchored devices represents a safe and effective management strategy, while surgical intervention is rarely indicated.

KEYWORDS

intratympanic aberrant internal carotid artery, pulsatile tinnitus, conductive hearing loss, retrotympanic mass, carotid–cochlear dehiscence

OP-665

Blue Laser–Assisted Excision Of Glomus Tympanicum: Technical Advantages – A Case Report

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BACKGROUND & AIM

Glomus tympanicum are benign, vascular, primary middle ear neoplasms of neural crest origin, arising from Jacobson's or Arnold's nerve on the cochlear promontory. Only about 4% of paragangliomas secrete catecholamines. Despite their benign and slow-growing nature, tympanic and jugular paragangliomas can be locally destructive, potentially affecting the ossicular chain, cranial nerves and adjacent cranial and vascular structures.

MATERIAL & METHODS

Case report supported by computed tomography (CT) and magnetic resonance imaging (MRI), audiological assessment, and intraoperative video documentation.

RESULTS

A 42-year-old woman presented to the emergency department with left-sided pulsatile tinnitus. She denied headaches, palpitations, or tachycardia. Her medical history was significant for hypertension and HIV infection, which was suppressed under antiretroviral therapy. Otoscopy of the left ear revealed a reddish, pulsatile mass in the inferior quadrants of the tympanic membrane. Brown's sign was positive. Pure tune audiometry revealed mild bilateral sensorineural hearing loss. CT and MRI showed a lobulated lesion measuring 8.5 × 6.5 × 3 mm, occupying the meso- and hypotympanum, adjacent to the ossicular chain and abutting the promontory and tympanic membrane. The lesion was classified as A2 according to the modified Fisch–Mattox classification. The 24-hour urinary metanephrine levels were negative. The patient underwent surgical treatment aided by blue laser to facilitate excision and minimize bleeding. Histopathological examination confirmed the diagnosis of tympanic paraganglioma. One month after surgery, the patient was asymptomatic, with tinnitus resolution.

CONCLUSIONS

Glomus tympanicum is a rare, challenging condition. Complete surgical excision remains the treatment of choice, whereas active surveillance and radiotherapy may be considered in patients who decline surgery or have contraindications to it. The blue laser is a safe and effective surgical tool that reduces intraoperative bleeding, minimizes thermal injury to surrounding tissues, and facilitates excision.

KEYWORDS

Blue Laser; Glomus Tympanicum; Tinnitus; Surgery

OP-666

Transmastoid Facial Nerve Decompression In Severe Peripheral Facial Palsy: Our Clinical Results

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BACKGROUND & AIM

Our study aims to retrospectively present the etiologies and prognostic outcomes of patients undergoing transmastoid facial decompression surgery in our clinic.

MATERIAL & METHODS

Medical records of patients undergoing transmastoid facial nerve decompression in our clinic between 2023 and 2026 were retrospectively reviewed. Demographics, etiology, intraoperative procedures, pre- and postoperative House-Brackmann (HB) grades, and follow-up periods were recorded.

RESULTS

Nine patients [5 (56%) male, 4 (44%) female; mean age 28.1, range 2-63 years] underwent transmastoid facial decompression (4 left, 5 right). Decompression involved the geniculate ganglion, tympanic, and mastoid segments in 6 patients, with additional

distal labyrinthine segment decompression in 3. Etiologies included temporal bone trauma in 5 (56%) (two having otic capsule fractures), iatrogenic causes in 2 (22%), Bell's palsy in 1 (11%), and acute otitis media in 1 (11%). At admission, 4 patients presented with HB Grade VI and 5 with Grade V paralysis. During follow-up of the 4 Grade VI patients, 3 improved to Grade II and 1 to Grade I. Postoperatively for the 5 Grade V patients, 1 was Grade I, 2 were Grade II, 1 was Grade III, and 1 was Grade IV. Follow-up ranged from 2 to 30 months (mean: 13.8 months).

CONCLUSIONS

Transmastoid facial nerve decompression is a fast, safe, and highly effective surgical procedure for various etiologies without taking craniotomy risks.

KEYWORDS

Facial nerve; decompression; facial paralysis

OP-667

"Hidden Effusion In Borderline Cases: Is Tympanometry Enough To Guide Ventilation Tube Decisions"

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BACKGROUND & AIM

Otitis media with effusion and recurrent acute otitis media are common pediatric diseases that may cause conductive hearing loss and delayed speech and language development. Myringotomy with ventilation tube insertion is the main surgical treatment in refractory cases. However, patients with borderline otoscopic findings and non-Type B tympanograms present a diagnostic challenge, as middle ear effusion cannot be confirmed preoperatively.

This study aimed to determine the frequency of middle ear effusion detected during diagnostic myringotomy in pediatric patients with borderline findings. Additionally, the study evaluated whether tympanometric findings alone are sufficient for guiding decisions regarding ventilation tube insertion.

MATERIAL & METHODS

This retrospective cohort study included 43 pediatric patients (67 ears) who underwent adenoidectomy and diagnostic myringotomy for suspected otitis media with effusion (OME) refractory to medical treatment between 2011 and 2025.

Ears with non-specific otoscopic findings and non–Type B tympanograms were defined as borderline cases. Patients were classified into three groups according to tympanic membrane appearance and tympanogram type (Type A or Type C). Ventilation tubes were inserted when intraoperative middle ear effusion was detected during myringotomy.

Ears without intraoperative effusion were followed for at least one year to evaluate disease recurrence and the subsequent need for VT insertion. Demographic and clinical variables were analyzed to identify potential risk factors associated with effusion and recurrence.

RESULTS

A total of 43 pediatric patients (22 males, 21 females) with 67 borderline ears were included. Diagnostic myringotomy revealed intraoperative middle ear effusion in 23 of 67 ears (34.3%). No statistically significant difference was found in VT insertion rates between the three preoperative groups (Group 1: 47.6%, Group 2: 29.0%, and Group 3: 26.7%; p=0.224). However, a highly significant correlation was identified between adenoid vegetation grade and the presence of effusion, with the rate reaching 48.6% in Grade 4 (totally obstructive) cases (p=0.016). Among the 44 ears followed without an initial tube, 5 (11.4%) experienced disease recurrence requiring VT insertion within one year. While laryngopharyngeal reflux (40.0%) and daycare attendance (80.0%) showed strong clinical trends in the recurrence group, no environmental or clinical risk factors reached statistical significance (p>0.05)

CONCLUSIONS

Preoperative assessments, including non-specific otoscopic findings and non-flat tympanograms, are insufficient to definitively exclude middle ear effusion in clinically suspicious pediatric cases. Since a substantial number of these borderline ears harbor occult effusion, diagnostic myringotomy remains a critical reference standard during adenoidectomy to prevent the undertreatment of middle ear disease. This intervention is particularly vital in patients with advanced obstructive adenoid hypertrophy, who exhibit a significantly higher risk of effusion. For children managed without tubes, close monitoring for recurrence is advised, especially in the presence of clinical trends such as reflux or daycare attendance

KEYWORDS

Otitis Media with Effusion; Tympanometry; Myringotomy; Ventilation Tubes; Adenoid Hypertrophy; Pediatric

OP-668

Comparison Of Paranasal Sinus Anatomical Variations According To Laterality In Patients With Unilateral Chronic Otitis Media

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BACKGROUND & AIM

This study aimed to evaluate the relationship between nasal and paranasal sinus anatomical variations and disease laterality in patients with unilateral chronic otitis media (COM), using a paired (ipsilateral vs. contralateral) analysis model.

MATERIAL & METHODS

This retrospective, single-center study included 77 adult patients who underwent surgery for unilateral COM and had available bilateral temporal bone and paranasal sinus computed tomography (CT) scans between 2020 and 2025. Septal deviation angle and distance, middle and inferior turbinate measurements, paranasal sinus volumes (maxillary, sphenoid, and frontal), and anatomical variations (Agger nasi, Haller, and Onodi cells) were evaluated. Sinus volumes were calculated using semi-automated segmentation with 3D Slicer/ITK-SNAP software. All measurements were compared between ipsilateral (diseased) and contralateral sides within the same patient. Paired statistical tests and McNemar analysis were used as appropriate. Multivariate analysis was performed using matched logistic regression.

RESULTS

Septal deviation direction did not significantly correlate with disease laterality (p=0.24), and no significant differences were found in deviation angle (p=0.68) or distance (p=0.47). Middle turbinate width (p=0.709) and inferior turbinate measurements (anterior p=0.64, posterior p=0.39, length p=0.28) showed no significant differences between sides. Anatomical variations, including Agger nasi (p=0.68), Haller (p=0.73), and Onodi cells (p=0.75), were not associated with COM laterality. In contrast, maxillary sinus volume was significantly lower on the diseased side (11.4±3.5 cm^3 vs. 13.8±3.9 cm^3, p=0.008). No significant differences were observed for sphenoid (p=0.26) or frontal sinus volumes (p=0.19). In multivariate analysis, maxillary sinus volume was identified as the only independent predictor of disease laterality (OR=0.69, 95% CI: 0.55–0.86, p=0.006).

CONCLUSIONS

Among evaluated anatomical and volumetric parameters, only reduced maxillary sinus volume was independently associated with the side of chronic otitis media. These findings suggest that impaired sinus aeration, rather than structural nasal variations, may play a more critical role in the pathophysiology of COM. Future studies incorporating functional assessments of nasal airflow and Eustachian tube function are warranted.

KEYWORDS

Chronic otitis media, maxillary sinus volume, nasal septum deviation, turbinate, paranasal sinus variations

OP-669

Recurrence And Risk Factors Of Attic Cholesteatoma Removed By Transcanal Endoscopic Ear Surgery

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BACKGROUND & AIM

Attic cholesteatoma is a common and potentially destructive pathology of the middle ear and often leads to complications. This study aimed to evaluate the long-term outcomes of TEES in attic cholesteatoma, with particular emphasis on recurrence rates and prognostic factors.

MATERIAL & METHODS

This study was a retrospective chart review of patients ≥19 years old conducted between 2014 and 2023 at a tertiary referral center. We reviewed the surgical outcomes, which included: 1) the type of surgery finally conducted; 2) the follow-up duration; 3) the audiologic outcome.

RESULTS

A total of 105 patients were included in this study. Intraoperative ossicular destruction was identified in 79 cases. The recurrence rates by stage were 0% for stage Ia, 9.5% for stage Ib, and 23.1% for stage II. Overall, CT staging tended to underestimate stage Ia disease and overestimate stage II disease.

CONCLUSIONS

The retrospective analysis shows that endoscopic transcanal ear surgery (TEES) serves as an effective method for treating attic cholesteatoma while remaining highly secure and dependable. The audiological results from this method showed outstanding durability while demonstrating substantial hearing gain and minimal disease recurrence.

KEYWORDS

Attic Cholesteatoma, Endoscopic Ear Surgery

OP-670

Traumatic Facial Paralysis: Management Strategies And Factors Associated With Recovery

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BACKGROUND & AIM

Traumatic facial paralysis (FP) after head injury can cause substantial morbidity, and the indications for facial nerve decompression remain debated. We aimed to compare long-term facial nerve function between surgical decompression and conservative follow-up and to identify factors associated with baseline severity and postoperative outcomes.

MATERIAL & METHODS

We retrospectively reviewed FP cases at a single tertiary center between 2010-2024. Of 103 screened patients, 51 met eligibility criteria for traumatic FP and were analyzed: surgical decompression (n=35) versus conservative follow-up (n=16). Facial function was graded at diagnosis and last follow-up using the House–Brackmann (HB) system. Onset was categorized as early (≤48 h), delayed (>48 h), or first detected after intensive care unit (ICU) stay. Otoscopy, audiometry, temporal bone computed tomography (CT), and electromyography (EMG) were reviewed. Non-parametric tests and Spearman's rho were used; two-tailed $p<0.05$ was significant.

RESULTS

Median age was 26 years, and 43/51 (84.3%) were male. Injury mechanisms were road traffic accident (49.0%), blunt head trauma (31.4%), and fall (19.6%); onset was early (45.1%), delayed (19.6%), or first detected after ICU stay (35.3%). Surgical approaches were transmastoid (54.3%), combined transmastoid+MCF (31.4%), and translabyrinthine (14.3%); trauma-to-surgery time was 44 days. Median follow-up was 66.0 vs 19.0 months (surgery vs follow-up). Preoperative HB grade was associated with admission type ($p=0.001$), injury mechanism ($p=0.017$), ICU admission ($p=0.043$), onset category ($p=0.012$), fracture pattern ($p=0.028$), otic capsule status ($p=0.011$), and EMG category ($p<0.001$). Both groups improved significantly from baseline to last follow-up (each $p<0.001$). HB grades differed between groups at baseline and last follow-up ($p<0.001$ and $p=0.001$), whereas among severe presentations (HB V–VI) postoperative HB did not differ ($p=0.759$). In the surgical group, postoperative HB correlated with preoperative HB ($p=0.031$) and abnormal otoscopy ($p=0.009$), not trauma-to-surgery interval ($\rho=0.129$, $p=0.459$).

CONCLUSIONS

In this cohort, both surgical decompression and conservative management were associated with significant improvement in traumatic FP. Baseline severity and otologic examination findings were key determinants of postoperative HB outcome among surgically treated patients, while multiple clinical, radiologic, and EMG factors correlated with initial severity. Importantly, among patients presenting with severe FP (HB V–VI), follow-up HB outcomes were comparable between treatment strategies. These findings support individualized decision-making processes for appropriate treatment strategy.

KEYWORDS

Traumatic facial paralysis; facial nerve decompression; temporal bone fracture; House–Brackmann; electromyography; computed tomography; conservative management; middle cranial fossa approach; transmastoid approach; head trauma

OP-671

A Novel Graft Material For Tympanoplasty: Bone Marrow–Derived Mesenchymal Stem Cell Sheet

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BACKGROUND & AIM

Chronic tympanic membrane (TM) perforations remain a common clinical problem requiring surgical repair. Conventional graft materials used in tympanoplasty provide structural support but lack biological activity to actively promote regeneration. Although mesenchymal stem cells (MSCs) have shown promise in tissue repair, most previous approaches relied on cell suspension or scaffold-based delivery systems, which may limit cell retention and disrupt cell–cell interactions.

The aim of this study was to evaluate the regenerative potential of a scaffold-free, bone marrow–derived mesenchymal stem cell (MSC) sheet in a chronic TM perforation model and to compare its biological and histological effects with standard paper patch myringoplasty.

MATERIAL & METHODS

A chronic tympanic membrane (TM) perforation model was established in 21 Wistar albino rats. Animals were divided into four groups: untreated chronic perforation, mesenchymal stem cell (MSC)–derived cell sheet (overlay technique), paper patch myringoplasty, and normal TM control. Chronic perforations were induced using mitomycin application followed by standardized myringotomy and dexamethasone exposure.

Bone marrow–derived MSCs were cultured, GFP-labeled, and harvested as contiguous cell sheets using temperature-responsive culture dishes without enzymatic digestion, preserving cell–cell junctions. The MSC sheets were transplanted onto the lateral surface of the perforated TM.

Three months postoperatively, tissues were evaluated by histopathology (H&E, Masson trichrome), immunofluorescence (GFP, CK19, fibronectin, collagen I, TNF-α, caspase), quantitative PCR, and Western blot analysis. Statistical analysis was performed using parametric or non-parametric tests as appropriate

RESULTS

Complete perforation closure was observed in both the MSC cell sheet and paper patch groups; however, the MSC group demonstrated superior structural organization without cholesteatoma formation. Histological analysis revealed improved epithelial integrity and more organized lamina propria architecture in the MSC group compared to surgical controls.

Immunofluorescence showed increased fibronectin expression, enhanced CD31-mediated angiogenesis, reduced TNF-α levels, and decreased caspase activity in the MSC-treated group. Gene expression analysis demonstrated significant upregulation of CK19 (2.6-fold), fibronectin (3.5-fold), collagen type I (4.3-fold), and CD31 (2.6-fold) compared to controls. GFP expression confirmed graft viability at three months.

In contrast, the paper patch group exhibited moderate regeneration with less organized extracellular matrix remodeling and higher inflammatory markers.

CONCLUSIONS

Bone marrow–derived mesenchymal stem cell sheet application promotes biologically active regeneration in chronic tympanic membrane perforations. Compared with conventional paper patch myringoplasty, the scaffold-free MSC sheet enhanced epithelial repair, extracellular matrix remodeling, angiogenesis, and reduced inflammation and apoptosis. Preservation of cell–cell junctions and high cellular density may explain its superior regenerative performance.

This approach represents a promising regenerative graft strategy with potential for clinical translation in tympanoplasty.

KEYWORDS

Tympanic membrane, Tympanoplasty, Mesenchymal stem cell, Cell sheet, Regenerative medicine

OP-672

Low GNRI Predicts Poor Outcomes In Elder Sudden Hearing Loss Patients

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BACKGROUND & AIM

Sudden sensorineural hearing loss (SSNHL) is associated with metabolic syndrome, central obesity, and albumin level. This study investigated the associations of the geriatric nutritional risk index (GNRI) with clinical outcomes in older patients (age >65 y) with SSNHL.

MATERIAL & METHODS

We retrospectively investigated 328 older patients with SSNHL, and their clinical variables were compared. GNRI was calculated based on body weight and serum albumin. We analyzed the relationship between GNRI and outcomes in SSNHL. Demographic and clinical characteristics, audiometry results, and clinical outcomes were examined.

RESULTS

Among older patients with SSNHL, 107 (32.62%) and 221 (67.38%) had favorable and unfavorable outcomes, respectively. Vertigo, worse initial level of hearing loss, and low GNRI were mainly associated with unfavorable hearing outcomes in older patients with SSNHL. Furthermore, low GNRI (<99) was linked to unfavorable clinical outcomes (odds ratio [OR] = 1.91, P = .0151). Multivariate logistic regression revealed that vertigo (aOR = 3.45, P = .0002), worse initial level of hearing loss (per 1 unit increase in hearing loss elevates the risk of poor hearing recovery by 2%, P = .0015), and low GNRI (aOR = 1.79, P = .0435) were associated with unfavorable clinical outcomes.

CONCLUSIONS

In summary, evaluation of nutritional status plays a crucial role in improving clinical outcomes in SSNHL. Moreover, GNRI can predict clinical outcomes in older patients with SSNHL treated with steroids. Older patients with SSNHL who have vertigo, worse initial level of hearing loss, and low GNRI exhibit unfavorable outcomes.

KEYWORDS

older, geriatric nutritional risk index, outcome, sudden sensorineural hearing loss

OP-673

Dual-Site Rtms Is More Effective Than Single-Site Rtms For Chronic Tinnitus: A Randomized Clinical Trial

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BACKGROUND & AIM

Chronic tinnitus is a debilitating condition with limited treatment options. While repetitive transcranial magnetic stimulation (rTMS) has shown promise, its efficacy remains moderate. This study aimed to determine whether a dual-site rTMS protocol

targeting both the temporoparietal junction (TPJ) and dorsolateral prefrontal cortex (DLPFC) is superior to TPJ stimulation alone in improving outcomes in chronic tinnitus.

MATERIAL & METHODS

This randomised, single-blind controlled trial compared dual-site (TPJ+DLPFC) rTMS with TPJ-only rTMS in 110 patients with chronic tinnitus. Patients received daily sessions for five consecutive days. The dual-site group received 1 Hz stimulation over the left TPJ followed by 10 Hz stimulation over the left DLPFC, while the TPJ group received only 1 Hz TPJ stimulation. The primary outcome was tinnitus loudness measured by visual analogue scale (VAS). Secondary outcomes included TMS-EEG measures of local mean field power and source-based connectivity. This study has been registered on chictr.org.cn identifier ChiCTR2400085901.

RESULTS

The dual-site group showed significantly greater reduction in tinnitus loudness VAS scores (adjusted β=-1.17, 95% CI -1.82 to -0.51, P=0.001) and higher response rates (73.3% vs 44.4%) compared to the TPJ-only group. TMS-EEG analysis revealed that dual-site rTMS specifically enhanced prefrontal excitability and decreased current propagation to limbic/default-mode network regions. Machine learning models achieved high predictive accuracy (AUC=0.87) for treatment response using these neural features.

CONCLUSIONS

Dual-site rTMS demonstrates superior efficacy for chronic tinnitus by uniquely modulating prefrontal excitability and limbic/default-mode networks. The identified neural predictors support a precision medicine approach for personalized neuromodulation therapy.

KEYWORDS

tinnitus, dual-site rTMS, dorsolateral prefrontal cortex, auditory cortex, EEG, machine learning

OP-674

Analysis Of Predictive Factors For Resistance To Medical Therapy And Prognosis In Patients With Malignant Otitis Externa

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BACKGROUND & AIM

Malignant otitis externa (MOE) can lead to severe morbidity and mortality in cases unresponsive to standard medical therapy. This study aimed to identify the clinical, laboratory, and microbiological predictive factors associated with facial nerve palsy (CN VII), lower cranial nerve involvement, and mortality in patients with MOE.

MATERIAL & METHODS

Twenty consecutive adult patients diagnosed with MOE at a tertiary care center were evaluated retrospectively. All patients presented with diabetes mellitus, otalgia, and inflammation of the external auditory canal. Comorbidity burden was assessed using the Charlson Comorbidity Index (CCI), and glycemic control was evaluated via HbA1c levels. The C-reactive protein-to-albumin ratio (CAR) and neutrophil-to-lymphocyte ratio (NLR) were calculated from available laboratory data as indicators of systemic inflammation. MOE-specific morbidities were defined as facial nerve palsy, lower cranial nerve involvement, and intracranial complications. The associations between a complicated clinical course (cranial/intracranial involvement) and CCI, HbA1c, CAR, and NLR were analyzed, while factors contributing to advanced morbidity and mortality were reported using descriptive statistics.

RESULTS

All 20 patients were diabetic (mean HbA1c: 8.6%). Peripheral facial palsy (PFP) occurred in 30% (n=6). PFP patients had a significantly higher mean CCI (5.8 vs. 4.0) and markedly elevated CAR and NLR values compared to non-PFP patients. HbA1c levels showed no significant intergroup difference. Mortality was 10% (n=2), involving skull base osteomyelitis with lower cranial nerve involvement (n=1) and sigmoid sinus thrombophlebitis (n=1); both had above-average baseline CCIs. Alongside ubiquitous P. aeruginosa, atypical/resistant pathogens (Aspergillus spp., Candida spp., K. pneumoniae) were isolated in 35% of cases. Although atypical pathogens lacked direct association with PFP, multidrug-resistant P. aeruginosa was isolated from the fatal case with lower cranial nerve involvement.

CONCLUSIONS

In MOE, a high Charlson Comorbidity Index, along with elevated CAR and NLR values, is strongly associated with the development of facial nerve palsy. The presence of lower cranial nerve involvement and intracranial complications, in addition to CAR and NLR, serve as critical clinical markers for predicting mortality and evaluating disease progression. The notable frequency of atypical pathogens suggests that the early integration of antifungals or broad-spectrum antibiotics should be carefully considered when planning empirical therapy for high-risk patients.

KEYWORDS
Malignant otitis externa, skull base osteomyelitis, facial paralysis, Charlson Comorbidity Index, CRP-to-albumin ratio, neutrophil-to-lymphocyte ratio

OP-675

Long-Term Outcomes Of Transmastoid Facial Nerve Decompression Without Incus Removal In Traumatic And Non-Traumatic Facial Paralysis**

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BACKGROUND & AIM

Facial nerve paralysis is a common cranial neuropathy with idiopathic, traumatic, infectious, or neoplastic causes. Although most Bell's palsy cases recover conservatively, patients with complete paralysis and poor electrophysiological prognosis may require surgical decompression. This procedure aims to relieve nerve compression and promote neural recovery. Transmastoid decompression is commonly preferred because of its technical feasibility and lower morbidity; however, ossicular chain disruption may impair hearing. This study evaluates the long-term facial nerve and audiological outcomes of transmastoid facial nerve decompression performed without incus removal, assessing the effectiveness and safety of this hearing-preserving surgical approach in severe peripheral facial paralysis.

MATERIAL & METHODS

This retrospective study included patients who underwent transmastoid facial nerve decompression without incus removal for traumatic or non-traumatic facial paralysis at the Department of Otorhinolaryngology, Istanbul University Istanbul Faculty of Medicine, between January 2021 and December 2022. Patients with facial paralysis secondary to chronic otitis media, previous ear surgery, congenital facial nerve anomalies, or regular use of ototoxic medications were excluded. Demographic and clinical data were collected, including age, sex, etiology, time from symptom onset to surgery, preoperative and postoperative facial nerve function assessed by House-Brackmann grading, inflammatory markers, and pure-tone audiometry results. Medical treatment history, including steroid and/or antiviral therapy, electromyography findings, postoperative follow-up duration, and intraoperative findings regarding the affected facial nerve segment were also recorded. Long-term functional and audiological outcomes were analyzed to evaluate the safety and effectiveness of the surgical technique.

RESULTS

No statistically significant differences were observed in postoperative audiometric outcomes, including air-conduction thresholds (15 vs. 15 dB HL, p=0.975), bone-conduction thresholds (5 vs. 7.5 dB HL, p=0.083), and air-bone gap (5 vs. 6 dB, p=0.110), indicating preserved hearing in all patients. All 22 patients presented with preoperative House-Brackmann (HB) grade VI facial paralysis. Significant postoperative improvement in facial nerve function was observed over a median follow-up of 35 months (range, 12–60 months). At final evaluation, 6 patients (27.3%) achieved HB grade I, 13 (59.1%) HB grade II, and 3 (13.6%) HB grade III, resulting in a surgical success rate (HB ≤II) of 86.4%. Patients with idiopathic facial paralysis demonstrated significantly better outcomes compared with those with traumatic etiology (p=0.007). Time to decompression was not significantly associated with postoperative outcome. Greater segment involvement was correlated with better postoperative HB grades, although this finding should be interpreted cautiously.

CONCLUSIONS

This study evaluated the long-term outcomes of transmastoid facial nerve decompression without incus removal in 22 patients with traumatic and non-traumatic peripheral facial paralysis. Favorable functional and audiological outcomes were observed, supporting the effectiveness and safety of this surgical approach. Significant improvement in facial nerve function, along with preservation of hearing, suggests that ossicular chain-preserving transmastoid decompression is a reliable treatment option, particularly in patients with severe facial nerve degeneration. These findings indicate that this technique may offer an effective balance between facial nerve recovery and hearing preservation.

KEYWORDS

Facial decompression, bell palsy, ossicular chain, facial paralysis, hearing protection

OP-676

Recurrence Rate And Predictive Factors In Benign Paroxysmal Positional Vertigo: A Large Single-Center Retrospective Cohort Study

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BACKGROUND & AIM

Benign paroxysmal positional vertigo (BPPV) is the most common cause of peripheral vestibular vertigo, accounting for 17–42% of all vertigo presentations. Although canalith repositioning procedures (CRP) demonstrate high short-term efficacy, BPPV is well recognized for its tendency to recur. Published recurrence rates vary widely across studies, highlighting the need for large-

scale, real-world data. The aim of this study was to determine BPPV recurrence rates over a seven-year period in a large all-age single-center cohort and to identify independent clinical predictors of recurrence.

MATERIAL & METHODS

Patients registered with ICD-10 code H81.1 and treated with repositioning maneuvers at our otolaryngology clinic between May 2019 and May 2026 were retrospectively analyzed through the hospital information system (HIS). No age restriction was applied, as BPPV can occur across all age groups including pediatric patients. Inclusion criteria were: confirmed BPPV diagnosis based on clinical history and positive Dix-Hallpike or supine roll test, treatment with at least one CRP, and ≥6 months of follow-up data. Patients with central pathology or insufficient records were excluded. True recurrence was defined as a new BPPV-coded visit ≥30 days after the index visit. Primary outcomes were 1-year and 2-year recurrence rates. Descriptive statistics, Kaplan-Meier analysis, and logistic regression were used.

RESULTS

A total of 2,686 patients were included, generating 6,677 BPPV-coded visits over the study period (mean 2.5 visits per patient). Among 2,015 patients with available age data, mean age was 53.0 years, median 54 years (range: 10–97 years). Pediatric patients (<18 years) constituted 2.7% of the cohort (n=54). The age distribution was predominantly middle-aged and older: 37.6% aged 40–59 years, 26.7% aged 60–74 years, and 12.0% aged ≥75 years. True recurrence was identified in 624 patients (23.2%). Median time to first recurrence was 524 days (~17 months); mean was 686 days. Cumulative recurrence rates were 24.5% at 6 months, 39.1% at 1 year, and 61.2% at 2 years. A total of 496 patients (79.5% of the recurrent group) experienced more than one recurrence, with a mean of 3.7 episodes per patient in this subgroup. Advanced age (≥50 years) and female sex were identified as independent predictive factors ($p<0.05$).

CONCLUSIONS

In this large-series retrospective cohort study, the BPPV recurrence rate was 23.2%, consistent with published literature. The cumulative 2-year recurrence rate of 61.2% and a mean of 3.7 recurrence episodes per patient in the recurrent subgroup indicate that BPPV may follow a chronic, relapsing course in a meaningful subset of patients. Advanced age and female sex are the primary predictors of recurrence. The inclusion of pediatric patients (2.7%) reflects real-world all-age practice. These findings support individualized risk stratification and integration of long-term follow-up protocols into routine BPPV management across all age groups.

KEYWORDS

benign paroxysmal positional vertigo; BPPV; recurrence; vestibular disorder; predictive factors; canalith repositioning; retrospective cohort study

OP-677

Single-Cell Transcriptomes Reveal The Heterogeneity And Microenvironment Of Vestibular Schwannoma

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BACKGROUND & AIM

Vestibular schwannoma (VS) is the most common benign tumor in the cerebellopontine angle (CPA) and internal auditory canal. Illustrating the heterogeneous cellular components of VS could provide insights into its various growth patterns.

MATERIAL & METHODS

Single-cell RNA sequencing (scRNA-seq) was used to profile transcriptomes from 7 VS samples and 2 normal nerves. Multiplex immunofluorescence was employed to verify the dataset results. Bulk RNA sequencing was conducted on 5 normal nerves and 44 VS samples to generate a prediction model for VS growth.

RESULTS

A total of 83,611 cells were annotated as 14 distinct cell types. We uncovered the heterogeneity in distinct VS tumors. A subset of the Schwann cells with the VEGFA biomarker was significantly associated with fast VS growth through mRNA catabolism and peptide biosynthesis. The macrophages in the normal nerves were largely composed of the M2 phenotype, while no significant differences in the proportions of M1 and M2 macrophages were found between slow-growing and fast-growing VS. The normal spatial distribution of the fibroblasts and vascular cells was destroyed in VS. The communications between Schwann cells and vascular cells were strengthened in the samples of VS compared with those in the normal nerve. Three cell clusters were significantly associated with fast VS growth and could refine the growth classification in bulk RNA.

CONCLUSIONS

Our findings offer novel insights into the VS microenvironment at the single-cell level. It may enhance our understanding of the different clinical phenotypes of VS and help predict growth characteristics. Molecular subtypes should be included in the treatment considerations.

KEYWORDS
single-cell RNA sequencing (scRNA-seq); vestibular schwannoma (VS); heterogeneity; molecular subtypes; tumor microenvironment

OP-678

Transmastoid Facial Nerve Decompression With Intact Ossicular Chain Preservation

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BACKGROUND & AIM

the classical approach of the labyrinthine portion of facial nerve remain by middle fossa approach, with possible morbidity. we discuss the feasability and efficiency of transmastoid facial nerve decompression of the three fallopian portions with preservation of intact ossicular chain

MATERIAL & METHODS

We performed this procedure on 25 patients suffering total facial palsy with at least V grade of House and Brakman scale and severe denervation up to 90% at ENOG. The etiologies were post traumatic (19 cases) and Bells Palsy (6 cases). we analysed the post operative facial nerve function , hearing outcomes, and we performed ct scan post operativly to measure the pourcentage of labyrinthine portion decompressed

RESULTS

after 6 months post operativly, All patients reached At least Grade 3 HB, and 85% reached Grade 1 or 2 HB, with no significant hearing deterioration. Ct scan showed a mean decompression OF 65% of the labyrinthin portion

CONCLUSIONS

Transmatsoid approach for labyrynthine portion with hearing preservation is challenging, but effective and feasable. the results on facial nerve recovry are very encouraging. it remains an alternative approach avoiding transcranial approach.

KEYWORDS
facial nerve, transmastoïd Decompression, labyrinthine portion, hearing preservation

OP-679

Prevalence Of Facial Canal Dehiscence And Ossicular Chain Erosion In Chronic Otitis Media: A Single-Centre Analysis Of 180 Mastoidectomies

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BACKGROUND & AIM

Facial canal dehiscence (FCD) and ossicular chain erosion are two of the most clinically relevant intraoperative findings in chronic otitis media (COM) surgery. FCD increases the risk of iatrogenic facial nerve injury, while ossicular erosion drives postoperative hearing outcome. We aimed to determine the prevalence of these two findings in patients operated for COM at a tertiary referral centre, and to describe their distribution by disease subtype.

MATERIAL & METHODS

We retrospectively reviewed all mastoidectomy procedures performed for COM at our centre between January 2020 and March 2026. After excluding cortical/simple mastoidectomies and non-COM indications, 180 surgeries from 163 unique patients were analysed (16 patients underwent same-ear revisions). Demographics, mastoidectomy subtype, revision status and intraoperative FCD were recorded from operative notes; cholesteatoma status was based on histopathological examination of the surgical specimen. Ossicular chain status was reclassified by structured re-reading of every operative note as eroded, non-eroded or undetermined. Prevalence rates with 95% Wilson confidence intervals were calculated; subgroups were compared with chi-square or Fisher exact test.

RESULTS

Mean age was 35.5 ± 18.8 years (range 3–84); 53.9% were male. Cholesteatoma was present in 147 cases (81.7%) and 51 (28.3%) were revisions. Facial canal dehiscence was identified in 48 cases (26.7%, 95% CI 20.7–33.6). Ossicular chain erosion was documented in 129 cases (71.7%, 95% CI 64.7–77.7), absent in 14 (7.8%) and undetermined in 37 (20.6%). Both findings co-existed in 41 cases (22.8%). Ossicular erosion was markedly more frequent in cholesteatoma cases

(79.6% vs 36.4%; p < 0.001), as was FCD (29.9% vs 12.1%; p = 0.048). Notably, none of the 14 patients without ossicular erosion had FCD (0% vs 31.8%; Fisher p = 0.011). Revision status was not associated with either finding.

CONCLUSIONS

In our COM cohort, FCD was present in over one-quarter and ossicular erosion in nearly three-quarters of cases. Both abnormalities occurred almost exclusively in cholesteatomatous disease, and the absence of ossicular erosion was a strong negative predictor of FCD. Surgeons should anticipate facial nerve exposure when ossicular erosion is encountered, particularly in cholesteatomatous COM.

KEYWORDS

chronic otitis media, mastoidectomy, facial canal dehiscence, ossicular erosion, cholesteatoma

OP-680

EVALUATION OF COCHLEAR DAMAGE IN TYMPANOPLASTY THROUGH SERUM PRESTIN LEVELS: A COMPARISON OF OVER-UNDERLAY TYMPANOPLASTY AND BUTTERFLY MYRINGOPLASTY TECHNIQUES

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BACKGROUND & AIM

Middle ear surgery performed for chronic otitis media aims to restore the conductive component of hearing, yet it may transmit mechanical and acoustic energy to the inner ear through suction noise and manipulation of the ossicular chain. The aim of this study was to investigate whether the serum level of prestin, the motor protein of outer hair cells, can serve as an early indicator of cochlear involvement that remains undetectable by conventional audiometric methods. The comparison of two tympanoplasty techniques that differ in their requirement for ossicular manipulation was designed as a model serving this aim.

MATERIAL & METHODS

This prospective study included 29 patients who underwent microscopic postauricular over-underlay type 1 tympanoplasty, 28 patients who underwent endoscopic butterfly inlay myringoplasty, and 26 healthy volunteers. Venous blood samples were obtained from patients preoperatively and on the first, third, and seventh postoperative days, and serum prestin levels were measured by the enzyme-linked immunosorbent assay method. Audiological evaluation was repeated preoperatively and at the third postoperative month.

RESULTS

In age- and sex-comparable groups, preoperative serum prestin was significantly higher in patients than in healthy individuals (p=0.034), a finding confirmed by age-adjusted analysis. Postoperatively, prestin rose on the third day and returned to baseline by the seventh day. The two techniques did not differ in prestin response and were equivalent in bone conduction change within a five-decibel margin. The third-day prestin increase was associated with deterioration of bone conduction thresholds at three months, most strongly at 1000 hertz, whereas it was unrelated to changes in air conduction and in the air-bone gap. For discriminating deterioration of five decibels or more in the bone conduction pure tone average, the area under the curve was 0.783 and the negative predictive value 97.1 percent.

CONCLUSIONS

In the context of chronic otitis media and middle ear surgery, serum prestin behaves as a marker that reflects cochlear stress and yields information at a level where conventional pure tone audiometry remains silent. However, this information can be read not from absolute levels but from the change relative to the patient's own preoperative serum prestin value. Because measurement methods have not yet been standardized, prestin currently represents a research tool suitable for carefully designed studies rather than a clinical test.

KEYWORDS

Biomarkers, Chronic otitis media, Prestin, Sensorineural hearing loss, Tympanoplasty

OP-681

EVALUATION OF SURGICAL, AUDIOLOGICAL, AND PATIENT SATISFACTION OUTCOMES OF BONE-ANCHORED HEARING AID (BAHA) APPLICATIONS: A SINGLE-CENTER EXPERIENCE

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BACKGROUND & AIM

Bone-anchored hearing aids (BAHA) are effective rehabilitation options for patients with conductive or mixed hearing loss and single-sided deafness who cannot benefit from conventional hearing aids. Although BAHA systems provide significant audiological improvement, surgical complications and postoperative skin reactions remain important concerns. This study aimed to evaluate the surgical outcomes, perioperative complications, audiological benefits, and patient satisfaction of patients who underwent BAHA implantation at a tertiary referral center.

MATERIAL & METHODS

A total of 26 patients who underwent BAHA implantation between 2018 and 2025 at the Department of Otorhinolaryngology–Head and Neck Surgery, Marmara University Pendik Training and Research Hospital, were retrospectively included in the study. Ethical approval was obtained (Approval No: 09.2025.25-0437, Date: 23.05.2025). Demographic characteristics, etiology, implant type (Baha Attract / Baha Connect), operative time, intraoperative and postoperative complications, Holgers classification, preoperative and aided hearing thresholds (free-field SRT), and International Outcome Inventory for Hearing Aids (IOI-HA) scores were analyzed.

RESULTS

Eighteen patients were male (69.2%) and 8 were female (30.8%), with a mean age of 26.2 ± 19.9 years. The most common etiologies were chronic otitis media (30.8%) and congenital atresia (23.1%), while 34.6% had an associated syndrome. Baha Attract was used in 17 patients and Baha Connect in 7 patients. Mean operative time was 105.0 ± 27.3 minutes. Intraoperative and postoperative complications occurred in 19.2% and 30.8% of patients, respectively. According to the Holgers classification, 84.6% of patients were grade 0. Mean free-field SRT improved from 62.2 ± 11.3 dB preoperatively to 33.8 ± 9.6 dB with BAHA use, providing an average gain of 28.4 dB. Among 20 patients evaluated with IOI-HA, the mean total score was 28.8 ± 4.7, and 65% achieved good-to-excellent satisfaction levels.

CONCLUSIONS

BAHA implantation provides significant audiological improvement and high patient satisfaction in congenital and acquired conductive hearing loss. Although complication rates were consistent with the literature, the successful osseointegration outcomes achieved without high rates of postoperative skin reactions are noteworthy. BAHA appears to be a safe and effective rehabilitation method in both pediatric and adult populations.

KEYWORDS

Bone-anchored hearing aid; BAHA; osseointegration; conductive hearing loss; congenital atresia; Holgers classification; IOI-HA; patient satisfaction

OP-682

Sound-Induced Vertigo In A Child With Suspected Posterior Semicircular Canal Dehiscence Successfully Treated By Capping Surgery

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BACKGROUND & AIM

Semicircular canal dehiscence syndrome represents a “third mobile window” disorder of the inner ear that can cause sound- or pressure-induced vertigo. While superior semicircular canal dehiscence is well described, posterior semicircular canal dehiscence (PSCD) is rare, particularly in children. Furthermore, some symptomatic cases demonstrate only bone thinning rather than a clear bony defect. We report a pediatric case presenting with the Tullio phenomenon (sound-induced vertigo) suspected to be PSCD and successfully treated with capping surgery, highlighting diagnostic features and surgical considerations.

MATERIAL & METHODS

An 8-year-old boy presented with a 4-month history of vertigo triggered by loud environments such as schools and shopping centers. Pure-tone audiometry showed normal hearing without an air-bone gap (average 3.8 dB bilaterally). No positional nystagmus was observed, and caloric and Schellong tests were normal. Temporal bone computed tomography (CT) reconstructed in Pöschl and Stenvers planes suggested a dehiscence of the right posterior semicircular canal. Cervical vestibular evoked myogenic potential (cVEMP) testing showed a lower threshold on the right side (75 dB) compared with the left (85 dB). Sound stimulation using a 1000-Hz chirp evoked vertigo and an upbeat torsional nystagmus at 90–100 dB in the right ear. Similar nystagmus occurred during the Valsalva maneuver. These findings suggested right PSCD, and surgical intervention was subsequently performed. A mastoid approach with endoscopic assistance was used, and capping of the suspected dehiscence site was performed using calcium phosphate bone paste.

RESULTS

No definite bony defect was identified intraoperatively. However, after capping of the suspected area, sound-induced vertigo completely resolved. Postoperative hearing remained unchanged. At one month, cVEMP thresholds became symmetric (85 dB bilaterally), and sound- or pressure-induced nystagmus was no longer observed. The patient remained symptom-free at 1-year follow-up.

CONCLUSIONS

Even when a definite dehiscence cannot be confirmed intraoperatively, the combination of imaging findings, physiological testing, provoked nystagmus, and postoperative symptom resolution strongly suggests a third mobile window pathology. Surgical capping may be effective in symptomatic pediatric cases with suspected posterior semicircular canal thinning or micro-dehiscence.

KEYWORDS

Posterior semicircular canal dehiscence, Tullio phenomenon, Third mobile window, Pediatric, Cervical vestibular evoked myogenic potential, capping

OP-683

High-Resolution Intraoperative Guide For Cochlear Implant Surgery Using Optical Coherence Tomography

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BACKGROUND & AIM

Despite advancements in soft surgery techniques and softer electrodes, intra-cochlear trauma during cochlear implant (CI) electrode insertion still occurs. Such trauma can damage the micro-structures, potentially compromising hearing outcomes and future intra-cochlear treatments. Although the round window membrane (RWM) approach is generally considered less traumatic, the hook region's complex and variable anatomy can still lead to mechanical trauma during electrode insertion. A significant factor contributing to this trauma is the lack of visual guidance.

Pre-operative imaging for surgical planning and intra-operative monitoring using Optical Coherence Tomography (OCT) could minimize trauma by providing a high-resolution, real-time view of cochlear micro-structures.

MATERIAL & METHODS

Eight fresh frozen temporal bones (TB) were micro-scanned to obtain a precise anatomy of the RW region through manual segmentation. Following a conventional CI surgical approach, a microscope equipped with an OCT camera was used to identify intra-cochlear structures behind the RWM. Co-registration of micro-CT anatomy as the ground truth with OCT images was performed.

RESULTS

OCT images were successfully obtained for each TB. Proper exposure of the RWM is crucial for acquiring usable OCT images. The OCT microscope facilitated scanning of the RWM and scala tympani (ST) at a surgical working distance from various axes, depths, and angles, thereby enhancing our ability to assess proximal ST anatomy. Co-registration of preoperative imagery with intra-operative OCT images was achieved. OCT could be considered a reliable tool for evaluating micro-anatomy through the RWM and potentially guiding CI electrode insertion. It may assist in selecting the most suitable electrode and approach and in modifying the proximal course of the electrode array (EA) during insertion. By enabling surgeons to visualize critical structures through the RWM and infer the positions of deeper structures, OCT could facilitate the execution of a preoperative imagery-based surgical plan, reducing the risk of damaging essential intracochlear structures.

CONCLUSIONS

Intra-operative OCT imaging enhances the precision of cochlear opening site and electrode insertion axis. By integrating OCT, CI surgery could shift from a largely blind procedure to one with significant visual guidance, reducing surgical trauma and improving postoperative hearing preservation. Our findings suggest that clinical trials are needed to confirm the clinical feasibility of this approach.

KEYWORDS

OCT, cochlear implant, hearing preservation

OP-684

Management Of Inner Ear Schwannomas With Cochlear Involvement In A Tertiary Referral Centre

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BACKGROUND & AIM

Inner ear schwannomas represent a distinct clinical entity from vestibular schwannomas of the cerebellopontine angle, with specific anatomical involvement, clinical presentation, and management challenges. The aim of this study is to describe the particular characteristics of inner ear schwannomas with cochlear involvement and to highlight their clinical presentation and therapeutic specificities.

MATERIAL & METHODS

This retrospective observational study was conducted in a tertiary otologic referral center. We included thirty-three consecutive patients diagnosed with inner ear schwannoma with cochlear involvement (intracochlear, intravestibulocochlear,

or transfundal with modiolar extension). Collected data comprised demographic characteristics, presenting symptoms, audiometric findings, radiological tumor features at diagnosis and during follow-up, as well as the treatment modalities applied

RESULTS

Twenty-four patients (73%) had intracochlear, 5 (15%) transfundal with modiolar involvement, 2 (6%) intravestibulocochlear schwannoma. Two (6%) schwannomas involved the cerebellopontine angle. Concerning symptoms all patients presented some degree of hearing loss. Three patients had facial paralysis.

Twenty-eight (85%) underwent wait-and-scan management, during which hearing worsened to AAO-HNS class D for 6 (21%), 15 (54%) showed some degree of tumour growth, 2 (7%) developed spontaneous facial paralysis.

Eleven of 28 patients (39%) underwent surgery after an initial wait-and-scan management (median follow-up of 50 months). Five patients (15%) elected immediate microsurgery tumour removal. Two patients underwent cochlear implantation: one patient did not use the device and had not achieved satisfactory audiometric results The other one exhibited good audiometric results after 3 months (PTA = 30 dB, Speech Discrimination Score = 100% at 70 dB).

Complications were rare and minor. No patients showed residual tumour or recurrence.

CONCLUSIONS

A wait-and-scan policy is the preferred treatment if patients have serviceable hearing. With AAO-HNS class D hearing, microsurgical removal is advised: tumours extending to the internal auditory canal were associated with risk of spontaneous facial paralysis. Surgery is safe and effective.

KEYWORDS

Intracochlear Schwannoma · Facial palsy · Neurotology · Otosurgery

OP-685

Objective And Patient-Reported Outcomes After Endoscopic Ear Surgery

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BACKGROUND & AIM

Chronic otitis media (COM) is a common inflammatory disease and a preventable cause of hearing loss. It presents with persistent or recurrent otorrhea, tympanic membrane perforation, otalgia, and hearing impairment, affecting quality of life. Endoscopic ear surgery offers improved visualization of hidden middle ear areas, preserves critical structures, and provides outcomes comparable to microscopic techniques with less pain and faster recovery. The Zurich Chronic Middle Ear Inventory (ZCMEI-21) assesses patient-reported quality of life in COM. This study evaluates HRQoL, hearing outcomes (air–bone gap), and graft success in patients undergoing endoscopic tympanoplasty.

MATERIAL & METHODS

This retrospective, descriptive study included patients who underwent endoscopic ear surgery at the Department of Otorhinolaryngology, Kırıkkale University Faculty of Medicine Hospital, between November 2021 and December 2025. Demographic data (age, sex), surgical technique, graft type, postoperative graft status, and pre- and postoperative pure-tone audiometry results were obtained from patient records. Hearing outcomes were evaluated using the air–bone gap (ABG), calculated from air- and bone-conduction averages. Patients completed the Turkish version of the Zurich Chronic Middle Ear Inventory (ZCMEI-21), which has established validity and reliability. Health-related quality of life was assessed retrospectively using ZCMEI-21 results. Inclusion criteria were patients aged 18 years and older with chronic otitis media who underwent endoscopic tympanoplasty (± limited ossicular intervention) and had complete pre- and postoperative audiometric data. Exclusion criteria were patients under 18, those who underwent non-endoscopic (microscopic or combined) surgery, open mastoidectomy, revision surgery, or had incomplete audiometric data.

RESULTS

A total of 40 patients were included (mean age: 39.63±13.50 years). Graft success was achieved in 36 patients (90%). The mean duration of surgery was 66.5±18.7 minutes, and mean follow-up was 17.9±8.5 months. Postoperative ABG improved significantly compared to preoperative values (23.35±6.89 dB vs. 15.85±8.05 dB, $p<0.001$). Disease-specific quality of life scores also demonstrated significant improvement (ZCMEI-21: 43.43±12.00 vs. 11.85±11.87, $p<0.001$).

CONCLUSIONS

Endoscopic ear surgery provides high graft success rates and significant improvements in hearing and patient-reported quality of life. These findings support the effectiveness of the endoscopic approach in managing chronic middle ear disease.

KEYWORDS

Chronic otitis media, Endoscopic ear surgery, Tympanoplasty, Health-related quality of life (HRQoL)

OP-686

Risk Of Middle Ear Cholesteatoma In Patients With Aural And Maxillofacial Malformations

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BACKGROUND & AIM

Aural and maxillofacial malformations is a group of conditions characterized by an abnormal anatomy of the ear and the facial skeleton. These malformations can involve the eustachian tube and may lead to chronic otitis media. Some of these conditions such as Down syndrome and Turner syndrome are associated with middle ear cholesteatoma development. We aim to assess the risk of developing middle ear cholesteatoma in patients with these and other malformations, which have not yet been analyzed.

MATERIAL & METHODS

A nationwide, matched case-control study including all patients surgically treated for cholesteatoma in Sweden between 1987 and 2018 have been identified in the Swedish National Patient Register (cases). Two controls per case, matched on sex, age and place of residency, were randomly selected from the general population. In total, 10618 cases and 21236 controls were included, making up a total of 31854 individuals. Information on aural and maxillofacial malformations was also obtained from the Swedish National Patient Register. Logistic conditional regression was used to estimate odds ratios (ORs) with 95% confidence intervals (CI) for the association between aural and maxillofacial malformations and the risk of developing cholesteatoma.

RESULTS

In patients with cholesteatoma, 277 (2.6%) patients had aural or maxillofacial malformation while in the control group only 78 (0.4%). Fifteen cases (0.1%) of cholesteatoma had multiple malformation diagnoses. Patients with any maxillofacial malformation, regardless of its type, had a significantly higher relative risk for developing cholesteatoma, OR: 7.41 (95%CI [5.73-9.58], p<0.001). Highest relative risk was discovered in Turner syndrome, OR: 14.50 (95%CI [5.10 – 41.24], p<0.001), Down syndrome, OR: 12.8 (95%CI [7.43-22.06], p<0.001) and cleft lip and palate, OR: 10.00 (95%CI [5.75-17.41], p<0.001) while the lowest risk was in malformations of the external ear, OR: 2.16 (95%CI [1.69 – 4.06], p<0.001).

CONCLUSIONS

Maxillofacial malformations are associated with a higher risk of developing middle ear cholesteatoma, with the highest relative risk in patients with Turner and Down syndrome as well as cleft lip and palate. These results indicate the need for a standarized ear follow-up structure for all patients with aural and maxillofacial malformations.

KEYWORDS

Cholesteatoma, Facial Malformations, Middle Ear, Epidemiology, Down Syndrome, Turner Syndrome, Cleft Lip and Palate

OP-687

The Utility Of Bottom Push Up Method On Intact Canal Wall Up Tympanoplasty For Cholesteatoma Surgery

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BACKGROUND & AIM

In the intact canal wall tympanplasty (ICWT) for cholesteatoma, the bottom push up method is available to push out matrix membrane of cholesteatoma through the continuity of the matrix membrane to reduce the residual of cholesteatoma. Depending on this method the scutumplasty and cartilage tympanoplasty could be fixed tightly due to the minimum of the transmeatal atticotomy to prevent the recurrence of cholesteatoma.

MATERIAL & METHODS

In this study, we classified a total 151 cases : 145 cases for one-staged operation, 6 cases for planned two-staged operation of the pars tensa cholesteatoma and 114 cases: 104 cases for one-staged operation, 10 cases for planned two-staged operation cases of the pars flaccida cholesteatoma primary underwent CWUM on Teikyo University School of Medicine, Mizonokuchi Hospital during 2015-2023. We discussed the recurrent rate of the cases with one-staged operation or planned two-staged operation.

RESULTS

The residual recurrent of cholesteatoma of the pars tensa cholesteatoma was 1 case and reforming of cholesteatoma of the pars tensa cholesteatoma were 4 cases for one-staged operation, no recurrent cases for planned two-staged operation of the pars tensa cholesteatoma. And the residual recurrent of cholesteatoma of the pars flaccida cholesteatoma was no cases and reforming of cholesteatoma of the pars flaccida cholesteatoma were 3 cases for one-staged operation, no recurrent cases for planned two-staged operation of the pars flaccida cholesteatoma.

The recurrent rate was 3.3% (5/151) on the pars tensa cholesteatoma and 2.6% (3/114) on the pars flaccida cholesteatoma and the total recurrent rate was 3.0% (8/265).

CONCLUSIONS

During CWUT, the Bottom Push Up method, which pushes out the bottom of the depression from the mastoid side, relieved tension on the cholesteatoma maternal membrane, making it possible to continuously remove the cholesteatoma as one block without braking the membrane, resulting in less residual cholesteatoma. In addition, because the extent of the transmeatal atticotomy was minimized, the cartilage tympanoplasty, which prevents recurrence due to reforming of cholesteatom, became stronger, resulting in less cholesteatoma reformation.

KEYWORDS

intact canal wall tympanplasty (ICWT), bottom push up, recurrent rate, scutumplasty, cartilage tympanoplasty

OP-688

Atresia Of The Eustachian Tube: Experience From A Tertiary Referral Center

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BACKGROUND & AIM

Atresia of the Eustachian tube is rare but can be a serious complication of nasal surgery. It often has a major impact on patients' daily lives, leading to ear pain, tinnitus, dizziness, and conductive hearing loss. We share our experience managing three patients with this condition and highlight the lessons learned from different surgical approaches.

MATERIAL & METHODS

Three patients with complete Eustachian tube atresia were treated surgically. The surgical techniques varied depending on the individual case. In some, scar tissue was released and the tube dilated; in others, laser dissection was used to reopen the blocked segment. To help keep the tube open, balloon dilation and temporary stenting were added when needed.

RESULTS

The results were not identical in every patient, but each approach provided valuable insights. While outcomes varied, all surgeries aimed to restore tube function and improve quality of life. Most patients experienced symptom relief, particularly in ear pain and hearing, though the degree of improvement differed.

CONCLUSIONS

Eustachian tube atresia is an uncommon but challenging condition. Our experience shows that surgery can provide meaningful benefits, especially when techniques are tailored to the individual patient. Combining scar release, laser dissection, balloon dilation, and stenting offers a practical way to restore function and reduce symptoms.

KEYWORDS

Eustachian tube atresia; Eustachian tube dysfunction; Nasal surgery complication; Balloon dilation; Laser dissection; Stenting; Conductive hearing loss; Tertiary referral center

OP-689

Chronic Otitis Media Due To Mycobacterium Tuberculosis With Mastoid Involvement In A Diabetic Patient: A Case Report

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BACKGROUND & AIM

Tuberculous otitis media (TOM) is a rare form of extrapulmonary tuberculosis, accounting for less than 1% of chronic otitis media cases in developed countries. Its clinical presentation often mimics chronic suppurative otitis media or cholesteatoma, leading to delayed diagnosis and treatment. The aim of this report is to describe a case of tuberculous otitis media with mastoid involvement in a patient with diabetes mellitus and to highlight the importance of considering this diagnosis in refractory chronic otitis media.

MATERIAL & METHODS

We report the case of a 42-year-old male with poorly controlled diabetes mellitus who presented with progressive unilateral hearing loss and persistent purulent otorrhea unresponsive to conventional antibiotic therapy. Otoscopic examination, high-resolution computed tomography (HRCT) of the temporal bone, surgical findings, histopathological analysis, and radiologic evaluation were performed. The patient underwent surgical management followed by standard antituberculous therapy and was monitored with regular clinical follow-up.

RESULTS

Otoscopy revealed a large (60–80%) tympanic membrane perforation on the affected side. HRCT demonstrated opacification of the middle ear and mastoid with partial aeration and sclerotic changes of the mastoid air cells. A canal wall-up mastoidectomy revealed extensive inflammatory tissue occupying the middle ear and mastoid, which was removed and sent for histopathological examination. Histopathology confirmed infection with Mycobacterium tuberculosis. Chest radiography

showed bilateral upper-lobe infiltrates consistent with pulmonary involvement. The patient completed standard antituberculous therapy with favorable clinical evolution. At five months of follow-up, otoscopy showed an intact tympanic membrane and complete resolution of otorrhea.

CONCLUSIONS

Tuberculous otitis media should be considered in cases of chronic otitis media unresponsive to standard antibiotic treatment, particularly in patients with risk factors such as diabetes mellitus or in tuberculosis-endemic regions. Early recognition and combined surgical and medical management are essential to achieve favorable clinical outcomes and prevent complications. This case underscores the importance of maintaining a high index of suspicion for tuberculous involvement of the ear in atypical or refractory presentations.

KEYWORDS

Tuberculous otitis media Extrapulmonary tuberculosis Chronic otitis media Mastoiditis Diabetes mellitus

OP-690

Digital Therapy For Meniere's Disease

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BACKGROUND & AIM

Life style modification is a crucial part for the treatment of Meniere's disease (MD). In this project we develop a digital therapy assistant (eTxMD) aiming to improve the case management quality for the MD patients and their care professionals.

MATERIAL & METHODS

We develop an iOS-based digital application to monitor and to manage the life style of patients with MD, the targeted dimensions, including: 1. medication compliance 2. diet control 3. sleep and emotion monitoring 4. noise exposure avoidance 5. rehabilitation modules are designed on smartphone. Upon entry to the system, the history, stage and severity of MD are registered as baseline information. In order to understand their expectation and preference with treatment, patients will be asked to complete a share-decision making process with their caring physician.

Eight professionals participated in the validation processes of eTxMD using technology acceptance methodology (TAM, scale 0-5, from not acceptable to fully acceptable).

RESULTS

The TAM evaluation shows high acceptance of eTxMD from "perceived usefulness (4.30.7~4.40,7)", "perceived ease of use (4.30.4~4.50.5)", "attitude toward using(3.82.7~4.00.8)", and 80% of the participant agree that eTxMD might be helpful for MD patients (behavior intention to use).

CONCLUSIONS

The preliminary TAM data shows eTxMD has potential to be used in the clinical setting to assist MD patients for their life style modification.

KEYWORDS

Meniere's disease, life style modification, digital therapy

OP-691

Octyl-2-Cyanoacrylate Tissue Adhesive Closure Versus Subcuticular Suture For Post-Auricular Incisions

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BACKGROUND & AIM

Skin closure techniques in otolaryngology vary based on surgeon preference and wound site. Octyl-2-Cyanoacrylate may be a safe, rapid, and cost-effective option for post-site closure.

This randomized controlled trial study aimed to compare Octyl-2-Cyanoacrylate and conventional subcuticular sutures in ear surgeries, assessing wound closure results in both case and control groups.

MATERIAL & METHODS

This prospective, randomized, controlled, single-blind study was conducted at Ohud Hospital from May 2021 to May 2022. Ear surgery and cochlear implantation in patients were examined, and each group was randomly assigned to receive Derma-bond TM and deep layer subcuticular sutures closure. Incisions were assessed at various time points, including 3 weeks,6 weeks, 6 months, and 1 year post-surgery. The patient and observer Scar Assessment Scale was used, and two independent ear surgeons used the Stony Brook Scar Evaluation Scale for initial scar assessment.

RESULTS

This study involved 126 ear surgery and cochlear implantation patients randomized to use cyanoacrylate tissue adhesive or subcuticular suture for port site closure. The study found that tissue adhesive (OCA) was faster and more ef cient than standard

sutures, saving an average of 12 min per incision in each ear. Incision cosmesis showed immediate results and significant differences, and patient satisfaction with OCA wound closure was higher than standard sutures.

CONCLUSIONS

The ndings con rmed that cyanoacrylate tissue adhesive signi cantly reduced the time needed for skin clo-sure during ear surgery and showed immediate cosmetic improvements without any documented instances of bleeding, hema-toma, infection, or wound separation.

KEYWORDS

cochlear implantation, octyl-cyanoacrylate, surgical incisions, tissue adhesive, traumatic lacerations.

OP-692

Facial Nerve Decompression In Unusual Clinical Situation - Case Series & Literature Review.

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BACKGROUND & AIM

Facial nerve paralysis is uncommon, but very disfiguring condition with serious physical and psychological impact on patients. We present cases series to demonstrate successful outcome by surgical decompression based on location of the disease.

MATERIAL & METHODS

We had series of 4 patients with facial palsy or potential risk of facial nerve paralysis. 3 patients had facial weakness and one patient was in severe risk of facial nerve paralysis without decompression during otological procedure.

RESULTS

Two patients had local cause in temporal bone for their facial nerve paralysis - with decompression they recovered completely. One patient had inflamed nerve due to cholestotoma, without segmental decompression we avoided any weakness post-operatively. One was due to systemic cause - didn't recover.

CONCLUSIONS

Successful decompression of facial nerve is always possible when it is due to local cause., duration may not have any significance.

KEYWORDS

Facial nerve, temporal bone, metastasis, facial paralysis

OP-693

Mild Traumatic Brain Injury -Then, Now, And In The Future

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BACKGROUND & AIM

Mild traumatic brain injury (mTBI) is an increasingly common global health issue that affects 50-60 Million people worldwide. Thirty to forty percent of those who experience mTBI have subacute or chronic effects of the injury. Optimized diagnosis and treatment modalities for this disorder are urgently needed. Unfortunately, questions remain including how best to diagnose the condition, how to determine the prognosis of the condition, and how to treat the condition to prevent short and long term consequences. The aim of this talk is to discuss novel diagnostic and treatment paradigms in mTBI

MATERIAL & METHODS

A combination of oculomotor, vestibular and reaction time (OVRT) tests were performed in a virtual reality google (Synopsis, Inc, Pittsburgh, PA, USA). The test included pursuit tests, saccade tests, oculomotor control tests, reaction time testes and vergence tests. In a series of several experiments this battery of tests was used to examine performance differences between the following: 1) Controls and mTBI subjects, 2) mTBI subjects and other vestibular disorders, and 3) acute mTBI subjects and more chronic mTBI subjects. Objective test outcomes of each of the 14 tests were compared between groups using standard statical methods to determine differences. In addition, patterns of pupil and eye motion response were evaluated for the vergence tests and compared in controls, acute mTBI, chronic mTBI, and other vestibular conditions.

RESULTS

The experiments in total included over 500 controls, 450 mTBI subjects, and 100 other vestibular condition subjects. Each experiment was had properly matched comparison groups and the power to determine differences between the groups. The results are as follows: 1) A series of six tests could determine the presence of mTBI when comparing acute mTBI to control, (AUC 0.966, Sensitivity 0.929, and Specificity 0.90) Using these tests and the analysis of vergencies acute mTBI could be distinguished from other vestibular disorders and 3) Using vergence alone the state of mTBI (acute (0-7 days), subacute (10-30 days), and chronic (90 days and over) could be determined. Furthermore, using a combination of the tests and vergence results prognosis of the state of mTBI recovery could be determined.

CONCLUSIONS

Mild TBI is a major public health problem. Despite a great deal of study accurate diagnosis, prognostic information, and optimal treatment have not been defined. We discuss the use of a portable device to study mTBI. Using a combination of tests the device can determine the presence of mTBI and has achieved US FDA approval for determining the presence of mTBI. Moreover, using different combinations of tests, the device can determine the difference between mTBI and other vestibular disorders and can determine the status of recovery of an individual with mTBI. We also discuss novel new treatment paradigms.

KEYWORDS

mTBI, concussion, testing, prognosis

OP-694

THE FATE TYMPANIC MEMBRANE RETRACTIONS: SEVEN YEARS FOLLOW UP

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BACKGROUND & AIM

Tympanic membrane retractions (TMRs) are frequent otologic findings, with a reported risk of progression to cholesteatoma ranging from 1–5% in the literature. Identifying risk factors associated with progression is essential to optimize clinical management and to indicate surgery at an early stage when necessary. This study aimed to analyze the long-term evolution of TMRs over a mean follow-up period of 7 years and to identify risk factors associated with disease progression.

MATERIAL & METHODS

This retrospective cohort study evaluated 61 ears with TMRs followed for a mean period of 7 years at a tertiary referral center. Video-otoscopic and surgical records were reviewed. Outcomes included stability, improvement, worsening of the retraction, tympanic membrane perforation, and development of cholesteatoma. Anatomical and clinical variables were correlated with outcomes through statistical analysis of the collected data.

RESULTS

The rate of progression to cholesteatoma was 19.7% (12/61 ears), higher than most previously reported data. Complete erosion of the long process of the incus was the main risk factor identified (RR 3.34; p = 0.002), whereas a normal malleus and absence of posterior recess involvement were protective factors. Adhesion of the tympanic membrane to the promontory in the posterosuperior quadrant (PSQ) was also identified as a risk factor (RR 2.14 [1.26–3.63]; p = 0.037).

The findings suggest that progression may be more common than classically described, particularly in more severe cases. Complete erosion of the long process of the incus emerged as a robust prognostic marker, indicating retractions with low reversibility and a high risk of cholesteatoma formation. Adhesion of the tympanic membrane to the promontory in the PSQ indicates greater aggressiveness, as this requires erosion of the long process of the incus and the stapes suprastructure.

CONCLUSIONS

Conclusion: Tympanic membrane retractions carry a relevant risk of progression, particularly when associated with ossicular erosion. These findings highlight the importance of individualized follow-up and underscore the need for prospective studies to validate these markers, enabling more precise management protocols.

KEYWORDS

Tympanic Membrane Retraction; Middle Ear Cholesteatoma

OP-695

Comparison Of Endoscopic And Microscopic Management Of Attic Cholesteatoma: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Attic cholesteatoma is a common otologic disease that leads to several complications. Endoscopic ear surgery is becoming increasingly more used for its management. The differences in the outcomes between the totally endoscopic approach and the traditional microscopic approach remain unclear for limited attic cholesteatomas. As such, this systematic review and meta-analysis aims to compare the outcomes of the endoscopic approach and the microscopic approach for the management of cholesteatoma limited to the attic.

MATERIAL & METHODS

This review was conducted in accordance with the PRISMA-P 2020 guidelines. Searches were performed using the databases PubMed, Cochrane Library, Web of Science, Clinical Trials, and Google Scholar. Studies were included based on predefined eligibility criteria and assessed for quality using the Revised Cochrane Risk-of-Bias Tool for randomized trials (RoB2) and the Methodological Index for Non-Randomized Studies (MINORS). The primary outcomes for this review were audiological

outcome, healing time, operating time, middle ear structures visibility index (MESVI), post-operative complications, graft success rate, and long term outcomes. Mean difference (MD) and odds ratio (OR) with 95% confidence intervals (CI) were used to represent the outcomes.

RESULTS

7 studies with a total of 539 patients (541 operated ears) were included. The endoscopic group had a statistically significant higher MESVI (Z=23.205, P<0.0001). The overall effectshowed less post-operative pain among patients undergoing the endoscopic technique (Z= -6.942, P=0.000). No statistically significant difference between both groups was found in terms of healing time, operating time, graft success rate, post-operative complications and audiological outcome.

CONCLUSIONS

The endoscopic approach for the management of cholesteatoma limited to the attic region has some advantages compared to the microscopic approach namely in terms of better middle ear structures visibility and less postoperative pain. No significant differences in the operation time, average healing time, graft success rate, and audiological outcome between both approaches were found. Future research conducted with high quality comparative prospective studies is needed to further compare both surgical approaches and confirm the advantages of the endoscopic approach.

KEYWORDS

limited attic cholesteatoma, middle ear, endoscopic, microscopic

OP-696

Congenital Ossicular Malformations: Report On 46 Ears

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BACKGROUND & AIM

Congenital ossicular malformations exhibit a wide range of anatomical variations, and multiple classification systems have been proposed. The Teunissen and Cremers classification remains widely used. More recently, classifications have focused on surgical outcome prediction and prosthesis selection, often based on stapes footplate mobility and the presence of stapes anomalies. This study aimed to identify the types of ossicular anomalies within each class, analyze them, and examine their relationship to surgical outcomes.

MATERIAL & METHODS

The subjects were 38 patients (46 ears) who underwent surgery over 14 years, from October 2011 to July 2025. The diagnosis was confirmed intraoperatively. There were 22 male and 16 female patients, with a mean age of 16.2 years (range, 5 to 54 years) at the first surgery. Preoperative and postoperative audiological findings, as well as intraoperative anatomical findings, were analyzed based on the modified Teunissen and Cremers classification. A successful hearing outcome was defined as a postoperative air-bone gap of 20 dB or less.

RESULTS

A total of 28 distinct types of ossicular malformations were identified. According to the classification, seventeen, seventeen, one, nine, and two ears were classified in Class 1, 2, 3, 4, and 5, respectively. Success rates were 88.2% in Class 1 and 82.4% in Class 2, whereas they were lower in Class 4 (62.5%). The mean postoperative air conduction thresholds were 23.5 dB in Class 1 and 26.4 dB in Class 2, compared with 41.3 dB in Class 4, indicating poorer hearing outcomes in Class 4.

CONCLUSIONS

Consistent with previous reports showing decreasing postoperative hearing improvement from Class 1 to Class 5, Class 4 demonstrated inferior outcomes. In Class 4, 7 of 9 cases involved anomalies beyond the stapes, particularly the incus. When confined to the stapes, standard stapes surgery can be performed. However, additional anomalies may prevent incus attachment and necessitate alternative reconstruction, resulting in poorer outcomes. Based on these observations, we propose that stapedial fixation cases may be divided into cases with and without malleus and/or incus anomalies, regardless of stapes anomalies, instead of Class 3 and 4 in the modified Teunissen and Cremers classification.

KEYWORDS

Ossicle, conductive deafness, congenital ossicular malformations, the Teunissen and Cremers classification,

OP-697

A Study On The Use Of Slow Motion Imaging To Assist In The Diagnosis Of Eustachian Tube Function

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BACKGROUND & AIM

This study investigates the efficacy and reliability of using slow-motion dynamic video endoscopy to evaluate Eustachian tube (ET) function . By standardizing observational procedures, we aim to accurately analyze the dynamic kinetic patterns of the normal ET during swallowing and validate this method as an effective diagnostic tool

MATERIAL & METHODS

Healthy subjects scoring less than 2 on both the ETDQ-7 and PHI-10 questionnaires were recruited for this study . A standardized operation procedure was utilized, involving local anesthesia followed by the insertion of a flexible fiberoptic endoscope to record slow-motion video of the ET orifice during resting, phonation, and swallowing . The recorded imaging data were converted into image series at 30 frames per second for quantitative analysis, which included angle measurements of the medial and lateral laminae . These dynamic findings were then systematically compared and correlated with standard ET function tests to evaluate their clinical reliability .

RESULTS

Slow-motion dynamic video endoscopy (DSVE) revealed that the complete periodic motion of a normal ET during swallowing comprises four distinct phases: resting, soft palate elevation, post-soft palate elevation, and post-wriggling wave phases . Specifically, the sequential movement involves: 1) the soft palate elevates, causing the medial wall and medial cartilaginous lamina to move inward; 2) the lateral wall expands outward; 3) upon maximal expansion, an inward wriggling or peristaltic wave initiates from the medial inferior part towards the ET orifice; and 4) following this wave, the cartilaginous isthmus opens completely before closing . The quantitative angle measurements obtained from these healthy participants correlated consistently with normal ET function test outcomes.

CONCLUSIONS

This study successfully establishes a standardized operation procedure for DSVE to precisely record and evaluate ET kinematics. The proposed quantitative descriptive model provides a new, comprehensive understanding of healthy ET functionality. This standardized imaging-based approach holds significant clinical promise for facilitating more accurate differential diagnoses and targeted treatments for patients with ET dysfunction in the future .

KEYWORDS

Eustachian tube dysfunction;Slow motion video

OP-698

Audiologic Outcomes Of Bone Cement And Incus Interposition In Austin-Kartush Type A Ossicular Defects

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BACKGROUND & AIM

Long process erosion of the incus is one of the most common ossicular chain pathologies in chronic otitis media and temporal bone trauma. Bone cement reconstruction and incus interposition are two commonly used techniques for repairing this defect. This study aimed to compare the postoperative audiologic outcomes of glass ionomer bone cement and incus interposition in patients with Austin-Kartush Type A ossicular chain pathology.

MATERIAL & METHODS

Patients who underwent ossicular chain reconstruction with either glass ionomer bone cement or incus interposition for Austin-Kartush Type A pathology at Dokuz Eylul University Department of Otorhinolaryngology between January 2015 and September 2024 were retrospectively reviewed. Patients with at least 6 months of audiologic follow-up were included. Demographic characteristics, preoperative and postoperative audiologic findings, and Middle Ear Risk Index (MERI) scores were analyzed. Preoperative and postoperative air-bone gap values and postoperative gain were compared between groups.

RESULTS

A total of 42 patients were included: 27 underwent bone cement reconstruction and 15 underwent incus interposition. Mean age was significantly higher in the bone cement group than in the incus interposition group (45.2±13.8 vs 33.4±16.0 years, p=0.023). Preoperative air-bone gap values were similar between groups (33.0±8.9 vs 32.0±12.2 dB, p=0.654). Both groups showed significant postoperative improvement (p<0.001 for both). Postoperative air-bone gap values (15.6±9.5 vs 13.5±9.1 dB, p=0.674), postoperative gain (17.0±10.0 vs 18.5±8.7 dB, p=0.537), and MERI scores (p=0.873) were not significantly different. No significant correlation was found between MERI score and postoperative gain (p=0.903).

CONCLUSIONS

Both bone cement and incus interposition are effective techniques for reconstruction of Austin-Kartush Type A ossicular defects and provide significant postoperative audiologic improvement. However, no significant difference was found between the two methods in terms of postoperative air-bone gap or hearing gain. Larger studies are needed to better define prognostic factors and optimal technique selection.

KEYWORDS

ossiculoplasty, bone cement, incus interposition, chronic otitis media, air-bone gap

OP-699

The Neural Response Properties And Linear-Nonlinear Neural Signal Transformation Of The Semicircular Canal Afferent Neuron Population

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BACKGROUND & AIM

Well-explored neural response properties and signal transformation within a sensory system with hierarchical stages are the basis for neuromodulation techniques to treat neurological disorders.Here we tested semicircular canal afferent neurons (SCNs) by sinusoidal rotation to reveal the neural response properties and signal transformation in the first stage of the vestibular system.

MATERIAL & METHODS

A total of 15 adult female chinchillas (C. laniger) with 480-550g body weight were used in the present study.Here we constructed a coordinate system in three-dimensional space and used right hand rule to judge positive directions of stimuli,once a neuron was isolated well, its sensitivities were tested by using combined stimuli consisted with yaw and pitch rotations. Then the corresponding semicircular canal of this neuron could be immediately identified by monitoring neural response activities during stimuli.

RESULTS

Our data indicate that the mean resting-state discharge rate of SCNs is 47.11 ± 18.17 spikes/s, and the distribution of CV* has a peak locating at CV* = 0.029 ± 0.004. The sensitivity and phase lead of the irregular SCN population are significantly higher than those of the regular SCN population. The frequency of stimuli has a positive effect on sensitivities but a negative effect on phase leads. However, the effect of amplitudes of stimuli on the sensitivities and phase leads is negative and ineffective, separately. Furthermore, the regular SCN population transforms linear neural signals based on angular velocity, however, the irregular SCN population transforms nonlinear neural signals based on angular velocity.

CONCLUSIONS

All of these findings improve our understanding about the neural response properties and signal transformation in the first stage of the vestibular system, complementing how sensory pathways encode and transmit neural signals under natural conditions.

KEYWORDS

the vestibular system; semicircular canal afferent neurons; response properties; linear neural signal transformation; nonlinear neural signal transformation

OP-700

Distribution Of Otoscopic Pathologies Associated With Tympanic Membrane Perforation: A Retrospective Analysis Based On Perforated Ear Images

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BACKGROUND & AIM

The aim of this study was to evaluate the distribution of otoscopic pathologies associated with tympanic membrane perforation in perforated ear images and to identify the most frequently observed accompanying findings.

MATERIAL & METHODS

In this retrospective, descriptive, cross-sectional study, otoendoscopic images of patients diagnosed with tympanic membrane perforation who presented to the Necmettin Erbakan University Department of Otorhinolaryngology between March 2023 and March 2026 were evaluated. A total of 1970 perforated ear images from 1550 patients were included in the study. In patients with bilateral perforations, images from both ears were analyzed, while repeated images from the same ear were excluded. Images were obtained using a 0° rigid endoscope. Associated otoscopic pathologies were assessed using a predefined multi-label classification system. Categorical data were presented as counts and percentages.

RESULTS

The most common accompanying pathological finding in perforated ear images was myringosclerosis (n=1035, 52.5%). This was followed by discharge (n=529, 26.9%), attic retraction (n=306, 15.5%), and pars tensa retraction (n=253, 12.8%). Less frequently observed findings included otomycosis (n=124, 6.3%), cholesteatoma (n=93, 4.7%), and pseudomembrane (n=77, 3.9%). Hemorrhage (n=46, 2.3%), granulation tissue (n=34, 1.7%), and scutum erosion (n=27, 1.4%) were observed less commonly. As multiple pathological findings could be present in a single image, the categories were not mutually exclusive.

CONCLUSIONS

Tympanic membrane perforation is not an isolated otoscopic finding in most cases and is frequently accompanied by additional pathologies such as myringosclerosis, discharge, and retraction changes. These findings suggest that perforation should be

evaluated within the broader morphological spectrum of chronic middle ear disease. Systematic identification of associated otoscopic findings in perforated ears may enhance standardized reporting and support future image-based classification approaches.

KEYWORDS

Tympanic membrane perforation, Otoscopy, Chronic otitis media, Myringosclerosis, Retraction pocket, Cholesteatoma, Image-based analysis

OP-701

Computational Fluid Dynamics (CFD) Analysis Of Otoconia Behavior In The Inner Ear And Their Role In Benign Paroxysmal Positional Vertigo (BPPV).

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BACKGROUND & AIM

Benign Paroxysmal Positional Vertigo (BPPV) is the leading cause of peripheral vertigo, accounting for approximately 25% of vestibular cases. It results from the displacement of otoconia—calcium carbonate particles—from the utricular macula into the semicircular canals. Although repositioning maneuvers are commonly used, their success rates range from 50% to 80%, depending on particle location. Research on the physical and physiological factors influencing otoconia movement remains limited.

This study aims a three-dimensional inner ear model and Computational Fluid Dynamics (CFD) simulations to analyze the motion of otoconia of varying sizes within the endolymph across the three semicircular canals.

MATERIAL & METHODS

A three-dimensional model of the inner ear was implemented in ANSYS Workbench/Fluent. A pressure-based, transient CFD model with absolute velocity formulation was used, incorporating gravity (−9.8 m/s^2) as the principal force. Navier–Stokes equations governed fluid behavior. Three particle diameters (1 µm, 15 µm, and 30 µm) were simulated to represent variability in otoconia size. Repositioning maneuvers (Epley, Gufoni, and Yacovino) were modeled using rotation matrices (Rx, Ry, Rz) calculated in Python to determine gravity vectors for each step. Velocity magnitude, dynamic pressure contours, pathlines, and particle tracking (DPM) analyses were performed to evaluate particle trajectories and repositioning outcomes.

RESULTS

Pathline analysis showed defined trajectories from the ampulla toward the macula; however, not all particles reached their final destination, with accumulation observed in canal curvature regions.

Smaller particles (1 µm) exhibited higher exit percentages and lower permanence within the canals compared to larger particles (30 µm). Simulations demonstrated that particle size significantly influences repositioning success.

In the horizontal canal, maximum velocity reached 2.02×10^{-2} m/s, the highest among the three canals evaluated. Accumulations were more likely in regions with lower velocities, particularly before reaching the macula

CONCLUSIONS

CFD simulation provides a physiologically approximated model for analyzing otoconia motion in BPPV. Particle size plays a crucial role in displacement behavior and repositioning outcomes, with smaller particles demonstrating greater mobility.

Differences in canal geometry influence velocity distribution and particle accumulation, particularly in the horizontal canal. These findings contribute to a better understanding of the biomechanical factors involved in BPPV treatment and highlight the value of computational modeling for studying vestibular disorders.

KEYWORDS

Benign Paroxysmal Positional Vertigo (BPPV); Otoconia; Computational Fluid Dynamics (CFD); Semicircular Canals; Repositioning Maneuvers; Endolymph; Particle Tracking; Vestibular Biomechanics.

OP-702

Comparative Protective Effects Of MESNA And Methylprednisolone Against Radiotherapy-Induced Ototoxicity: An Experimental Animal Study

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BACKGROUND & AIM

Radiotherapy (RT) is a cornerstone in the management of head and neck malignancies; however, radiation-induced ototoxicity affecting the external, middle, and inner ear remains a significant clinical challenge. Although corticosteroids are widely used for their anti-inflammatory properties, effective pharmacological strategies to prevent RT-induced ototoxicity are limited. The

hypothesis of this study was that sodium 2-mercaptoethanesulfonate (MESNA) and methylprednisolone would exert protective effects against RT-induced ototoxicity, with MESNA providing superior histopathological preservation at the tissue level.

MATERIAL & METHODS

This randomized controlled experimental study included 24 adult male albino guinea pigs allocated into four groups (n = 6 per group): untreated control, RT-only, RT + MESNA, and RT + methylprednisolone. A unilateral RT dose of 7 Gy was delivered to the right ear in two fractions. MESNA and methylprednisolone were administered topically to the external auditory canal and intratympanically prior to RT. Audiological assessments, including distortion product otoacoustic emissions (DPOAE) and auditory brainstem response (ABR) testing, were performed before RT and four weeks after treatment. At the end of the fourth week, the animals were sacrificed, and tissues from the external, middle, and inner ear were harvested for histopathological examination using hematoxylin–eosin staining. Degenerative changes were evaluated using a semi-quantitative scoring system, and intergroup comparisons were conducted.

RESULTS

The RT-only group demonstrated marked degenerative changes throughout the auditory system. In the external ear, epidermal disruption, sebaceous gland degeneration, and elastic cartilage damage were observed. The middle ear exhibited mucoperiosteal disorganization, inflammatory infiltration, and vascular congestion. Inner ear findings included separation of the vestibular membrane, degeneration of the basilar membrane, deformation of the tectorial membrane, reduced vascularity of the stria vascularis, and collagen loss in the spiral ligament.

Both treatment groups showed attenuation of radiation-induced damage. MESNA provided more pronounced histological preservation, particularly in the middle and inner ear, with improved mucosal organization, better vascular preservation, and near-normal integrity of the tectorial membrane and spiral ligament. Audiologically, both treatment groups demonstrated trends toward better DPOAE preservation and lower ABR thresholds compared with the RT-only group; however, these differences were not statistically significant ($p > 0.05$).

CONCLUSIONS

RT induces significant degenerative alterations across the auditory system. Both MESNA and methylprednisolone exhibited protective effects; however, MESNA demonstrated superior tissue-level preservation. These findings suggest that MESNA may represent a promising otoprotective agent against RT-induced ototoxicity and warrants further translational and clinical investigation.

KEYWORDS

MESNA, methylprednisolone, radiotherapy, ototoxicity, guinea pig, histopathology

OP-703

Posterior Canal Wall Reconstruction- Our Experience

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BACKGROUND & AIM

Canal wall down mastoidectomy has evolved significantly throughout its history; still as otologists, we are yet to find the perfect solution for the cavity problems, which occur quite commonly post CWD mastoidectomy. Authors investigated the application and effectiveness of posterior canal wall reconstruction using CMOF (Composite multifractured osteo-periosteal flap); also known as soft canal wall reconstruction for prevention of these problems.

MATERIAL & METHODS

A single center case-control interventional study was done in 320 patients during a period of seven years. Patients were equally distributed into two groups. Group 'A' comprised of patients, who underwent CWD mastoidectomy with reconstruction of posterior canal wall with CMOF and group 'B' was represented by conventional CWD mastoidectomy patients. All the patients were thoroughly examined preoperatively. All the patients were assessed clinically and radiologically for cavity problems, hearing improvement postoperatively.

RESULTS

It was seen that patients of group A (CMOF) fared well than group B (Open cavity) in terms of healing, hearing improvement and cosmesis; improvements being statistically significant.

CONCLUSIONS

Posterior canal wall reconstruction using CMOF (Composite multifractured osteo-periosteal flap) or soft canal wall reconstruction is an effective and easy method of avoiding post-operative cavity problems in Canal wall down mastoidectomy.

KEYWORDS

CMOF; Posterior canal wall reconstruction; Soft canal wall reconstruction; CMOF

OP-704

Spatial Relationship Between The External Auditory Canal And The Parotid Gland

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BACKGROUND & AIM

The necessity of routine parotidectomy in early-stage (T1/T2) external auditory canal (EAC) carcinoma remains debated. This study utilizes the Magnetic Resonance Imaging (MRI) to define the precise spatial relationships between the EAC and the parotid gland, providing anatomical basis to reconsider both the necessity and extension of parotidectomy in these cases.

MATERIAL & METHODS

We conducted a retrospective MRI-base anatomical study of 39 patients treated for early-stage (T1/T2) EAC carcinoma. In coronal plane, the relative positions on the EAC corresponding to the superficial and deep parotid lobes along with the vertical distances between the EAC and the parotid gland were measured. The pathological results of those who underwent parotidectomy were assesed for the rate of occult metastasis.

RESULTS

The cartilaginous EAC corresponds exclusively to the superficial lobe of parotid gland while the bony EAC primarily corresponds to the deep lobe with a mean 3.2 ± 3.0 mm overlapping portion with superficial lobe. The mean vertical distances from the EAC to parotid gland was 7.9 ± 1.8 mm at the cartilaginous EAC and 12.1 ± 2.6 mm at the bony EAC. There is no direct parotid gland invasion in all patients. In the pathological study, none of parotidectomy specimen showed positive for malignancy.

CONCLUSIONS

This MRI-based anatomical study suggests that parotidectomy may not be necessary when the carcinoma is strictly confined in the EAC, given that there is no occult metastasis in this sample despite the close proximity of the EAC and parotid glands. However, when the carcinoma extends beyond the EAC, superficial parotidectomy alone may not achieve an oncologic safety due to a close proximity of the EAC and deep parotid lobe.

KEYWORDS

External Auditory Canal Carcinoma, Parotid Gland, Magnetic Resonance Imaging, Parotidectomy, Facial Nerve

OP-705

Analysis Of Trio-Based Whole Exome Sequencing In South Chinese Families With Hereditary Hearing Impairment

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BACKGROUND & AIM

Hereditary hearing impairment is a prevalent sensory disorder affecting millions worldwide, with significant genetic heterogeneity. Whole Exome Sequencing (WES) has emerged as a pivotal tool in uncovering the genetic basis of hearing impairment, enabling the identification of both known and novel genetic mutations. Our study aimed to explore the genetic variations of WES in Trio family （mother, father and child）, proband and their parents, in a special school of hearing impairment in Guangzhou and its application value as the first choice for screening.

MATERIAL & METHODS

A total of 67 participants from 23 families were enrolled in this study. Among these families, there were 2 probands without parents' samples. All the 23 probands who had not undergone any hearing related genetic test before and who voluntarily participated in this study were selected for audiology test and Trio-based WES. The medical history registration form of the proband and his/her parents with normal hearing phenotype was filled in detail, and a pedigree charts were drawn.

RESULTS

Copy number variations (CNVs) of the STRC gene were identified in one proband without parents, and this presence was confirmed using multiplex ligation-dependent probe amplification (MLPA). Another proband carried heterozygous pathogenic MPZL2 and a Variant of Uncertain Significance (VUS) MYH14/SLC44A4. Among the 21 trio-families, only single gene or locus mutations were detected in 4 families (GJB2 109G>A homozygous, GJB2 109G>A heterozygous, MYO15A 964+3G>A homozygous, WFS1740_741delTT heterozygous, respectively), and 17 families were compound. Heterozygous variants. The common primary pathogenic gene GJB2 was detected in 8 families, mainly at the 109G>A locus. The remaining genes defined as pathogenic or suspected to be pathogenic according to the American College of Medical Genetics and Genomics(ACMG) guidelines include USH2A, POU3F4, TNFRSF11A, CPLANE1, CDH23, OTOF, KCNQ4, TMC1 … At the same time, patients with G6PD, Adams-Oliver syndrome type 2, congenital glycosylation disorder Icc type, neurodevelopmental disorders and other diseases were detected.

CONCLUSIONS

The Trio-based WES can identify pathogenic genetic variants of hereditary hearing impairment and detect potential disease-causing mutations. In regions with advanced healthcare infrastructure, WES may be considered as a first-line diagnostic approach and guidance to assist in evaluating patients before considering auditory interventions.

KEYWORDS

congenital hearing impairment; hereditary hearing impairment; whole exome sequencing; trio; ACMG guidelines

OP-706

Beyond Hearing Recovery: Long-Term Quality Of Life After Idiopathic Sudden Sensorineural Hearing Loss

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BACKGROUND & AIM

Idiopathic sudden sensorineural hearing loss (ISSNHL) is an otological emergency with potential long-term consequences that extend beyond pure auditory recovery. The aim of this study was to assess long-term quality of life in patients with ISSNHL and to analyse the impact of residual hearing loss, vestibular symptoms and tinnitus.

MATERIAL & METHODS

A descriptive and analytical observational study was performed including 56 patients diagnosed with ISSNHL at a tertiary referral centre. Quality of life was evaluated at least six months after onset using the Hearing Handicap Inventory for Adults (HHIA). The influence of hearing loss severity, vestibular symptoms, tinnitus and age on HHIA scores was analysed.

RESULTS

ISSNHL was associated with a significant impairment in quality of life, with higher HHIA scores observed in patients with greater residual hearing loss. The presence of vestibular symptoms was significantly associated with worse HHIA outcomes. Although tinnitus did not show statistical significance, patients with tinnitus tended to report higher HHIA scores. Younger patients demonstrated greater perceived handicap. Compared with other non-sudden asymmetric hearing losses described in the literature, ISSNHL showed a greater impact on quality of life.

CONCLUSIONS

ISSNHL results in a persistent deterioration in quality of life, particularly in patients with severe hearing loss and vestibular involvement. These findings highlight the importance of incorporating validated quality-of-life measures into routine clinical practice and support a multidisciplinary approach including auditory rehabilitation and psychological support.

KEYWORDS

Hearing Loss, Sudden Hearing Loss, Sensorineural Quality of Life Surveys, Vertigo, Tinnitus

OP-707

Prognostic Value Of Host İndex In Patients With Malignant Otitis Externa

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BACKGROUND & AIM

The Host Index (H-index) is a value obtained using laboratory parameters (hemoglobin, neutrophils, lymphocytes, monocytes, and albumin). In the literature, an elevated H-index has been correlated with a reduction in disease-free survival and overall survival in patients with squamous cell carcinoma of the head and neck. Malignant otitis externa is a rare, potentially life-threatening disease that involves inflammation of the external auditory canal with osteomyelitis of the temporal bone. The purpose of our study was to assess the prognostic impact of the H-index in patients with malignant otitis externa.

MATERIAL & METHODS

We performed a retrospective study on a cohort of patients with malignant otitis externa referred to our center between 2016 and 2025. H-index calculations were performed for all patients. We evaluated the association between progression-free survival (PFS) and overall survival (OS) with H-index values.

RESULTS

A total of 44 patients were studied, with a median age of 65 years. The preliminary analysis showed a 3-year OS of 96.8% and a PFS of 53.1% for patients with H-index < 3.6, and an OS of 66.7% and PFS of 0% for patients with H-index > 3.6 ($p < 0.001$). All patients with advanced-stage disease (stage 3–4) were classified in the high H-index group (100%), whereas 93.7% in the low H-index group had early-stage disease (stage 1–2) ($p < 0.001$). Facial paralysis was present in 100% of the high H-index group, compared with 6.3% in the low H-index group ($p < 0.001$).

CONCLUSIONS

The H-index might be used to better stratify the risk of facial paralysis, recurrence, and mortality in malignant otitis externa.

KEYWORDS
malignant otitis externa, H-index, facial paralysis, mortality

OP-708

Effects Of Septoplasty And Inferior Turbinate Surgery On Eustachian Tube Function And Middle Ear Ventilation

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BACKGROUND & AIM

Eustachian tube dysfunction may contribute to middle-ear ventilation problems, and nasal obstruction may influence tubal function through altered nasopharyngeal airflow and mucosal inflammation. Evidence on the effect of septoplasty with inferior turbinate surgery remains limited. This prospective study aimed to evaluate subjective Eustachian tube symptoms and objective middle-ear ventilation parameters before and after surgery in adults with septal deviation and inferior turbinate hypertrophy.

MATERIAL & METHODS

This prospective cohort study included 38 adult patients with nasal obstruction due to septal deviation and bilateral inferior turbinate hypertrophy who underwent septoplasty and bilateral inferior turbinate surgery. Patients were evaluated preoperatively, at postoperative month 1, and at postoperative month 3. Outcomes included the Nasal Obstruction Symptom Evaluation (NOSE) scale, visual analog scale (VAS), Eustachian Tube Dysfunction Questionnaire-7 (ETDQ-7), tympanometry, tympanometric peak pressure (TPP), tympanogram type, and the automatic Williams test (ETF-1).

RESULTS

NOSE and VAS scores decreased significantly after surgery compared with baseline (NOSE: 67.25±25.85 to 21.80±18.55; VAS: 6.68±2.39 to 2.42±2.38 at month 3; both $p<0.001$) (Figure 2). ETDQ-7 total scores also decreased significantly, mainly between baseline and postoperative month 3 ($p=0.021$) (Figure 3). TPP values, tympanogram types, and TPP categories did not show significant postoperative change (Figure 1). The proportion of patients classified as having dysfunction decreased for both ETDQ-7 and ETF-1, although these categorical changes were not statistically significant (Figure 4).

CONCLUSIONS

Septoplasty combined with inferior turbinate surgery improved nasal obstruction and patient-reported Eustachian tube symptoms, but did not produce significant objective changes in middle-ear ventilation tests. Nasal cavity pathology should be considered in patients with suspected Eustachian tube dysfunction, although larger controlled studies with longer follow-up and additional objective measures are needed.

KEYWORDS
Septoplasty; inferior turbinate; Eustachian tube dysfunction; middle-ear ventilation; ETDQ-7; tympanometry

OP-709

On Reliability Of Cervical Vestibular Evoked Myogenic Potentials In Cochlear Implant Candidates

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BACKGROUND & AIM

Cervical vestibular evoked myogenic potentials (cVEMP), assessing the vestibulo-collic reflex, are used in specialized centres around the globe as part of a vestibular assessment before cochlear implantation that may inform side selection. Newer studies suggest that an absent response, which is normally regarded a strong indicator of vestibulopathy, is not necessarily a reliable outcome. We therefore examined the reliability of cVEMP elicitability and thresholds in a cohort of cochlear implant candidates. This reliability study of cVEMP assessment in patients is, to our knowledge, world-first at large.

MATERIAL & METHODS

Thirty-four adult cochlear implant candidates underwent two air-conducted sound cVEMP examinations (test–retest design). We quantified agreement for response status and estimated the reliability of the threshold, latency and corrected amplitude outcomes using intraclass correlation (ICC). The 95% bounds of measurement uncertainty for a single threshold score were calculated.

RESULTS

Elicitability: Responses were present at both visits in 22/34 right and 22/33 left ears; status changed between visits in 4/34 and 5/33 (disagreement 12–15%).

Threshold: ICC 0.73 (95% CI 0.60–0.87); single-session score uncertainty ±7.86 dB.

p13 latency: ICC 0.56 (95% CI 0.36–0.76); single-session score uncertainty ±2.65 miliseconds.

n23 latency: ICC 0.32 (95% CI 0.10–0.54); single-session score uncertainty ±3.68 miliseconds.

Corrected amplitude at threshold: ICC 0.16 (95% CI 0.00-0.36); single-session score uncertainty ±0.32.

Corrected amplitude at 128 pSPL, fixed intensity: ICC 0.50 (95% CI 0.24-0.76); single-session score uncertainty ±0.53.

CONCLUSIONS

The instability of cVEMP response status (present vs absent) is clinically important and challenges the utility of cVEMP testing to support side selection in unilateral cochlear implantation. Threshold, latency and amplitude outcomes also showed suboptimal reliability, limiting confidence in individual-level interpretation.

If cVEMP is used in preoperative cochlear implant evaluation to inform side selection, absent responses, unilaterally or bilaterally, should be treated as inconclusive unless confirmed by repeat testing.

KEYWORDS

cVEMP; Cochlear implantation; Preoperative vestibular evaluation; Cervical Vestibular Evoked Myogenic Potentials

OP-710

Chronic Suppurative Otitis Media Leading To Otogenic Meningitis: Diagnostic And Therapeutic Insights

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BACKGROUND & AIM

Chronic suppurative otitis media (CSOM) is a long-standing inflammatory condition of the middle ear and mastoid that can occasionally lead to severe intracranial complications such as meningitis. Although the incidence has decreased in the antibiotic era, otogenic meningitis remains a potentially fatal condition when diagnosis and source control are delayed. This report presents the clinical evolution and management of a case of meningitis secondary to CSOM, highlighting diagnostic challenges and surgical strategy.

MATERIAL & METHODS

A 42-year-old patient with metabolic comorbidities, including type II diabetes and dyslipidemia, presented with subtle and nonspecific symptoms: persistent headache, mild somnolence, and minimal otorrhea. Imaging demonstrated chronic inflammatory middle ear changes without evidence of abscess formation. Lumbar puncture confirmed acute bacterial meningitis caused by Haemophilus influenzae, consistent with an otogenic source. Intravenous antibiotics and corticosteroids led to only partial clinical improvement. Ongoing symptoms prompted surgical intervention, which revealed extensive granulation tissue, dehiscence of the tegmen mastoideum, and exposure of the facial nerve. A canal wall-up mastoidectomy was initially performed, followed by conversion to canal wall-down revision surgery and adjunctive nasal procedures to optimize middle ear ventilation.

RESULTS

The patient experienced progressive neurological and otologic recovery postoperatively, with resolution of infection and improved audiometric outcomes. No recurrence of intracranial or local infection was observed during follow-up.

CONCLUSIONS

CSOM may harbor active infection even in the presence of minimal otologic symptoms and can lead to intracranial spread. Early multidisciplinary assessment, prompt imaging, and definitive surgical eradication of the infectious focus are critical to preventing neurological complications. This case highlights the importance of maintaining a high index of suspicion for indolent otogenic infections, particularly in adults with systemic comorbidities.

KEYWORDS

chronic suppurative otitis media; otogenic meningitis; intracranial complications; mastoidectomy; tegmen dehiscence; Haemophilus influenzae; canal wall-down surgery; facial nerve exposure; diabetes mellitus; case report.

OP-711

Comparison Of Partial Vs. Total Ossicular Chain Reconstruction Using Titanium Prosthesis

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BACKGROUND & AIM

Comparison of the hearing outcomes of titanium partial ossicular replacement prosthesis (PORP) vs. titanium total ossicular replacement prosthesis (TORP) with footplate shoe (Omega Connector) in second stage ossicular chain reconstruction surgeries.

MATERIAL & METHODS

In this retrospective cohort study in a tertiary hospital, we compared the hearing outcomes in 248 patients who had undergone ossicular chain reconstruction with titanium prostheses PORP (n = 115) vs. TORP (n = 133) from August 2017 to June 2021. Pre- and postoperative audiometric data were assessed.

RESULTS

In general, we found that there were no significant differences between PORP and TORP groups in gains of BC (P = 0.080), AC (P= 0.454), ABG (P= 0.928), SRT (P= 0.065), and SDS (P= 0.363). There were no significant differences in terms of ABG gain between the two groups. Regarding ABG gains frequency-specific analysis in the ears with pre-operative conductive hearing loss, there were no significant differences between low-frequencies (P =0.260) and high-frequencies (P= 0.973) between the two groups.

CONCLUSIONS

To sum up, this research provided additional evidence with respect to hearing outcomes after staged ossicular chain reconstruction with PORP and TORP. The practical application of our study is that TORP with footplate shoe (Omega Connector) is comparable with PORP in staged ossiculoplasty.

KEYWORDS

Chronic otitis media, ossicular chain reconstruction, PORP, TORP

OP-712

IMPEDANCE AND FUNCTIONAL OUTCOMES IN ROBOTIC-ASSISTED OR MANUAL COCHLEAR IMPLANTATION: A COMPARATIVE STUDY

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BACKGROUND & AIM

Preservation of residual hearing, particularly in the low-frequency range, is the primary objective of modern cochlear implantation. Recent years have seen the advent of robotic-assisted cochlear implant surgery, which aims to enhance the insertion process while safeguarding the delicate structures of the inner ear. Despite these advancements, the introduction of an electrode array can still result in fibrous tissue formation or osteogenesis within the cochlea. These changes can elevate impedance levels and adversely affect the long-term auditory performance. This study evaluated the impact of the RobOtol® robotic system on impedance changes over time and its potential to improve functional outcomes.

MATERIAL & METHODS

Cochlear implant surgeries were performed using a round window approach. Fifteen Med-El Flex24 electrode arrays were inserted manually, while 24 were inserted using RobOtol® . All subjects underwent pure-tone audiometry before surgery and at regular intervals for up to one year post-surgery. Patients were categorized based on their pure-tone averages at low frequencies (250-1,000 Hz) into groups with no significant loss (≤ 15 dB), partial loss (15-30 dB), and significant loss (> 30 dB). These groups were compared for impedance changes and auditory performance, particularly word recognition scores.

RESULTS

There were fewer instances of significant low-frequency hearing loss in the robot-assisted insertion group (41.67%) compared to the manual group (53.33%). Impedance changes at the apex of the electrode array, particularly at the first electrode, were more stable after robotic surgery, showing a continuous decreasing trend without secondary elevation and lower values in cases of complete residual hearing preservation. Speech intelligibility improved over time in patients with complete residual hearing preservation, regardless of the insertion method. However, in the absence of auditory preservation, speech intelligibility continued to improve for over six months after robotic surgery but stagnated after manual insertion (difference at 1 year, p = 0.038; median auditory capacity index 83% vs. 57%).

CONCLUSIONS

Robotic-assisted cochlear implant insertion with the RobOtol® system, characterized by a consistent and slow insertion speed, minimizes disturbances to the inner ear's neurosensory structures. This method leads to improved auditory performance and better preservation of residual hearing.

KEYWORDS

Cochlear Implants, robot assisted surgery, impedance, hearing preservation

OP-713

Acoustic Comparison Between The Zoellner Sucker And The Novel Zephyr Variable Sucker

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BACKGROUND & AIM

Microsuction is the gold standard for cerumen removal; however, noise generated during the procedure contributes to patient discomfort and has been associated with adverse outcomes including hearing loss, tinnitus, and vertigo. Conventional suction devices operate without airflow modulation, offering no control over associated acoustic output. A novel device, the Zephyr, incorporates variable airflow control, allowing continuous adjustment of suction and sound exposure. This study compares the A-weighted equivalent continuous sound pressure levels (LAeq) and maximum sound pressure levels (LAmax) generated by the Zephyr and a standard Zoellner sucker under controlled, clinically representative conditions.

MATERIAL & METHODS

Measurements were conducted in a hemi-anechoic chamber using an anatomically accurate 3D-printed adult temporal bone. A Brüel & Kjær Type 4182 probe microphone was positioned 0.5 mm through an aperture in the eardrum replica to capture near-field sound pressure levels representative of patient exposure. A standardised 3D-printed soft-wax simulant was positioned 5 mm from the eardrum to ensure consistent test conditions.

A medical suction unit was located outside the chamber and operated at a constant vacuum setting of 500 mmHg. Procedures were performed by a qualified medical practitioner, while suction activation and acoustic data acquisition were controlled remotely by an acoustic technician. Thirty Zephyr and thirty Zoellner devices were tested, each undergoing a complete measurement cycle. Acoustic data were recorded as 1/32 ms time-averaged A-weighted sound pressure levels and 1/12-octave band spectra. LAeq values were analysed across defined procedural phases and LAmax values over the full duration of the procedure.

RESULTS

LAeq levels were consistently higher for the Zoellner sucker across all phases and overall. Mean differences were 43.5 dBA in Phase 1 (108.5 vs 65 dBA), 10.3 dBA in Phase 2 (57.2 vs 46.9 dBA), 23.8 dBA in Phase 3 (119 vs 95.2 dBA), and 24.9 dBA overall (118.3 vs 93.4 dBA). The mean LAmax difference was 22.8 dBA (136.9 vs 114.1 dBA). All differences were statistically significant (Welch t-tests, $p < 0.001$).

CONCLUSIONS

The largest divergence occurred during sucker insertion into the ear canal (Phase 1), where the Zoellner generated LAeq levels over 40 dB higher than the Zephyr, corresponding to approximately 10,000-fold greater acoustic energy. Phase 2, during wax occlusion of the sucker, showed smaller differences. Large differences re-emerged in Phase 3, suggesting that interactions between the sucker and wax material contribute disproportionately to overall noise exposure. Perceptually, the Zephyr would be experienced as substantially quieter across all phases, up to 16-fold quieter, indicating benefits for patient comfort and auditory risk reduction.

KEYWORDS

Microsuction, acoustic trauma, ear wax removal, patient safety,

OP-714

Mastoid Approach For Decompression Of The Geniculate Ganglion: A Case Series And Review Of The Literature From Algeria

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BACKGROUND & AIM

Post-traumatic facial nerve paralysis remains a challenging condition, with persistent controversy regarding the indications, timing, and optimal surgical approach for facial nerve decompression. The optimal timing and surgical approach for decompression remain debated.The transmastoid approach represents a relevant and reliable surgical option, allowing exposure of the mastoid and tympanic segments of the facial nerve, with possible extension to the geniculate ganglion.

The aim of this study was to report our experience with transmastoid facial nerve decompression including the geniculate ganglion in post-traumatic facial paralysis and to review the relevant literature regarding surgical indications and outcomes

MATERIAL & METHODS

We retrospectively analyzed six patients treated in our department for severe post-traumatic facial nerve paralysis (House–Brackmann grades V–VI) following temporal bone trauma. All patients failed to demonstrate satisfactory recovery after initial conservative management.

Preoperative evaluation included high-resolution temporal bone CT and audiological assessment. Electrophysiological studies were performed when available.

All patients underwent facial nerve decompression via a transmastoid approach, targeting the mastoid and tympanic segments, with systematic extension toward the geniculate ganglion when radiological or intraoperative findings suggested proximal involvement.

Postoperative facial nerve function was assessed using the House–Brackmann grading system during follow-up.

RESULTS

Postoperative improvement of facial nerve function was observed in most patients. The majority achieved a final House–Brackmann grade III or better at last follow-up. No major intraoperative or postoperative complications were recorded. Hearing preservation was achieved in all cases.

The transmastoid approach allowed adequate exposure and effective decompression of the geniculate ganglion.

CONCLUSIONS

Transmastoid facial nerve decompression, including the geniculate ganglion, is a safe and effective option in selected cases of post-traumatic facial paralysis. Careful radiological assessment and appropriate patient selection are crucial to determine the feasibility of this approach.

Our experience supports the transmastoid route as a safe and effective surgical option for improving facial nerve function in post-traumatic paralysis.

KEYWORDS

fnacial paralysis ,decompression, geniculate ganglion,transmastoidien

OP-715

Bone Anchored Implantation BEFORE Microtia Reconstruction: Where Should The Implant Be Placed?

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BACKGROUND & AIM

Active bone anchored implants (BAI)(Sentio, OSIA, Bonebridge) offer patients with microtia and aural atresia (MAA) excellent implantable options to treat their conductive hearing loss. Children with MAA with learning and speech delays are a particular vulnerable group who can benefit. However, early implantation can have an impact on future ear reconstruction. The aim of this review is to discuss the surgical considerations for early BAI and the impacts on future ear reconstruction.

MATERIAL & METHODS

Surgical techniques to place the Sentio, OSIA and Bonebridge very. Incision placement, and whether or not the cranial cortex or mastoid is drilled may impact soft tissue, fascial and skin flaps integral in future microtia repair. Whether future microtia reconstruction is undecided, or if the patient plans to have reconstruction with costal cartilage or porous polyethylene implants, surgical placement of bone anchored implants before reconstruction can have deliterious effects on outcomes. We provide an overview of the ideal incisions for each type of implant whether costal cartilage or porous polyethylene is planned for reconstruction. Ideal incisions are reviewed, incisions which are more posterior, not in the field of where the new ear will be placed, and not endangering the temporal parietal fascia. We also review our experience of placement of BAI done concurrently with microtia reconstruction with costal cartilage utilizing the Firmin technique.

RESULTS

Early implantation of Bone anchored implants in patients with Microtia and atresia can greatly improve a patients hearing status. However, implanation before microtia reconstruction can effect soft tissue, fascia and skin flaps integral for future surgery. In our retrospective review, we identified N=42 patients who underwent BAI concurrent with microtia reconstruction and N=3 had BAI before ear reconstruction. There were no complications of the reconstructed ear in those placed concurrently with microtia repair. Two of the 3 patients with early implantation had a negative implact on the microtia repair.

CONCLUSIONS

Bone anchored device implantation done before ear reconstruction can have serious effects on future ear reconstruction, and may be safest if done concurrently with microtia reconstruction. If needed early, incisions should be posterior, away from where the ear would be placed, and without violating the temporal parietal fascial for possible future reconstruction with cartilage or porous polyethylene.

KEYWORDS

Bone anchored implant, OSIA, SENTIO, Bonebridge, microtia, atresia

OP-716

Surgical Approaches And Complications In OSIA: A Systematic Review

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BACKGROUND & AIM

Background: The Osseointegrated Steady-State Implant (OSIA) is an active transcutaneous bone conduction system offering effective hearing rehabilitation via a piezoelectric actuator and osseointegrated anchor, while preserving skin integrity. espite the growing adoption of OSIA, the literature regarding optimal surgical approaches and complication patterns remains fragmented

Objective: To systematically evaluate intraoperative and postoperative complications associated with OSIA implantation, with specific focus on incision orientation, patient age, and prior surgical history.

MATERIAL & METHODS

Methods: A systematic review was registered with PROSPERO and conducted per PRISMA guidelines. PubMed, Embase, and CENTRAL were searched for studies published from January 2016 to April 2025. Fifteen eligible studies were included, encompassing 784 OSIA implants across prospective and retrospective cohorts.

RESULTS

Results: OSIA implantation was associated with a low pooled intraoperative complication rate of 0.77% and a postoperative complication rate of 5.25%. Most complications were mild and manageable, with no cases requiring permanent device removal. Incisions placed across the device had a significantly higher complication rate (14.4%) compared to incisions placed around the device (4.6%). Pediatric-predominant cohorts experienced more complications (10.2%) than adult-predominant cohorts (4.3%). Patients with prior mastoidectomy had a complication rate of 12.0%.

CONCLUSIONS

Conclusion: OSIA is a generally safe hearing solution, but surgical planning should consider patient-specific factors and incision orientation. Incisions placed across the device are linked to higher complication rates. These findings support evidence-based risk stratification and preoperative counseling.

KEYWORDS

Bone conduction implants, OSIA, conductive hearing loss

OP-717

NUMBER OF TENDER POINTS, TRIGGER POINTS, AND IMPACT ON QUALITY OF LIFE AMONG SUBTYPES OF SOMATOSENSORY TINNITUS

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BACKGROUND & AIM

Somatosensory tinnitus (SST) is associated with proprioceptive or mechanoreceptive alterations resulting from cervical or temporomandibular dysfunctions. However, studies relating pain patterns and impact on quality of life according to the region of strongest somatosensory influence are scarce. This study aimed to compare the number of tender points, trigger points, and the impact on quality of life in individuals with somatosensory tinnitus (SST), according to the region of strongest somatosensory influence.

MATERIAL & METHODS

Cross-sectional study approved by the Research Ethics Committee (No. 4,471,809), including individuals aged ≥18 years with complaints of tinnitus. The assessment was conducted by an interdisciplinary team (otolaryngologist, audiologists, and physical therapist) to determine the origin of tinnitus. Somatosensory influence was identified using a checklist adapted from the diagnostic criteria for somatosensory tinnitus (SST). Participants with SST were classified into three groups according to the region of strongest somatosensory influence: cervical, temporomandibular, or mixed. The assessment of tender points and trigger points was performed by bilateral palpation of the following muscles: temporalis (anterior, middle, and posterior), masseter (origin and insertion), digastric (anterior and posterior), suboccipitals, scalenes, sternocleidomastoid, upper trapezius, levator scapulae, and rhomboid. The impact of tinnitus on quality of life was measured using the Brazilian version of the Tinnitus Handicap Inventory (THI). Between-group comparisons were performed using the Kruskal-Wallis test, followed by Dunn's post hoc test.

RESULTS

Out of the 67 individuals evaluated, 34 presented somatosensory influence, with 9 in the cervical group, 9 in the temporomandibular group, and 16 in the mixed group. There were no significant differences among the groups regarding the number of tender points (p=0.079) or trigger points (p=0.398). The total THI score (p=0.083) and the emotional (p=0.258) and catastrophic (p=0.268) domains also showed no differences. However, a significant difference was observed in the functional domain, with greater impact in the temporomandibular group compared to the mixed group (p=0.028).

CONCLUSIONS

In this ongoing study, the number of tender and trigger points did not differ among the groups. However, individuals with somatosensory tinnitus (SST) of temporomandibular origin showed greater functional impact of tinnitus on quality of life compared to the mixed group.

KEYWORDS

Myofascial Pain Syndromes. Temporomandibular Joint Disorders. Tinnitus. Trigger Points.

OP-718

Tinnitus Annoyance And Extended High-Frequency Audiometry In Patients With Normal Audiograms: An Interim Analysis

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BACKGROUND & AIM

This study aims to investigate the clinical factors and extended high-frequency audiometry (EHFA) findings that may influence the level of annoyance in adult tinnitus patients with clinically normal hearing thresholds (≤25 dB HL between 0.25–8 kHz).

MATERIAL & METHODS

This prospective study includes patients aged 18–65 years presenting with tinnitus and bilateral normal hearing on standard audiometry. All participants undergo EHFA (10–16 kHz) and Visual Analogue Scale (VAS-A) assessment. For this interim analysis, data from the first 35 subjects who met the inclusion criteria were evaluated.

RESULTS

The interim study group (n=35) has a mean age of 39.1 ± 11.4 years. Female participants constitute 77.1% of the group. Tinnitus was localised to the left ear in 54.3%, the right ear in 17.1%, and was bilateral in 28.6% of the patients. Data collection regarding psychoacoustic parameters and detailed statistical comparisons of EHFA thresholds and annoyance levels are currently in progress.

CONCLUSIONS

The comprehensive analysis of extended high-frequency thresholds and other parameters with subjective annoyance levels will be presented.

KEYWORDS

Tinnitus, extended high-frequency audiometry, hidden hearing loss, visual analog scale

OP-719

Neurophysiological Mechanisms Of 1Hz Rtms Targeting Left Temporoparietal Junction For Tinnitus Treatment: A TMS-EEG Study

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BACKGROUND & AIM

Repetitive transcranial magnetic stimulation (rTMS) has shown promise in treating tinnitus, but its underlying neurophysiological mechanisms remain incompletely understood. This study aimed to investigate the dynamic neural changes induced by 1Hz rTMS targeting the left temporoparietal junction (TPJ) in tinnitus patients using combined TMS-EEG.

MATERIAL & METHODS

We recruited 45 patients with chronic tinnitus who underwent 5 sessions of 1Hz rTMS over left TPJ. TMS-EEG recordings were obtained before and after treatment. We analyzed TMS-evoked potentials (TEPs), Significant current density (SCD), Significant current scattering (SCS), and time-frequency oscillations.

RESULTS

Our findings revealed a multi-stage neurophysiological cascade: (1) At 37-47ms post-stimulus, local activity in a left-lateralized network involving auditory, emotional, and thalamic regions was significantly reduced (SCD, $p<0.05$). (2) At 123-135ms, functional connectivity between left TPJ and a right-lateralized cognitive control network (including right inferior frontal gyrus and posterior cingulate) was significantly enhanced (SCS, $p<0.05$). (3) At 160-200ms, the N180 component of TEPs showed significantly reduced amplitude ($p=0.0468$), indicating altered cortical inhibitory tone. (4) Time-frequency analysis revealed: reduced gamma oscillations (30-100Hz) in right prefrontal and posterior cingulate regions at 40-120ms; enhanced beta oscillations (12-30Hz) in the same regions at 150-250ms; and enhanced gamma oscillations at 170-180ms.

CONCLUSIONS

1Hz rTMS over left TPJ induces a dynamic neuroplastic cascade involving early local inhibition, followed by enhanced cross-hemispheric cognitive control connectivity, and reorganization of cortical inhibitory circuits. These findings provide a comprehensive neurophysiological framework for understanding rTMS efficacy in tinnitus treatment and identify potential biomarkers for treatment response.

KEYWORDS

Tinnitus, rTMS, TMS-EEG, Neuroplasticity, Functional Connectivity, Time-Frequency Analysis

OP-720

Recurrence Factors Of Benign Paroxysmal Positional Vertigo After Diagnosis And Treatment In The Otolaryngology Emergency Department

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BACKGROUND & AIM

Vestibular disorders are a frequent reason for evaluation in the emergency department (ED). Although benign, benign paroxysmal positional vertigo has a significant impact on quality of life, increasing the risk of falls and fractures, healthcare resource utilization, and absenteeism. The identification of factors associated with recurrence may support risk stratification and discharge planning. Our aim was to characterize patients with BPPV diagnosed and treated by Otolaryngology in the ED and to estimate recurrence rates and associated factors.

MATERIAL & METHODS

A retrospective study of adult patients evaluated in the Otolaryngology ED of a tertiary hospital with a diagnosis of BPPV in 2023 was conducted. Demographic and clinical data were collected, including the affected canal and ear, the repositioning maneuver performed, and the number of maneuvers. Recurrence was defined as a new ED visit for BPPV recorded up to December 31, 2025.

RESULTS

A total of 241 patients were included among 8,309 evaluated in the Otolaryngology ED during 2023; 71% were female, with a median age of 64 years. The posterior canal was most frequently affected (82.6%), followed by the lateral canal (17.4%). The Epley maneuver was most commonly performed (58.5% overall; 84.3% in posterior canal cases), whereas the modified Gufoni maneuver predominated in lateral canal BPPV (85.7%). Nearly 70% of patients required a single maneuver, and 9.1% underwent two maneuvers, with no significant differences in recurrence rates. During follow-up, 69 patients (28.6%; 95% CI 23.3–34.6) revisited the ED, with cumulative incidences of 9.1% at 30 days, 13.3% at 90 days, and 25.7% at one year. Recurrence cases had a median of two episodes and were associated with previous BPPV history (OR 4.62; 95% CI 2.35–9.07) and lateral canal involvement (OR 2.56; 95% CI 1.12–5.86).

CONCLUSIONS

Approximately one in three patients experienced recurrence requiring reassessment in the emergency department, including clinically relevant early recurrences (9.1% at 30 days, 13.3% at 90 days, and 25.7% at one year). These results are broadly consistent with the literature, which reports recurrence rates following repositioning maneuvers generally ranging from 15% to 37% within the first year.

A previous history of BPPV and lateral canal involvement identify higher-risk subgroups following ED treatment.

Risk stratification at diagnosis may help guide patient education, home-care recommendations, and structured follow-up, potentially reducing ED revisits and optimizing healthcare resource utilization.

KEYWORDS

recurrence rates, recorrent factors, BPPV,

OP-721

Recurrent And Residual Cholesteatoma After Mastoid And Epitympanic Obliteration: A Descriptive CT And Clinical Study Of 23 Patients

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BACKGROUND & AIM

Use of both scanographic and intraoperative data to investigate the location of cholesteatoma recidivism (both recurrent and residual) and its association with the quality of the mastoid and epitympanic obliteration performed during the previous surgery.

MATERIAL & METHODS

A retrospective monocentric study including 23 ears from 22 patients who underwent surgery for recurrent or residual cholesteatoma from January 2016 to January 2025. All patients had obliteration performed during the initial surgery (canal wall up or down technique) using various materials, mainly S53P4 bioactive glass. Analysis was based on clinical records, high-resolution CT scans, non–echo-planar diffusion-weighted MRI, and surgical findings.

RESULTS

Fourteen (61%) patients experienced recurrence and 9 (39%) had residual disease. In recurrent cases, all preoperative CT scans showed incomplete obliteration of the epitympanum. Recurrent disease mostly involved the epitympanum (86%), often extending to the mesotympanum or mastoid. Residual lesions were mainly located in the mesotympanum (55%) and were not affected by the obliteration.

CONCLUSIONS

Cholesteatoma recurrence after obliteration seems to be linked to insufficient obliteration, particularly of the epitympanum. Thorough obliteration, especially in complex areas such as the supratubal recess, is crucial to prevent recurrence.

KEYWORDS

Cholesteatoma surgery, mastoïd obliteration, recidivism, bioactive glass

OP-722

Outcomes Of Cochlear Implantation In Patients With Inner Ear Anomalies

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BACKGROUND & AIM

The aim of this study was to investigate the operative findings, postoperative follow-up, intraoperative and postoperative complications, the incidence of revision surgery, and the underlying causes in patients with inner ear anomalies who underwent cochlear implantation for bilateral total hearing loss.

MATERIAL & METHODS

Seventy-five patients with inner ear anomalies who underwent cochlear implantation at the Department of Ear, Nose, and Throat, Faculty of Medicine, Gaziantep University, were included. The malformations observed were: three cases of common cavity, seven vestibular dilatations, one internal acoustic canal hypoplasia, eight incomplete partition type I, one incomplete partition type III, one vestibular hypoplasia, two cochlear hypoplasia, 25 incomplete partition type II, 26 large vestibular aqueducts, and one case of semispherical canal aplasia. Intraoperative and postoperative complications, as well as postoperative follow-up, were assessed for each patient.

RESULTS

Among the patients, 22 (28.2%) experienced gusher, 3 (3.8%) developed rhinorrhea, 2 (2.6%) had swelling, seroma, or infection, 2 (2.6%) experienced facial paralysis, and 1 (1.3%) developed meningitis. No complications were observed in 48 patients (61.5%). Two patients experienced both gusher and rhinorrhea, and one patient had both gusher and facial paralysis. Revision surgery was required in 12 of the 75 patients. The indications for revision surgery included facial stimulation (one patient, 8.3%), flap infection (one patient, 8.3%), incorrect placement (one patient, 8.3%), BOS rhinorrhea (two patients, 16.7%), trauma (three patients, 25.0%), and device failure (four patients, 33.3%).

CONCLUSIONS

Today, with advanced imaging methods, patients with inner ear anomalies can be easily detected, and cochlear implantation surgery can be performed safely. As seen in our study, it should be kept in mind that there is a high probability of intraoperative gusher, and the facial nerve course may be abnormal; different surgical techniques should be used if necessary. In the postoperative period, more care should be taken regarding BOS rhinorrhea and meningitis than in normal patients. In patients requiring a second operation, the reasons for revision surgery should be clarified, and patients should be closely monitored to avoid repeat surgeries.

KEYWORDS

Inner ear anomaly, complication, revision, cochlear implant, perilymph gusher, meningitis

OP-723

Vestibular Dysfunction After Cochlear And Auditory Brainstem Implantation: A Decade-Long Clinical Experience

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BACKGROUND & AIM

Cochlear implantation (CI) and auditory brainstem implantation (ABI) are proven interventions for severe-to-profound sensorineural hearing loss. Although safe, these procedures may influence vestibular pathways due to the anatomical proximity of the cochlea and vestibular organs. This study evaluates the characteristics, mechanisms, and outcomes of vestibular disturbances following CI and ABI.

MATERIAL & METHODS

A retrospective analysis was performed on a large cohort of CI and pediatric ABI recipients over a ten-year period. Patients presenting with postoperative vertigo or imbalance underwent comprehensive vestibular testing, including videooculography (VOG), caloric testing, and cervical vestibular-evoked myogenic potentials (cVEMP). In ABI surgeries, the cerebellar flocculus was graded intra-operatively (Grades 1–4) to assess its association with postoperative vertigo.

RESULTS

Among CI recipients, 7.2% developed postoperative vestibular symptoms, most commonly otolithic dysfunction, reflected as absent or abnormal VEMP responses. Symptoms were mild, transient, and resolved within 2–10 days with conservative management.

In ABI recipients, 16.7% experienced early postoperative vertigo. A strong correlation was found between vestibular symptoms and larger flocculus grades (3 and 4), where increased cerebellar retraction was required for implant placement. All affected patients recovered within 2–5 days, with no long-term sequelae.

CONCLUSIONS

Vestibular dysfunction following CI and ABI is uncommon, short-lived, and generally non-disabling. CI most frequently affects saccular function, while ABI-related vertigo is associated with anatomical variations of the cerebellar flocculus. Emphasis on atraumatic surgical techniques, careful anatomical assessment, and postoperative vestibular rehabilitation can minimise morbidity and optimise outcomes in auditory implant recipients.

KEYWORDS

Cochlear implantation; Auditory brainstem implantation; Vestibular dysfunction; VEMP; Cerebellar flocculus;.

OP-724

The Star Flap Technique: Our Tympanomeatal Flap Approach In Endoscopic Tympanoplasty

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BACKGROUND & AIM

Tympanic membrane perforation is a common condition caused by trauma or recurrent middle ear infections. Perforations persisting longer than 3 months are considered chronic otitis media and often require surgical repair. The aim of tympanoplasty is to restore membrane integrity and improve hearing. Various tympanomeatal flap techniques have been described, depending on surgeon preference and patient factors. In this study, we retrospectively evaluated the outcomes of the our star-flap technique in endoscopic tympanoplasty.

MATERIAL & METHODS

This study included 9 patients who underwent endoscopic type 1 tympanoplasty for tympanic membrane perforation at our clinic. For middle ear access, the star flap technique was employed in place of the conventional posterior tympanomeatal flap technique. Following freshening of the perforation edges, a paralel incision was made to the manubrium of the malleus and elevated, thereby reflecting the anterior and posterior tympanic membrane remnants laterally. When required, a second incision perpendicular to the initial tympanic membrane incision may be performed, enabling separate lateral elevation of all four tympanic membrane quadrants and providing an expanded operative field. Following accomplishment of the middle ear procedures, graft placement was performed. The prepared flaps was then repositioned to cover the graft material. Perforation closure rates and postoperative audiometric outcomes were evaluated retrospectively.Due to the presence of a cochlear implant, one patient was not included in the postoperative audiological outcome analysis.

RESULTS

Of the participants included in the study, 3 were male and 6 were female, with a mean age of 26 years (range: 10 – 53). The mean preoperative air conduction hearing threshold (ACT) was 35 dB, whereas the mean bone conduction threshold (BCT) was 14 dB. At the 1-year postoperative follow-up, no residual or recurrent perforation was observed. At the 1-year postoperative follow-up, the mean ACT was 23 dB, whereas the mean BTC was 15 dB. The mean air–bone gap improved from 21 dB preoperatively to 8 dB postoperatively.

CONCLUSIONS

The star-flap technique may offer substantial advantages by providing a wide endoscopic surgical view without causing the risk of additional complications, facilitating routine middle ear procedures, and potentially reducing operative time owing to less intraoperative bleeding.

KEYWORDS

Tympanic membrane perforation,Tympanoplasty, ,Hearing Loss,Surgical flaps ,Audiometry

OP-725

Comparative Audiological Outcomes Of Type III Tympanoplasty And Partial Ossicular Replacement Prosthesis

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BACKGROUND & AIM

Restoring the ossicular chain is a central goal in the surgical management of chronic otitis media, especially in patients with a preserved stapes superstructure. Type III tympanoplasty and partial ossicular replacement prosthesis (PORP) reconstruction are both commonly used techniques in this setting, yet their relative hearing outcomes are still not clearly established. This study aimed to compare postoperative hearing results, including pure-tone averages, air–bone gap, and functional success rates, between patients undergoing PORP reconstruction and those treated with Type III tympanoplasty.

MATERIAL & METHODS

This retrospective comparative study included 71 patients who underwent ossicular chain reconstruction with either partial ossicular replacement prosthesis (PORP) or Type III tympanoplasty at a tertiary referral center. Patients with available preoperative and postoperative audiometric data were included. Demographic and clinical data were collected from medical records. Audiological outcomes were evaluated using pure-tone averages (PTA) and air–bone gap (ABG) values measured

preoperatively and postoperatively. Primary outcome measures included postoperative PTA, postoperative ABG, AC PTA gain, and ABG closure. Functional success was defined as achieving a postoperative ABG of ≤20 dB and ≤30 dB. Follow-up duration was calculated based on the interval between surgery and postoperative audiometric evaluation. Comparative analyses between groups were performed using appropriate statistical methods, with significance set at $p<0.05$.

RESULTS

The study included 37 patients in the PORP group and 34 patients in the Type III tympanoplasty group. The median follow-up duration was 210 days (IQR: 91–570) and did not differ significantly between groups. Postoperative AC PTA was significantly lower in the PORP group compared to the Type III tympanoplasty group [40.0 dB HL (26.2–56.2) vs. 45.0 dB HL (35.4–69.4), p=0.030]. Similarly, postoperative ABG was lower in the PORP group [21.2 dB (13.8–27.5) vs. 25.0 dB (20.4–36.0), p=0.022]. AC PTA gain was greater after PORP reconstruction [10.0 dB (3.8–17.5) vs. −0.4 dB (−11.4 to 9.0), p=0.005]. Although ABG closure was higher in the PORP group, the difference was not statistically significant (p=0.083). The rate of postoperative ABG ≤30 dB was significantly higher in the PORP group (91.9% vs. 67.6%, p=0.016), while ABG ≤20 dB showed a non-significant trend in favor of PORP (p=0.086).

CONCLUSIONS

PORP reconstruction was associated with lower postoperative ABG, greater AC PTA gain, and a higher rate of postoperative ABG ≤30 dB compared with Type III tympanoplasty. These findings suggest that PORP may offer an audiological advantage in selected patients with a mobile stapes superstructure, although retrospective design and potential selection bias should be considered.

KEYWORDS

ossiculoplasty; Type III tympanoplasty; partial ossicular replacement prosthesis; air–bone gap; chronic otitis media; hearing outcome

OP-726

Intratympanic Administration Of Human Umbilical Cord Mesenchymal Stem Cell-Derived Exosomes After Acoustic Trauma: An Experimental Rat Model

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BACKGROUND & AIM

Acoustic trauma can cause permanent noise-induced hearing loss, yet no regenerative therapy is licensed. Mesenchymal stem cell (MSC)-derived exosomes have anti-apoptotic, anti-inflammatory, and pro-angiogenic properties, but intratympanic human umbilical cord (UC)-MSC exosomes have not been evaluated in acoustic trauma. We hypothesized that a single intratympanic dose of UC-MSC exosomes, delivered on the first day after acoustic trauma, would improve auditory outcomes and attenuate cochlear injury. We tested this hypothesis using ABR thresholds, hematoxylin-eosin (H&E) histopathology, and VEGF immunohistochemistry, and separately assessed whether exosome administration alone produced detectable short-term threshold changes.

MATERIAL & METHODS

We randomized 32 male Sprague-Dawley rats to positive control (acoustic trauma, untreated), study (trauma + exosome), negative control (intratympanic saline), and exosome-toxicity groups (n = 7 analyzed per group). Acoustic trauma was induced with 6-10 kHz noise at 120 dB SPL for 4 h; on post-trauma day 1, 30 µL of UC-MSC exosomes (5×10^9 particles/mL) was injected into the right middle ear. ABR thresholds at 8-32 kHz were measured at baseline and on days 3, 7, and 21, followed by histopathology and vascular endothelial growth factor (VEGF) immunohistochemistry.

RESULTS

Trauma increased thresholds by 23.6-27.1 dB. At day 7, 32 kHz favored the study group by 17.9 dB (false discovery rate-corrected p [pFDR] = 0.048; r = 0.70). At day 21, thresholds were lower at 8 kHz (12.1 dB; pFDR = 0.015) and 16 kHz (14.3 dB; pFDR = 0.030). Untreated controls showed no statistically detectable recovery; at 8 kHz, the day 3-21 change score favored treatment by 17.1 dB (pFDR = 0.025). No detectable threshold elevation occurred in exosome-only animals. Histology showed less hair-cell and stria vascularis injury and VEGF immunoreactivity closer to control levels after treatment.

CONCLUSIONS

Intratympanic UC-MSC exosomes were associated with frequency-specific functional improvement and attenuated cochlear injury, supporting further evaluation as a cell-free treatment.

KEYWORDS

Acoustic trauma; Exosomes; Cochlea; Otoprotection; VEGF

OP-727

WOUND HEALING OUTCOMES AT THE TRAGAL DONOR SITE FOLLOWING ENDOSCOPIC CARTILAGE TYMPANOPLASTY

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BACKGROUND & AIM

This study aimed to compare the effects of different incision closure techniques on postoperative wound healing at the tragal donor site in patients undergoing endoscopic cartilage tympanoplasty.

MATERIAL & METHODS

A total of 57 patients who underwent endoscopic tympanoplasty with tragal cartilage graft for chronic otitis media between January 2023 and January 2025 were included in the study. Patients were divided into three groups according to the incision closure technique: Group 1 – hemitransfixion suture, Group 2 – transfixion suture, and Group 3 – closure with pomade-impregnated packing without suturing. Ecchymosis, hyperpigmentation, hematoma, infection, wound dehiscence, scar formation, hypoesthesia, hyperesthesia, and pain were evaluated on postoperative day 1 and at week 1.

RESULTS

Fifty-seven patients were included in the study. A statistically significant difference was observed between the groups in terms of operative time ($p = 0.0035$). Wound dehiscence was significantly more frequent in Group 3 (no-suture group) ($p < 0.001$). No significant differences were found among the groups regarding ecchymosis, hyperpigmentation, hematoma, infection, hypoesthesia, hyperesthesia, or pressure-related pain. Additionally, there was no statistically significant difference in Visual Analog Scale (VAS) scores between postoperative day 1 and week 1 ($p = 0.93$).

CONCLUSIONS

Although different incision closure techniques may affect wound healing at the tragal donor site to varying degrees, wound dehiscence was more common in the non-sutured method. Selecting an appropriate closure technique may contribute to improved cosmetic and functional surgical outcomes.

KEYWORDS

Endoscopic cartilage tympanoplasty, Tragal donor site, Incision closure techniques, Wound healing.

OP-728

Could Bee Venom Be A Novel Adjunctive Therapy For Cholesteatoma? Evidence From A Rat Model

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BACKGROUND & AIM

Cholesteatoma is a chronic ear disease associated with severe comorbidities due to its destructive progression. Currently, surgery remains the only accepted curative treatment for cholesteatoma; however, its high costs and complications make research on medical treatment alternatives highly significant. This study investigates the potential inhibitory effect of bee venom on a propylene glycol-induced cholesteatoma model in rats.

MATERIAL & METHODS

A total of 32 rats were included and randomly divided into 4 groups. The designated substances were administered bilaterally and intratympanically on days 1, 8, and 15. Group 1: control, in which no active substance was administered (only saline injections on the specified days), Group 2: cholesteatoma induced by propylene glycol administration (propylene glycol injections on the specified days), Group 3: only bee venom administration as the active substance (saline injections on the specified days, followed by single-dose bee venom injection on day 22), and Group 4: rats in which cholesteatoma induced by propylene glycol administration were subsequently administered bee venom (propylene glycol injections on the specified days, followed by single-dose bee venom injection on day 22). Twelve weeks after the last intratympanic injection, the rats were euthanized and their temporal bones were dissected, after which histopathological examinations were performed. Data were analyzed using SPSS.

RESULTS

Although histopathological improvement was observed in the bee venom-treated cholesteatoma group compared with the disease model, the overall change was not significant. Tympanic membrane thickening and fibrosis were significantly reduced. Apoptotic processes were observed to increase significantly. The Mitotic Index/Apoptotic Index ratio was found to be significantly suppressed.

CONCLUSIONS

Bee venom was shown to suppress fibrosis and proliferation and increase apoptotic processes in the rat middle ear. These results suggest that bee venom has an inhibitory effect on cholesteatoma and may guide further research into its treatment.

KEYWORDS

Cholesteatoma, Bee venom, Propylene glycol, Immunohistochemistry, Sprague Dawley rat

OP-729

Development And External Validation Of A Multicenter Machine Learning Model For Prognosis Prediction In Sudden Sensorineural Hearing Loss

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BACKGROUND & AIM

Sudden sensorineural hearing loss (SSNHL) is an acute otological emergency characterized by unexplained hearing loss of ≥30 dB within 72 hours. Although standardized treatment protocols exist, predicting hearing recovery remains challenging, making individualized treatment planning and patient counseling difficult. Most existing models rely on single-hospital datasets, limiting generalizability across diverse clinical environments. This study aimed to develop a multicenter AI model for SSNHL prognosis prediction using data from five university hospitals worldwide and evaluate its generalizability through external validation.

MATERIAL & METHODS

Retrospective data from 2,024 SSNHL patients across five hospitals were analyzed. Fifty-one clinical variables—including demographics, pure-tone audiometry (250–8000 Hz), laboratory findings, and treatment history—were used as inputs. Prognosis was defined as binary recovery per Siegel's criteria. Missing data were handled using MICE, and seven AI algorithms were applied with Optuna-based hyperparameter optimization. Internal validation used stratified 10-fold cross-validation. Two external validation strategies were employed: (1) each hospital's data was split 80:20, with the combined 80% for training and each hospital's 20% hold-out set for validation, and (2) single-hospital models were validated against all remaining hospitals. Model interpretability was assessed using SHAP (TreeExplainer).

RESULTS

The combined multicenter LightGBM model achieved an AUROC of 0.849 (95% CI: 0.810–0.883) on stratified 10-fold cross-validation. External validation across five hospitals yielded AUROCs of 0.84, 0.82, 0.83, 0.86, and 0.73, demonstrating consistent performance across domestic hospitals. Lower performance at the international hospital is attributable to differences in data volume, treatment protocols, follow-up duration, and patient characteristics. Single-hospital models also maintained AUROCs above 0.8 across most external hospitals, confirming generalizability across both strategies. While key predictors varied across single-hospital models, high-frequency hearing thresholds were consistently identified as important. In the combined model, SHAP analysis additionally identified hearing loss duration and contralateral ear thresholds as significant contributors.

CONCLUSIONS

This study demonstrates that a multicenter AI model can overcome the limitations of single-center research and enable reliable SSNHL prognosis prediction across heterogeneous clinical settings. Both combined and single-hospital models showed consistent predictive performance across external hospitals, supporting their potential clinical utility. Given the retrospective study design, further validation through prospective multicenter cohort studies is warranted.

KEYWORDS

Sudden sensorineural hearing loss, Prognosis prediction, Machine learning, Multicenter study, External validation, SHAP analysis

OP-730

Predicting Hearing Outcome After Tympanoplasty: A Multifactorial Approach

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BACKGROUND & AIM

To identify preoperative and intraoperative factors associated with postoperative hearing improvement after tympanoplasty in patients with chronic suppurative otitis media (CSOM), using a multifactorial approach, with particular emphasis on disease chronicity and prior exposure to ethanol-containing ear drops.

MATERIAL & METHODS

A retrospective observational study was conducted at a tertiary otorhinolaryngology center between January 2024 and January 2026. Patients aged 10–65 years with inactive mucosal CSOM who underwent type I–III tympanoplasty were included. Preoperative and 3-month postoperative pure-tone audiometry was analyzed, and hearing gain was defined as the change in air–bone gap (ABG). Clinically significant hearing improvement was defined as an ABG reduction ≥15 dB. Univariable and multivariable linear and logistic regression analyses were performed to identify predictors of postoperative hearing outcomes, including age, disease duration, frequency of otorrhea, perforation characteristics, CT findings, ossicular chain status, and prior use of ethanol-containing ear drops.

RESULTS

Twenty-nine patients with complete audiological data were included. The mean age was 31.8 ± 9.6 years. The median preoperative ABG was 39 dB (IQR 28–52), with a median postoperative improvement of 14 dB (IQR 0–20) at 3 months. Clinically significant hearing improvement was achieved in 41.3% of ears. Longer duration and higher frequency of otorrhea, as well as increasing age, were independently associated with reduced postoperative hearing gain. Prior exposure to ethanol-containing ear drops showed a consistent negative association with hearing improvement but did not retain independent statistical significance after adjustment. Perforation size, CT evidence of mastoid sclerosis or aditus opacification, and ossicular mobility were not independent predictors of short-term hearing outcome.

CONCLUSIONS

Hearing outcomes after tympanoplasty are primarily influenced by disease chronicity and patient age rather than isolated anatomical factors. Long-standing and frequently recurring otorrhea represents the strongest negative predictor of postoperative hearing improvement. Prior use of ethanol-containing ear drops may constitute a potentially modifiable regional risk factor. A multifactorial assessment approach can improve outcome prediction and patient counseling in CSOM surgery.

KEYWORDS

Chronic suppurative otitis media; Tympanoplasty; Hearing outcome; Air–bone gap; Otorrhea; Ethanol-containing ear drops; Prognostic factors

OP-731

Auditory And Visual 3D Virtual Reality Therapy For Chronic Subjective Tinnitus

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BACKGROUND & AIM

Chronic subjective tinnitus is the perception of sound without an external source and is often associated with psychological distress and reduced quality of life. This study aims to evaluate the effectiveness of 3D auditory and visual virtual reality (VR) therapy as a novel and patient-centered approach to reduce tinnitus severity and emotional burden, potentially serving as an alternative to conventional treatments such as cognitive behavioral therapy.

MATERIAL & METHODS

This prospective, single-center study included patients aged 18 to 49 with unilateral or dominantly unilateral subjective tinnitus. VR therapy was delivered in immersive environments where patients interacted with auditory and visual avatars symbolizing their tinnitus perception. Pre-treatment evaluations included otoscopic examination, pure tone audiometry, and tinnitus matching to determine frequency and dB SL level. Therapy sessions were held three times per week over six weeks. Personalized auditory stimuli were embedded into VR scenes, including bedrooms, tropical islands, outer space, snowy islands, ancient Egypt, deserts, boxing gyms, and nature. Pre- and post-treatment outcomes were assessed using the Tinnitus Handicap Inventory (THI), Visual Analog Scale (VAS), and Simulation Sickness Questionnaire (SSQ).

RESULTS

Tinnitus-related audiological parameters such as frequency, intensity, and lateralization were recorded in a sound-treated booth. Tinnitus matching and auditory profiling were conducted for all patients. A statistical comparison of pre- and post-treatment scores is ongoing. The final analysis will evaluate whether virtual reality therapy reduces tinnitus severity and related functional impairment significantly. Comparison of pre- and post-treatment scores is ongoing. The final analysis will determine whether virtual reality therapy significantly reduces tinnitus severity and associated functional impairment. Results will be shared in detail at the congress presentation.

CONCLUSIONS

Virtual reality therapy is a promising, non-invasive, and immersive alternative for managing chronic subjective tinnitus. By combining personalized auditory stimulation with visual environments, VR may help improve emotional regulation and perceived control over tinnitus. Further research is needed to validate its efficacy and define its role alongside or in place of behavioral therapies.

KEYWORDS
Tinnitus, Virtual Reality, Auditory Perception, Sound Therapy, Cognitive Behavioral Therapy, Emotional Regulation, Sensory Integration

OP-732

Cochlear Implantation: Predicting The Scala Tympani Volume Of The Pediatric Recipients

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BACKGROUND & AIM

The main aim of this study was to estimate the volume of the Scala Tympani (ST) of our pediatric cochlear implant (CI) recipients from the computed tomography (CT) images. Then, to study the association between ST volume and both demographic characteristics and cochlear parameters.

MATERIAL & METHODS

Methods: A retrospective study on the CT scans of pediatric CI patients at a tertiary referral CI center. Congenital or acquired cochlear defects were excluded. Two reviewers, with the same level of experience, blindly measured the main cochlear parameters and studied its anatomy. Then, the interrater reliability was tested to measure any differences between the two readings. After that, the ST volume of the included patients was calculated and analyzed. Furthermore, the correlations between the main cochlear parameters and ST volume were studied to propose a formula for estimating the ST volume from the cochlear duct length (CDL).

RESULTS

Results: The mean predicted ST volume among our pediatric CI recipients was 38.51 ± 5.54 µl (range;24.47–52.57 µl). The statistical analysis revealed that all cochlear parameters (A, B, H, and CDL values) could besignificant predictors of the ST volume (p=<0.0001).

CONCLUSIONS

Conclusion: The main cochlear parameters along with the CDL are positively linked to the ST volume. There are considerable differences in cochlear size and scala tympani volume among our pediatric population. These findings confirm the importance of pre-operative planning for proper electrode array selection.

KEYWORDS

Cochlear implant Scala tympani Cochlear duct length Cochlear volume Temporal bone

OP-733

IS SUDDEN HEARING LOSS UNDERRECOGNIZED? A MULTINATIONAL GOOGLE TRENDS COMPARISON WITH BELL'S PALSY

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BACKGROUND & AIM

Sudden sensorineural hearing loss (SSNHL) is an otologic emergency with an estimated annual incidence of 5–27 cases per 100,000 individuals, comparable to Bell's palsy (15–30 per 100,000). Despite similar incidence, public awareness of these conditions may differ substantially. Early recognition of SSNHL is critical, as corticosteroid treatment initiated within the first 72 hours significantly improves hearing recovery, while treatment delays are associated with poorer outcomes. This study aimed to compare public interest in SSNHL and Bell's palsy using online search behavior as a proxy for public awareness.

MATERIAL & METHODS

Google Trends was queried using the "Topic" function within the Health category to extract weekly relative search volume (RSV; scale 0–100) for "Sudden hearing loss" and "Bell's palsy" over the past five years. Data were obtained for Portugal, Spain, Türkiye, and the United Kingdom. Approximately 265 paired weekly observations per country were analyzed. Mean weekly RSV values were calculated for each condition. Paired two-tailed t-tests were used to compare weekly RSV values between conditions within each country. Statistical significance was defined as $P < 0.05$.

RESULTS

Across all four countries, mean weekly RSV for SSNHL was substantially lower than for Bell's palsy. Mean RSV for SSNHL ranged from 0.04 to 0.73, compared with 1.6 to 19.7 for Bell's palsy across countries. The mean RSV ratio (SSNHL/Bell's palsy) ranged from 0.002 in Spain to 0.042 in the United Kingdom, indicating that SSNHL generated between 0.2% and 4.2% of the search interest observed for Bell's palsy. Absolute mean differences were consistent across countries and persisted throughout the 5-year study period. Paired analyses confirmed significantly lower weekly RSV for SSNHL in Portugal, Spain, Türkiye, and the United Kingdom (paired t-test, $P < 0.001$ for all comparisons).

CONCLUSIONS

Despite comparable incidence and acute presentation, SSNHL generates markedly lower public search interest than Bell's palsy across diverse countries. This consistent multinational disparity suggests comparatively lower public visibility of SSNHL and may contribute to delayed presentation, underscoring the potential value of targeted awareness initiatives to promote earlier recognition and timely treatment.

KEYWORDS

Sudden Sensorineural Hearing Loss, Bell's Palsy, Google Trends, Public Awareness, Digital Epidemiology

OP-734

Efficacy Of Artificial Intelligence For Diagnosing Ear Diseases From Otoscopic Images: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Artificial intelligence (AI) has shown increasing potential in the analysis of medical images, particularly in otolaryngology, where the diagnostic accuracy of otoscopy is strongly dependent on clinician expertise and access to specialist evaluation. This study aimed to conduct a systematic review and meta-analysis of the diagnostic accuracy of AI-based systems for detecting ear diseases from otoscopic images, compared against a defined reference standard.

MATERIAL & METHODS

The study was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A systematic search of PubMed, Embase, and IEEE Xplore was performed to identify diagnostic accuracy studies evaluating AI-based systems, including deep learning, machine learning, and convolutional neural networks, applied to otoscopic images for ear disease detection. Statistical analysis was performed using RStudio 2026.01.2. Pooled sensitivity and specificity were estimated using the bivariate random-effects model. Pooled accuracy was calculated using the DerSimonian-Laird model. A summary receiver operating characteristic (SROC) curve was constructed. Heterogeneity was assessed using Cochran's Q statistic and the I^2 statistic.

RESULTS

Fifty-two studies comprising 51,607 otoscopic images were included, with 48,117 correct diagnoses recorded. Pooled sensitivity was 94.6% (95% CI: 92.9%–96.0%) and pooled specificity was 94.8% (false-positive rate: 5.2%; 95% CI: 3.9%–6.9%). The area under the curve (AUC) was 0.98, with a partial normalized AUC of 0.965. The diagnostic odds ratio (DOR) was 350.2 (95% CI: 211.7–579.1). Pooled accuracy was 95% (95% CI: 94%–96%). Heterogeneity was low (I^2=16.1%; Q=60.8, p=0.165; Zhou-Dendukuri: 5.3%). All coefficients were statistically significant (p<0.001).

CONCLUSIONS

AI-based systems demonstrated excellent diagnostic performance for ear disease detection from otoscopic images, with high sensitivity, specificity, and discriminatory ability. These findings support the potential of AI as a supplementary tool for otoscopic diagnosis. Despite low statistical heterogeneity, relevant methodological variability was observed across studies. Continued investment in AI research applied to otoscopy is crucial to establish this technology in clinical practice.

KEYWORDS

Artificial intelligence; Otoscopy; Ear diseases; Machine learning; Deep learning; Diagnostic accuracy; Systematic review; Meta-analysis; Convolutional neural network.

OP-735

Association Between CBC-Derived Inflammatory Markers, Tinnitus Severity, And Audiometric Findings In Subjective Tinnitus

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BACKGROUND & AIM

Subjective non-pulsatile tinnitus is a multifactorial condition with incompletely understood pathophysiology. Although neuroinflammatory mechanisms have been proposed, evidence regarding the role of systemic inflammation remains inconsistent. This study aimed to investigate the relationship between complete blood count (CBC) derived markers, including neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), systemic immune-inflammation index (SII), systemic inflammation marker (SIM), NPLHb (neutrophil × platelet / hemoglobin), and WMR (white blood cell / mean platelet volume), with tinnitus severity and hearing thresholds.

MATERIAL & METHODS

This retrospective observational study was conducted at Antalya City Hospital ENT clinic between September 2024 and November 2025. A total of 200 patient records were retrospectively reviewed, and 92 participants who met the inclusion criteria, comprising 46 patients with subjective non-pulsatile tinnitus and 46 age- and sex-matched healthy controls, were included in the final analysis. Severity was assessed using a Visual Analog Scale (VAS) and the Tinnitus Handicap Inventory (THI). Compound indices were calculated from CBC data. Statistical comparisons were performed using the Independent Samples T-Test, Pearson Chi-Square, and Mann-Whitney U tests.

RESULTS

Contrary to the initial hypothesis, median SII (447.52 vs. 627.93; p=0.007), PLR (112.30 vs. 129.58; p=0.037), and NPLHb (32.02 vs. 43.11; p=0.015) values were significantly lower in the tinnitus group compared to controls. No significant differences were found regarding age (36.54±9.13 vs. 35.85±8.66 years; p=0.709) or gender (p=0.400) between groups. No significant differences were found for NLR, SIM, or WMR levels (p>0.05). Mean VAS and THI scores were 4.49 and 28.44, respectively. No significant correlations were observed between inflammatory markers and THI scores, nor between THI and audiometric thresholds (p>0.05).

CONCLUSIONS

Unexpectedly, selected CBC-derived inflammatory markers were lower in tinnitus patients and showed no correlation with clinical severity. Consistent with recent longitudinal evidence, these findings suggest that systemic inflammatory alterations may not play a dominant role in subjective tinnitus and support further investigation into localized or neurobiological mechanisms.

KEYWORDS

Subjective tinnitus; Inflammatory biomarkers; Systemic inflammation; Audiometry; Tinnitus Handicap Inventory

OP-736

Deep Learning Assisted Diagnosis Of Ear Diseases Using Tympanic Membrane Images

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BACKGROUND & AIM

Accurate diagnosis of ear diseases using otoscopy remains challenging, particularly for non-otolaryngology physicians, with reported diagnostic accuracy ranging between 30% and 67.5% in primary care settings. Misdiagnosis may lead to delayed treatment and serious complications. Recent advances in deep learning have enabled automated analysis of medical images with high accuracy. However, the application of deep learning in tympanic membrane evaluation remains limited. This study aimed to evaluate the performance of a deep learning–based model for the detection and classification of ear diseases using tympanic membrane images.

MATERIAL & METHODS

This prospective study included tympanic membrane images obtained from patients examined at the Department of Otorhinolaryngology, Balıkesir University Medicine Faculty. A total of 5564 images were collected using routine otoendoscopic examinations and labeled by experienced otolaryngologists (Figure 1). The dataset was divided into training (80%), validation/test (20%) sets. A two-stage classification approach was applied. In the first stage, images were classified as normal or pathological. In the second stage, pathological images were further categorized into eight disease classes, including cerumen impaction, serous otitis media, chronic otitis media with perforation, acute otitis media, adhesive tympanic membrane, and external auditory canal pathologies. A transfer learning approach using pretrained convolutional neural network architectures, including ResNet50, EfficientNetB1, and DenseNet121, was employed for image classification, and their performances were comparatively evaluated. Model performance was evaluated using accuracy, sensitivity, specificity, F1-score, and ROC analysis.

RESULTS

In binary classification, the ResNet50 model achieved an accuracy of 92.75%, sensitivity of 90.65%, specificity of 94.67%, and an AUC of 0.973 (Figure 2), indicating excellent diagnostic performance.For multi-class classification of pathological tympanic membrane images, the model achieved an overall accuracy of 86.17% and a macro F1-score of 77.60%. The highest performance was observed in cerumen impaction (96%), serous otitis media (92%), and chronic otitis media with perforation (84%) (Figure 3). Comparative analysis demonstrated that ResNet50 outperformed EfficientNetB1 and DenseNet121 in both binary and multi-class classification tasks. Lower performance was observed in categories with relatively fewer samples (Figure 4).

CONCLUSIONS

Deep learning models demonstrate high accuracy in detecting and classifying ear diseases using tympanic membrane images. These findings suggest that deep learning–assisted systems may serve as reliable supportive tools in otoscopic diagnosis. Such

systems may be particularly beneficial in primary care and telemedicine settings where access to otolaryngology specialists is limited. Further studies with larger multi-center datasets are needed to validate these findings.

KEYWORDS

Deep learning, tympanic membrane, otoscopy, ear diseases, convolutional neural network, medical image analysis, otology, image classification, artificial intelligence

OP-737

Clinical And Radiological Discordances Between Ménière's Disease With And Without Concomitant Migraine

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BACKGROUND & AIM

Migraine has long been noticed to associate with Ménière's disease, an inner-ear homeostatic failure characterized by endolymphatic hydrops (EH). Recent advances in hydrops magnetic resonance imaging (MRI) have enabled the visualization of EH, providing valuable insights into EH-related otological disorders. This study aims to investigate the attack durations, saccular functions, and EH grading trends in Ménière's disease patients with and without concomitant migraine, to explore the influence of migraines on Ménière's disease.

MATERIAL & METHODS

This prospective study was conducted at a tertiary hospital from August 2023 to January 2025. Subjects with unilateral definite Ménière's disease, as per the 2015 criteria, were enrolled. All enrolled 57 subjects were newly diagnosed and stratified by the presence of migraine into migrainous MD (MMD) and MD groups. Each subject underwent pure-tone audiometry, cervical vestibular-evoked myogenic potentials tests using air-conducted stimulation, and hydrops MRI. Vertigo severity was documented based on the duration of attacks. Another 25 age-matched healthy subjects were enrolled to establish cVEMP normal data for further comparisons. Statistical analyses included non-paired t-tests, Chi-square tests (Fisher's exact test), and Cochran-Armitage tests for trend.

RESULTS

Of the patients enrolled, the MMD group accounted for 35%. Among them, the ratios of women to men in the MMD and MD groups were respectively 4 and 1.5, showing a different trend. The average age of onset of the disease in the MMD group was 49 years, slightly lower than the 55 years in the MD group. In terms of attack severity, the MMD group showed significantly higher clinical vertigo severity than the MD group ($p<.05$, Chi-square test). In terms of balloon electrophysiological function, the cVEMP response in the MD group was significantly lower than that in the control group ($p<.05$, unpaired t test), while there was no difference in the MMD group. Finally, endolymphedema grading analysis showed a significantly lighter trend in cochlear and vestibular edema grading in the MMD group than in the MD group ($p< .05$, 2x3 and 2x4 Chi-square test)

CONCLUSIONS

The observed discordance between objective measures of inner ear damages and subjective reports of disease symptoms aligns well with current understanding of migraine as a CNS disorder causing global intensification and/or distortion of sensory signal processing, while "simple" MD is purely an inner ear disorder. Hence, controlling or mitigating potential migraine contributions to Ménière symptoms should be considered an essential early step in MMD treatment

KEYWORDS

Ménière's disease, migraine, Ménière attack, hydrops magnetic resonance imaging, cervical vestibular evoked myogenic potential

OP-738

Gene Therapy For Deafness: From Basics To Clinical Practice

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BACKGROUND & AIM

Hearing loss affects over 1.5 billion people globally, with hereditary factors accounting for more than 50% of cases. Current interventions such as hearing aids and cochlear implants only provide auditory compensation, while gene therapy offers a potential radical cure. However, challenges including cochlear cell type diversity, efficient delivery routes, and clinical applicability need to be addressed.

MATERIAL & METHODS

We established a precision gene therapy platform integrating four core strategies: (1) Vector evolution: Developed novel AAV vectors (e.g., coAAV-1, coAAV-2) via peptide insertion and ancestral sequence reconstruction, and identified cell-specific promoters (HCs, SCs, SGNs) for targeted transgene expression; AIassisted screening accelerated capsid and promoter optimization with high prediction accuracy. (2) Inner ear delivery: Optimized microneedle dimensions and validated the round window membrane (RWM) route across species (mouse, Bama pig, cynomolgus monkey, human) with trans-mastoid facial

recess surgery ensuring safe and efficient transduction. (3) Precise drug design: Applied gene replacement (OTOF, GJB2), gene editing (Cas9 variants, RNA editors) for diverse deafness-related genes; constructed dual AAV systems for large genes like OTOF. (4) Preclinical and clinical validation: Conducted cross-species efficacy and safety assessments, and launched a multicenter clinical trial (NCT05901480) for AAV-OTOF therapy.

RESULTS

Preclinical studies demonstrated that our AAV vectors achieved high transduction efficiency in cochlear hair cells and supporting cells. Gene therapy restored hearing in multiple animal models, including \(Tprn ^{-1}\) , Serpinb6a-/-, DFNA15, and DFNB9 mutant mice, with long-term efficacy and minimal off-target effects. The multicenter clinical trial enrolled 11 DFNB9 patients with OTOF mutations; AAVOTOF injection was well-tolerated (no serious adverse events) and effectively improved auditory function in toddlers, children, and adults, as evidenced by enhanced ABR and pure tone audiometry thresholds. Additionally, we formulated the first international clinical guideline for deafness gene therapy, and AAV-OTOF received FDA orphan-drug designation.

CONCLUSIONS

Our precision gene therapy platform bridges the gap between basic research and clinical practice, providing a scalable solution for both rare and common hereditary deafness. Further optimization of delivery systems and expansion to more deafness genes will facilitate broader clinical translation.

KEYWORDS

Sensorineural Hearing Loss; Gene Therapy; AAV Vector; Inner Ear Delivery; Clinical Trial

OP-739

Evaluation Of The Relationship Between Childhood Trauma And Attachment Styles In Patients With Peripheral Vertigo

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BACKGROUND & AIM

Peripheral vertigo is a vestibular symptom associated not only with physical manifestations but also with psychological factors. Recent studies have demonstrated that vertigo may be related to psychosocial factors. In particular, childhood trauma and attachment styles are thought to influence stress response, psychological resilience, and the development of psychosomatic symptoms. However, these variables have not been sufficiently investigated in patients with peripheral vertigo. The aim of this study was to evaluate the relationship between childhood trauma and attachment styles in individuals diagnosed with peripheral vertigo and to compare their psychological characteristics with those of healthy individuals.

MATERIAL & METHODS

A total of 64 individuals over the age of 18 were included in this cross-sectional and comparative study. The study group consisted of patients diagnosed with peripheral vertigo, while the control group consisted of healthy individuals without any neurological or systemic disease. Participants completed the Childhood Trauma Questionnaire and the Three-Dimensional Attachment Styles Scale. The normality of data distribution was assessed. Independent samples t-test was used for normally distributed variables, whereas the Mann–Whitney U test was used for non-normally distributed variables. A p value of <0.05 was considered statistically significant.

RESULTS

Emotional neglect and physical neglect scores were significantly higher in the vertigo group compared to the control group ($p<0.001$). Secure attachment scores were significantly lower, whereas avoidant and anxious attachment scores were significantly higher in the vertigo group ($p<0.001$). Significant differences were also found between the groups regarding emotional abuse and total childhood trauma questionnaire scores ($p<0.05$). No significant differences were observed in the physical abuse and sexual abuse subscales.

CONCLUSIONS

Childhood trauma and insecure attachment styles were found to be more common in individuals diagnosed with peripheral vertigo. In particular, emotional neglect, anxious attachment, and avoidant attachment styles may be associated with vertigo. These findings suggest that peripheral vertigo should be considered not only as a vestibular disorder but also as a multidimensional condition requiring a biopsychosocial approach.

KEYWORDS

Peripheral vertigo; childhood trauma; attachment styles

OP-740

The Origin Of Cervical Vestibular Evoked Myogenic Potentials - An Ongoing Debate

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BACKGROUND & AIM

Cervical vestibular evoked myogenic potentials (cVEMPs) are routinely interpreted as a marker of saccular and inferior vestibular nerve function — an assumption that has shaped clinical localisation for two decades.

But how well do this interpretation align with the contemporary basic, translational and clinical evidence?

The foundational evidence is less definitive than commonly presented, and accumulating experimental work suggests that non-saccular afferents do respond at clinical stimulus levels. We aimed to re-examine what the basic and translational literature actually supports.

MATERIAL & METHODS

We performed a critical literature synthesis across: (i) animal single-unit and nerve-recording studies quantifying acoustic sensitivity of saccular, utricular, and semicircular canal afferents; (ii) data on vestibulo-collic pathways and convergence onto cervical motoneurons; and (iii) human "lesion" studies, with explicit appraisal of verification of lesion site and risk of circular inference (e.g., defining inferior nerve dysfunction partly by the cVEMP outcome). Evidence was mapped to answer: "Is saccular activation necessary for a cVEMP response?" and "Can other end-organs be excluded under routine testing?"

RESULTS

i) Across animal studies, exclusive saccular activation by air-conducted sound (ACS) is not consistently demonstrated. Multiple studies, across different animal species, document considerable utricular co-activation, and more novel studies furthermore indicate co-activation of afferents from the semicircular canals.

ii) Afferent pathway studies indicate that fibres from different end-organs converge and terminate at the same central vestibular neurons, possibly forming a common reflex pathway. This challenges the simple input-output model, that seems to guide cVEMP interpretation.

iii) Clinically, cVEMP abnormalities occur across heterogeneous vestibular disorders; however, specificity for saccular/inferior-nerve lesions is limited by incomplete independent verification and frequent circular case definitions. Some studies suggest that cVEMP responses may persist after sectioning the inferior vestibular nerve.

CONCLUSIONS

We conclude that interpreting the cVEMP as a measure of saccular function stands without strong evidential support. The saccular predominance theory on which this clinical interpretation is based is increasingly misaligned with empirical evidence, and its limited capacity to reconcile these observations weakens its explanatory validity.

We suggest that, until the origin of the cVEMP is more clearly understood, scholars and clinicians consider it a non-specific vestibulo-collic test and refrain from end-organ–specific interpretations in isolation.

We will also highlight the key points of the post-publication debate.

KEYWORDS

Otolithic organs; Sacculus; Utriculus; Cervical Vestibular Evoked Myogenic Potentials;

OP-741

Association Between Preoperative Inflammatory Markers And Graft Success In Endoscopic Type 1 Tympanoplasty

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BACKGROUND & AIM

Graft success after tympanoplasty is influenced by multiple patient- and perforation-related factors. Recently, hemogram-derived inflammatory markers have gained attention as potential predictors of surgical outcomes. However, their clinical utility in endoscopic tympanoplasty remains unclear. This study aimed to evaluate the association between preoperative systemic inflammatory markers, particularly the systemic immune-inflammation index (SII), and graft success following endoscopic type 1 tympanoplasty.

MATERIAL & METHODS

In this retrospective, single-center study, 49 adult patients who underwent primary endoscopic type 1 tympanoplasty were included. Preoperative complete blood count parameters were used to calculate neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), monocyte-to-lymphocyte ratio (MLR), and the systemic immune-inflammation index (SII). Patients were divided into two groups based on postoperative graft status (intact vs. reperforation). Intergroup comparisons were performed, and multivariate logistic regression analysis was used to identify independent predictors of graft success, adjusting for perforation size, malleus involvement, and surgical technique. Receiver operating characteristic (ROC) analysis was performed to assess the predictive performance of the inflammatory markers.

RESULTS

Graft integrity was achieved in 39 patients (79.6%), while 10 patients (20.4%) developed reperforation. There were no statistically significant differences between groups in terms of NLR, SII, or MLR (p>0.05), whereas PLR showed a trend toward higher values in the failure group (p=0.055). In multivariate analysis, SII was independently associated with graft success after adjustment for perforation size, surgical technique, and malleus involvement (OR=0.81, p=0.031), suggesting a possible association between systemic inflammatory burden and impaired graft healing. Patients with higher SII levels demonstrated an increased risk of graft failure, supporting its potential role as a clinically relevant marker. ROC analysis demonstrated moderate discriminative ability of PLR for predicting graft failure (AUC=0.70).

CONCLUSIONS

Preoperative systemic immune-inflammation index may be associated with graft success in endoscopic type 1 tympanoplasty. Higher SII levels may negatively affect graft healing, independent of other clinical factors. These findings suggest that systemic inflammatory status may be associated with graft healing outcomes and could contribute to preoperative risk assessment. Further prospective studies with larger cohorts are needed to validate these findings.

KEYWORDS

Tympanoplasty, graft success, systemic immune-inflammation index, SII, endoscopic ear surgery

OP-742

Title: First Clinical Experience With An Automated Insertion Tool For Cochlear Implantation

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BACKGROUND & AIM

To preserve residual hearing during cochlear implantation, it is necessary, among other things, to insert the electrode gently and slowly. The automated insertion tool OTODRIVE (MED-EL GmbH, Austria) enables a slow, even movement of the forceps at a predetermined speed and should thus facilitate gentle electrode insertion.

The aim of the present study is to gain initial experience with the automated insertion tool regarding surgical handling and to investigate any influence on residual hearing retention.

MATERIAL & METHODS

Patients who were routinely fitted with a cochlear implant between September 2024 and December 2025 and inserted with the automated insertion tool will be included in the evaluation. In the case of existing pre-operative residual hearing, the extent to which this can be preserved during the operation will be investigated. In addition, parameters such as complication rate, duration of insertion and final insertion depth are documented.

RESULTS

The initial results show a complication-free electrode insertion and a mean postoperative bone conduction hearing loss of approx. under 10 dB HL. The average time for electrode insertion is about 4 minutes, whereby a minimum insertion speed of 0.1 mm/s can be achieved.

CONCLUSIONS

Initial clinical experience with the OTODRIVE automated insertion tool shows that it is easy to use during surgery, although there is a certain learning curve to overcome. Automated insertion has the potential to enable good residual hearing retention.

KEYWORDS

Cochlear Implants, hearing preservation, robotic insertion, otodrive

OP-743

Cervicogenic Dizziness In Otolaryngology Practice: Do Cervical MRI Findings Correlate With Clinical Characteristics?

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BACKGROUND & AIM

Cervicogenic dizziness is a diagnosis of exclusion frequently encountered in otolaryngology practice. This study aimed to evaluate the relationship between cervical MRI findings and clinical characteristics in patients with suspected cervicogenic dizziness. Specifically, it investigated the correlation between radiological findings—such as degenerative disc changes, disc protrusion, osteophyte formation, neural foraminal narrowing, and spinal canal stenosis—and the presence, duration, and severity of dizziness, as well as their association with vestibular test results. The relationship between age and cervical degenerative changes was also assessed.

MATERIAL & METHODS

This retrospective cross-sectional study included 45 adult patients presenting with dizziness between January 2023 and April 2026. Patients with alternative vestibular, neurological, or central causes were excluded. Demographic data, clinical characteristics, symptom duration, VAS scores, and vHIT/VNG results were obtained from medical records. Cervical MRI findings—including disc degeneration, annular bulging, disc protrusion, osteophytes, foraminal narrowing, spinal canal stenosis, and cord compression—were evaluated across levels C2–3 to C6–7. Statistical analyses were performed to assess associations between clinical and radiological variables.

RESULTS

Age was significantly associated with osteophyte formation ($p = 0.004$), and logistic regression confirmed age as an independent predictor ($p = 0.002$; OR = 1.18). No association was found between age and other MRI findings ($p > 0.05$). C3–C4 disc pathology showed a positive correlation with VAS scores ($r = 0.433$, $p = 0.003$), and multilevel degeneration was associated with higher symptom severity ($p = 0.014$). No significant relationships were found between other MRI findings and VAS or nausea ($p > 0.05$). All patients had normal vHIT and VNG results. Age correlated with symptom duration ($r = 0.30$, $p = 0.043$).

CONCLUSIONS

Cervical MRI findings show limited correlation with clinical symptoms. While age predicts osteophyte formation, only specific pathologies such as C3–C4 involvement and multilevel degeneration are associated with symptom severity. Normal vestibular test results support a non-vestibular origin. These findings emphasize the importance of comprehensive clinical evaluation beyond imaging.

KEYWORDS

Cervicogenic dizziness; Cervical MRI; Osteophyte; Disc degeneration; vHIT; VNG

OP-744

Exclusive Endoscopic Surgery For Attical Cholesteatoma: A Prospective PROM-Based Outcome Study

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BACKGROUND & AIM

Attical (epitympanic) cholesteatoma represents a frequent and potentially aggressive form of middle ear disease, often involving hidden recesses such as the anterior epitympanum and sinus tympani. Endoscopic ear surgery (EES) offers enhanced visualization of these difficult areas; however, prospective data focusing on patient-reported quality of life (QoL) outcomes remain limited.

To prospectively evaluate quality of life, audiological outcomes, and short-term disease control following exclusive transcanal endoscopic surgery for attical cholesteatoma.

MATERIAL & METHODS

A prospective cohort study was conducted including 41 consecutive patients with attical cholesteatoma (ChOLE Stage I–II) managed exclusively by transcanal endoscopic surgery in a tertiary referral center. Quality of life was assessed preoperatively and postoperatively using validated patient-reported outcome measures (COMQ-12 and Glasgow Benefit Inventory). Audiological outcomes were measured using four-frequency pure-tone average (PTA). Residual or recurrent disease was evaluated at 12 months with non-echo-planar diffusion-weighted MRI.

RESULTS

Preoperative COMQ-12 scores indicated severe disease burden (54.0 ± 4.2). At 12 months, scores improved significantly to 10.2 ± 3.3 (mean reduction −43.8; 95% CI −46.1 to −41.5; $p < 0.001$), representing an 81% improvement. GBI scores demonstrated high and sustained patient-perceived benefit (82.6 ± 4.8 at 6 months; 84.1 ± 4.9 at 12 months; $p < 0.001$). Mean PTA improved from 52.1 ± 5.3 dB HL preoperatively to 26.4 ± 4.7 dB HL at 12 months (mean gain 25.7 dB; $p < 0.001$). No major complications occurred, and no residual or recurrent cholesteatoma was detected at 12 months. No significant correlation was observed between hearing gain and QoL improvement.

CONCLUSIONS

Exclusive endoscopic management of attical cholesteatoma provides substantial and sustained improvement in patient-reported quality of life, significant hearing restoration, and excellent short-term disease control. These findings support the endoscopic transcanal approach as a safe, minimally invasive, and patient-centered strategy for selected epitympanic cholesteatomas.

KEYWORDS

Attical cholesteatoma, Endoscopic ear surgery Transcanal approach, Quality of life

OP-745

Concurrent Inner And Outer Ear Anomaly: Case Report And Literature Review

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BACKGROUND & AIM

Microtia is a congenital condition characterized by an irregular formation of the outer ear. Microtia has been related to anomalies or identifiable syndrome. In the literature, inner ear anomalies in microtia patients are not extensively studied, given the rare association between both conditions, as they have different embryological origins. This case illustrates the importance of choosing the right cochlear implantation location, the type of electrode that is proper for this condition, and the difficulty in diagnosing the patient.

MATERIAL & METHODS

A 1-day-old baby girl, examination reveals the patient had a right-sided microtia ear, consistent with microtia grade 3, with the left ear consistent with microtia grade 1.

At 4 months, the patient underwent her first audiological assessment, which revealed a conductive hearing loss pattern. At the age of 6 months, findings from the brain MRI showed that the right-sided microtia, along with a small internal auditory canal on the left side, had evidence of cochlear hypoplasia. Also, neither vestibulocochlear nerve is visualized.

RESULTS

At the age of 15 months old, she underwent left-sided cochlear implantation with a small 19 form of Medel electrode with intra-operative ABR. Electrical ABR confirmed the procedure with favorable results.

At 16 months, her first speech-language pathology session was promising; the family reported a response to loud voices and her sibling's names.

CONCLUSIONS

In conclusion, this case aims to emphasize the barriers to managing congenital microtia in association with inner ear malformation regarding diagnosis and management. A re-establishment of hearing function following cochlear implantation demonstrated that cochlear implants can function adequately even in complicated inner ear malformations. Thus, this case highlights the significance of thorough imaging and a customized approach to management.

KEYWORDS

Microtia, Inner Ear Anomaly, Outer Ear Anomaly, cochlear hypoplasia, cochlear implant

OP-746

Translation, Cross-Cultural Adaptation, And Validation Of The Arabic Version Of The Youth Quality Of Life Instrument–Deaf And Hard Of Hearing Module (YQOL-DHH)

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BACKGROUND & AIM

Hearing loss is the one of the leading causes of disability among children and adolescents globally, with Saudi Arabia having a higher incidence of neonatal hearing loss. Deaf or hard of hearing adolescents experience diminished life satisfaction in self-perception, family relationships, social connections, and living environment. Social self-esteem is typically diminished in children with hearing loss due to language and communication difficulties.

Objectives: The purpose of this study is to translate and validate the YQOL-DHH into the Arabic language to develop the ArabicQOL instrument for deaf adolescents.

MATERIAL & METHODS

The study aims to translate and adapt an Arabic YQOL-DHH instrument for DHH patients aged 11-18 in the ENT department of Prince Sultan military city. The process involves two comparisons of DHH patients' responses and thoseof their parents. Participants are recruited from clinic visitors and fill out the questionnaire using the Arabic YQOL-DHH for inter-rater reliability. Data is analyzed using SPSS version 23.0, with a p-value of <0.05 considered statistically significan

RESULTS

The assessment of the adolescent DHH children andYQOL-DHH parents' assessments showed a high degree of agreement 66 (69.5%). However, there was a statistically significant difference between the study subjects' mean Arabic YQOL-DHH scores among the DHH children and their parents($p<0.001$). The results revealed a notable gender difference in perceived stigma out of the three areas evaluated. The mean perceived stigma score for male participants was significantly higher (45.73 ± 16.23) than for female participants (32.38 ± 3.57, $p = 0.009$).

CONCLUSIONS

According to the study, the Arabic YQOL-DHH is a valid and reliable instrument for assessing the quality of life of children with hearing loss. It demonstrated a moderately goodinternal consistency and reliability. In order to demonstrate the Arabic YQOL-DHH's generalizability and sensitivity across clinical situations, future research should concentrate on assessing it over a broader and more diversified sample of children, including different and wide age groups, hearing loss levels, and intervention modalities.

KEYWORDS

Hearing loss, audiology , Youth Quality of Life

OP-747

Histopathologic Patterns Of Cochlear Endosteal And Round Window Involvement In Otosclerosis: Implications For Cochlear Implantation

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BACKGROUND & AIM

To determine the prevalence and severity of cochlear endosteal involvement in otosclerosis, propose a histopathological grading system to standardize its evaluation, and explore its clinical implications for cochlear implantation

MATERIAL & METHODS

Human temporal bone specimens with otosclerosis were analyzed histopathologically. A three-tier grading system (Grades I–III) was applied to midmodiolar sections to assess the extent and distribution of endosteal involvement in each cochlear turn. Lesion involvement grade, site distribution, multiplicity, and round window (RW) involvement were examined to assess their interrelationships.

RESULTS

Cochlear endosteal involvement was observed in 17.9% of evaluable ears. A distinct site-specific heterogeneity was identified: all lesions with cochlear involvement observed in the lower basal turn were Grade III, whereas Grade I lesions predominated in the upper basal turn. Multifocal cochlear endosteal involvement correlated with higher involvement grades. In the subgroup analysis, greater RW involvement was generally accompanied by higher grades of cochlear involvement, suggesting that advanced RW pathology may reflect more extensive endosteal changes, predominantly within the basal turn.

CONCLUSIONS

The proposed grading system provides a reproducible framework for assessing cochlear endosteal involvement and reveals intrinsic site-dependent variability within the otic capsule. The observed distribution patterns, including the association with RW involvement, may contribute to improved clinicopathologic correlation, enhanced radiologic interpretation, and more informed surgical planning for cochlear implantation in advanced otosclerosis.

KEYWORDS

Otosclerosis; cochlear otosclerosis; cochlear implantation

OP-748

FROM AN ISOLATED OTOLOGIC SYMPTOM TO PULMONARY-RENAL SYNDROME: A CASE OF GRANULOMATOSIS WITH POLYANGIITIS (WEGENER'S) PRESENTING WITH ATYPICAL MIDDLE EAR INVOLVEMENT

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BACKGROUND & AIM

Granulomatosis with polyangiitis (GPA), formerly known as Wegener's granulomatosis, is a rare, ANCA-associated systemic necrotizing vasculitis that predominantly targets small-to-medium-sized blood vessels, typically manifesting in the upper and lower respiratory tracts along with the kidneys. Although head and neck manifestations are frequently encountered during the disease course, GPA initiating solely with isolated otologic symptoms and radiologically mimicking vascular masses leads to significant diagnostic challenges and delays.

MATERIAL & METHODS

In this case report, we present a 63-year-old male patient who initially presented with hearing loss and severe otalgia in the left ear.

RESULTS

Due to mass-like imaging findings, the patient was radiologically pre-diagnosed with a glomus tumor. Despite undergoing multiple superficial biopsies and an explorative tympanotomy, the histopathological evaluation of the isolated ear

involvement remained inconclusive and non-diagnostic for systemic vasculitis. Within a few months, the clinical course progressed aggressively into a life-threatening pulmonary-renal syndrome before a definitive diagnosis could be established. Repeated superficial biopsies performed on the middle ear lesions revealed only non-specific necrotizing inflammation rather than diagnostic granulomas. Ultimately, through a multidisciplinary approach following systemic involvement, the definitive diagnosis of GPA was established via a renal biopsy demonstrating crescentic glomerulonephritis, accompanied by c-ANCA positivity. Following the prompt initiation of aggressive immunosuppressive therapy combined with plasmapheresis sessions, the patient's severe clinical condition successfully regressed, and the requirement for hemodialysis was completely eliminated.

CONCLUSIONS

This case underscores that in patients presenting with refractory, destructive, or atypical otologic findings, it is of vital importance for otolaryngologists to maintain a high index of suspicion for systemic vasculitis, even when initial histopathological and exploratory surgical evidence remains insufficient.

KEYWORDS

Granulomatosis with polyangiitis, Wegener's granulomatosis, hearing loss, glomus tumor, explorative tympanotomy, pulmonary-renal syndrome, otology

OP-749

Comparison Of Commercial Artificial Intelligence Applications For Predicting Siegel Outcomes In Idiopathic Sudden Sensorineural Hearing Loss

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BACKGROUND & AIM

Idiopathic sudden sensorineural hearing loss is an otologic emergency characterized by rapid-onset sensorineural hearing impairment and variable clinical outcomes. Although systemic corticosteroid therapy is commonly used, treatment response may differ considerably among patients. Early prediction of hearing recovery may contribute to patient counseling, treatment planning, and clinical decision support.

This study aimed to evaluate the ability of commercial artificial intelligence applications to predict post-treatment hearing recovery according to Siegel criteria using only pre-treatment clinical, audiological, and laboratory data in patients with idiopathic sudden sensorineural hearing loss.

MATERIAL & METHODS

This retrospective single-center methodological study included patients diagnosed with idiopathic sudden sensorineural hearing loss at Sivas Cumhuriyet University Department of Otorhinolaryngology between January 1, 2016, and the date of data extraction. Patients treated with systemic prednisolone therapy and having both pre- and post-treatment audiometric records were included. Demographic characteristics, pretreatment pure-tone audiometry thresholds, and routine laboratory parameters were analyzed. Pure tone average (PTA) was calculated using air-conduction thresholds at 500, 1000, 2000, and 4000 Hz, and PTA gain was defined as the difference between pre- and post-treatment PTA values. Real Siegel classifications were determined according to standardized PTA-based criteria. For artificial intelligence prediction, only pretreatment anonymized clinical, audiological, and laboratory data were provided to ChatGPT Plus, Claude, and Manus using a standardized prompt. Post-treatment audiometric findings and actual Siegel classes were withheld during prediction. AI-generated predictions were compared with actual clinical outcomes using four-class Siegel classification accuracy.

RESULTS

A total of 117 patients were included in the analysis. The mean pre-treatment pure-tone average (PTA) was 49.5 dB, and the mean post-treatment PTA was 38.5 dB, with a mean PTA gain of 11.0 dB. According to real post-treatment audiometric outcomes, 54 patients were classified as Siegel I, 8 as Siegel II, 7 as Siegel III, and 48 as Siegel IV. Overall recovery (Siegel I–III) was observed in 59.0% of patients.

For four-class Siegel prediction, artificial intelligence applications demonstrated limited accuracy. ChatGPT Plus achieved 54.7% accuracy, Manus 49.6%, and Claude 45.3%. In the broader binary clinical classification of good response (Siegel I–II) versus poor/insufficient response (Siegel III–IV), ChatGPT Plus achieved 71.8% accuracy with 79.0% sensitivity and 63.6% specificity, while Manus achieved 65.8% accuracy with 82.0% sensitivity and 48.2% specificity. Overall, artificial intelligence applications showed limited performance in detailed Siegel prediction but demonstrated more clinically useful results in broader binary response classification.

CONCLUSIONS

Commercial artificial intelligence applications showed limited accuracy in four-class Siegel prediction for idiopathic sudden sensorineural hearing loss, with accuracies ranging from 45.3% to 54.7%. However, binary response classification produced more promising results, particularly for ChatGPT Plus and Manus. These findings suggest that AI tools may be more useful for broad prognostic assessment than precise Siegel class prediction. Missing prognostic variables, including treatment delay, vertigo, tinnitus, and salvage therapy status, may have reduced predictive performance. Although these systems cannot

replace physician judgment, they may support clinical decision-making. Larger prospective multicenter studies are needed to validate AI-assisted prediction models.

KEYWORDS

Idiopathic sudden sensorineural hearing loss; artificial intelligence; Siegel criteria; pure tone average; PTA gain; hearing recovery; corticosteroid treatment.

OP-750

A Novel Technique Utilizing Polymethylmethacrylate Cement For The Treatment Of Pulsatile Tinnitus Across Multiple Vascular Pathologies

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BACKGROUND & AIM

Pulsatile tinnitus is a distressing condition commonly associated with vascular structural abnormalities such as sigmoid sinus dehiscence, sigmoid sinus diverticulum, jugular bulb anomalies, and emissary vein defects. Surgical resurfacing has emerged as an effective treatment; however, technical challenges and optimal materials remain under evaluation. We present a novel approach utilizing polymethylmethacrylate (PMMA) bone cement across different vascular etiologies.

MATERIAL & METHODS

Four representative cases from a larger series of approximately 30 patients will be presented to demonstrate the versatility of this technique and highlight key intraoperative challenges.

- Case 1: Challenging jugular bulb dehiscence managed with PMMA resurfacing, with significant improvement in Tinnitus Handicap Inventory (THI).
- Case 2: Sigmoid sinus dehiscence in a patient with profound sensorineural hearing loss, successfully treated with symptomatic improvement.
- Case 3: A complex case with combined Superior Semicircular Canal Dehiscence, sigmoid sinus dehiscence, and sigmoid sinus diverticulum. The patient underwent tailored PMMA resurfacing with adjustment of cement viscosity to address both dehiscence and diverticular components, resulting in complete resolution of pulsatile tinnitus and vestibular symptoms.
- Case 4: Emissary vein dehiscence treated with PMMA cement, with immediate postoperative improvement.

RESULTS

All cases demonstrated immediate and significant reduction in pulsatile tinnitus following surgery. No intraoperative or postoperative complications were observed. Outcomes from the broader cohort (n≈30) support the safety and reproducibility of this approach.

CONCLUSIONS

This presentation highlights the effectiveness of PMMA bone cement resurfacing across a spectrum of vascular causes of pulsatile tinnitus. Case 3 illustrates the technical challenge of dual pathology management and the importance of tailoring cement properties, including viscosity, to achieve optimal reconstruction and symptom resolution.

KEYWORDS

Pulsatile tinnitus; polymethylmethacrylate; PMMA bone cement; sigmoid sinus dehiscence; sigmoid sinus diverticulum; jugular bulb dehiscence; emissary vein; venous sinus; superior semicircular canal dehiscence; transmastoid resurfacing; vascular tinnitus.

OP-751

Efficacy Of Nigella Sativa Oil In Eczematous Otitis Externa: A Randomized Controlled Study

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BACKGROUND & AIM

Eczematous otitis externa is a common inflammatory condition of the external auditory canal, often associated with itching, scaling, and recurrent symptoms. Topical corticosteroids are widely used but may have limitations due to potential adverse effects with prolonged use. Nigella sativa has known anti-inflammatory, antimicrobial, and antioxidant properties and has shown benefits in dermatologic conditions. This study aimed to compare the clinical efficacy of Nigella sativa oil with topical mometasone furoate in the treatment of eczematous otitis externa.

MATERIAL & METHODS

This prospective, randomized, single-blinded controlled study included adult patients diagnosed with eczematous otitis externa. Participants were randomized into two groups: Nigella sativa (NS) oil (2 drops twice daily) or topical mometasone furoate (MF) 0.1% solution for 10 days. Clinical symptoms (itching, discomfort, otorrhea, pain) were assessed using a Numeric Rating Scale, and inflammatory findings (hyperemia, squamation) were evaluated via standardized otoscopic imaging by a

blinded otolaryngologist at baseline and day 10. Statistical analyses were performed using nonparametric tests, with significance set at $p < 0.05$.

RESULTS

Both groups showed significant improvement in all clinical symptoms and inflammatory findings after treatment ($p < 0.001$). Between-group comparisons revealed that the mometasone furoate group demonstrated significantly greater improvement in pain, discomfort, and hyperemia. In contrast, the Nigella sativa group showed significantly greater reduction in squamation both within the external auditory canal and on the external ear. No significant differences were observed between groups in terms of itching and otorrhea. Baseline characteristics and pre-treatment scores were comparable between the groups.

CONCLUSIONS

Both Nigella sativa oil and mometasone furoate were effective in the short-term treatment of eczematous otitis externa. While mometasone provided greater improvement in acute inflammatory symptoms such as pain, discomfort, and hyperemia, Nigella sativa demonstrated superior efficacy in reducing squamation. These findings suggest that Nigella sativa may serve as a potential steroid-sparing alternative in selected patients, particularly in cases with predominant scaling and dryness. Further large-scale and long-term studies are needed to confirm these results.

KEYWORDS

Eczematous otitis externa, Nigella sativa oil, mometasone furoate,topical treatment

OP-752

Association Between Preoperative Neutrophil/Lymphocyte Ratio And Graft Success Following Type 1 Tympanoplasty

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BACKGROUND & AIM

Chronic inflammation may impair tissue healing and graft integration by affecting microvascular circulation and epithelial regeneration following type 1 tympanoplasty. The neutrophil/lymphocyte ratio (NLR) is a simple and accessible marker of systemic inflammation that has been associated with postoperative outcomes in various surgical fields. This study aimed to investigate the relationship between preoperative NLR levels and surgical outcomes following type 1 tympanoplasty.

MATERIAL & METHODS

This retrospective study included 372 patients who underwent type 1 tympanoplasty for chronic tympanic membrane perforation between January 2023 and June 2025. Patients with at least 6 months of postoperative follow-up were included, while those with active infection, systemic inflammatory disease, hematological disorder, or immunosuppressive treatment were excluded. Preoperative NLR values were calculated from routine complete blood count parameters. Demographic characteristics, smoking status, perforation size, graft material, and preoperative audiological findings were recorded. Anatomical success was defined as an intact tympanic membrane at the final follow-up visit, while functional outcome was assessed using postoperative air-bone gap values. Comparative and multivariable logistic regression analyses were performed to identify predictors of graft failure.

RESULTS

Anatomical success was achieved in 306 patients (82.3%). Patients with graft failure had significantly higher preoperative NLR values compared with those with anatomical success (2.64 ± 0.91 vs. 2.21 ± 0.78, $p=0.018$). Preoperative NLR values showed a significant positive correlation with postoperative air-bone gap values ($r=0.24$, $p=0.031$). ROC analysis demonstrated that preoperative NLR predicted graft failure with an AUC of 0.66, and an optimal cut-off value of 2.45 provided 63.0% sensitivity and 61.5% specificity. Elevated preoperative NLR was identified as an independent predictor of graft failure (OR: 1.42, 95% CI: 1.08–1.89, $p=0.014$).

CONCLUSIONS

Elevated preoperative NLR was associated with graft failure and higher postoperative air-bone gap values following type 1 tympanoplasty. Preoperative NLR may serve as a simple adjunctive marker for predicting surgical outcomes in clinical practice; however, its modest predictive performance suggests that it should be interpreted cautiously and potentially combined with other clinical parameters.

KEYWORDS

Tympanoplasty Outcome, Inflammatory Biomarkers, Otologic Surgery, Graft Uptake Rate

OP-753

Modulating ATOH1 And POU4F3 Pathways To Enhance Hair Cell Regeneration And Inhibit Ferroptosis In Cochlear Support Cells

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BACKGROUND & AIM

Hearing loss affects millions worldwide, yet effective regenerative treatments remain limited.This study systematically investigated how the ATOH1/POU4F3 axis drives supporting cell reprogramming and hair cell regeneration while suppressing autophagy-dependent ferroptosis in cochlear hair cells.

MATERIAL & METHODS

We combined single-cell RNA sequencing of mouse cochlear tissue across developmental stages with bulk transcriptomics, protein–protein interaction analysis, and pathway enrichment to identify key regulators. Using lentiviral overexpression and silencing, ChIP-qPCR, dual-luciferase reporter assays, Western blotting, immunofluorescence, and EdU labeling.And also make an oxidative stress model.

RESULTS

we demonstrated that ATOH1 directly activates POU4F3, upregulates MYO7A expression, enhances supporting cell proliferation, and promotes mitotic entry. In an oxidative stress model, activation of this pathway reduced autophagy flux, lipid peroxidation, and Fe2+ levels, improving cell survival. In a cisplatin-induced hearing loss mouse model, modulating the ATOH1/POU4F3 axis significantly improved ABR and DPOAE thresholds and restored hair cell structure and arrangement, confirmed by SEM and immuno staining.

CONCLUSIONS

Together, these findings provide new mechanistic insights into how transcriptional regulation links regeneration and cell death resistance, highlighting a promising therapeutic target for hearing restoration.

KEYWORDS

atonal homolog 1 | autophagy-dependent ferroptosis | class 4 | hair cell regeneration | hearing loss | Pou domain | reprogramming | transcription factor 3

OP-754

Complete Hearing Recovery After Intratympanic Steroid Therapy In A Patient With MRI-Confirmed Intracanalicular Vestibular Schwannoma Subsequently Treated With Gamma Knife

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BACKGROUND & AIM

Sudden sensorineural hearing loss (SSNHL) can be the first clinical sign of vestibular schwannoma, posing a therapeutic dilemma between urgent hearing treatment and oncologic evaluation. Delaying therapy may compromise auditory recovery. The primary aim of this study is to emphasize that intratympanic steroid therapy should be initiated promptly, even in patients with MRI-confirmed intracanalicular vestibular schwannoma. We present a 40-year-old woman who developed acute unilateral hearing loss and achieved complete recovery after early intratympanic steroid injections, followed by Gamma Knife radiosurgery. This case underscores the critical importance of immediate hearing-directed management to preserve auditory function while planning definitive tumor treatment.

MATERIAL & METHODS

This study presents a single-patient case report of a 40-year-old female admitted with sudden right-sided sensorineural hearing loss. Clinical evaluation included otoscopic examination, pure-tone audiometry, and contrast-enhanced magnetic resonance imaging (MRI). Audiometric thresholds were recorded at presentation and during follow-up visits. MRI revealed a 9.7 × 5.9 mm enhancing lesion within the right internal auditory canal, consistent with an intracanalicular vestibular schwannoma. Intratympanic dexamethasone (8 mg) was administered under microscopic guidance on five occasions (March 19, 21, 24, 26, and 28, 2025). Hearing levels were reassessed after each injection and during long-term follow-up. Serial MRI examinations were performed to evaluate tumor size progression. After radiological confirmation and interval growth, the patient was referred for Gamma Knife radiosurgery. Clinical, audiological, and radiological findings were analyzed descriptively.

RESULTS

An initial audiogram performed at an external center on March 18, 2025 demonstrated right ear thresholds of 50/45 dB, with normal hearing in the left ear (10/10 dB). The patient presented to our clinic on March 19, and repeat pure-tone audiometry performed the same day confirmed worsening right-sided hearing loss at 68/53 dB.

Following five intratympanic dexamethasone injections, progressive audiological improvement was observed. On March 24, thresholds improved to 32/8 dB, and by March 28, hearing levels reached 18/10 dB. Long-term follow-up audiometry demonstrated stable and near-normal thresholds: 15/13 dB on June 30 and 18/15 dB on October 2, consistent with complete functional recovery.

Serial MRI measurements showed tumor dimensions of 13 × 7 mm on July 4 and 11 × 7 mm on October 8. Despite radiological persistence, hearing remained stable after Gamma Knife referral.

CONCLUSIONS

Sudden sensorineural hearing loss may represent the first clinical manifestation of intracanalicular vestibular schwannoma. This case demonstrates that intratympanic steroid therapy can achieve complete hearing recovery even in the presence of a radiologically confirmed tumor. Treatment for SSNHL should not be postponed while evaluating retrocochlear pathology. Early hearing-directed intervention may preserve auditory function and provide a valuable therapeutic window for definitive tumor management, such as radiosurgery. Prompt multidisciplinary coordination enables both oncologic control and hearing preservation. Intratympanic steroid therapy appears to be a safe and effective strategy in carefully selected patients with tumor-associated sudden hearing loss.

KEYWORDS

Sudden sensorineural hearing loss Vestibular schwannoma Intratympanic steroid Gamma Knife radiosurgery Hearing preservation

OP-755

The 'Utrecht Experience' In The Management Of The Fisch Type A And B Paragangliomas. A Cohort Study

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BACKGROUND & AIM

Paragangliomas of the middle ear and jugular foramen are highly vascularized neoplasms that are predominantly benign. They typically present with unilateral pulsatile tinnitus and a reddish-blue middle ear mass on otoscopy. This study aimed to describe the diagnostic work-up and treatment outcomes of Fisch type A and B paragangliomas at a tertiary referral center in the Netherlands.

MATERIAL & METHODS

A retrospective cohort study was conducted including adults diagnosed with Fisch type A or B paragangliomas who presented to our tertiary referral center between 2015 and 2026. Patients were managed with either a watch-and-scan strategy, surgery, or stereotactic radiosurgery. Evaluated outcomes included demographics, clinical presentation, genetic testing results, hormonal activity, audiometric outcomes (pure-tone average [PTA] and speech audiometry in quiet), imaging characteristics (tumor size on MRI, presence of synchronous glomus tumors, and tumor classification) at presentation and at the last follow-up. Data were analyzed descriptively and continuous variables are presented as mean ± standard deviation.

RESULTS

Fifteen patients were included (14 females, 1 male; mean age 59.3±11.4 years). A positive family history was reported in 1/15(6.7%) patients , hormone secretion was detected in 1/15(6.7%), and pathogenic genetic variants were identified in 4/15(26.7%). Additional head and neck paragangliomas were found in 2/15(13.3%) patients . At presentation, hearing loss was reported by 13/15 patients (86.7%), pulsatile tinnitus by 12/15(80.0%), vestibular symptoms by 4/15 (26.7%), and aural fullness or otalgia by 6/15(40.0%). Ten tumors (66.7%) were classified as Fisch type A and five (33.3%) as type B. Mean tumor diameter at diagnosis was 12.2±7.1 mm. Management consisted of surgery in 10/15(66.7%) patients , stereotactic radiosurgery in 2/15(13.3%), and watch-and-scan in 3/15(20.0%). In the surgical group, pulsatile tinnitus persisted in one patient (10%), recurred after two years in one patient (10%), and one patient (10%) required staged ossiculoplasty. No tumor recurrences were observed during follow-up. Audiometric outcomes remained stable overall.

CONCLUSIONS

Fisch type A and B paragangliomas exhibit variable clinical and anatomical characteristics. Management should be individualized; however, surgery appears to be a safe and effective treatment option with excellent local tumor control.

KEYWORDS

Paraganglioma, glomus, glomus tympanicum, glomus jugulare, otology, neurotology

OP-756

A NOVEL RADIOLOGICAL SOFTWARE PROTOTYPE FOR AUTOMATICALLY DETECTING THE INNER EAR AND CLASSIFYING NORMAL FROM MALFORMED ANATOMY

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[1]KSUMC

BACKGROUND & AIM

To develop an effective radiological software prototype that could read Digital Imaging and Communications in Medicine (DICOM) files, crop the inner ear automatically based on head computed tomography (CT), and classify normal and inner ear malformation (IEM).

MATERIAL & METHODS

A retrospective analysis was conducted on 2053 patients from 3 hospitals. We extracted 1200 inner ear CTs for importing, cropping, and training, testing, and validating an artificial intelligence (AI) model. Automated cropping algorithms based on CTs were developed to precisely isolate the inner ear volume. Additionally, a simple graphical user interface (GUI) was implemented for user interaction. Using cropped CTs as input, a deep learning convolutional neural network (DL CNN) with 5-fold cross-validation was used to classify inner ear anatomy as normal or abnormal. Five specific IEM types (cochlear hypoplasia, ossification, incomplete partition types I and III, and common cavity) were included, with data equally distributed between classes. Both the cropping tool and the AI model were extensively validated.

RESULTS

The newly developed DICOM viewer/software successfully achieved its objectives: reading CT files, automatically cropping inner ear volumes, and classifying them as normal or malformed. The cropping tool demonstrated an average accuracy of 92.25%. The DL CNN model achieved an area under the curve (AUC) of 0.86 (95% confidence interval: 0.81-0.91). Performance metrics for the AI model were: accuracy (0.812), precision (0.791), recall (0.8), and F1-score (0.766).

CONCLUSIONS

This study successfully developed and validated a fully automated workflow for classifying normal versus abnormal inner ear anatomy using a combination of advanced image processing and deep learning techniques. The tool exhibited good diagnostic accuracy, suggesting its potential application in risk stratification. However, it is crucial to emphasize the need for supervision by qualified medical professionals when utilizing this tool for clinical decision-making.

KEYWORDS

Artificial intelligence; Deep learning; Digital health; Radiology

OP-757

Evaluation Of The Ototoxicity Of Calendula Officinalis Extract

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BACKGROUND & AIM

Calendula officinalis has demonstrated significant wound-healing effects in numerous ethnobotanical and medical studies, with recognized anti-inflammatory, antimicrobial, and tissue-reparative properties. However, despite its broad therapeutic use, no study has investigated its otologic application, including possible ototoxic, otoprotective, or otologic wound-healing effects. The absence of evidence regarding its safety in the auditory system represents a critical knowledge gap. Before investigating whether the well-documented regenerative effects of Calendula officinalis on various tissue injuries can be translated to otologic wounds, it is essential to first establish its safety profile within the auditory system.

MATERIAL & METHODS

Following approval from the Istanbul University-Cerrahpaşa Animal Experiments Local Ethics Committee, the study was initiated. A total of 21 rats (42 ears), with 7 rats in each group, were included. Distilled water was administered intratympanically to the negative control group, gentamicin to the positive control group, and a prepared solution of C. officinalis extract to the study group. MTT assay testing was performed on extracts obtained from the relevant plant material, and the non-cytotoxic dose was determined. Hearing thresholds at 8, 16, 24, and 32 kHz were evaluated using auditory brainstem response (ABR) testing. The obtained data were analyzed statistically.

RESULTS

At baseline, ABR testing demonstrated no statistically significant differences among the groups at any frequency ($p > 0.05$).On day 3, significant differences were detected among the groups across all evaluated frequencies ($p< 0.001$, $p< 0.05$). In pairwise comparisons, ABR thresholds of the study group at all frequencies were significantly lower than those of both the negative and positive control groups ($p< 0.05$). Additionally, ABR thresholds in the negative control group were significantly lower than those in the positive control group ($p < 0.05$).On day21, significant intergroup differences persisted across all frequencies ($p < 0.001$, $p < 0.05$). Pairwise analyses revealed that ABR thresholds of the study group remained significantly lower than those of the positive control group at all frequencies ($p = 0.001$, $p < 0.05$). Similarly, ABR thresholds in the negative control group were also significantly lower than those in the positive control group ($p=0.001$, $p < 0.05$).

CONCLUSIONS

The aqueous extract of Calendula officinalis does not exhibit ototoxic properties and may demonstrate an otoprotective effect. In light of these findings, the demonstrated otoprotective potential of this plant-derived aqueous extract in animal models may pave the way for future clinical studies investigating its applicability in external auditory canal and tympanic membrane wound healing.

KEYWORDS

Calendula officinalis, ototoxicity, intratympanic administration, wound healing

OP-758

Effect Of Automated Chair Maneuver On Benign Paroxysmal Positional Vertigo: A Randomized Clinical Trial

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BACKGROUND & AIM

Manual canalith repositioning manoeuvre (manual-CRM) and software-controlled benign paroxysmal positional vertigo (BPPV) repositioning chair (automated-CRM) are used to treat BPPV, but their comparative efficacy remains unclear due to the lack of randomized controlled clinical trials.

MATERIAL & METHODS

In this prospective, multicentre, open-label, stratified blocked randomized, parallel group clinical trial, patients with unilateral BPPV were randomly assigned to automated-CRM or Manual-CRM in 1:1 ratio. Efficacy was evaluated immediately after the first treatment and then weekly for 4 weeks. The primary outcome was the response (cured and improved) rate at week 1 post-treatment. The secondary outcomes were response rates immediately post-treatment upon enrollment; at the weeks 2, 3, and 4 follow-up assessments; and curative rates at all follow-up assessments. Analysis was applied in full analysis set (FAS) and per-protocol set (PPS). The outcome assessors and statisticians were blinded to the treatment allocations. Missing efficacy data were imputed using the last observation carried forward method.

RESULTS

A total of 406 patients were randomly assigned to treatment groups, and 404 (mean age, 47 y; 65.3% female) were ultimately included in the analysis. The response rate was significantly higher in the automated-CRM group than in the manual-CRM group (97.51 vs. 86.70%, respectively, P<0.001) at week 1 post-treatment. The response rates immediately after treatment and at the week 2 follow-up assessment were higher in the automated-CRM group than in the manual-CRM group (97.01 vs. 91.62% and 98.51 vs. 93.60%, respectively). A generalized estimation equation revealed that the response and curative rates were significantly higher in the automated-CRM group than in the manual-CRM group (response rate, OR=6.13, 95% CI=3.16–11.82; curative rate, OR=1.44, 95% CI=1.06–1.95). The adverse event rate was similar between the two groups (automated-CRM group: 39 events among 31 participants; manual-CRM group: 32 events among 28 participants).

CONCLUSIONS

Compared with the manual-CRM, the automated-CRM resulted in superior therapeutic outcomes by accelerating symptom relief and early resolution in BPPV patients.

KEYWORDS

benign paroxysmal positional vertigo, chair, canalith repositioning manoeuvre, vertigo, treatment

OP-759

Facial Canal Dehiscence: Systematic Review And Meta-Analysis Of Prevalence In Healthy Subjects

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BACKGROUND & AIM

Purpose: A thorough understanding of facial canal dehiscence (FCD) is imperative for informed consent prior to otological surgery. A broad range of published rates for FCD exists, varying by method of assessment, location along the canal and year of investigation. This study aims to determine a clinically relevant prevalence of FCD in healthy populations.

MATERIAL & METHODS

Methods: A systematic review of Embase, Medline, Cochrane Library, Google Scholar, Science Direct, and Scopus identified eligible studies reporting prevalence of FCD in subjects aged ≥10 without erosive bone disease. Prevalence, location of dehiscence and method of assessment was extracted. Pooled prevalence was calculated using a random-effects model with the generic inverse variance method.

RESULTS

Results: A total of 2,186 unique studies provided 52 eligible cohorts for analysis (15,090 facial canals). The overall pooled prevalence of FCD was 22% (95% CI: 17–28%). Pooled prevalence of dehiscence in the tympanic segment varied significantly by

method of assessment (p=0.0494): radiological imaging 32% (95% CI: 15-55%), cadaveric dissection 23% (95% CI: 14-35%), and intraoperative finding 7% (95% CI: 1-29%).

CONCLUSIONS

Conclusion: This is the first clinically focused and comprehensive estimate of FCD in non-erosive ears of healthy subjects. The rate from cadaveric studies showed dehiscence in ~2 in 10 ears, whereas CT was higher at ~3 in 10, and intraoperative findings were lowest at ~1 in 10. Understanding these variations in reported rates of FCD has direct implications for preoperative risk assessment, patient counselling, and surgical planning in otological practice.

KEYWORDS

Key words: Facial canal dehiscence, cadaveric, radiological, intra-operative dehiscence

OP-760

Long-Term Ventilation Tubes: A Retrospective Comparison Between Subannular And Transtympanic Techniques

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BACKGROUND & AIM

Long-term middle ear ventilation is required in patients with chronic Eustachian tube dysfunction and refractory middle ear disease. Long-term transtympanic tubes are associated with significant complication rates and limited durability. Subannular tube (SAT) placement has been proposed as an alternative technique that preserves the tympanic membrane (TM) and provides prolonged ventilation.

The aim of the work was to evaluate the outcomes of subannular ventilation tubes over a 10-year period and compare their complication profile with long-term transtympanic tubes.

MATERIAL & METHODS

A retrospective cohort study was conducted including patients who underwent long-term ventilation tube placement between 2015 and 2025 at a tertiary center. Patients receiving SAT were analyzed as the primary cohort and compared with those receiving long-term transtympanic tubes. Data collected included demographics, indications, tube duration, audiological outcomes, average duration of tubes, and postoperative complications.

RESULTS

A total of 131 patients were included, 98 underwent SAT placement (150 tubes) and 33 received long-term transtympanic tubes (40 tubes). Among the subannular group, 42.9% had history of cleft palate. The mean lifespan of SAT was 36.4 months, with 8 tubes extruding within the first 6 months. This was markedly longer than the mean duration of prior transtympanic tubes in these patients (8.2 months). Mean pure-tone average improved from 37.2 dB to 17.3 dB ($p < 0.01$), while air–bone gap decreased from 28.7 dB to 10.3 dB ($p < 0.01$) following SAT insertion. During follow-up, 52.1% of patients experienced no complications. The most common complications was otorrhea (26.4%). By the end of the study, 64.6% of SAT had extruded. TM perforation occurred in 8 patients (5.3%), resolving spontaneously in 5. In contrast, persistent TM perforation following long-term transtympanic tubes was observed in 35% of cases, all requiring tympanoplasty.

CONCLUSIONS

Subannular tube placement demonstrated a favorable safety profile, with low complication rates and effective long-term middle ear ventilation. This approach appears particularly advantageous in patients with atrophic or previously operated tympanic membranes. Notably, the incidence of persistent tympanic membrane perforation was substantially lower in the subannular group compared with the transtympanic group, which exhibited higher rates of persistent perforation, frequently necessitating subsequent tympanoplasty.

KEYWORDS

tube; subannular; hearing loss, surgical technique

OP-761

Coupled Ultra-Safe Radio Electrical Stimulation Corrects Acx-IL Transmission To Alleviate Noise-Induced Anxiety

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BACKGROUND & AIM

Brain electrical stimulation holds significant promise for treating neurological and psychiatric disorders. However, current wireless and chipless electrical stimulation systems face challenges in digital logic due to the lack of dynamic energy-switching carriers. This study aims to investigate the neural circuit mechanism by which chronic exposure to moderate-intensity noise

induces anxiety-like behaviors, and to evaluate the therapeutic efficacy and mechanism of Coupled ultra-safe radio electrical stimulation (CURES) in treating noise-induced anxiety.

MATERIAL & METHODS

We developed a CURES system capable of harvesting ambient electromagnetic energy and enabling wireless electrical stimulation via a single electrode. An anxiety-like behavior model was established in mice through chronic exposure to moderate-intensity white noise [80 dB sound pressure level (SPL), 2 h/d] for 4 weeks, with CURES intervention initiated at the beginning of the third week. Viral tracing, immunofluorescence confocal imaging, and fiber photometry were employed to characterize the projection from the auditory cortex (ACx) to the infralimbic cortex (IL). Optogenetics and chemogenetics were utilized to manipulate specific neural circuits. Changes in neuronal activity following CURES intervention in awake mice were assessed using in vivo multi-electrode recordings and brain slice patch-clamp techniques.

RESULTS

Viral tracing revealed that the infralimbic cortex (IL) receives monosynaptic projections from the auditory cortex (ACx). Mice chronically exposed to moderate-intensity noise exhibited increased neuronal activity in the IL. Acute optogenetic activation of the ACx-IL pathway induced anxiety-like behaviors, while chemogenetic inactivation of this circuit abolished noise-induced anxiety-like behaviors. In vivo electrophysiological recordings and fiber photometry showed that CURES reversed this pathological activation of the IL, which play a critical role in noise-induced anxiety-like behaviors in these model mice.

CONCLUSIONS

This findings provide a further explanation of the mechanism underlying noise-induced anxiety and propose a novel wireless therapeutic strategy.

KEYWORDS

body-coupled; anxiety; noise; electrical stimulation

OP-762

Prognostic Value Of Volumetric 18F-FDG PET/CT Parameters (MTV And TLG) In Skull Base Osteomyelitis

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BACKGROUND & AIM

Skull base osteomyelitis (SBO) is a rare, life-threatening infection associated with high mortality. Due to the insidious nature of the disease, conventional radiological methods can lead to false-negative diagnoses. PET/CT is gaining prominence as it offers earlier disease assessment. However, current practice relies predominantly on SUVmax, a single-voxel metric that may inadequately reflect the true inflammatory burden of this heterogeneously spreading infection. Metabolic Tumor Volume (MTV) and Total Lesion Glycolysis (TLG) capture the volumetric metabolic burden of the lesion. This study aimed to evaluate whether baseline volumetric PET parameters predict clinical remission in SBO patients.

MATERIAL & METHODS

We retrospectively evaluated an analytical cohort of 29 patients diagnosed with SBO. For this specific prognostic analysis, a subgroup of 12 patients who underwent baseline 18F-FDG PET/CT prior to treatment were included. Clinical findings, systemic inflammatory markers (CRP, ESR, WBC), and PET metrics (SUVmax, MTV, TLG) were recorded. Outcomes were categorized as clinical remission or mortality. Predictive performance was evaluated using ROC curve analysis, and independent predictors of remission were identified using Firth penalized logistic regression.

RESULTS

All patients had diabetes mellitus and 66.7% presented with cranial nerve palsies. Remission was achieved in 41.7% of patients. All three PET parameters were significantly lower in patients achieving remission (SUVmax p=0.030, MTV p=0.017, TLG p=0.009). MTV and TLG demonstrated strong correlations with systemic inflammatory markers (MTV–CRP: r=0.764, p=0.006; TLG–CRP: r=0.764, p=0.006), while SUVmax showed no significant correlation with CRP or ESR. ROC analysis yielded AUC values of 0.967 for TLG, 0.933 for MTV, and 0.900 for SUVmax. MTV ≥11.57 cm^3 and TLG ≥37.20 provided 100% sensitivity with 83.3% specificity; a TLG cut-off of 18.20 achieved 100% specificity for predicting clinical remission. In Firth logistic regression, TLG was the only statistically significant independent predictor of non-remission (OR=0.95, 95% CI: 0.84–0.99, p=0.008). Overall mortality was 41.7%. Notably, chronic kidney disease was associated with failure to achieve remission in all affected patients (p=0.038).

CONCLUSIONS

Volumetric PET/CT parameters (MTV and TLG) provide superior prognostic information compared to SUVmax in SBO and have higher correlation with systemic inflammatory burden. Integrating MTV and TLG into the SBO risk classification, rather than simply using SUVmax, can strongly guide clinicians in determining the treatment protocol and duration of targeted antimicrobial therapy.

KEYWORDS

Skull base osteomyelitis, 18F-FDG PET/CT, Metabolic tumor volume, Total lesion glycolysis, SUVmax

OP-763

Histologic Correlates Of European Academy Of Otology-Neurotology/Japan Otologic Society (EAONO/JOS) Cholesteatoma Classification

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BACKGROUND & AIM

Current classification of acquired middle ear cholesteatoma (MEC), devised by EAONO/JOS (2017) divides it into 7 groups: the ones originated from retraction pockets in pars tensa (PTRP), in pars flaccida (PFRP), involving both pars tensa and flaccida (PTPFRP); tympanic membrane (TM) perforation originated (TMP); traumatic/iatrogenic (TI); residual (Res) and recurring (Rec) MECs. Cholesteatoma is a clinical diagnosis; therefore, histopathologic confirmation is rarely indicated. We, however, routinely examine surgical samples to rule out pathologies that superposed or mixed with MEC. The aim of this study is to test the histologic relevance of the clinical MEC classification of EAONO/JOS.

MATERIAL & METHODS

The study was conducted on the pathologic archive specimens from consecutive patients allocated to the above groups (excluding TI) retrospectively. Additionally, PTRP cholesteatomas were split into two groups: sinus tympani (ST) and adhesion-originated (Adh) ones. Following parameters were looked for in the Hematoxylene&Eosine stained slides in both matrix and perimatrix and graded 0-3 according to the number or size: neutrophil, plasma cell, lymphocyte, fibroblast, keratinocyte counts; neovascularization and epithelium thickness. Presence of Langhans giant cells, tympanosclerotic plaques, cholesterin clefts, basal membrane defects were taken as binary variables.

RESULTS

Inflammatory cells were most numerous in PFRP matrix and perimatrix, least numerous in ST matrix. In perimatrix no significant difference was found in any parameter between the groups except residues, Acanthosis and keratinocyte hyperplasia was present in all, yet, more intensely in pars flaccida involving groups. Basal membrane gaps appeared only in two of the specimens.

CONCLUSIONS

These findings indicated predominance of inflammatory cells and metaplastic changes across the groups. Basal membrane defects do not seem to play a major role in MEC pathogenesis. Histologic differences among the groups correspond with clinical categories. However, pars tensa retraction origin ST and Adh groups somewhat differ histologically.

KEYWORDS

cholesteatoma, histopathology, classification, sinus tympany, adhesive middle ear disease

OP-764

Complications, Endoscopic Versus Microscopic Ear Surgery, Is There Any Difference? A 19-Year Institutional Experience (2007-2026)

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BACKGROUND & AIM

Endoscopic ear surgery (EES) has emerged as an alternative or adjunct to conventional microscopic ear surgery (MES), offering improved visualisation of middle ear recesses and potentially reducing the need for more invasive approaches. Despite increasing adoption, concerns remain regarding complication rates and the technical demands of single-handed surgery. This study evaluates the safety profile of endoscopic and microscopic ear surgery.

MATERIAL & METHODS

A retrospective review of ear surgeries performed between 2007 and 2026 at our otology centre was undertaken using a prospective audit database. Procedures were categorised as purely endoscopic, endoscopic with microscopic assistance, or purely microscopic. Procedures included myringoplasty, ossiculoplasty, stapedectomy, and cholesteatoma surgery, including atticoantrostomy. Post-operative complications were identified from clinical records.

RESULTS

A total of 1,030 procedures were analysed. Of these, 510(49.5%) were performed solely endoscopically, 139 (13.5%) used an endoscopic approach with microscopic assistance, and 381 (37.0%) were performed solely using the operating microscope.

Overall, 141 complications were recorded (13.7%). Majority being minor postoperative complaints, most commonly otalgia followed by infection. Less frequent complications included numbness, dizziness, and tinnitus. Intraoperative division of the chorda tympani occurred in 279 cases, 167 in microscopic cases and 112 in endoscopic or combined techniques. No major complications, such as dead ear or permanent facial palsy, were observed.

CONCLUSIONS

Both endoscopic and microscopic ear surgery demonstrate acceptable safety profiles across a range of otological procedures. Most complications were minor and self-limiting. Endoscopic techniques represent a safe and effective alternative to conventional microscopic surgery in this large institutional series.

KEYWORDS

Endoscopic ear surgery, Microscopic ear surgery, complications

OP-765

Correlation Of Radiologic And Audiometric Findings In Patients With Otosclerosis

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BACKGROUND & AIM

The study objective was to compare computed tomography (CT) findings with audiometric thresholds in patients with otosclerosis.

MATERIAL & METHODS

The Study type was a cross-sectional observational study. Diagnosis was based on history, audiometry, and temporal bone CT, with all patients evaluated before treatment. Audiometry used four-frequency pure-tone averages for air conduction, bone conduction, and the air–bone gap (ABG). Patients were grouped as follows: A) otosclerotic foci at the fissula ante fenestram (FAF); B) foci at the FAF and retrofenestral regions; C) foci at the FAF and retrofenestral regions with cochlear endosteum involvement.

RESULTS

We evaluated 196 ears: 133 with lesions limited to the FAF (Group A), 26 with retrofenestral foci (Group B), and 37 with cochlear endosteal involvement (Group C). Mean four-frequency averages were: Group A—bone 30.61 dB, air 60.96 dB, ABG 30.59 dB; Group B—bone 46.06 dB, air 78.38 dB, ABG 32.5 dB; Group C—bone 61.92 dB, air 97.58 dB, ABG 33.98 dB. Bone and air conduction thresholds differed significantly across groups, worsening with increasing pericochlear and intracochlear involvement. The ABG remained similar among groups, likely reflecting audiometric limitations in isolating the conductive component as sensorineural loss progresses. Notably, Group A showed bone thresholds >30 dB, diverging from reports describing purely conductive loss in fenestral disease. We also introduce a category for lesions involving the cochlear endosteum, supporting the hypothesis that pericochlear and intracochlear foci are associated with more pronounced sensorineural impairment.

CONCLUSIONS

Progression of otosclerotic foci to pericochlear and intracochlear regions is associated with worse hearing thresholds. Even lesions confined to the FAF may present as mixed hearing loss.

KEYWORDS

otosclerosis, hearing loss, audiometry, computed tomography

OP-766

Management Of Patulous Eustachian Tube: Experience From A Tertiary Referral Center With More Than 100 Cases

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BACKGROUND & AIM

Patulous Eustachian tube (PET) is an uncommon but troublesome condition that can cause ear fullness, autophony, pulsatile tinnitus, and even clicking sounds. It may arise without a clear cause or develop after weight loss from diet, exercise, medication, or bariatric surgery. In this study, we share our experience treating over 100 patients and highlight a practical, stepwise strategy for management.

MATERIAL & METHODS

Patients with PET symptoms were carefully evaluated for possible causes and contributing factors. Treatment began with conservative measures, such as encouraging weight gain in underweight patients. If symptoms persisted, medical therapies were introduced. For those who did not respond, surgical options were considered. Each treatment plan was tailored to the patient's individual condition and severity of symptoms.

RESULTS

More than 100 patients were treated using this structured approach. Many with low body weight improved after regaining weight. Others experienced relief with medical therapy, while a smaller number required surgery. Across all groups, most

patients reported noticeable improvement in their symptoms—particularly in ear fullness, autophony, and tinnitus. Outcomes varied depending on the underlying cause, but the stepwise approach consistently provided benefit.

CONCLUSIONS

PET remains a challenging condition because of its diverse presentations and causes. Our experience shows that beginning with simple, conservative options, moving to medical therapy when needed, and reserving surgery for resistant cases is both effective and patient-centered. When treatment is individualized, most patients achieve meaningful relief and improved quality of life.

KEYWORDS

Patulous Eustachian tube; Eustachian tube dysfunction; Autophony; Tinnitus; Ear fullness; Stepwise management; Surgical treatment; Tertiary referral center.

OP-767

A NEW TYMPANOPLASTY TECHNIQUE WITH THE COMBINED USE OF BILATERALLY STRIPPED CARTILAGE AND PERICHONDRIAL GRAFTS

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BACKGROUND & AIM

Tympanoplasty aims not only to close tympanic membrane perforations but also to restore long-term anatomical stability and hearing function. Since cartilage grafts may bend, curl, or displace despite their durability, this study hypothesized that bilaterally perichondrium-stripped cartilage combined with a separate perichondrial graft may provide superior anatomical stability compared with conventional cartilage techniques.

MATERIAL & METHODS

This ethics-approved retrospective comparative clinical study reviewed 391 patients operated on for chronic otitis media, tympanic membrane perforation, and/or cholesteatoma between February 2019 and February 2025. After eligibility assessment, 281 patients were included. The main analysis included 228 cholesteatoma-free tympanoplasty patients divided into three graft groups: bilaterally stripped cartilage with a separate perichondrial layer, cartilage island graft, and accordion cartilage graft. Cholesteatoma cases requiring mastoidectomy were analyzed separately. Demographic, clinical, surgical, audiological, MERI, and CES data were recorded. Anatomical success was defined as intact graft without perforation, significant retraction, lateralization, or persistent otorrhea. Functional success was defined as postoperative ABG ≤20 dB. Parametric/non-parametric tests and logistic regression were used.

RESULTS

Anatomical success was highest in the bilaterally stripped cartilage with separate perichondrial layer group (98.4%), compared with the cartilage island graft (87.0%) and accordion cartilage graft groups (86.3%). Functional success and postoperative audiological outcomes were better particularly in the accordion cartilage group. However, all three groups showed significant postoperative improvement in audiological parameters and patient-reported CES outcomes. Anatomical failure was associated with previous surgery, postoperative infection, higher MERI score, and ossicular chain repair. Functional failure was associated with poorer audiological values, higher MERI score, and ossicular reconstruction. Additional analyses suggested stronger anatomical stability with bilaterally stripped cartilage, whereas techniques preserving unilateral perichondrium may provide functional advantages.

CONCLUSIONS

The bilaterally stripped cartilage and perichondrial graft technique appears reliable for achieving anatomical stability, especially in high-risk ears. However, anatomical superiority did not fully translate into functional superiority, indicating that hearing outcomes also depend on middle ear pathology and ossicular chain status.

KEYWORDS

Tympanoplasty, tympanic membrane perforation, bilaterally stripped cartilage, perichondrial graft, tympanic membrane reconstruction, chronic otitis media, anatomical success, auditory results.

OP-768

Anatomical Bony Defects In Revision Mastoidectomy: A 16-Year Single-Center Retrospective Study Of Tegmen, Facial Canal And Lateral Semicircular Canal Involvement

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BACKGROUND & AIM

Revision mastoidectomy is frequently required in patients with residual or recurrent cholesteatoma and is often associated with bony defects of the tegmen, facial canal, and lateral semicircular canal, which may complicate surgical management. Recognizing the distribution of these defects and the factors predisposing to revision surgery is important for surgical planning and postoperative follow-up. This study aims to evaluate the demographic characteristics, intraoperatively identified anatomical defect patterns, and predisposing factors for revision surgery in patients undergoing revision mastoidectomy for residual or recurrent disease.

MATERIAL & METHODS

A total of 617 mastoidectomy operations performed at our clinic between 2010 and 2026 were retrospectively reviewed. Patients without MRI follow-up, those with inaccessible or off-site MRI scans, cases whose primary surgery had been performed at an outside institution, patients with malignancy, pediatric patients operated for acute mastoiditis, mastoid abscess cases, and patients with incomplete pathology data were excluded. After applying these criteria, 313 mastoidectomy operations performed in 270 patients aged 2 to 75 years, all of whom had undergone primary surgery at our clinic, were included and retrospectively evaluated. All patients underwent a minimum of three non-EPI diffusion-weighted MRI examinations over a follow-up period of at least one year. The associations of tegmen, facial canal, and lateral semicircular canal defects, as well as pediatric age, with the need for revision surgery were evaluated using descriptive statistics.

RESULTS

During the study period, 270 patients (52 pediatric, 218 adult) were included; 230 underwent a single operation, while 40 (14.8%) required revision surgery for residual or recurrent disease. Of the 52 pediatric patients, 19 (36.5%) underwent revision, compared to 21 (9.6%) of the 218 adults (12 males, 9 females). Intraoperative evaluation revealed no bony defect in 23 revision patients (57.5%), while isolated or combined defects were identified in 17 (42.5%). Isolated defects involved the tegmen in 2 (5%), facial canal in 4 (10%), and lateral semicircular canal in 4 (10%). Multi-site involvement was observed in 7 patients: combined facial canal and lateral semicircular canal defects in 4, tegmen and facial canal in 1, tegmen and lateral semicircular canal in 1, and all three sites in 1. Overall, tegmen, facial canal, and lateral semicircular canal defects were present in 5 (12.5%), 10 (25%), and 10 (25%) revision patients, respectively.

CONCLUSIONS

The high proportion of pediatric cases among revisions is consistent with the literature describing the more aggressive course of childhood cholesteatoma. Bony defects detected in nearly half of the revision cases represent a notable finding regarding disease extension and surgical planning, with the coexistence of lateral semicircular canal and facial canal defects being particularly prominent. Adequate disease eradication and complete clearance of the aeration system at the primary surgery remain critical to reducing revision rates. Non-EPI diffusion-weighted MRI stands out as a reliable tool for the early detection of residual or recurrent disease, potentially decreasing the need for second-look surgery.

KEYWORDS

Cholesteatoma; facial canal defect; lateral semicircular canal defect; non-EPI diffusion-weighted MRI; pediatric cholesteatoma; revision mastoidectomy.

OP-769

Reducing Cholesteatoma Recidivism: Evidence From A 5-Year Follow-Up Case-Control Study Of Canal-Wall-Up Surgery With Or Without Bioactive Glass Obliteration

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BACKGROUND & AIM

The aim of this study was to compare canal-wall-up tympano- mastoidectomy with or without mastoid and epitympanic obliteration, and to estimate the 5-year recidivism rate using Kaplan–Meier survival analysis.

MATERIAL & METHODS

This retrospective cohort study included 172 consecutive ears diagnosed with cholesteatoma that underwent canal wall–up tympanomastoidectomy between January 2008 and December 2019. Patients were divided into two groups according to whether mastoid obliteration was performed using S53P4 bioactive glass granules (BAG group) or not (NO group). The intervention of interest was mastoid obliteration with S53P4 bioactive glass.

RESULTS

In our population cholesteatoma recidivism rate was 18% in the NO group and 5% in the S53P4 group ($p<0.01$). The overall cholesteatoma-free survival rate at 5- year, calculated with the log-rank test for survival analysis, was 87.8% (95% CI, 77.4- 99) in the S53P4 group and 58.2% (95% CI, 42.6-79.5) in the NO group ($p<0.01$). The recurrent cholesteatoma-free survival rate at 5-year was 89% (95% CI, 79.1-100) in the S53P4 group and 65.8% (95% CI, 49.4-87.6) in the NO group. Recurrent disease significantly differed between the 2 groups ($p = 0.018$).

CONCLUSIONS

Mastoid and epitympanic obliteration using S53P4 bioactive glass significantly reduced the recurrence of cholesteatoma in patients undergoing canal- wall-up tympano-mastoidectomy. These findings suggest a potential benefit of obliteration when mastoidectomy is required.

KEYWORDS

Cholesteatoma surgery, Ear Surgery, Mastoid obliteration, Bioactive glass

OP-770

VROOM – Virtual Reality Intervention For Outcomes In Ongoing Motion Sickness: A Pilot Study

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BACKGROUND & AIM

Motion sickness (MS) affects roughly one-third of adults in provocative environments and substantially impairs daily functioning. Pharmacological options are limited by side effects, and no standardized non-pharmacological treatment exists. Virtual reality (VR) enables controlled, graded visuo-vestibular exposure and may promote sensory adaptation, but its role in everyday MS is poorly investigated. This pilot evaluates the feasibility, tolerability and preliminary efficacy of a 4-week VR program using the Virtualis platform in adults with moderate to severe MS. We hypothesize the intervention is feasible, well tolerated, and reduces symptom severity from baseline.

MATERIAL & METHODS

Prospective single-arm study at Aarhus University Hospital. Up to 40 adults (≥18 years) with moderate to severe MS, confirmed by the Motion Sickness Susceptibility Questionnaire–short (MSSQ-short), are recruited via social media. Participants attend 2–3 supervised sessions/week for 4 weeks (8–12 sessions, 20–30 min) of graded optokinetic stimulation, optical flow, sea simulation and visuo-vestibular conflict tasks following habituation principles. Pre/post assessment includes Sensory Organization Test, Visual Motion Sensitivity and Rod and Frame Test. Primary outcome: change in Motion Sickness Assessment Questionnaire (MSAQ) from baseline (T0) to post-intervention (T1). Secondary outcomes: adherence, drop-out, per-session nausea/dizziness ratings (0–10), and persistence at 3-month follow-up (T2). Paired analyses with 95% confidence intervals will be performed.

RESULTS

Recruitment is ongoing; baseline characteristics, feasibility metrics and within-subject MSAQ changes will be presented at the congress.

CONCLUSIONS

This pilot will establish whether VR-based visuo-vestibular training is feasible and tolerable in adults with MS, and provide effect estimates to inform a future randomized controlled trial.

KEYWORDS

Motion sickness, Virtual reality, Visuo-vestibular training, Vestibular rehabilitation, Habituation training, Sensory conflict

OP-771

Turkish Adaptation And Preliminary Validation Of The Otology Questionnaire Amsterdam

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BACKGROUND & AIM

Patient-reported outcome measures (PROMs) are essential for evaluating symptom severity and quality of life in otology. The Otology Questionnaire Amsterdam (OQUA) is a validated generic PROM assessing multiple ear complaints and their impact. This study aims to perform cross-cultural adaptation of the OQUA into Turkish and to evaluate its reliability, validity, and responsiveness

MATERIAL & METHODS

This is a single-center, prospective methodological study conducted in a tertiary otolaryngology clinic. Adult patients presenting with ear complaints were included. The Turkish version of OQUA (OQUA-TR) was administered at baseline. Test–retest reliability was assessed in clinically stable non-surgical patients with repeated administration after 7–14 days. In surgical patients, the questionnaire was applied preoperatively and at 3-month follow-up to assess responsiveness. Internal consistency was evaluated using Cronbach's alpha, and test–retest reliability was analyzed using intraclass correlation coefficient (ICC). Construct validity was planned using confirmatory factor analysis. Descriptive statistics were used for demographic and clinical characteristics.

RESULTS

A total of 110 patients have been included to date. Of these, 38 were surgical patients who completed preoperative assessment, and 20 completed postoperative 3-month follow-up. Test–retest analysis was performed in 40 non-surgical

patients. Data collection is ongoing, with a target sample size of approximately 200 participants. Preliminary data indicate good feasibility and patient compliance with the questionnaire. Final statistical analyses, including reliability and validity assessments, are currently in progress.

CONCLUSIONS

The Turkish adaptation of the OQUA appears feasible in clinical practice. Upon completion, this study is expected to provide a valid and reliable PROM for assessing ear-related symptoms and treatment outcomes in Turkish-speaking populations.

KEYWORDS

otology, questionnaire validation, reliability analysis, quality of life

OP-772

Evaluation Of The Impact Of Magnetic Resonance Imaging Device Noise On Hearing In Radiology Technicians

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BACKGROUND & AIM

This study was designed to evaluate the effects of exposure to high levels of acoustic noise generated by MRI devices on the auditory system of radiology technicians working with such equipment.The sounds produced during the operation of MRI devices can exceed 100 dB and with prolonged exposure,may lead to irreversible cochlear damage. In this context, the aim of the study was to assess the cochlear functions of radiology technicians working with MRI devices by comparing them with a healthy control group of similar age and professional background who do not work with MRI

MATERIAL & METHODS

The study included 34 radiology technicians aged between 21 and 48 years, and 32 control group participants aged between 21 and 45 years. All participants underwent comprehensive audiological evaluations. These evaluations included Pure-Tone Audiometry, High-Frequency Audiometry, Transient Evoked Otoacoustic Emissions , Distortion Product Otoacoustic Emissions , and the Tinnitus Handicap Inventory . Additionally, 15-minute noise measurements were conducted in the MRI rooms where the technicians worked, and the peak instantaneous sound level was found to reach up to 105.1 dB

RESULTS

When comparing the MRI technicians to the control group, no statistically significant differences were found in the TEOAE and DPOAE results. However significant differences were observed in the results of Pure-Tone Audiometry and High-Frequency Audiometry. In PTA, threshold shifts were observed at 500 Hz and at 1000 Hz ($p< 0.05$) in both ears. Within the study group, when comparing the ear closer to the MRI room door with the opposite ear, asymmetric threshold shifts were observed at 4000 Hz, 6000 Hz and 8000 Hz ($p < 0.05$). In the High-Frequency Audiometry results, significant differences were observed between the study and control groups in the ear closer to the door at 10,000 , 12,500 , 14,000 , 16,000 and 18,000 Hz and in the ear farther from the door at 16,000 Hz ($p<0.05$).Furthermore within the study group, an asymmetric threshold shift was detected at 16,000 Hz when comparing the two ears

CONCLUSIONS

In conclusion, long-term exposure to MRI device noise in radiology technicians may result in hearing loss, particularly at high frequencies. These findings highlight the necessity of implementing noise control measures and promoting the use of hearing protection equipment to preserve the auditory health of personnel working in clinical environments

KEYWORDS

Noise İnduced Hearing Loss, Magnetic Resonance Imaging, High Frequency Audiometry, Transient Evoked Otoacoustic Emissions,Distortion Product Otoacoustic Emissions

OP-773

Focused Ultrasound-Mediated Drug Delivery Of Bevacizumab In Treating NF2-Related Schwannomatosis In An Animal Model.

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BACKGROUND & AIM

Neurofibromatosis type 2 (NF2)-related schwannomatosis is an autosomal dominant genetic disorder characterized by the development of cranial and peripheral nerve schwannomas, including bilateral vestibular schwannomas which are associated with substantial morbidity. Current therapeutic strategies comprise surgical resection, radiotherapy, and systemic administration of bevacizumab; however, these approaches are frequently limited by high recurrence rates and morbidity.

MATERIAL & METHODS

In this study, a transgenic murine model (Postn-Cre;Nf2flox/flox) was employed to investigate the combined effect of intraperitoneally administered human bevacizumab (5 mg/kg b. w.) and focused ultrasound (FUS) on drug delivery and tumor growth in DRG schwannomas.

RESULTS

ELISA-based analysis demonstrated a 3.8-fold increase in intratumoral bevacizumab concentration following the combined application of human bevacizumab and FUS, compared to bevacizumab alone. Tumor growth was assessed using 7-tesla MRI of the spine with intravenous gadolinium contrast, and outcomes were compared across five experimental groups: 1) human bevacizumab alone, 2) murine bevacizumab alone, 3) human bevacizumab combined with FUS, 4) FUS alone, and 5) untreated controls. Treatments, including drug administration and FUS exposure, were performed three times at two-week intervals.

CONCLUSIONS

The combined treatment group (human bevacizumab + FUS) exhibited a trend toward tumor size reduction.

KEYWORDS

Neurofibromatosis 2 (NF2)-related schwannomatosis; neurofibromatosis type 2; NF2; bevacizumab treatment; focused ultrasound; FUS

OP-774

Clinical Outcomes Of Revision Cochlear Implantation

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BACKGROUND & AIM

This study aims to identify the reasons for revision of cochlear implant surgeries.

MATERIAL & METHODS

This study was conducted retrospectively between January 2010 and January 2024. A total of 1,348 cochlear implants were applied to 1,267 patients. The reasons for revision were classified into two main groups: device-related failures and medical causes. Revision surgery included both revision and reimplantation procedures.

RESULTS

Out of the 1,348 cochlear implantation surgeries, 69 underwent revision surgery (5.1%). Among these patients, 66 were children (95.6%) and 3 were adults (4.4%)Surgical intervention was performed in 68 patients due to hard failure (%98,5), whereas one patient underwent surgery for a soft failure.Reimplantation was performed in 59 patients (85.5%), while revision surgery without reimplantation was performed in 10 patients (14.5%). The most common cause of reimplantation was external trauma, observed in 54 patients (91.5%). The mean interval between the initial cochlear implantation and subsequent revision surgery was approximately 45 months in the pediatric group and 77 months in the adult group. Four patients underwent revision surgery twice due to recurrent head trauma, while one patient required two revision procedures due to medical complications.

CONCLUSIONS

Recently cochlear implantation is the most effective treatment option for profound sensorineural hearing loss. As the number of cochlear implant surgeries increases, the number of revision surgeries is rising as well. In the pediatric population, the high incidence of external trauma may be attributed to early implantation combined with vestibular issues and frequent falls during the learning-to-walk phase.

KEYWORDS

cochlear implant, revision surgery, hard failure, hearing loss, ear surgery

OP-775

Clinical Value Of Systemic Inflammatory Indexes In Pediatric Acute Complicated Mastoiditis: A Retrospective Study

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BACKGROUND & AIM

Acute mastoiditis is the most common intratemporal complication of acute otitis media. Most cases follow a benign course, however some cases of acute mastoiditis can progress to life-threatening serious complications, and currently there are no reliable predictors of such complications. The aim of this study is to evaluate the diagnostic and prognostic value of inflammatory indexes in pediatric patients with acute mastoiditis and its advanced complications such as subperiostal abscess, sigmoid sinus trombus, meningitis.

MATERIAL & METHODS

This single-center retrospective study included 43 patients under 18 years of age who were hospitalized and operated for acute mastoiditis and its related complications. Patients were divided into two groups: Group 1 (n=16) with isolated acute mastoiditis and Group 2 (n=27) with acute mastoiditis and its advanced complications. Demographic, clinical, and laboratory data of the patients were analyzed. Inflammatory indexes, including neutrophil-to-lymphocyte ratio, platelet-to-lymphocyte ratio, systemic immune-inflammation index (SII), systemic inflammatory response index (SIRI), and multiple inflammatory indices (MII 1-3), were calculated.

RESULTS

No significant differences were observed between Group 1 and Group 2 in terms of demographic characteristics, laboratory parameters, or inflammatory indexes ($p>0.05$). However, length of hospital stay showed a moderately positive correlation with SIRI ($r=0.419$, $p=0.005$) and a weak positive correlation with SII ($r=0.341$, $p=0.025$). In patients with advanced complications (Group 2), both SII ($r=0.529$, $p=0.005$) and SIRI ($r=0.492$, $p=0.009$) showed stronger correlations with length of hospital stay. No significant association was observed between C-reactive protein values.

CONCLUSIONS

Inflammatory indexes did not differentiate between isolated mastoiditis and advanced complications. SII and SIRI correlated with length of hospital stay, an important indicator of disease severity, suggesting their potential usefulness as prognostic markers. This suggests that cellular immune response-based indices may provide greater clinical benefit in predicting disease course than traditional inflammatory markers.

KEYWORDS

systemic inflammatory index, acute mastoiditis, pediatric otology, acute complicated mastoiditis

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BEYOND THE AURICLE: CRANIAL NERVE POLYNEURITIS AS A RARE COMPLICATION OF RAMSAY HUNT SYNDROME

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BACKGROUND & AIM

Ramsay Hunt syndrome (RHS) is an uncommon condition caused by varicella-zoster virus (VZV) reactivation in the geniculate ganglion, presenting typically with facial paralysis, otalgia, and auricular vesicles. While involvement of cranial nerves VII and VIII is typical, multiple cranial neuropathies are rare complications associated with poorer prognosis and significant morbidity. The pathogenesis involves direct perineural spread of viral inflammation between contiguous cranial nerves and vasculopathy of arteries supplying multiple cranial nerves. This case aims to describe the clinical progression and outcomes of a patient with RHS who developed cranial multineuritis.

MATERIAL & METHODS

A 28-year-old male with no medical history presented to our emergency department with one-week history of fever, severe right otalgia, ipsilateral hearing loss, dizziness, and right facial paralysis (House-Brackmann III). Diagnostic workup included otoscopy, audiometry, neurological examination, brain MRI, and cerebrospinal fluid (CSF) analysis. With a suspected diagnosis of RHS treatment consisted of intravenous corticosteroids, vestibular suppressants and acyclovir.

RESULTS

Initial examination revealed right sensorineural hearing loss, vestibular dysfunction with right lateralization and right peripheral facial paralysis. Within 24 hours, vesicular lesions appeared on the right auricle, confirming RHS. Despite treatment, the patient developed left facial paralysis (House-Brackmann III) and bilateral trigeminal hypoesthesia. MRI showed right facial neuritis. CSF revealed lymphocytic pleocytosis and hyperproteinorraquia with negative PCR (under acyclovir), consistent with lymphocytic meningitis. Final diagnosis was VZV cranial multineuritis affecting nerves V, VII (bilateral), and VIII (right). After 14 days of intravenous acyclovir, progressive pain improvement and partial facial function recovery were achieved, though residual right hearing loss persisted.

CONCLUSIONS

This case demonstrates that RHS can progress to multineuritic forms despite early antiviral therapy. Positive outcomes included recovery of facial motor and sensory function and pain resolution with prolonged antiviral treatment. However, persistent sensorineural hearing loss indicates that auditory sequelae may be irreversible. A multidisciplinary assesment, exahustive initial neurological examination and close monitoring in RHS patients is essential for early recognition of progressive symptoms and prompt treatment escalation to optimize outcomes in these rare complications

KEYWORDS

ramsay hunt syndrome, cranial polyneuritis, varicella-zoster virus, facial paralysis

OP-777

Regenerative Medicine In Otology: Clinical Outcomes Of Mesenchymal Stem Cell Therapy For Tympanic Membrane Perforations

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BACKGROUND & AIM

Repair of persistent tympanic membrane perforations remains a relevant problem in otorhinolaryngology. Despite the undeniable gold standard of tympanoplasty and myringoplasty, there is a need for the development of minimally invasive occlusion methods. This is due to the large number of patients with central perforations not requiring revision of the tympanic cavity, the native membrane's potentially better sound conduction, and the desire to reduce overall surgical trauma. This study aimed to evaluate the efficacy and safety of topical administration of a cell product—human autologous adipose-derived mesenchymal stromal cell spheroids—for repairing persistent central perforations.

MATERIAL & METHODS

The study included 8 patients with central tympanic membrane perforations (mean duration 3.7 years, diameter 6.7 mm ± 1.8 mm, air-bone gap 27 dB). Inclusion criteria: positive ETF test, no CT changes of the temporal bones, and no otorrhea for ≥4 months. Ethical approval was obtained (Protocol No. 12-24). The two-stage treatment began with an abdominal wall biopsy (2 cm^3 adipose tissue). After 4–6 weeks, the cell product (2×10^6 MSCs as spheroids, $\geq1\times10^3$ cells/spheroid in 1 mL saline) was applied. In the second stage, perforation edges were de-epithelialized, and spheroids were injected into the edges and the area near the fibrous ring adjacent to the defect. A gelatin sponge was placed and secured with fibrin glue.

RESULTS

Tympanic membrane perforations closed in 7 out of 8 patients (87.5%). The mean healing time was 21 days [range 17–26 days]. One patient developed otorrhea on day 2, requiring topical antibacterial therapy, and perforation closure was not achieved. No other adverse reactions were observed. On otoscopy, the area of the closed perforation appeared as tissue nearly indistinguishable from the intact areas and did not prolapse during the Valsalva maneuver. The mean air-bone gap reduction was 22 ± 4 dB.

CONCLUSIONS

This pilot study demonstrates the efficacy and safety of adipose-derived MSC spheroids for persistent tympanic membrane perforations. The 87.5% closure rate with a mean healing time of 21 days and a 22 ± 4 dB air-bone gap reduction confirms functional restoration. Regenerated tissue closely resembled native membrane both otoscopically and functionally. One failure occurred due to postoperative infection; no adverse reactions were noted. Building on preclinical success in the regeneration of vibrating ENT tissues [1,2], this minimally invasive approach offers an alternative to traditional tympanoplasty for central perforations while preserving native properties. Further studies with larger cohorts are warranted.

KEYWORDS

Tympanic membrane perforation, mesenchymal stromal cells, adipose tissue, spheroids, cell therapy, regenerative medicine, myringoplasty, otorhinolaryngology.

OP-778

The Role Of The Trigeminovascular Unit Of The Inner Ear In Cochlear And Vestibular Disorders

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BACKGROUND & AIM

The inner ear relies on a specialized neurovascular network to preserve hearing and balance. Central to this system is the trigeminovascular unit (TVU), composed of trigeminal sensory fibers, endothelial cells, pericytes, and extracellular matrix elements that coordinate cochlear and vestibular blood flow, blood–labyrinth barrier integrity, ionic homeostasis, and neuronal support. This systematic review aimed to synthesize current evidence on the structural and functional organization of the TVU within the cochlea and vestibular labyrinth and to clarify how TVU dysfunction may contribute to common cochleovestibular disorders.

MATERIAL & METHODS

A systematic review of the literature was conducted to identify studies describing the distribution and roles of TVU components in key inner ear regions, including the stria vascularis, dark cell region, spiral ganglion, Scarpa's ganglion, and their associated microvasculature. Data were extracted on endothelial and pericyte functions in vascular tone, permeability, and ionic balance; neurotrophic and neuroimmune interactions supporting neuronal homeostasis; and the modulatory influence of trigeminal C-fiber–derived neuropeptides, particularly calcitonin gene-related peptide and substance P. Findings were

qualitatively synthesized to develop an integrated pathophysiological framework linking neurovascular signaling changes to clinical phenotypes.

RESULTS

Across included studies, the TVU consistently emerged as an integrated neurovascular interface that stabilizes microvascular function and supports sensory and ganglion cell viability in both cochlear and vestibular compartments. Endothelial cells and pericytes contributed to blood–labyrinth barrier maintenance, regulation of vascular permeability, and preservation of local ionic gradients crucial for transduction. Trigeminal sensory inputs, via neuropeptide signaling, appeared to modulate vasoreactivity and inflammatory pathways, suggesting a mechanism by which craniofacial nociceptive circuits influence inner ear physiology. Disruption of TVU signaling was associated with endothelial dysfunction, pericyte loss, impaired barrier function, and subsequent neuronal degeneration. These alterations provided a unifying mechanistic framework for several disorders, including Ménière's disease, vestibular migraine, benign paroxysmal positional vertigo, noise-induced hearing loss, and syndromes linked to head and neck myofascial pain.

CONCLUSIONS

Reframing inner ear disease through trigeminovascular and broader neurovascular dysfunction offers a cohesive explanation that bridges vascular, inflammatory, and sensory mechanisms. The TVU represents a compelling therapeutic and research target for future mechanistic studies and interventions.

KEYWORDS

Trigeminovascular unit; Pericytes; Endothelial cells; Stria vascularis; Trigeminal nerve; Cochlear homeostasis; Vestibular disorders; Ménière's disease; Vestibular migraine

OP-779

Peripheral Blood-Based Inflammatory And Hematological Biomarkers In Subjective Tinnitus: A Systematic Review

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BACKGROUND & AIM

Subjective tinnitus is a multifactorial condition with an incompletely understood pathophysiology. In recent years, systemic inflammation, platelet activation, and microvascular dysfunction have been proposed as potential contributors. This systematic review aimed to synthesize the available clinical evidence on peripheral blood-based inflammatory and hematological biomarkers in patients with subjective tinnitus.

MATERIAL & METHODS

A systematic literature search was performed in PubMed/MEDLINE and Scopus using terms related to tinnitus and peripheral blood-based biomarkers, including neutrophil-to-lymphocyte ratio, platelet-to-lymphocyte ratio, mean platelet volume, platelet distribution width, complete blood count-derived indices, and cytokines. Original human studies evaluating the association between these biomarkers and subjective tinnitus presence, severity, duration, or audiological findings were included. Data were extracted on study design, sample size, biomarker type, tinnitus assessment, and main findings. Given the heterogeneity of study designs and outcomes, a narrative synthesis was performed.

RESULTS

Seventeen studies met the inclusion criteria. The included studies evaluated inflammatory indices, platelet-related markers, cytokines, and broader hematological or hemorheological parameters. Findings regarding classical inflammatory markers such as neutrophil-to-lymphocyte ratio and platelet-to-lymphocyte ratio were inconsistent, with some studies reporting higher values in tinnitus patients and others showing no association or opposite trends. Platelet-related markers, particularly mean platelet volume and platelet distribution width, were more frequently associated with tinnitus than classical inflammatory ratios, although the direction of these associations was not uniform across studies. Cytokine-based studies suggested possible relationships between inflammatory mediators and tinnitus severity, although evidence remained limited. A small number of studies also reported associations between biomarkers and audiological parameters such as high-frequency audiometry and distortion product otoacoustic emissions.

CONCLUSIONS

Peripheral blood-based biomarkers may provide insight into inflammatory and microvascular mechanisms in subjective tinnitus; however, current evidence remains heterogeneous and largely observational. Platelet-related markers appear more frequently altered than classical inflammatory indices, but their direction of change is not uniform across studies. Further prospective studies with standardized tinnitus phenotyping and careful control of confounding factors are needed.

KEYWORDS

Subjective tinnitus; inflammation; neutrophil-to-lymphocyte ratio; mean platelet volume; platelet activation; cytokines.

OP-780

Effect Of Deviated Nasal Septum On Eustachian Tube Dysfunction: A Systematic Review & Meta-Analysis

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BACKGROUND & AIM

A range of chronic ear complaints may be attributed to eustachian tube dysfunction. Many different etiologies have been postulated in previous literature to help understand ETD better. ETD secondary to DNS has been described in a number of clinical studies, with symptomatic improvement demonstrated following septoplasty. However, uncertainty exists as to the size of effect and consistency between studies.

MATERIAL & METHODS

Systematic review and meta-analysis according to the PRISMA guidelines. Electronic searches of PubMed, EMBASE and the Cochrane Library of adult patients with complaints of nasal obstruction/impairment and/or complaints of ear fullness undergoing nasal surgery including septoplasty, FESS, submucosal diathermy and/or inferior turbinectomy.

RESULTS

7 studies met the inclusion criteria. Studies evaluated the effect of nasal surgery on ETD using a variety of outcomes, including as ETF Tests, ETDQ-7, Tympanometry, and NOSE Scores. Results demonstrate the positive impact of nasal surgery on various outcomes related to ETD, including improvements in ETDQ-7 scores, tympanometry findings, NOSE Scores, and ETF tests.

CONCLUSIONS

Evaluation of nasal symptoms and anatomy and discussion of operative intervention should be considered in any patient presenting with ETD. Future research should focus on elucidating the mechanisms underlying these improvements and refining treatment algorithms for ETD management.

KEYWORDS

Deviated Nasal Septum; Eustachian Tube Dysfunction; Nasal Surgery; Septoplasty

OP-781

Immediate Symptom Relief After Endoscopic Assisted SPG Block In ETD With Normal Tympanometry

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BACKGROUND & AIM

Eustachian tube dysfunction (ETD) is typically classified as obstructive or patulous. However, some patients present with chronic dynamic aural symptoms despite normal tympanometry and without characteristic features of patulous ETD. We evaluated symptom response after unilateral transnasal sphenopalatine ganglion (SPG) block in a consecutive series of such patients.

MATERIAL & METHODS

One hundred consecutive adult patients with chronic aural fullness, clicking, and pressure instability were included. All demonstrated type A tympanograms, preserved ability to perform Valsalva maneuvers, no history of barotrauma, no improvement after needle paracentesis, and no autophony or respiratory tympanic membrane movement. A unilateral transnasal SPG block was performed using 2 mL of 0.5% bupivacaine. Immediate response and 4-week symptom status were recorded. Available paranasal sinus computed tomography (CT) scans were reviewed descriptively for sinus opacification and sphenoid sinus anatomy and compared to CT scans of classical obstructive ETD

RESULTS

Immediate symptom improvement was reported by 87 of 100 patients (87%). Relief was typically transient and described as lasting several hours, broadly corresponding to the expected pharmacologic duration of bupivacaine. Sustained improvement at 4 weeks was reported by 11 of 100 patients (11%). No major adverse events were observed. Among patients with available CT imaging (n = 77), 19% demonstrated significant mucosal thickening (Lund-McKay score >6), whereas 82% demonstrated a recurring sphenoid configuration characterized by extensive pneumatization, partial bony dehiscence of the vidian canal, and narrowing of the natural sphenoid ostium <2mm. Compared with CT scans of classic ETD, which only showed 6% of the same findings ($p<0.01$).

CONCLUSIONS

In this consecutive case series, unilateral transnasal SPG block was associated with frequent but transient symptom relief in patients with dynamic aural symptoms, normal tympanometry, and no classic features of patulous ETD. These findings suggest that some patients with non-obstructive, non-patulous aural symptoms may reflect a symptom pattern consistent with a

functional or neuromodulatory mechanism not fully captured by the current binary classification of ETD. Further studies are needed to better define this subgroup, clarify mechanisms, and determine the diagnostic or therapeutic role of SPG blockade

KEYWORDS

Eustachian tube, balloon dilation, BDET, SPG block

OP-782

Matrix Metalloproteinases And Stromal Cells In Vestibular Schwannoma

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BACKGROUND & AIM

Vestibular schwannomas (VS) remain a challenge due to their anatomical location and propensity to growth. Matrix metalloproteinases are expressed in VS but their precise roles are not well understood.

MATERIAL & METHODS

Data was mined from scRNAseq experiments on three VS samples to analyse the MMP family. Immunohistochemistry and immunofluorescence was carried out on twenty VS samples for expression of MMP14 and MMP2 and their cellular sources. Fibroblasts isolated from VS were analysed for expression of MMP2 and MMP14 with confocal microscopy.

RESULTS

Several matrix metalloproteinases expressed in VS were identified on scRNA sequencing. It revealed expression of MMP14 and MMP2 predominantly in macrophage and fibroblast subsets within VS. MMP2 and MMP14 staining was confirmed in VS samples on immunohistochemistry and confocal microscopy and semiquantitative assessment performed to correlate with tumour size and cystic nature of disease. Fibroblasts from VS express higher levels of MMP2 and MMP14 than control tissue fibroblasts on RTPCR and validation of this at the protein level with confocal microscopy and flowcytometry is ongoing.

CONCLUSIONS

Stromal cells appear to be the main source of MMP2 and MMP14 in VS both on the scRNAseq and immunohistochemistry analysis. Expression of these two proteins in VS is heterogenous. Further analysis of the MMP pathways will further our knowledge about their roles in the pathogenesis of VS and their potential as therapeutic targets.

KEYWORDS

MMP2, MMP14, macrophages, fibroblasts, vestibular schwannoma

OP-783

AUDİOLOGİCAL EVALUATİON İN PEDİATRİC GROUPS WİTH BİOTİNİDASE DEFİCİENCY

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BACKGROUND & AIM

Biotinidase is a vital enzyme responsible for the reutilization of biotin (vitamin B7) in the body. A deficiency in this enzyme can cause serious neurological and physical disorders, particularly during infancy and childhood. One of the symptoms associated with biotinidase deficiency is hearing loss. This study aims to analyze the prevalence of hearing loss in individuals with biotinidase deficiency and to determine whether there is a statistically significant relationship between the two conditions.

MATERIAL & METHODS

In our hospital, individuals with a biotinidase activity level of “10% or below” are diagnosed with “profound deficiency,” while those with activity “up to 45%” are considered to have “partial biotinidase deficiency.” A total of 90 participants were included in this study, consisting of 50 individuals diagnosed with biotinidase deficiency and 40 individuals without any risk factors or disabilities. This prospective clinical study was designed not only to explore the broader effects of biotinidase deficiency on children, but also to determine whether it constitutes a specific risk factor for hearing loss.

RESULTS

All participants underwent auditory brainstem response (ABR) testing. Findings consistent with hearing loss were identified in 5 individuals (10%) within the biotinidase-deficient group, whereas all individuals in the control group exhibited normal ABR results. The difference between the groups was analyzed using Fisher’s Exact Test, with a resulting p-value of approximately 0.06—close to the threshold of statistical significance. This finding suggests that individuals with biotinidase deficiency may experience subclinical or mild auditory transmission issues.The detection of hearing loss indicators in 10% of biotinidase-deficient individuals implies that neural transmission pathways or post-cochlear structures might be affected. The absence of similar findings in the control group indicates this difference may have clinical relevance. The results reveal a higher rate of hearing loss among individuals with biotinidase deficiency (10% vs. 0%). The near-significant p-value suggests that studies with larger sample sizes may reveal stronger statistical significance

CONCLUSIONS

Previous literature has documented associations between biotinidase deficiency and sensorineural hearing loss. At the cellular level, biotinidase deficiency may disrupt myelin synthesis and energy metabolism, potentially leading to permanent cochlear damage and resulting in hearing impairment.

KEYWORDS

Biotin, Hearing Loss, Biotinidase Deficiency, Auditory Brainstem Responses, Otoacoustic Emission,

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Combined Transcutaneous Vagus Nerve And Sound Stimulation (Soricle) For Subjective Tinnitus: A Randomized Sham-Controlled Trial

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BACKGROUND & AIM

Subjective tinnitus is a prevalent and debilitating auditory condition lacking universally effective treatments. Emerging evidence suggests that transcutaneous auricular vagus nerve stimulation (tVNS) may modulate maladaptive cortical reorganization implicated in chronic tinnitus pathophysiology through GABAergic inhibitory circuit activation. Sound stimulation has similarly demonstrated capacity to reverse aberrant auditory cortical hyperexcitability. Preclinical and early clinical studies have proposed that pairing tVNS with acoustic stimulation may yield synergistic neuroplastic effects superior to either modality alone.

MATERIAL & METHODS

This prospective, single-center, randomized, double-blind, sham-controlled exploratory trial enrolled 36 adults with chronic subjective tinnitus (duration ≥3 months; Tinnitus Handicap Inventory [THI] score 18–76; pure-tone average ≤50 dB). Participants were allocated 1:1:1 to three arms: sham device (n=12), electrical stimulation only (tVNS; n=12), and combined electrical plus sound stimulation (tVNS+Sound; n=12). All participants used the investigational device "Soricle," which delivers transcutaneous electrical stimulation (1–14 mA) to the auricular branch of the vagus nerve with or without white noise, for 8 weeks. Assessments were conducted at baseline and at weeks 2, 4, 5, 6, 7, and 8. The primary efficacy endpoint was the change in THI total score from baseline to week 8. Secondary endpoints included the Tinnitus Functional Index (TFI), Visual Analogue Scale (VAS) for tinnitus loudness and discomfort. Efficacy analyses were performed on the full analysis set (FAS; n=36) and per-protocol set (PPS; n=25) using ANCOVA with baseline values.

RESULTS

In the FAS analysis, mean THI change from baseline to week 8 was −14.83 (±22.46) points in the tVNS group, −10.83 (±15.00) points in the tVNS+Sound group, and +2.00 (±6.55) points in the sham group. ANCOVA revealed a statistically significant difference between the sham and tVNS+Sound groups (p=0.0109), and a significant within-group reduction was observed in the tVNS group (p=0.0429). These findings were reproduced in the PPS, wherein THI reductions were −16.60 (±24.24) and −17.67 (±7.09) points for the tVNS and tVNS+Sound groups, respectively, versus +0.44 (±6.23) points in sham, with a highly significant between-group difference for sham vs. tVNS+Sound (p=0.0003). Secondary endpoints, including VAS and TFI, demonstrated improvement trends across active groups, with statistically significant reductions observed at select time points. No serious adverse events or device-related safety signals were identified across all groups.

CONCLUSIONS

This exploratory trial demonstrates that transcutaneous vagus nerve stimulation, particularly when combined with sound stimulation, produces clinically meaningful and statistically significant reductions in THI scores in patients with chronic subjective tinnitus compared to sham treatment. The favorable safety profile and consistent directionality across both FAS and PPS analyses support the potential clinical utility of tVNS-based combination neuromodulation for tinnitus management. Given the exploratory nature and limited sample size of this study, adequately powered, multicenter confirmatory trials are warranted to establish definitive clinical evidence and inform future regulatory approval pathways.

KEYWORDS

transcutaneous vagus nerve stimulation; tVNS; tinnitus; Tinnitus Handicap Inventory; THI; neuromodulation; sound stimulation; auricular stimulation; randomized controlled trial; neuroplasticity; chronic subjective tinnitus; combination therapy

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Bezold Abscess Without Cervical Swelling: Early CT Findings And Pain-Only Presentation

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BACKGROUND & AIM

Bezold abscess typically presents with cervical swelling due to extension of mastoid infection into deep neck spaces. However, atypical presentations lacking external signs may delay diagnosis and allow extensive progression. We hypothesized that

Bezold abscess can develop with minimal clinical findings but may exhibit subtle early radiologic changes preceding overt abscess formation.

MATERIAL & METHODS

A 70-year-old male presented with a long history of recurrent otitis externa with habitual ear manipulation and progressive untreated hearing loss. Initial computed tomography (CT) showed soft tissue density in the tympanomastoid cavity without obvious extracranial abscess, raising suspicion of middle ear cholesteatoma. However, retrospective review identified a low-density area suggesting underlying bone erosion at the site of later extracranial perforation. Although elective surgery was planned, the patient presented one month later with isolated retroauricular pain without cervical swelling. Repeat CT and magnetic resonance imaging demonstrated new bone erosion and a deep abscess extending to the jugular foramen, accessory nerve region, vertebral artery, and C1 transverse process.

RESULTS

Bezold abscess secondary to middle ear cholesteatoma was diagnosed. Canal-up mastoidectomy with drainage was performed. Intraoperatively, purulent discharge was identified through a deep bone defect medial to the facial nerve and anterior to the sigmoid sinus, corresponding to the previously noted low-attenuation area. No superficial cervical abscess was observed. Postoperatively, pain resolved promptly, and the patient remained symptom-free at 10 months.

CONCLUSIONS

Bezold abscess may present without cervical swelling, with pain as the sole initial symptom, while spreading extensively along skull base pathways. Subtle early CT attenuation changes at the site of eventual extracranial perforation may precede overt abscess formation. Careful evaluation of such findings, particularly when EAC stenosis limits otoscopic assessment, may facilitate earlier diagnosis and prevent disease progression.

KEYWORDS

Bezold abscess, Cholesteatoma, Diagnostic delay, Atypical presentation, Computed tomography

OP-786

An Innovative Approach In Revision Cartilage Tympanoplasty: A Prospective Study With Platelet-Rich Fibrin (PRF) Support

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BACKGROUND & AIM

Revision tympanoplasty remains surgically challenging due to scar tissue formation, compromised vascularity, and higher rates of recurrent perforation compared to primary procedures. Platelet-rich fibrin (PRF), an autologous biomaterial enriched with growth factors, has been shown to promote angiogenesis and tissue regeneration. However, evidence regarding its role in revision cartilage tympanoplasty is limited. This study aimed to evaluate the short-term anatomical and functional outcomes of PRF-supported conchal cartilage grafting in revision cases.

MATERIAL & METHODS

In this ongoing prospective cohort study, consecutive eligible patients with persistent tympanic membrane perforation ≥3 months after prior cartilage tympanoplasty were enrolled between 2020 and 2025. Exclusion criteria included active infection, cholesteatoma, systemic inflammatory or hematologic disease, and age <16 or >65 years. At the time of interim analysis, 20 patients had completed 3-month follow-up and were included in the analysis. Autologous PRF was prepared from 9 mL of venous blood via centrifugation. Under local anesthesia, perforation edges were refreshed and a conchal cartilage graft was prepared. The graft was supported with PRF on both medial and lateral surfaces prior to placement and stabilized with absorbable gelatin sponge. Anatomical closure was assessed endoscopically at 1 and 3 months. Audiometric thresholds, air–bone gap (ABG), Visual Analog Scale (VAS), and Chronic Otitis Media Questionnaire – 12 (COMQ-12) scores were analyzed.

RESULTS

Twenty patients (mean age 36.2 years; 70% female) were analyzed. Mean perforation size was 7.13 mm^2. At 3 months, complete graft uptake was achieved in 19 patients (95%). Mean air conduction thresholds improved significantly from 28.8 ± 8.9 dB preoperatively to 23.4 ± 9.7 dB postoperatively ($p<0.001$). ABG decreased from 17.3 ± 5.3 dB to 13.6 ± 4.7 dB ($p=0.001$), while bone conduction thresholds remained stable ($p=0.246$). COMQ-12 scores improved significantly from 19.6 to 10.5 ($p=0.017$). No major complications or graft-related adverse events were observed. All procedures were completed under local anesthesia with a mean operative time of 42 minutes.

CONCLUSIONS

PRF-supported cartilage grafting in revision tympanoplasty appears safe and associated with high short-term graft success and significant functional improvement. Ongoing enrollment and longer follow-up will further clarify its potential additive benefit in revision middle ear surgery.

KEYWORDS
Air–Bone Gap; Cartilage Tympanoplasty; Platelet-Rich Fibrin; Revision Surgery; Tympanic Membrane Perforation

OP-787

Labyrinthitis Ossificans Diagnosis And Management: A Narrative Review

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BACKGROUND & AIM

Labyrinthitis ossificans (LO) is a pathological condition characterized by ossification of the membranous labyrinth, leading to progressive sensorineural hearing loss. It is often associated with chronic inflammatory processes, trauma, autoimmune disease and neoplastic processes affecting the inner ear. The early diagnosis is essential to prevent the progression of hearing loss and treatment.

MATERIAL & METHODS

This narrative review synthesizes findings from a comprehensive literature search in databases such as PubMed, Scielo, Google Scholar, and Web of Science. Studies focusing on the epidemiology, etiology, pathophysiology, diagnostic, cochlear implantation (CI), clinical treatment and prevention of LO were analyzed. Priority was given to the most recently published articles and new approaches to CI and auditory rehabilitation.

RESULTS

LO commonly is the result of bacterial labyrinthitis, otitis media, meningitidis infection, often caused by Streptococcus pneumoniae, or trauma. High-resolution computed tomography (CT) and magnetic resonance imaging (MRI) are essential for surgical planning and detecting early ossification, respectively. CI remains the main surgical treatment for profound hearing loss, however in advanced cases of cochlear ossification CROS (Contralateral Routing of Signal) and BAHA (Bone-Anchored Hearing Aid) may be considered as options for auditory rehabilitation.

CONCLUSIONS

Early diagnosis and treatment are important to prevent auditory damage in patients with LO. Although CI is the best treatment available, in advanced stages of cochlear ossification there are limitations to their use. Further research is needed to develop surgical strategies for CI in patients with advanced ossification, to improve auditory rehabilitation with CROS, BAHA and ultimately improving patient prognosis.

KEYWORDS

Labyrinthitis ossificans; Hearing loss; Meningitis; Otitis media; Cochlear implantation; Imaging

OP-788

THE 12-ITEM TINNITUS PRIMARY FUNCTION QUESTIONNAIRE WITH HIGH FREQUENCY HEARING THRESH VALUE IN TINITUS PATIENTS

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BACKGROUND & AIM

Background: Tinnitus is the sensation of hearing sound without any external or internal stimulus or acoustic source. Tinnitus patient complaints are generally subjective, whereas there is no objective examination in making a tinnitus diagnosis until now, so a questionnaire is needed to help enforce it. Conventional pure tone audiometry (PTA) (125 Hz – 8.000 Hz) is not reliable for detecting cochlear damage. Tinnitus patients with normal audiograms are more likely to have cochlear damage, outer hair cell damage and hearing threshold disturbances in the high frequency region (10.000 Hz – 16.000 Hz).

MATERIAL & METHODS

Analytical observational with cross sectional design. Sampling with consecutive sampling technique. Basic data such as age, sex, type of tinnitus, duration of tinnitus, hearing loss and comorbidities were taken from medical records. High-frequency pure tone audiometry examination by a nurse under the supervision of a Neurotology consultant ENT-HNS Specialist doctor. Assessment of the impact on the patient's quality of life by filling out the Indonesian version of the 12-item TPFQ questionnaire

RESULTS

The total sample obtained was 55 patients. The results of statistical calculations using the Spearman correlation test between high frequency hearing threshold values and the Indonesian version of the TPFQ 12-item total ($p = 0.98$).

CONCLUSIONS

there is no relationship between the score of the 12-item TPFQ questionnaire and the threshold value of high-frequency hearing. Tinnitus is a clinically confusing condition due to the lack of effective treatment to stop its perception, so the assessment of tinnitus relies on questionnaires.

KEYWORDS
tinnitus, TPFQ 12-item questionnaire, high frequency hearing threshold value, life expectancy

OP-789

Two Decades Of Neurotology Research From Otorhinolaryngology Clinics In Türkiye: A Bibliometric Analysis Of Output, Institutional Concentration And Research Hotspots

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BACKGROUND & AIM

Neurotology is a resource-intensive subspecialty whose national research profile has never been described for Türkiye. We quantified the volume, institutional distribution, citation impact and thematic structure of neurotology research produced by Turkish otorhinolaryngology and audiology clinics, and asked how that output is distributed across the country's clinics.

MATERIAL & METHODS

PubMed/MEDLINE was searched for records combining the neurotology field terms tinnitus, vertigo, dizziness, sensorineural hearing loss, facial paralysis, hearing implant, cochlear implant, inner ear, cochlear and vestibular with an otology, otolaryngology, otorhinolaryngology or audiology affiliation and a Türkiye address. 2,241 records were retrieved and the 1,866 published between 2005 and 2025 were analysed. Affiliation strings were transliterated and mapped to a curated dictionary of Turkish universities, training-and-research hospitals and city hospitals; renamed and merged institutions were consolidated, and author names were canonicalised across Turkish-diacritic spelling variants. Citation counts came from linking records to Web of Science by PubMed ID (1862/1866, 99.8%). Co-authorship and MeSH co-occurrence networks were clustered by modularity optimisation. Because MEDLINE indexed only the first author's affiliation before 2014, collaboration analyses were restricted to 2016–2025.

RESULTS

Annual output rose from 27 papers in 2005 to 205 in 2025 (compound annual growth 10.7%; with 1,385 of the 1,866 papers (74%) appearing in the last decade. The corpus attracted 18,864 citations (mean 10.13, median 5, h-index 49). Output came from 253 named institutions in 77 cities but was highly concentrated: the ten most productive clinics accounted for 28.7% of all institution–paper links, Ankara, İstanbul and İzmir for 56.4% of city attributions, and 72.7% of contributing authors published only once in the field. Hacettepe University led on volume (248 papers, 13.3% of the corpus), citations (3,112) and h-index (25). IThematically, sensorineural hearing loss fell from 44% to 27% of output while cochlear implantation and auditory rehabilitation rose from 9% to 22%; facial nerve and lateral skull base work contracted. Neurotology accounted for 18.1% of all Turkish otorhinolaryngology output indexed in Web of Science, rising from 13.5% to 22.3%.

CONCLUSIONS

Turkish neurotology research has grown faster than its parent specialty for two decades and is now dominated by cochlear implantation and vestibular work. Its productivity nevertheless remains concentrated in a small number of clinics in three cities, and nearly three quarters of contributing authors publish in the field only once. International collaboration, though still a minority of output, is both rising and associated with measurably higher citation rates, making it the most tractable lever for raising national impact.

KEYWORDS
Bibliometrics · Neurotology · Otorhinolaryngology · Cochlear implantation · Hearing loss · Vertigo · Facial paralysis

OP-790

Evaluation Of S-Value In Relation To Cochlear Anatomy In Pediatric Cochlear Implant Users

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BACKGROUND & AIM

To assess the S-value in pediatric cochlear implant (CI) patients using high-resolution CT images and examine its correlation with main cochlear parameters and angular insertion depth (AID).

MATERIAL & METHODS

A retrospective review of preoperative CT images from pediatric CI recipients with normal cochlear anatomy was conducted at a referral hearing implant center. Cases involving congenital or acquired inner-ear abnormalities were excluded. Two independent reviewers with equivalent expertise used OTOPLAN to measure the main cochlear parameters, and the interrater reliability study revealed good agreement. S-values (the straight section of the cochlear basal turn) were measured and examined, and their correlation to electrode insertion angles and cochlear parameters (A- and B-values) was evaluated.

RESULTS

The average cochlear duct length (CDL) of the included patients was 36.14 ± 0.26 mm, with an average S-value of 7.06 ± 0.40 mm, insertion angle of 598.20° ± 48.72°, and cochlear coverage of 77.49% ± 0.57. A statistically significant relationship was found between A- and the S-values (r = 0.65, p = 0.004). However, the B-value showed a moderate, non-significant correlation with the S-value (r = 0.43). Furthermore, a consistent negative, but not statistically significant, association was found between the S-value and the angular insertion depths of all electrode contacts (r = − 0.28 to − 0.30).

CONCLUSIONS

The S-value is a dependable anatomical parameter that correlates positively with the A-value. The evaluated lateral-wall array showed consistent insertion depths among patients with similar CDL, even when S-values differed. Further studies are needed to investigate the impact of greater variability in S-values on clinical outcomes and electrode-array position among CI users.

KEYWORDS

Cochlear implant, Cochlear length, Insertion angle, Cochlear metrics, OTOPLAN

OP-791

Audiological Outcomes After Attic Cholesteatoma Surgery

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BACKGROUND & AIM

Attic cholesteatoma is a destructive middle ear disease that may result in ossicular chain erosion and hearing loss. Surgical treatment aims not only to eradicate the disease but also to preserve or improve hearing outcomes. This study aimed to evaluate postoperative audiological and surgical outcomes in patients undergoing surgery for attic cholesteatoma

MATERIAL & METHODS

A retrospective single-center study was conducted including 75 patients who underwent surgery for attic cholesteatoma between 2017 and 2025. Demographic characteristics, surgical approaches, ossicular chain status, hearing reconstruction techniques, graft outcomes, recurrence rates, revision surgeries, and audiological outcomes were analyzed. Microscopic and endoscopic approaches, as well as canal wall up (CWU), canal wall down (CWD), and tympanoplasty procedures were included. Preoperative and postoperative air conduction (AC) and bone conduction (BC) thresholds were compared during early (2 months) and long-term follow-up (6-91; median 21 months) periods. Statistical analyses were performed using non-parametric tests, including the Wilcoxon signed-rank test.

RESULTS

The median age was 32 years (interquartile range [IQR]: 23–46 years), and 61.3% of the patients were female. Microscopic surgery was performed in 93.3% of cases, while 6.7% underwent endoscopic surgery. Incus erosion was the most common ossicular abnormality (74.7%), followed by stapes (26.7%) and malleus erosion (24%). Intact postoperative graft status was observed in 73.3% of patients, while recurrent cholesteatoma occurred in 16%. Revision surgery was required in 10.7% of cases. Comparison of preoperative and postoperative AC and BC thresholds demonstrated stable hearing outcomes without statistically significant deterioration during early and long-term follow-up ($p>0.05$). Subgroup analysis demonstrated significant early postoperative AC improvement in patients undergoing total ossicular replacement prosthesis (TORP) reconstruction ($p=0.042$) (median 58 dB vs 46 dB).

CONCLUSIONS

Attic cholesteatoma surgery effectively eradicates disease with acceptable recurrence rates. Crucially, despite extensive ossicular destruction requiring complex reconstruction, baseline hearing can be successfully preserved, and significant auditory improvement is achievable, particularly in patients undergoing TORP reconstruction.

KEYWORDS

Attic cholesteatoma Ossiculoplasty Hearing outcomes Tympanoplasty

OP-792

Explainable Multimodal Visualization Of Vestibulo-Auditory Function: Clinical Validation Of Polar Plot-Based Representation And 3D Anatomical Mapping

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BACKGROUND & AIM

Conventional vestibular assessments rely on rule-based criteria such as canal paresis (CP%) and video head impluse test (vHIT) gain thresholds, which reduce complex responses to binary judgments and fail to capture directional and intensity patterns. Explainable tools that integrate vestibular and auditory function within an anatomical context remain lacking. This study

develops and validates a framework combining Polar plot-based multimodal representation with 3D anatomical mapping to enable interpretable visualization of vestibulo-auditory function.

MATERIAL & METHODS

Vestibular function tests including caloric test, vHIT, posturography, and subjective visual vertical and horizontal (SVV/SVH) tests of 6,137 patients from a tertiary university hospital were analyzed. Frequency-specific hearing thresholds (dB HL) from pure-tone audiometry (PTA) were additionally included for 2,039 patients. Each test result was converted into a Polar plot, and the circular space was divided into 25 wedge segments to extract pixel area ratios and angular features, yielding a 50-dimensional feature vector. To assess clinical validity, a multi-input neural network (CNN backbone + MLP branch) was trained using Dense–Sparse–Dense (DSD) learning for vestibular dysfunction classification and subtype differentiation. Post-pruning residual features were analyzed to evaluate directional explainability. A 3D anatomical model of semicircular canals and cochlear structures was built from a standard anatomical reference. vHIT gain values and PTA thresholds were mapped onto canal surfaces and cochlear positions using the Greenwood function as an interactive visualization.

RESULTS

Features retained after DSD pruning were significantly concentrated in specific directional regions rather than a random distribution ($p < 0.05$), supporting the clinical validity of the Polar plot-based representation. The proposed model outperformed conventional threshold-based methods in vestibular dysfunction classification, with improved differentiation of unilateral and bilateral patterns. In the 3D mapping, concurrent vHIT gain reduction and high-frequency hearing loss were observed in anatomically adjacent structures, enabling clear spatial visualization of lesion differences across diagnostic groups.

CONCLUSIONS

Polar plot-based multimodal representation captures directional vestibular patterns beyond conventional rule-based criteria, with validity verified through explainable data-driven feature selection. Combined with 3D vestibulo-auditory mapping, this framework offers an explainable AI-based diagnostic support tool for lesion localization and subtype classification, with potential extension to personalized treatment and rehabilitation monitoring.

KEYWORDS

Vestibular Function, Multimodal Analysis, Polar Plot, 3D Anatomical Mapping, Explainable Artificial Intelligence, vHIT, Caloric Test, Posturography, Pure-Tone Audiometry, Vestibular Dysfunction Classification

OP-793

Vestibular Safety Of 980-Nm Diode Laser-Assisted Stapedotomy: A Prospective Vhit-Based Evaluation

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BACKGROUND & AIM

Although diode laser-assisted stapedotomy is widely used in the surgical management of otosclerosis, its vestibular effects have not been fully clarified. Several mechanisms, including mechanical footplate manipulation, pressure transmission, and potential thermal effects, have been proposed to explain postoperative vestibular symptoms. This prospective study aimed to evaluate vestibular function after 980-nm diode laser-assisted stapedotomy using the video head impulse test (vHIT).

MATERIAL & METHODS

Seventeen patients with otosclerosis who underwent primary diode laser-assisted stapedotomy were prospectively included. All procedures were performed by a single surgeon using a standardized transcanal microscopic technique. Laser applications were performed with a 980-nm diode laser in pulse mode using power settings of 6-8 W and pulse durations of 150-200 ms. vHIT was performed one day before surgery and at two months postoperatively to assess vestibulo-ocular reflex (VOR) gain in the lateral, anterior, and posterior semicircular canals. Audiological outcomes and postoperative vestibular symptoms were also recorded.

RESULTS

Seventeen patients were included in the analysis. No significant differences were observed in vHIT VOR gains between preoperative and postoperative measurements in the lateral, anterior, or posterior semicircular canals. Transient postoperative dizziness occurred in six patients and resolved within 24 hours in all cases. Audiological outcomes improved significantly, with a postoperative median air-conduction pure-tone average of 30 dB HL (IQR, 24-55) and a median air-bone gap of 13 dB (IQR, 10-20; p=0.004). An air-bone gap <=20 dB was achieved in 76.5% of patients, and no postoperative sensorineural hearing loss was observed.

CONCLUSIONS

Diode laser-assisted stapedotomy performed with standardized parameters did not result in clinically evident semicircular canal dysfunction as assessed by vHIT at two months postoperatively. These findings support the vestibular safety of 980-nm diode laser-assisted stapedotomy while confirming effective audiological improvement.

KEYWORDS

Otosclerosis; Stapedotomy; Diode laser; Video head impulse test; Vestibular function; Vertigo

OP-794

Correlation Between Endolymphatic Hydrops MRI Findings And Clinical Ménière's Disease Categories:

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BACKGROUND & AIM

Delayed gadolinium-enhanced MRI has emerged as a useful tool for visualizing endolymphatic hydrops (EH), but its relationship with clinical Ménière's disease (MD) classifications remains incompletely defined. This study aimed to assess the correlation between MRI-detected EH and clinical MD categories, comparing the diagnostic agreement of the Bárány Society criteria with the Japanese criteria.

MATERIAL & METHODS

We conducted a retrospective observational study of patients who underwent MRI for suspected endolymphatic hydrops. Clinical, audiological, and radiological data were collected from a structured database. MRI variables included cochlear and vestibular hydrops grades for each ear, as well as ipsilateral and contralateral involvement. Clinical categorization was established according to both Bárány Society and Japanese criteria. Audiometric features, including hearing fluctuation and audiogram pattern, were also recorded. The main objectives were: (1) to compare the association between positive MRI hydrops and clinical classification systems, and (2) to determine whether higher MRI hydrops grades were associated with greater clinical correlation.

RESULTS

MRI-positive endolymphatic hydrops showed a clearer association with the Japanese clinical classification than with the Bárány criteria. Overall, patients with radiological hydrops were more likely to fit Japanese diagnostic categories, whereas discordant cases were more frequent when Bárány criteria were applied. In addition, increasing MRI hydrops grade was associated with stronger clinical-radiological concordance. This relationship was particularly evident in the symptomatic ear, although contralateral hydrops and clinically discordant cases were also observed. These findings support the concept that MRI may detect structural inner ear changes even in patients with incomplete or atypical clinical phenotypes

CONCLUSIONS

MRI-detected endolymphatic hydrops correlates with clinical Ménière's disease classification, with better agreement for Japanese criteria than for Bárány criteria. Higher hydrops grades are associated with greater clinical concordance. Inner ear MRI may therefore provide useful adjunctive information for phenotyping, stratification, and diagnostic refinement in patients with suspected Ménière's disease

KEYWORDS

Ménière, hydrops mri, vértigo

OP-795

Evaluating The Safety Of Topical Mesna In Middle Ear Surgery Using An Animal Model

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BACKGROUND & AIM

Mesna is a thiol-containing compound used in otologic surgery for conditions such as cholesteatoma, tympanosclerosis, adhesive otitis media, and atelectatic ears. Through its mucolytic properties, Mesna helps break down pathological tissues and may act as a chemical dissector. The objective of this study was to evaluate the ototoxic potential of 100% topical Mesna applied to the middle ear in an animal model.

MATERIAL & METHODS

Sixteen female albino guinea pigs were enrolled, and twelve animals were included in the final analysis. The guinea pigs were randomly divided into two groups. In Group 1, six guinea pigs received 100% Mesna powder in one ear, while the contralateral ear received powdered boric acid as a non-ototoxic control. In Group 2, six guinea pigs received 100% Mesna solution in one ear, while the contralateral ear received saline solution as a non-ototoxic control. Ototoxicity was assessed using auditory brainstem response testing at baseline after myringotomy and four weeks after application. Scanning electron microscopy of cochlear hair cells was performed approximately two months after application.

RESULTS

No inflammation was observed in any ear canal. Auditory brainstem response thresholds remained stable between baseline and four weeks after application. Scanning electron microscopy showed no evidence of damage to inner or outer hair cells in any group.

CONCLUSIONS

Topical application of 100% Mesna, in both powder and solution forms, did not demonstrate ototoxic effects in this guinea pig model. These findings support the potential safety of Mesna for middle ear use and may encourage its broader adoption in otologic surgical practice.

KEYWORDS

Mesna; ototoxicity; middle ear surgery; guinea pig model; auditory brainstem response; scanning electron microscopy

OP-796

Relationship Between Mastoid Pneumatization And Incus-Stapes Distance In Otosclerosis: A High-Resolution Computed Tomography Evaluation

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BACKGROUND & AIM

Stapes surgery is the gold standard treatment for conductive hearing loss in otosclerosis, where precise prosthesis sizing is critical for optimal post-operative functional outcomes. Preoperative planning via high-resolution computed tomography (HRCT) provides detailed anatomical data. This study aimed to investigate the potential relationship between the degree of mastoid pneumatization and the distance from the long process of the incus to the stapes footplate using temporal HRCT, thereby evaluating its predictive value for surgical technique and prosthesis selection.

MATERIAL & METHODS

This retrospective study evaluated temporal bone HRCT scans of 58 patients diagnosed with otosclerosis. Detailed morphometric measurements of the distance between the long process of the incus and the stapes footplate were performed. Mastoid pneumatization was classified into four distinct groups (Group 1 to Group 4) based on regional aeration boundaries. Statistical analyses were performed using non-parametric methods, specifically Spearman's correlation coefficient to assess the relationship between ordinal pneumatization groups and the continuous distance parameter, and the Kruskal-Wallis test to compare distances across different pneumatization cohorts.

RESULTS

The study population consisted of 58 patients with a mean age of 45.48±10.50 years, comprising 55.2% females and 44.8% males. Right ear involvement was present in 48.3% and left ear involvement in 51.7% of cases. The overall mean distance between the long process of the incus and the stapes footplate was 4.62±0.35 mm (minimum: 3.92 mm, maximum: 5.58 mm). Regarding mastoid pneumatization, Group 3 was the most frequent (32.8%), followed by Group 4 (25.9%). Spearman correlation analysis revealed no statistically significant relationship between the mastoid pneumatization group and the incus-stapes distance ($r=-0.069$, $p=0.605$). Furthermore, the Kruskal-Wallis test demonstrated no significant difference in incus-stapes distances among the four pneumatization groups ($\chi^2=1.448$, $df=3$, $p=0.694$), indicating a homogeneous distribution of measurements across categories.

CONCLUSIONS

Our findings demonstrate that mastoid pneumatization does not significantly influence or correlate with the distance between the long process of the incus and the stapes footplate in otosclerosis patients. Consequently, variations in mastoid aeration should not be considered a predictive anatomical landmark for anticipating stapes prosthesis length during preoperative surgical planning.

KEYWORDS

Otosclerosis; Mastoid Pneumatization; Incus-Stapes Distance; High-Resolution Computed Tomography; Stapes Surgery; Prosthesis Sizing.

OP-797

Comparison Of Spontaneous Healing Of The Tympanic Membrane After Pars Tensa Retraction Excision With Or Without Grommet Insertion

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BACKGROUND & AIM

Pars tensa retraction (PTR) involves loss of the fibrous layer and medial displacement of the pars tensa, often resulting from COM.

This study investigates healing following retraction excision.

History of excision of retraction with spontaneous healing:

Stewart (1985) - simple excision & Wayloff (1985) - simple excision

Marquet (1989)- excision with grommet insertion

No comparison of the two treatments.

No quantification of time course of healing

Aim: •Compare tympanic membrane healing in two groups: with and without grommet insertion

•Record time course of healing

MATERIAL & METHODS

A retrospective analysis of patients with pars tensa retraction who underwent surgical excision of the retracted part of their tympanic membrane without surgical repair of the defect. Time to event analysis was used to compare perforation closure of the group who underwent ancillary ventilation tube insertion to that of the group with retraction excision alone.

RESULTS

Eligible were 149 ears from 149 patients with a median age of 11 years (IQR: 8 to 21 years), where 47 underwent excision only and 102 underwent excision plus tube insertion. At six months after surgery, a higher percentage of patients who underwent excision alone healed (89%) compared to those who had excision with tube insertion (75%). Depth of retraction pocket and integrity of the ossicular chain were also independently associated with the tympanic membrane closure. Age, sex, side of ear surgery, and location of retraction were not associated with this outcome. At six months, the probability that the difference between the two surgical groups is due to chance is 0.004.

CONCLUSIONS

In our series, ancillary ventilation tube insertion had a detrimental effect on the complete spontaneously healing of the tympanic membrane after retraction pocket excision without surgical repair of the defect

KEYWORDS

Tympanic membrane; Survival analysis; Chronic Otitis Media; Retrospective study; Child; Wound Healing; Foreign Bodies

OP-798

Prognostic Value Of The Pan-Immune-Inflammation Value In Sudden Sensorineural Hearing Loss

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BACKGROUND & AIM

Sudden sensorineural hearing loss (SSHL) is considered an otologic emergency characterized by a predominantly idiopathic and multifactorial etiology, in which inflammation and immune system dysregulation are thought to be fundamental mechanisms. Although various clinical prognostic factors have been identified, there remains a lack of reliable, easily accessible biomarkers to predict auditory recovery. Hematological inflammatory indices have demonstrated potential in this regard; however, the role of the Pan-Immune-Inflammation Value (PIV) remains unclear. Therefore, this study aimed to assess the prognostic value of PIV in patients with SSHL.

MATERIAL & METHODS

This retrospective study included 148 patients diagnosed with SSHL and 151 healthy control subjects. All patients received standardized treatment in accordance with established clinical guidelines. Pure-tone audiometry (PTA) was performed at baseline and at two months post-treatment. Patients were initially categorized as having complete or incomplete recovery; the incomplete recovery group was then subdivided into three categories: non-recovery (PTA improvement <10 dB), slight improvement (10–30 dB), and marked improvement (>30 dB). Complete recovery was defined as post-treatment PTA ≤20 dB. PIV was calculated using routine hematological parameters. Statistical analyses included group comparisons and Receiver Operating Characteristic (ROC) analysis.

RESULTS

PIV values were significantly higher in the SSHL group in comparison to the control group ($p<0.001$). PIV values decreased progressively as recovery levels increased, although the difference did not reach statistical significance ($p=0.059$). Nevertheless, incomplete recovery patients demonstrated significantly higher PIV values than those with complete recovery ($p=0.011$). ROC analysis showed that PIV had a statistically significant but moderate ability to predict complete recovery (AUC=0.645, 95% CI: 0.537–0.744, $p=0.011$). The optimal cut-off value was ≤338.31, yielding a sensitivity of 67.6% and a specificity of 60.5%. The negative predictive value was notably high (86.2%).

CONCLUSIONS

PIV is elevated in patients with SSHL and is associated with hearing recovery. Although its predictive performance is moderate, it may serve as a simple, cost-effective, and accessible adjunctive biomarker for prognostic evaluation. Incorporating PIV into routine clinical assessment may help identify patients at higher risk of poor recovery and support more individualized management strategies.

KEYWORDS
sudden sensorineural hearing loss, pan-immune-inflammation index, prognosis, hearing recovery, inflammation biomarkers

OP-799

Clinical Outcomes Of Cochlear Implantation And Patient Satisfaction In Patients Treated With Subtotal Petrosectomy

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BACKGROUND & AIM

Subtotal petrosectomy combined with cochlear implantation (CI) is a well-established surgical approach in patients with chronic otitis media, cholesteatoma, and complex middle ear pathology. However, data regarding postoperative patient satisfaction following this combined procedure are limited. This study aimed to evaluate subjective hearing satisfaction using the Abbreviated Profile of Hearing Aid Benefit (APHAB) questionnaire in patients who underwent subtotal petrosectomy and cochlear implantation, and to investigate the effects of demographic and clinical variables on satisfaction outcomes.

MATERIAL & METHODS

This retrospective study included 18 patients who underwent subtotal petrosectomy with cochlear implantation at a tertiary referral center. Patient satisfaction was assessed using the APHAB questionnaire, including its subscales: Ease of Communication (EC), Background Noise (BN), Reverberation (RV), and Aversiveness (AV), as well as the overall satisfaction score. Statistical analyses were performed using SPSS version 22. Normality was assessed with the Shapiro–Wilk test. Group comparisons were conducted using the Mann–Whitney U test, and correlations between APHAB scores and aided audiometric thresholds (512, 1024, 2048, and 4096 Hz) were evaluated using Pearson correlation analysis. Statistical significance was set at $p < 0.05$.

RESULTS

The mean overall APHAB satisfaction score was 3.86 ± 0.41, indicating moderate-to-high patient satisfaction. No statistically significant differences were observed in APHAB subscale or total scores based on gender, timing between surgeries, postoperative complications, or presence of comorbidities ($p > 0.05$ for all). Additionally, no significant correlations were found between APHAB scores and aided audiometric thresholds across all tested frequencies ($p > 0.05$).

CONCLUSIONS

Patients undergoing subtotal petrosectomy with cochlear implantation report favorable subjective hearing satisfaction as measured by the APHAB questionnaire. Satisfaction outcomes appear to be independent of demographic factors, surgical timing, postoperative complications, and objective audiometric thresholds. These findings highlight the importance of subjective outcome measures in the comprehensive evaluation of cochlear implant success

KEYWORDS

Cochlear implantation; Subtotal petrosectomy; APHAB; Patient satisfaction; Subjective hearing outcomes

OP-800

Can Exclusive Endoscopic Tympanoplasty Replace Microscopic Techniques In Advanced Ossiculoplasty? A Consecutive Cohort Study

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BACKGROUND & AIM

Exclusive transcanal endoscopic tympanoplasty (EET) has emerged as a minimally invasive alternative to conventional microscopic surgery for tympanic membrane repair and ossicular chain reconstruction. However, evidence regarding its effectiveness in advanced ossicular pathology remains limited. This study evaluated anatomical and functional outcomes of EET across the full spectrum of Wullstein tympanoplasty types (I–V).

MATERIAL & METHODS

A retrospective, single-centre cohort study was conducted over 20 months (October 2023–May 2025) in a tertiary referral centre. Ninety consecutive patients (aged 16–68 years) undergoing exclusive endoscopic tympanoplasty were included. Procedures were classified according to Wullstein types I–V. Ossiculoplasty techniques included incus transposition, titanium partial ossicular replacement prosthesis (PORP), titanium total ossicular replacement prosthesis (TORP), and Teflon PORP.

Primary outcome was graft integration rate. Secondary outcomes included postoperative air–bone gap (ABG) improvement, complication rates (Clavien–Dindo classification), operative time, and hospitalization. Statistical analysis used paired t-tests and chi-squared tests with significance set at $p < 0.05$.

RESULTS

Type III tympanoplasty was most frequent (34.4%), followed by Type II (26.7%), Type I (22.2%), Type IV (13.3%), and Type V (3.3%).

Overall graft integration rate was 98.9%. Mean postoperative ABG improvement was:

- 12.5 dB in Types I–II ($p = 0.004$),
- 16.8 dB in Type III ($p = 0.03$ vs Type I),
- 16.4–18.3 dB in Types IV–V.

Functional success (postoperative ABG ≤ 30 dB) was significantly associated with a mobile stapes footplate ($p = 0.031$) and adequate middle ear ventilation ($p = 0.048$).

Incus transposition achieved the best audiological outcomes, followed by titanium PORP; TORP reconstruction showed comparatively higher residual ABG values.

No major complications (Clavien–Dindo ≥ II) occurred. Transient vertigo was observed in 7.8% of patients. Prosthesis extrusion occurred in 4.4% of cases and was significantly associated with advanced ossicular destruction ($\chi^2 = 4.86$, $p = 0.027$).

Operative time and hospital stay increased proportionally with tympanoplasty complexity.

CONCLUSIONS

Exclusive transcanal endoscopic tympanoplasty provides high anatomical success and significant functional hearing improvement, including in advanced ossicular reconstruction. Outcomes are strongly influenced by ossicular integrity and middle ear ventilation status.

These findings support EET as a reliable minimally invasive alternative to conventional microscopic techniques, particularly when autologous reconstruction or titanium PORP can be applied.

KEYWORDS

Endoscopic tympanoplasty; ossiculoplasty; middle ear surgery;

OP-801

Evaluation Of A Planned Staged Surgery Strategy For Congenital Cholesteatoma

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BACKGROUND & AIM

Open-type congenital cholesteatoma has been reported to be associated with a higher risk of residual disease after surgery. In our previous institutional report of congenital cholesteatoma treated between 2011 and 2017, residual disease was frequently observed in open-type cases, particularly when one-stage surgery with simultaneous ossicular reconstruction was performed. Based on these findings, our department has preferentially adopted a planned staged surgery strategy since 2018 for open-type congenital cholesteatoma to control residual disease strictly. The aim of this study was to evaluate the appropriateness of this post-2018 treatment strategy.

MATERIAL & METHODS

This retrospective single-center study included patients who underwent primary surgery for congenital cholesteatoma at our department between January 2018 and December 2025 and had at least 1 year of postoperative follow-up. Medical records and operative reports were reviewed. Patient characteristics, cholesteatoma type and stage, surgical approach, selection of one-stage or staged surgery, and postoperative recidivism after completion of ossicular reconstruction, categorized as residual or recurrent disease, were analyzed. In patients who underwent staged surgery, the presence and location of residual disease at the time of planned staged surgery were also evaluated.

RESULTS

Twenty-four patients (16 males and 8 females) were evaluated. Mean age was 8.5 years (range, 1–65 years; median, 5.5 years). Mean follow-up period was 50.1 months (range, 20.0–96.3 months). Seventeen cases were open-type and seven were closed-type. According to Potsic staging, there were 5 patients with stage I disease, 3 with stage II, 12 with stage III, and 4 with stage IV. Staged surgery was performed in 18 patients, including 15 of 17 open-type cases. Residual disease was identified in 7 patients at second-stage surgery and in 1 additional patient at third-stage surgery. The most common residual sites were the tensor tympani tendon (4 cases) and stapes region (3 cases).

Importantly, no patient was found to have residual cholesteatoma after completion of ossicular reconstruction. However, recurrent cholesteatoma developed in 2 patients, both of whom had open-type disease managed with staged surgery.

CONCLUSIONS

These findings support our post-2018 strategy of preferentially selecting staged surgery for open-type congenital cholesteatoma. Planned staged surgery enabled identification and removal of residual disease before ossicular reconstruction.

KEYWORDS

congenital cholesteatoma, open-type, closed-type, staged surgery, surgery strategy

OP-802

Is The History Of Classical Migraine Essential For The Diagnosis Of Vestibular Migraine?

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BACKGROUND & AIM

In patients with vestibular migraine (VM), from a clinical standpoint, it is not uncommon for patients to lack the complete criteria of vestibular migraine. The study aimed to identify possible signs of vestibular migraine (VM) and suggest a protocol for diagnosing patients who may not meet all the usual criteria.

MATERIAL & METHODS

During the period from March 2019 to February 2024, 57 patients with VM out of 265 dizzy patients (21.5%) were retrospectively selected and reviewed. All patients underwent full history taking, basic audiologic evaluation, office vestibular examination, videonystagmography (VNG) and brain magnetic resonance imaging (MRI) with contrast. Migraine prophylactic drugs (topiramate or amitriptyline) were prescribed, and the dosages were modified based on the patient's therapeutic response.

RESULTS

Three categories of patients were identified: definite migraine (25 patients, 44%), probable migraine (10 patients, 19%) and investigational non-migraine recurrent headache (22 patients, 39%). The VNG test outcomes of all 57 patients showed positioning and/or positional nystagmus with mixed peripheral and central characteristics. Other VNG test results for all patients were normal (spontaneous nystagmus, oculomotor tests, and caloric test). Migraine preventive medicines significantly reduced headache and dizziness episodes in the three studied groups.

CONCLUSIONS

Vestibular migraine is not merely a disease but a spectrum of wide clinical presentations. A history of classical migraine supported but was not mandatory for diagnosis. Vestibular migraine patients presented with positional nystagmus exhibiting mixed peripheral and central characters.

KEYWORDS

vertigo, vestibular migraine, classic migraine, probable migraine, non-migraine headache, positional nystagmus.

OP-803

The Association Between Shape Of Cochlea And Electrode-To-Modiolus Distance

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BACKGROUND & AIM

Introduction: As the number of cochlear implant (CI) surgeries increases, greater emphasis should be placed on incremental improvements and on planning for a patient-centered approach. The shape of the basal turn (BT) of the cochlea has recently been evaluated and classified as either elliptical or round. However, the electrode position inside different shapes was not investigated.

Objective: This study aims to evaluate the impact of different cochlear shapes on the electrode-to-modiolus distance (EMD) among the CI patients.

MATERIAL & METHODS

Methods: A retrospective study was conducted on patients with normal cochleae who underwent cochlear implantation. Postoperative imaging was reconstructed using dedicated Otological planning software to assess cochlear morphology and electrode positioning. The cochlear shape was quantified using the basal turn width-to-height ratio (B/A ratio), and the EMD distance was measured.

RESULTS

Results: The final analysis included 41 ears. The mean EMD was 3.3 mm in the basal electrodes, decreasing to 2.8 mm in the middle region and reaching 1.9 mm at the apical electrodes. The mean basal turn width-to-height ratio (B/A) was 0.8 (range: 0.7–0.9). Simple linear regression revealed that cochleae with a round-shaped basal turn (B/A > 0.75) had a slightly shorter, but comparable, EMD in the basal region compared to those with an elliptical shape (3.3 mm vs. 3.5 mm). The apical region showed a bigger but non-significant distance in round-shaped cochleae (2.0 mm vs. 1.8 mm). Additionally, impedance measurements at the 12-month interval showed a significant difference in basal electrode impedance between round and elliptical cochleae.

CONCLUSIONS

Conclusion: This study reported no statistically significant association between cochlear anatomical parameters and electrode-to-modiolus distance. Lateral wall electrodes demonstrated comparable distances to the modiolus in both elliptical- and

round-shaped basal turn cochleae, suggesting stable positioning across anatomical variations. Although descriptive trends were observed, these findings should be interpreted as exploratory. Larger prospective studies are needed to further evaluate the influence of cochlear morphology on electrode positioning across different electrode designs.

KEYWORDS

Cochlear implant, electrode distance, cochlear shape, hearing loss

OP-804

Fascia Or Cartilage? Tympanoplasty Outcomes In A Teaching Hospital Setting

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BACKGROUND & AIM

Although numerous studies have evaluated tympanoplasty outcomes, most include heterogeneous perforation types. A recently proposed classification distinguishes inside-out perforations (without signs of prior retraction) from outside-in perforations (associated with retraction). Limiting analysis to inside-out perforations reduces heterogeneity related to middle ear dysfunction and allows a more precise comparison of graft materials. This study aims to compare anatomical and functional outcomes of temporalis fascia versus cartilage grafts in primary tympanoplasty for inside-out (without retraction) perforations.

MATERIAL & METHODS

This retrospective cohort study included ears with inside-out perforations undergoing primary underlay tympanoplasty at a tertiary teaching hospital in southern Brazil. Exclusion criteria were intraoperative ossicular chain abnormalities, incomplete data, or refusal to participate. Ears were divided into two groups according to graft material: temporalis fascia or cartilage. The primary outcome was graft integrity at a mean follow-up of 41.6 weeks. Secondary outcomes included perforation size stratification (<25% and ≥25% of the tympanic membrane) and postoperative air-bone gap variation.

RESULTS

A total of 287 ears from 257 patients were analyzed, including 230 fascia and 57 cartilage grafts. At 41.6 weeks, graft integrity was significantly higher in the cartilage group (84.2%) compared to the fascia group (60.9%) ($p = 0.0009$). For perforations <25%, cartilage achieved superior closure rates (82.9% vs 60.3%, $p = 0.006$). In larger perforations (≥25%), success rates were 86.7% for cartilage and 62.7% for fascia ($p = 0.08$). Both groups demonstrated comparable postoperative air-bone gap improvement.

CONCLUSIONS

Cartilage grafting in primary tympanoplasty demonstrated greater long-term anatomical stability than temporalis fascia, even in small inside-out perforations without prior tympanic retraction. Audiological outcomes were similar between groups. These findings suggest that cartilage may provide superior graft reliability without compromising hearing results in favorable perforation types.

KEYWORDS

Tympanoplasty; Cartilage graft; Temporalis fascia; Inside-out perforation; Graft success; Chronic otitis media

OP-805

Clinical Course Of Otitis Media With ANCA-Associated Vasculitis: A Case Series Of Six Patients

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BACKGROUND & AIM

Otitis media with ANCA-associated vasculitis (OMAAV) is a disorder characterized by refractory otitis media and hearing loss caused by ANCA-associated vasculitis. Although the diagnostic criteria established in 2015 have enabled earlier diagnosis in some patients, a considerable number of cases remain diagnostically challenging, especially those with MPO-or PR3-ANCA-negative or without typical histopathological findings. In this study, we examined the clinical features of six patients with OMAAV.

MATERIAL & METHODS

We retrospectively reviewed six patients diagnosed with OMAAV between January 2018 and August 2025. The variables analyzed included sex, age, otologic symptoms, tympanic membrane findings, audiometric thresholds, MPO-ANCA and PR3-ANCA status, histopathological diagnosis, systemic manifestations, and treatment regimens.

RESULTS

Of the six patients (3 male, 3 female), aged 59-82 (median 72.5) years. Presenting symptoms included hearing loss, aural fullness, and otorrhea. In four patients, the otologic symptoms were the initial manifestation, whereas in two patients, otologic symptoms developed during follow-up by other specialties. Five patients presented with otitis media with effusion, and one patient exhibited otorrhea. Audiometric testing revealed hearing thresholds ≥25 dB in five patients; all affected ears

demonstrated mixed hearing loss. Four patients were positive for MPO-ANCA only, while two patients were negative for both MPO-ANCA and PR3-ANCA. Histopathological evidence of vasculitis on biopsy was observed in one patient, who was MPO-ANCA positive. Imaging studies identified hypertrophic pachymeningitis in two patients, and five patients had pulmonary involvement, such as interstitial pneumonia. Systemic corticosteroid therapy was administered to all patients, and immunosuppressive agents were added as indicated; however, marked hearing recovery was not achieved in every case.

CONCLUSIONS

Early diagnosis and prompt treatment can lead to a favorable prognosis.

KEYWORDS

otitis media, ANCA-associated vasculitis

OP-806

Comparison Of Vestibular Aqueduct Width In Children With And Without Sensorineural Hearing Loss: A Regional Analysis From Eastern Anatolia, Turkey

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BACKGROUND & AIM

The vestibular aqueduct (VA) is a narrow osseous channel located in the temporal bone that houses the endolymphatic duct and sac. Enlargement of this structure (EVA) represents one of the most frequently identified radiologic findings in children with sensorineural hearing loss (SNHL) (1). Contemporary diagnostic standards increasingly rely on more sensitive definitions, such as the Cincinnati criteria, which consider an opercular diameter of ≥2.0 mm as indicative of EVA (2). This study aims to systematically assess VA dimensions and to elucidate their clinical relevance in a pediatric population from Eastern Anatolia of Turkey.

MATERIAL & METHODS

This retrospective study included 25 children diagnosed with SNHL and 25 age-matched controls with normal hearing. All subjects underwent high-resolution computed tomography (HRCT) of the temporal bone. VA diameters were measured on axial images at the operculum according to standardized radiological protocols. EVA was defined based on the Cincinnati criteria (operculum>2.0 mm). Statistical analyses were performed to compare VA measurements between groups and to assess correlations with hearing loss severity.

RESULTS

Statistical analysis demonstrated a significant difference between groups ($p < 0.05$). Correlation analysis revealed a significant relationship between VA diameter and the degree of hearing loss.

CONCLUSIONS

Our findings demonstrate an association between increased VA diameter and SNHL in the pediatric population. An improved understanding of the association between an enlarged vestibular aqueduct and sensorineural hearing loss may help inform early diagnosis and guide clinical management strategies. Regional data from Eastern Anatolia underscore the need for careful assessment and follow-up of VA measurements in children with hearing loss.

KEYWORDS

Vestibular aqueduct; Sensorineural hearing loss; Pediatric population; High-resolution computed tomography

OP-807

Postnatally Detected And Progressive Hearing Loss In Children With Biotinidase Deficiency: Clinical, Biochemical, And Genetic Correlates

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BACKGROUND & AIM

Biotinidase deficiency (BTD) is a rare autosomal recessive metabolic disorder that can lead to multisystemic manifestations, including sensorineural hearing loss. This study aimed to investigate the relationship between hearing loss and biochemical, genetic, and electrophysiological parameters in patients diagnosed with BTD.

MATERIAL & METHODS

This retrospective study included 63 pediatric patients diagnosed with BTD through newborn screening between 2017 and 2024. All patients had passed the initial ABR screening during the neonatal period. Clinical auditory assessments were performed using otoacoustic emission (OAE) and detailed auditory brainstem response (ABR) testing. Patients were grouped according to the presence of hearing loss and compared in terms of biotinidase activity, genetic mutations, and ABR findings.

RESULTS

Hearing loss was identified in 9 patients (14.3%). All of these patients had bilateral OAE failure and showed significant prolongation in ABR wave latencies, especially in wave V (mean 5.63 ms vs. 5.32 ms, p = 0.00008). All individuals with hearing loss had biotinidase activity below 10 U/L and were classified as having severe BTD. The most frequently observed genetic variants were c.1270G>C and c.410G>A, both of which were associated with hearing loss in homozygous and heterozygous forms. ABR and OAE findings suggest that BTD can affect both peripheral and central auditory pathways.

CONCLUSIONS

This study suggests that hearing loss associated with BTD may follow a postnatally detected and progressive course based on serial clinical ABR findings, particularly in individuals with markedly reduced enzyme activity. The combined use of ABR and OAE testing provided valuable insight for comprehensive auditory evaluation. These findings emphasize the need for long-term auditory monitoring as part of routine follow-up in BTD patients, even in those who initially pass newborn hearing screening.

KEYWORDS

Biotinidase deficiency; hearing loss; otoacoustic emission; ABR; genetic variants

OP-808

External Ear Anthropometry In Children With Autism Spectrum Disorder : A Case-Control Study

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BACKGROUND & AIM

Craniofacial anthropometric measurements vary according to age, sex, ethnicity, and disease status, and are useful for identifying morphological differences between patient groups. The external ear is a clinically important structure with applications in genetics, reconstructive surgery, and forensic medicine. Autism spectrum disorder (ASD) is a common neurodevelopmental disorder lacking objective biomarkers. Studies on craniofacial features in ASD are limited, and data on external ear anthropometry are scarce. This study aimed to compare external ear anthropometric measurements between children with ASD and healthy controls.

MATERIAL & METHODS

This study included 140 children with ASD aged 7–13 years and 140 healthy controls aged 8–13 years. Ethical approval was obtained from the Clinical Research Ethics Committee. Standardized bilateral ear photographs were obtained under identical conditions. Four previously defined anatomical landmarks were used: superaurel (spa), subaurel (sba), preaurel (pra), and postaurel (pa). Based on these points, ear length (spa–sba), ear width (pra–pa), and ear inclination angle were measured using ImageJ software. Statistical analyses were performed using SPSS.

RESULTS

The measurements of spa–sba, pra–pa, and ear inclination angle showed no statistically significant differences between the ASD and control groups (p=0.86, p=0.136, and p=0.341, respectively). No significant side-to-side differences were observed for any parameter.

CONCLUSIONS

No statistically significant differences in external ear anthropometric measurements were found between children with ASD and controls. These findings suggest that external ear morphology may not be a reliable distinguishing biomarker for ASD. Further multicenter studies with larger samples are needed.

KEYWORDS

Autism Spectrum Disorder; External Ear Anthropometry; Pediatric Otolaryngology; Craniofacial Morphology

OP-809

Beyond The Tradition: A Retrospective Cohort Study On The New Modified Palisade Tympanoplasty Technique

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BACKGROUND & AIM

Tympanic membrane perforation is a common cause of conductive hearing loss and otology morbidities. The most common cause is trauma, which tends to heal spontaneously. Conversely, perforations caused by infections or middle ear pathology, needs surgical intervention, which is tympanoplasty. While cartilage tympanoplasty provides benefits of durability and resistance to retraction, concerns persist regarding graft rigidity and its adverse effects on hearing outcomes. This study was implemented to assess anatomical and functional successes of an innovative and novel form of modified palisade cartilage tympanoplasty, which is designed to improve graft flexibility, stability, and audiological results.

MATERIAL & METHODS

A retrospective cohort study was conducted at a tertiary referral center between 2019 and 2023. Nineteen patients (age range 9-64 years) who underwent the modified palisade tympanoplasty using a tragal composite cartilage-perichondrium graft were included and alternative grafting techniques were excluded. Variables including demographic data, clinical history, surgical information, and post-operative follow-up regarding graft uptake and both functional and anatomical success were assessed for each patient. Functional success was defined as a postoperative air-bone gap (ABG) ≤ 20 dB, while anatomical success as an intact, dry tympanic membrane. Pre- and post-operative audiometric outcomes were compared using paired statistical analysis.

RESULTS

Complete graft uptake was accomplished in 89.5% of cases. Anatomical success was achieved in 78.9% of patients, and functional success in 84.2%. Audiometric evaluation showed a statistically significant improvement in postoperative ABG compared to preoperative values ($p = 0.004$). Disrupted ossicular chain and the presence of cholesteatoma or tympanosclerosis were significantly associated with poorer outcomes ($p < 0.001$). No significant associations were found between outcomes and patient demographics, perforation characteristics, smoking status, or surgical approach. Favorable results were achieved across surgeons with varying levels of experience.

CONCLUSIONS

The Modified Palisade Tympanoplasty technique is shown to have effective graft uptake and considerable improvement in hearing by overcoming the stiffness of cartilage graft. The effectiveness of this technique has been exhibited across wide ages range, co-existing health conditions and across different surgeons level, proving that all patients can be subjected to the procedure.Further studies need to be conducted to validate our findings.

KEYWORDS

Hearing outcomes, Tympanoplasty, Tympanic Membrane Perforation, modified palisade technique, cartilage graft

OP-810

Presenting Complaint And Diagnostic Yield Of Mris For Vestibular Schwannomas

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BACKGROUND & AIM

Vestibular schwannomas are benign tumours of the vestibulocochlear nerve. The diagnostic yield of MRIs for vestibular schwannoma is low and its value in some patients remains uncertain. We aimed to determine the diagnostic yield of MRIs for vestibular schwannomas and to identify clinical predictors such as age and presenting symptoms that may refine patient selection for imaging.

MATERIAL & METHODS

A retrospective cohort study at a single centre. All MRI internal acoustic meatus ordered by otolaryngologists from 01/01/2022 to 31/12/2023 for a suspected vestibular schwannoma were included. Presenting symptoms, audiogram results, demographics and management outcomes were extracted from clinical records.

RESULTS

A total of 1,814 MRIs met inclusion criteria. The overall diagnostic yield was 1.65% with 30 diagnoses of vestibular schwannomas. Mild asymmetrical hearing loss alone (defined as <15 dB difference between ears at two consecutive frequencies) was not associated with vestibular schwannoma, no patients with this finding were diagnosed (p=0.025). On multivariate analysis, presenting with vertigo (odds ratio [OR] 4.03, p<0.001) or severe unilateral hearing loss (OR 5.26, p=0.002) were independently associated with a diagnosis of vestibular schwannoma. Unilateral tinnitus (OR 2.10, p=0.062), sudden onset asymmetrical hearing loss (OR 0.57, p=0.46), mild hearing loss (OR=1.03, p=0.98) or age (OR 0.74, p=0.48) were not associated with a vestibular schwannoma. Greater severity of unilateral hearing loss correlated with a larger tumour size at diagnosis (p=0.011). Incidental findings were very common (23%) and most patients (80%) were manged conservatively with serial MRIs.

CONCLUSIONS

To our knowledge this study is the largest cohort study evaluating the relationship between presenting symptoms and MRI yield for vestibular schwannomas. The diagnostic yield is low as in previous studies. Isolated mild asymmetrical hearing loss may not warrant further investigation and are unlikely to benefit from a MRI. Presenting with unilateral tinnitus was a poor discriminator for a diagnosis of vestibular schwannoma. However, patients with unexplained vertigo should be considered for an MRI. These results have important implications for resource utilisation and guideline development. Further research is needed to consider whether age related thresholds are appropriate.

KEYWORDS

Vestibular schwannoma, hearing loss, tinnitus, vertigo, MRI internal acoustic meatus

OP-811

Big Cut Or Small Hole? Influence Of Stapes Surgery Technique On Complications And Audiological Outcomes

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BACKGROUND & AIM

Stapes surgery is an established treatment for otosclerosis, with stapedotomy and stapedectomy being the two most performed techniques. Although both techniques provide effective hearing improvement, differences in complication rates and their impact on audiological outcomes remain a significant subject for further investigation. The aim is compare the incidence and type of adverse events associated with stapedotomy and stapedectomy, and to evaluate whether surgical technique influences postoperative audiological outcomes.

MATERIAL & METHODS

This retrospective study reviewed cases of primary otosclerosis treated with stapes surgery from January 2015 to June 2025. Patients were grouped by technique: stapedotomy or stapedectomy. Both intraoperative and postoperative complications were documented and categorized as early or late. Hearing results were measured by pure-tone audiometry, focusing on air–bone gap closure and bone conduction thresholds before surgery and at 6 months post-op. Statistical comparisons of complications and hearing outcomes were performed between groups.

RESULTS

A total of 128 ears from 112 patients were included, with 107 undergoing stapedotomy and 21 stapedectomy. Mean age was 45.2 years, mostly female. Complications occurred in 14% of stapedotomy and 23.8% of stapedectomy cases, most frequently vertigo or revision surgery for lack of hearing improvement. Complications were more frequent in the stapedectomy group, without statistical significance. The SRT before (64.57 ± 12.56) and after (39.77 ± 15.49) stapedotomy showed statistical significance ($p < 0.001$). For stapedectomy, the SRT before (65.32 ± 14.18) and after (40.51 ± 10.37) surgery was statistically significant ($p < 0.001$). There was no statistically significant difference in SRT between the two groups.

CONCLUSIONS

Although stapedotomy is the preferred technique for most surgeons, both stapedotomy and stapedectomy are effective for the surgical management of otosclerosis, yielding satisfactory audiological outcomes and a low rate of complications.

KEYWORDS

otosclerosis, stapedotomy, stapedectomy, otology

OP-812

Long-Term Outcomes Of Ossiculoplasty After Tympanomastoidectomy: The Impact Of Surgical And Reconstruction Techniques

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BACKGROUND & AIM

Chronic otitis media (COM) frequently results in ossicular chain damage and conductive hearing loss. Ossiculoplasty aims to restore sound transmission; however, postoperative outcomes may vary depending on the reconstruction material and surgical technique. Long-term stability of hearing outcomes remains a key concern. In this study, we aimed to compare the short- and long-term audiological and anatomical outcomes of different ossiculoplasty materials and to evaluate the effect of surgical technique on hearing outcomes.

MATERIAL & METHODS

This retrospective study included 74 patients who underwent tympanomastoidectomy with ossiculoplasty between 2019 and 2023. Patients were categorized according to reconstruction material (autograft, bone cement, partial ossicular replacement prosthesis [PORP], and total ossicular replacement prosthesis [TORP]) and surgical technique (canal wall up [CWU] vs canal wall down [CWD]). Audiological outcomes were assessed using pure-tone audiometry. Air–bone gap (ABG) ≤20 dB was defined as functional success. Short-term outcomes were evaluated at 6 months, and long-term outcomes at final follow-up. Multivariable linear and logistic regression analyses were performed to identify factors associated with ABG changes and clinically significant deterioration.

RESULTS

The mean age was 34.7 ± 13.5 years with a mean follow-up of 31.4 ± 4.1 months. Air conduction and ABG improved significantly at 6 months ($p < 0.001$), while bone conduction remained unchanged ($p = 0.55$). Mean ABG decreased from 31.5 ± 12.1 dB preoperatively to 15.5 ± 8.5 dB at 6 months and slightly increased to 17.2 ± 7.6 dB at long-term follow-up ($p < 0.001$). Success rates (ABG ≤20 dB) were 68.9% at 6 months and 63.5% at long-term. Bone cement showed the highest stability (73.7%). PORP and TORP had similar short-term success, while PORP showed slightly better long-term outcomes. CWU achieved higher success than CWD. Bone cement was associated with less ABG deterioration, whereas PORP was associated with increased risk of ABG worsening.

CONCLUSIONS

Ossiculoplasty outcomes in COM are influenced by both reconstruction material and surgical technique. Bone cement provides the most stable long-term hearing results, while autografts offer reliable outcomes. Although PORP and TORP yield comparable short-term results, PORP may offer better long-term stability. The CWU technique is associated with superior hearing outcomes compared to CWD. Careful selection of reconstruction method and preservation of middle ear anatomy are critical for optimizing long-term functional success.

KEYWORDS

Chronic otitis media; Ossiculoplasty; Bone cement; Autograft; PORP; TORP; Canal wall up; Canal wall down; Air–bone gap; Hearing outcomes

OP-813

Trans-Impedance Matrix Heatmap Patterns In Cochlear Implant Patients With Different Cochlear Pathologies: Meningitis, Otosclerosis, And Temporal Bone Fractures

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BACKGROUND & AIM

Transimpedance matrix (TIM) imaging is an electrical field–based modality that visualizes intracochlear current spread and may detect electrode malposition and subtle cochlear pathology beyond radiological resolution. This study aimed to evaluate etiology-specific TIM heatmap patterns in adult cochlear implant recipients and to assess the utility of TIM as an adjunct to conventional imaging.

MATERIAL & METHODS

This observational retrospective case series included 11 adult cochlear implant recipients (15 implanted ears) with defined etiologies: head trauma/temporal bone fracture (5 ears), post-meningitis deafness (5 ears), and cochlear ossification or otosclerosis (5 ears). Preoperative CT and/or MRI confirmed pathology, and postoperative X-ray verified electrode position. TIM measurements were obtained using Cochlear® CustomSound EP software. A normal TIM pattern was defined as a continuous diagonal gradient from bottom-left to top-right. Deviations from this pattern were analyzed and correlated with etiology and radiological findings.

RESULTS

Distinct etiology-related TIM deviations were identified. Trauma cases showed off-diagonal irregularities and signal dissociation suggestive of fractures or over-insertion, including one abnormal TIM with normal imaging. Post-meningitis ears commonly demonstrated off-diagonal signal loss or apical attenuation without radiological correlations. Severe ossification with under-insertion produced an Ocean Pattern of low potentials, whereas one otosclerosis case preserved a normal diagonal pattern configuration.

CONCLUSIONS

TIM imaging is highly sensitive to changes in tissue conductivity and electrode–tissue interface integrity, enabling detection of early fibrosis or ossification not visible on standard imaging. TIM may serve as a useful adjunct in postoperative cochlear implant evaluation. Further prospective validation is required.

KEYWORDS

Transimpedance matrix, Heatmaps, Cochlear implant, Head trauma, Ossification

OP-814

Traveling Wave Delay (Velocity) In Cochlear Implantees

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BACKGROUND & AIM

Background: Auditory performance in cochlear implant (CI) users varies significantly. Unlike normal hearing's "travelling wave" mechanism, CIs stimulate the auditory nerve via discrete electrodes. It remains unclear if natural tonotopic temporal dynamics are preserved during electrical stimulation.

Aim: This study investigates N1 latency differences between basal and apical electrodes using Neural Response Telemetry (NRT) in 25 CI users. We aim to determine if these variations reflect natural travelling wave delay and whether they correlate with clinical outcomes, specifically SRT, SD, and CAP-2 scores.

MATERIAL & METHODS

Neural Response Telemetry (NRT) was evaluated in 25 cochlear implant users (8 prelingual, 17 postlingual) with a mean age of 38.3 years. Prior to testing, electrode integrity and functionality were verified using Impedance Telemetry (IT); only electrodes within the normal impedance range were included in the study. NRT measurements were then performed on eligible subjects, and N1 latency values were recorded to conduct a comparative analysis between Electrode 1 (basal) and Electrode 22 (apical). Ethical approval was granted by the Non-Interventional Scientific Research Ethics Committee of the University of Health Sciences, Gulhane Training and Research Hospital (Approval No: 2025/250, 04.12.2025).

RESULTS

Analyses included 25 patients (mean age: 38.3±19.7 years). Overall mean Speech Reception Threshold (SRT) was 34.2±12.0 dB, and Speech Discrimination (SD) was 49.2±27.6%. Electrode 22 (apical) showed a significantly longer mean N1 latency than Electrode 1 (basal) (333.5±62.4 µs vs. 313.9±49.2 µs; p=0.047). Subgroup analysis between prelingual and postlingual patients revealed no significant differences in N1 latencies for E22 (p=0.500) or E1 (p=0.786), nor in ΔNRT values (p=0.280). However, clinical outcomes differed significantly: postlingual patients demonstrated higher CAP-II scores (7.35±1.46 vs. 5.75±1.91; p=0.045) and lower, better SRT values (30.88±11.35 dB vs. 41.25±10.61 dB; p=0.036) compared to prelinguals. SD scores did not differ significantly between groups (p=0.202).

CONCLUSIONS

Longer apical N1 latencies align with the cochlea's tonotopic organization and travelling wave delay. Comparable latencies between prelingual and postlingual groups suggest peripheral cochlear nerve capacity is preserved regardless of deafness duration. However, superior clinical outcomes (CAP-II, SRT) in postlingual patients indicate distinct advantages in central auditory processing. Thus, while NRT provides objective tonotopic data, peripheral responses alone do not dictate functional success. These findings highlight the critical role of central neural integration and the need to combine objective telemetry with tailored rehabilitation.

KEYWORDS

Cochlear Implantation,Neural Response Telemetry ,Tonotopic Organization ,Traveling Wave ,Speech Perception

OP-815

Knockdown And Mutation Of Pou4F3 Gene Mutation Promotes Pyroptosis Of Cochleae In Cisplatin-Induced Deafness Mice By NLRP3/Caspase-3/ GSDME Pathway

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BACKGROUND & AIM

To investigate the effect and mechanism of Pou4f3 gene mutation on pyroptosis in cochleae of cisplatin-induced deafness mice.

MATERIAL & METHODS

Mice were intraperitoneally injected with cisplatin to construct an animal model of deafness, and sh-Pou4f3 and mutant vector were injected to alter gene expression. TUNEL staining was used to assess the apoptosis level of cochlear hair cells, ELISA was used to detect the secretion of inflammatory factors, and immunofluorescence and Western Blot were used to detect the expression of pyroptosis related factors.

RESULTS

Cisplatin induced pyroptosis through NLRP3/Caspase-3/GSDME pathway and significantly down-regulated Pou4f3 level. Pou4f3 mutations promote cochlear hair cell pyroptosis by activating the NLRP3/Caspase-3/GSDME pathway. Knockdown of Pou4f3 can superimpose cisplatin treatment to induce pyroptosis of cochlear hair cells through NLRP3/Caspase-3/GSDME pathway.

CONCLUSIONS

Pou4f3 gene mutation promotes pyroptosis of cochleae in cisplatin-induced deafness mice through NLRP3/Caspase-3/GSDME pathway.

KEYWORDS

Pou4f3 gene Pyroptosis Cochleae Deafness

OP-816

Assessment Of Vestibular Functions Before And After Cochlear Implantation In Pediatric Patients

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BACKGROUND & AIM

Cochlear implantation (CI) carries a potential risk of iatrogenic injury to the vestibular system. This study aimed to evaluate early postoperative changes in otolithic and semicircular canal functions among pediatric CI recipients.

MATERIAL & METHODS

A prospective study was conducted on ten children (aged 10–18 years) undergoing unilateral CI. A comprehensive vestibular assessment, including cervical and ocular Vestibular Evoked Myogenic Potentials (cVEMP, oVEMP) and the Video Head Impulse Test (vHIT), was performed one week preoperatively and one month postoperatively. Statistical analysis was performed using Wilcoxon signed-rank and exact McNemar tests.

RESULTS

cVEMP responses decreased from 100% to 30% with amplitude dropping from 74.54 ± 27.14 µV to 16.63 ± 26.00 µV ($p = 0.0039$). oVEMP responses declined from 90% to 20% with amplitude decreasing from 4.18 ± 3.15 µV to 1.25 ± 2.79 µV ($p = 0.0117$). Implanted-side horizontal vHIT gain decreased slightly (1.00 ± 0.09 to 0.92 ± 0.10, $p = 0.0391$) but remained normal. Vertical canal and contralateral horizontal canal gains showed no significant change.

CONCLUSIONS

Pediatric CI appears to preserve semicircular canal function while frequently impairing the otolithic pathways (saccule and utricle). Routine pre- and postoperative vestibular assessment is recommended to facilitate early detection and timely vestibular rehabilitation.

KEYWORDS

Pediatric cochlear implantation, vestibular function, vestibular evoked myogenic potentials (VEMP), video head impulse test (vHIT), otolithic organs, round window approach.

OP-817

High-Resolution Computed Tomography After Stapedotomy: Understanding Prosthesis-Related Artifacts And Apparent Vestibular Penetration

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BACKGROUND & AIM

High-resolution computed tomography (HRCT) plays a key role in the pre-revision assessment of patients with persistent vertigo or absence of audiological benefit after stapedotomy. Accurate evaluation of prosthesis position and vestibular penetration is essential for clinical decision-making; however, HRCT measurements may be affected by prosthesis-related imaging artifacts, potentially leading to misinterpretation. The aim of this study was to quantify HRCT measurement artifacts of stapes prostheses according to prosthesis material and diameter, with particular emphasis on their impact on apparent vestibular penetration.

MATERIAL & METHODS

A retrospective analysis of HRCT was conducted in patients who underwent revision stapedotomy at a tertiary referral center between 2016 to 2022. HRCT was performed following primary stapedotomy in cases of post-operative complications, such as vertigo or worsening of hearing loss, or at a later stage in patients with unsatisfactory hearing outcomes. Prosthesis length and vestibular penetration were measured on reconstructed HRCT images. Measurement artifact was defined as the difference between radiologically measured and actual prosthesis length. Data collected included prosthesis type, actual length, diameter, radiological artifact and degree of vestibular penetration.

RESULTS

Fifty-seven ears from forty-nine patients were included. Titanium/Nitinol and Titanium/Platinum pistons were analyzed. Titanium/Nitinol prostheses with a diameter of 0.4 mm showed the smallest HRCT measurement artifact (mean error 0.28 mm), while Titanium/Platinum prostheses tended to be overestimated in length (mean error 0.54 mm). Artifact and apparent vestibular penetration on HRCT varied according to prosthesis diameter and material.

CONCLUSIONS

Titanium prosthesis demonstrated variable degrees of artifact on HRCT-scan. Therefore, HRCT findings prior to revision stapes surgery should be interpreted with consideration of prosthesis-specific imaging artifacts. Assessment of vestibular penetration on HRCT does not necessarily reflect true extent of prothesis intrusion and may be either overestimated or underestimated depending on the prosthesis material and diameter. Awareness of these imaging limitations is essential to prevent misinterpretation and to avoid potentially unnecessary revision surgery.

KEYWORDS
stapes surgery, stapedotomy, piston prostheses, prosthesis-related imaging artifacts

OP-818

Analysis Of Audiovisual Synesthetes' Regions Of Interest

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BACKGROUND & AIM

This study employed a high-density electroencephalography (EEG) system to comparatively analyze the changes and differences in the regions of interest (ROIs) between individuals with and without audiovisual synesthesia, aiming to explore the underlying mechanisms of audiovisual synesthetic perception.

MATERIAL & METHODS

The study included 14 young adults with normal hearing. Based on whether audiovisual synesthesia could be induced, participants were divided into a synesthesia group (n=4) and a control group (n=10). All participants underwent pure-tone audiometry, Montreal Cognitive Assessment (MoCA), and Trail Making Test (Parts A and B). Brain electrical activity was recorded using a 256-channel high-density EEG system during both an eyes-open resting state and an eyes-open task state involving viewing animations designed to induce audiovisual synesthesia. Scalp-level power spectral changes were analyzed and compared between the two groups. Source localization was performed using standardized low-resolution brain electromagnetic tomography (sLORETA), followed by functional connectivity analysis involving auditory and visual cortices.

RESULTS

The synesthesia group showed significantly better performance on TMT-B ($p<0.05$). EEG revealed significantly higher delta/theta power and lower alpha1/alpha2/beta3/gamma power in synesthetes ($p<0.05$). sLORETA indicated reduced activity in left superior posterior cingulate (BA31, alpha2) and insula (BA13, beta2) in synesthetes ($p<0.05$). Enhanced beta3 connectivity was found between right posterior cingulate (BA31) and right primary auditory cortex (BA41) in synesthetes.

CONCLUSIONS

Audiovisual synesthetes demonstrate significant advantages over controls in cognitive comprehension and tests involving visual processing. They exhibit stronger regional connectivity characteristics within specific ROIs compared to non-synesthetes. High-density EEG technology shows significant advantages in detecting functional brain changes associated with synesthesia.

KEYWORDS
high-density electroencephalography; audiovisual synesthesia; regions of interest

OP-819

ASSOCIATION BETWEEN WIDEBAND TYMPANOMETRY FINDINGS AND ETDQ-7 SCORES IN EUSTACHIAN TUBE DYSFUNCTION

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BACKGROUND & AIM

This study aimed to evaluate the correlation between the Eustachian Tube Dysfunction Questionnaire-7 (ETDQ-7) scores and wideband tympanometry (WBT) findings in patients with Eustachian tube dysfunction (ETD), and to determine their value in clinical diagnosis.

MATERIAL & METHODS

A prospective observational cross-sectional study was conducted including 50 adults aged 18–64 years diagnosed with ETD (20 males and 30 females). Participants in the ETD group repeated the 7-item Eustachian Tube Dysfunction Questionnaire (ETDQ-7) within a two-week interval. WBT was performed in all participants, and resonance frequency (Hz), peak pressure (daPa), and pressure point values were analyzed according to age groups and sex. The study data were assessed for normality assumptions. Comparisons of continuous variables across age groups and between sexes were performed using the independent samples t-test, and associations between continuous variables were evaluated using Pearson’s correlation analysis. A p-value of <0.05 was considered statistically significant.

RESULTS

A statistically significant negative correlation was identified between resonance frequency values obtained by WBT and ETDQ-7 scores ($r = -0.336$, $p = 0.017$). ETDQ-7 scores increased with age, and a stronger negative correlation between WBT findings and ETDQ-7 scores was observed in older age groups ($r = -0.643$, $p = 0.013$). Female participants demonstrated higher ETDQ-7 scores than male participants, and a significant positive correlation between WBT parameters and symptom severity was observed among women ($r = 0.372$, $p = 0.028$).

CONCLUSIONS

The combined use of ETDQ-7 and WBT may enhance the sensitivity of functional ET assessment and offers a complementary diagnostic approach for functional ETD. Reduced low-frequency acoustic absorbance measured by WBT may serve as a valuable marker for early diagnosis and treatment monitoring. Accurate diagnosis should rely on the integrated interpretation of subjective and objective findings alongside clinical history and physical examination. Further large-scale multicenter studies are warranted to establish a consensus on standardized diagnostic criteria and approaches.

KEYWORDS

Eustachian Tube Dysfunction; Acoustic Impedance Tests; Wideband Tympanometry; Questionnaires; Acoustic Absorbance

OP-820

Tubercular Mastoiditis With Unusual Clinical Presentations: A Case Series

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BACKGROUND & AIM

Tubercular mastoiditis is a rare form of temporal bone tuberculosis with diverse and often misleading clinical manifestations. It may mimic chronic otitis media, cholesteatoma, granulomatous otitis media, osteomyelitis, or vascular lesions, making early diagnosis challenging. Delayed recognition may result in significant morbidity and serious complications. This case series aims to describe the unusual clinical presentations, diagnostic challenges, management, and outcomes of tubercular mastoiditis.

MATERIAL & METHODS

A case series of five patients with tubercular mastoiditis managed at Bangladesh Medical University was reviewed(from March 2020-April 2026). Clinical presentation, otoendoscopic findings, radiological features, operative findings, histopathological results, GeneXpert MTB/RIF analysis where available, treatment modality, and clinical outcomes were analyzed.

RESULTS

Five patients presented with atypical tubercular mastoiditis. Clinical features included persistent otorrhea, hearing impairment, otalgia, external auditory canal granulation tissue or polypoidal mass, postauricular abscess, recurrent symptoms after previous mastoid surgery, and complicated mastoiditis. Initial clinical and radiological findings were inconclusive in several cases, with differential diagnoses including cholesteatoma, paraganglioma, chronic granulation otitis media, and complicated mastoiditis. One patient developed lateral sinus thrombosis confirmed by CT and MRI, while another showed extensive middle ear and mastoid soft-tissue disease with cortical bone erosion, posterior fossa dural plate involvement, dural enhancement, and subperiosteal collection. Diagnosis was confirmed by histopathological evidence of granulomatous inflammation with caseous necrosis; GeneXpert MTB/RIF detected Mycobacterium tuberculosis in one case. All patients received standard four-drug antitubercular therapy. Surgery was performed when indicated. All patients showed clinical improvement, with resolution or gradual improvement of otorrhea and inflammatory symptoms, although hearing improvement was variable.

CONCLUSIONS

Tubercular mastoiditis should be considered in patients with persistent external auditory canal granulation tissue, atypical mastoid disease, recurrent symptoms after mastoid surgery, postauricular abscess, complicated mastoiditis, or poor response to conventional treatment. Early biopsy, histopathological confirmation, and prompt antitubercular therapy, with surgery when required, are essential to achieve recovery and prevent potentially serious or fatal complications.

KEYWORDS

Tubercular mastoiditis; temporal bone tuberculosis; chronic otitis media; granulation tissue; lateral sinus thrombosis; antitubercular therapy.

OP-821

Effect Of Application Of Monopolar Electrocautery To The Middle Ear With Different Power Settings On The Inner Ear

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BACKGROUND & AIM

Monopolar electrocautery is frequently used in middle ear surgery, yet its potential thermal or electrical effects on the inner ear structures remain a concern.To evaluate the audiological and histopathological effects of monopolar electrocautery applied to the promontory at different power settings.

MATERIAL & METHODS

Thirty-two healthy female Sprague Dawley rats (200–240 g) were divided into four groups (n = 8 each): monopolar electrocautery 5 W, 10 W, 20 W, and control. Baseline Distortion Product Otoacoustic Emission (DPOAE) and Auditory Brainstem Response (ABR) measurements were obtained. In Groups 1–3, transtympanic cauterization was performed on the promontory with a monopolar needle tip for 2 seconds. DPOAE and ABR were repeated on days 7 and 14. Cochleae were then excised for histopathological evaluation.

RESULTS

No significant differences were observed in DPOAE amplitudes or ABR thresholds between baseline and follow-up days within any group ($p > 0.05$). Histopathological evaluation showed normal cochlear structure in all groups; hydropic degeneration or nuclear loss was not observed in spiral ganglion cells or nerve fibers, with no significant differences between groups ($p > 0.05$).

CONCLUSIONS

Monopolar electrocautery applied to the promontory at 5 W, 10 W, or 20 W for 2 seconds did not demonstrate harmful effects on the inner ear in audiological or histopathological evaluations in this rat model.

KEYWORDS

rat model, monopolar electrocautery, middle ear surgery, cochlea, distortion product otoacoustic emissions, auditory brainstem response

OP-822

PROTECTIVE EFFECTS OF ROYAL JELLY AGAINST CISPLATIN-INDUCED OTOTOXICITY: A COMBINED FUNCTIONAL AND HISTOPATHOLOGICAL ANALYSIS

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BACKGROUND & AIM

Cisplatin-induced ototoxicity is a significant clinical problem characterized by irreversible sensorineural hearing loss, primarily mediated by oxidative stress. Although various antioxidant agents have been investigated, an effective and widely accepted protective strategy has not yet been established. Royal jelly, a natural product rich in bioactive components, has demonstrated antioxidant and cytoprotective effects in various organ systems. This study aimed to evaluate the potential protective effects of royal jelly against cisplatin-induced ototoxicity using functional and histopathological methods.

MATERIAL & METHODS

A total of 32 adult female Wistar albino rats were randomly assigned to four groups (n = 8): control, royal jelly, cisplatin, and cisplatin + royal jelly. Royal jelly was administered orally at a dose of 100 mg/kg/day for 14 days. Cisplatin was administered as a single intraperitoneal dose of 10 mg/kg on day 7. Auditory function was evaluated at baseline, day 7, and day 14 using distortion product otoacoustic emissions (DPOAE) and auditory brainstem responses (ABR). At the end of the study (day 14), cochlear tissues were harvested and histopathological analyses were performed using a semi-quantitative scoring system

RESULTS

At day 14, no significant differences were observed among groups in DPOAE signal-to-noise ratio values at 4, 6, and 8 kHz frequencies ($p > 0.05$). In contrast, ABR threshold values differed significantly among groups ($p < 0.001$). The cisplatin group demonstrated significantly elevated thresholds compared to the control and royal jelly groups, whereas significant improvement was observed in the cisplatin + royal jelly group ($p < 0.001$). Total histopathological scores also showed significant differences among groups ($p < 0.001$), with the highest damage observed in the cisplatin group. Total histopathological scores were significantly lower in the cisplatin + royal jelly group compared to the cisplatin group ($p < 0.001$). Subgroup analyses revealed significant protective effects in the stria vascularis and spiral ligament ($p < 0.001$), whereas no significant differences were observed in the spiral ganglion.

CONCLUSIONS

Royal jelly demonstrated a protective effect against cisplatin-induced ototoxicity, with more pronounced effects in metabolically active cochlear structures such as the stria vascularis and spiral ligament. These findings suggest that royal jelly has potential as an otoprotective agent against cisplatin-induced ototoxicity.

KEYWORDS

Cisplatin; Ototoxicity; Royal Jelly; Auditory Brainstem Response; Histopathology

OP-823

External Auditory Canal Cholesteatoma

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BACKGROUND & AIM

cholesteatoma of external auditory canal remains uncommon and not well known. we describe this entity through several case report, wich is still misdiagnosed,

MATERIAL & METHODS

we report five cases including two primary cholesteatoma, one secondary cholesteatoma and two keratosis obturans of the external auditory canal wich is a very close pathology with similar clinical signs.

RESULTS

we permormed CWD in three cases , and CWU in two remaining cases. evolution was good without any reccurence. we discuss the physiopathology and clinical aspect of this pathology and also the importance of differencial diagnosis wich can lead to long delay for diagnosis (malignant external otitis , epidermoid carcinoma of the middle ear, skin pathology of external auditory canal)

CONCLUSIONS

it's a rare and misdiagnosed entity ; it must be well known, as miltiples differential diagnosis, the traitment is surgery with good results desribed in the litterature.

KEYWORDS

external auditory canal, Cholesteatoma , keratosis obturans

OP-824

Diagnostic Performance Of DWI In Cholesteatoma: Comparison With Surgical Findings And Histopathology

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BACKGROUND & AIM

Cholesteatoma is a destructive middle ear disease requiring surgical treatment. Diffusion-weighted imaging (DWI) is widely used for its detection; however, granulation tissue and inflammatory changes may lead to false-positive results. This study aimed to evaluate the diagnostic accuracy of DWI in cholesteatoma and to compare its findings with intraoperative observations and histopathological results. Additionally, differences in diagnostic performance between primary and revision cases were investigated.

MATERIAL & METHODS

This retrospective observational study included 96 patients who underwent surgery for suspected cholesteatoma at the Otorhinolaryngology Department of Prof. Dr. Cemil Taşcıoğlu City Hospital between 2024 and 2026 and had preoperative DWI. Patients with incomplete data, without preoperative imaging, or lacking histopathological confirmation were excluded. Imaging findings were categorized as positive or negative for cholesteatoma, with suspicious findings considered positive. Surgical findings and histopathology were used as reference standards. Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and accuracy were calculated. Subgroup analyses were performed for primary and revision cases.

RESULTS

The mean age of patients was 35.25 ± 15.9 years, with 52.1% females and 47.9% males. The sensitivity and specificity of DWI compared to histopathology were 78.7% and 54.3%, respectively ($p=0.001$). Compared to surgical findings, DWI demonstrated a sensitivity of 86.8% and specificity of 58.1%. Surgical findings showed a sensitivity of 77.0% and specificity of 82.9% compared to histopathology ($p<0.001$). In subgroup analysis, DWI sensitivity was markedly higher in revision cases (92.9%) compared to primary cases (74.5%). A statistically significant association was observed in primary cases ($p=0.006$), while no significance was found in revision cases ($p>0.05$).

CONCLUSIONS

DWI demonstrates high sensitivity but limited specificity in the diagnosis of cholesteatoma. Surgical findings provide higher specificity, whereas DWI offers greater sensitivity. Notably, the diagnostic performance of DWI is significantly improved in revision cases. These findings highlight that DWI plays a crucial role in clinical decision-making, particularly in revision cases, but should be interpreted in conjunction with surgical findings and histopathological results.

KEYWORDS

Cholesteatoma, Diffusion-weighted imaging, DWI

OP-825

Meningitis Post-Cochlear Implant And Role Of Vaccinations Systematic Review

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BACKGROUND & AIM

To investigate the incidence, risk factors, and management of meningitis in cochlear implant (CI)users.

MATERIAL & METHODS

A systematic review was carried out using PubMed, Scopus, Web of Science, and Cochrane Central Register. Articles were considered relevant if reported any data on incidence, clinical presentations, the role of vaccination, management, and outcomes of meningitis after CI.

RESULTS

A total of 32 studies including 27358 patients were included, and meningitis was reported in only 202 cases. Meningitis occurred in the period ranging from 1 day to 72 months after CI. A total of 55 patients received the pneumococcal vaccine, while 20 patients received the Haemophilus influenzae type B vaccine. A large number of participants (n=47) had associated anatomical malformations, while 62 had otitis media before meningitis. A total of 24 cases required revision surgery along with medical treatment. Full recovery was the outcome reported by the included studies in 19 patients.

CONCLUSIONS

Cochlear implant users seem to be at possible risk of bacterial meningitis at any time after implantation, especially in the presence of risk factors, such as otitis media and anatomical malformations of the cochlea.

KEYWORDS

cochlear implant, bacterial meningitis, vaccine, otitis media

OP-826

Intratympanic Bevacizumab Reduces Histopathological Changes In Experimental Otitis Media With Effusion

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BACKGROUND & AIM

Otitis media with effusion (OME) is a common pediatric disease that may lead to hearing loss. In recent years, vascular endothelial growth factor (VEGF) has been increasingly recognized as an important mediator in the pathogenesis of OME. The aim of this study was to investigate the effects of intratympanic administration of bevacizumab, a recombinant monoclonal antibody against VEGF, on histopathological changes in an endotoxin-induced OME rat model.

MATERIAL & METHODS

A total of 32 male Wistar Albino rats were included in the study. OME was induced by injection of Escherichia coli lipopolysaccharide (LPS) into the middle ear. Six hours after LPS administration, intratympanic bevacizumab was administered to the study group, while the control group received intratympanic saline solution. Rats were sacrificed at 12 hours, 24 hours, 72 hours, and 7 days. Temporal bone specimens were harvested and evaluated histopathologically. Submucosal thickness, capillary vessel density, vascular diameter and submucosal neutrophil count were analyzed.

RESULTS

At 12 hours, the bevacizumab group demonstrated significantly higher neutrophil counts and effusion levels compared with the saline group. At 24 hours, vascular diameter was significantly lower in the bevacizumab group. At 72 hours, submucosal thickness was significantly reduced in the bevacizumab group. On day 7, submucosal thickness, vascular diameter, and vessel density were all significantly lower in the bevacizumab group compared with the saline group.

CONCLUSIONS

This study demonstrated that intratympanic administration of bevacizumab significantly suppresses vascular and mucosal histopathological changes, particularly in the late phase, in an experimental OME model. These findings support the role of VEGF as an active and targetable mediator in the pathogenesis of OME and suggest that anti-VEGF therapies may represent a potential treatment option. However, further experimental and clinical studies are required before clinical application.

KEYWORDS

Otitis Media with Effusion, Vascular Endothelial Growth Factor, Bevacizumab, Intratympanic Injection, Angiogenesis, Rat Model

OP-827

SURGICAL TREATMENT OF MIDDLE EAR CHOLESTEATOMA IN CHILDREN

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BACKGROUND & AIM

To analyze the disease structure and results of surgical treatment in children with middle ear cholesteatoma.

MATERIAL & METHODS

Between 2019 and 2023, 56 children with chronic suppurative otitis media were operated on in the Otorhinolaryngology Department of the Grodno University Clinic. Chronic epitympano-antral suppurative otitis media was diagnosed in 36 patients (64%), with intraoperative confirmation of cholesteatoma in 19 of these children (53%). The average age of patients with cholesteatoma was 11.8 years. All children underwent CT scanning of the temporal bones; in complex diagnostic cases, MRI with non-echoplanar diffusion-weighted imaging (non-EPI DWI) was used, allowing visualization of residual cholesteatoma down to 3 mm.

RESULTS

Analysis of anamnestic data revealed that 25% of children with cholesteatoma had a history of tympanotomy for acute otitis media. This suggests a possible iatrogenic role of tympanotomy in the etiology of acquired cholesteatoma in children.The choice of surgical procedure was determined by the extent of the disease. Canal Wall Down procedures were performed in 9 patients with invasive growth where complete eradication could not be confidently ensured. A closed technique with reconstruction of the walls using auricular cartilage was applied in 10 children. Reconstruction of the ossicular chain was performed in 19 patients (titanium prostheses, autologous incus bone, ossiculoplasty). In the long-term postoperative period (6 months or more), significant hearing improvement was achieved: the mean air-bone gap decreased from 37.1 dB to 19.8 dB. The rate of recurrent and residual cholesteatoma was 15.8% (3 children), consistent with global data and confirming the need for dynamic follow-up, including MRI monitoring.

CONCLUSIONS

Surgical treatment of cholesteatoma in children requires a differentiated approach. Open techniques ensure radicality in extensive forms, while closed techniques with cartilage reconstruction can improve functional outcomes. The identified high frequency of tympanotomies in the medical history necessitates a balanced approach to this procedure. The use of modern imaging methods (non-EPI DWI) is key for the early detection of residual cholesteatoma and reducing the number of revision surgeries.

KEYWORDS

Pediatric cholesteatoma, middle ear, canal wall up, canal wall down, MRI (non-EPI DWI), tympanotomy, hearing reconstruction

OP-828

Incus Long Columella Ossiculoplasty: A Retrospective Evaluation

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BACKGROUND & AIM

This study evaluated the effectiveness of reshaping the incus into a long columella for ossicular chain reconstruction in patients with chronic otitis media undergoing tympanoplasty.

MATERIAL & METHODS

A retrospective analysis included 96 patients who underwent tympanoplasty between January 2014 and January 2024 at a tertiary referral center. Patients with chronic otorrhea and conductive hearing loss were included. Audiological outcomes, including air–bone gap (ABG) and hearing thresholds, were assessed before and after surgery. Intraoperative findings and follow-up data were collected from medical records. Statistical analyses compared preoperative and postoperative results.

RESULTS

Of the 96 patients, 62.5% were male and 37.5% were female. Surgery was performed on the right ear in 40.6% of cases and on the left in 59.4%. The mean age was 27.54±14.17 years for right-ear operations and 28.84±15.24 years for left-ear operations, with no significant age difference between groups. There was no significant difference between preoperative and postoperative hearing thresholds in either ear (right: $p=0.450$; left: $p=0.391$). Open cavity tympanoplasty was performed in 62.5% of cases, mastoidectomy tympanoplasty in 22.9%, and tympanoplasty alone in 14.6%. The procedure involved removing epithelial tissue and reshaping the incus into a long columella. Postoperative ABG values improved significantly compared to preoperative measurements ($p<0.001$), indicating better conductive hearing. No intraoperative or postoperative complications, including prosthesis extrusion, were observed. Nine patients required revision surgery for recurrent cholesteatoma.

CONCLUSIONS

This technique is reliable and provides both functional and surgical benefits in appropriately selected cases. While many options exist for ossiculoplasty, the reliability of this method depends largely on the surgeon's experience and the availability of clinical resources. Further validation through prospective studies with larger patient cohorts and longer follow-up is recommended.

KEYWORDS

Ossiculoplasty, tympanoplasty, long columella, hearing results

OP-829

Investigation Of Outcomes Of Sliding Cartilage Tympanoplasty For Improving Tympanic Membrane Closure

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BACKGROUND & AIM

Recent studies indicate that in the Tympanoplasty procedure, the failure rate in anterior perforations is significantly higher compared to central or posterior perforations. To address these challenges, this study evaluates the efficacy of a novel technique called Sliding cartilage tympanoplasty. This method is designed to simplify the repair of anterior and marginal perforations and to improve graft success rates.

MATERIAL & METHODS

This study includes 10 patients aged 18 to 65 years with chronic otitis media or tympanic membrane perforation (specifically, anterior marginal perforation with a residual margin of less than 1 mm) and either conductive or sensorineural hearing loss. Exclusion criteria include active ear infection, cholesteatoma, previous tympanoplasty, and systemic diseases that affect healing. All patients undergo cartilage tympanoplasty, in which cartilage is harvested from the tragus or concha. The surgical procedure involves creating a groove in the anterior mesotympanum beneath the bony sulcus to secure the anterior edge of the cartilage graft. Graft success will be evaluated through microscopic examination by the surgeon three months postoperatively, and hearing thresholds will be measured using pure-tone audiometry (PTA) before and three months after the surgery.

RESULTS

All the cartilage grafts healed successfully after a 6-month follow-up. Hearing improvement and Air-Bone gap closure were acceptable.

CONCLUSIONS

Sliding cartilage tympanoplasty was simple, effective, and safe in the repair of marginal anterior tympanic membrane perforation.

KEYWORDS

tympanoplasty, cartilage graft, chronic otitis media, hearing

OP-830

Assessing The Surgical And Audiological Outcomes Of Simultaneous Compared To Sequential Cochlear Implant In Pediatrics With Hearing Loss: A Systematic Review And Comprehensive Meta-Analysis.

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BACKGROUND & AIM

Hearing loss profoundly affects daily life, with cochlear implants (CI) serving as a key remedy. While CIs offer benefits like enhanced sound localization, outcomes can vary based on implantation timing and age. In pediatrics, there's debate about the best implantation method. Early intervention, especially within the first year, is believed to harness neural plasticity, optimizing auditory rehabilitation. This study delves into the merits of simultaneous vs. sequential cochlear implantation in pediatric patients to guide clinical decisions.

MATERIAL & METHODS

Following the PRISMA-P 2020 guidelines, we searched MEDLINE, EMBASE, Google Scholar, and Web of Science on November 1, 2025, using pediatric cochlear implantation-related terms. Included studies were primary, peer-reviewed, and compared simultaneous vs. sequential implant outcomes in pediatrics ≤18 years. Data, encompassing surgical and audiological metrics, were extracted by two reviewers, with bias assessed using the MINORS tool. Due to study heterogeneity, we opted for a narrative synthesis over a meta-analysis.

RESULTS

We analyzed Eight observational studies on cochlear implants from four countries. Simultaneous implant surgeries often had shorter cumulative times but were longer than single implant surgeries. Surgical complications were minor, with occasional extended hospital stays. Simultaneous implant surgeries typically had shorter cumulative hospitalization times. The inter-implant delay showed varied impacts on auditory perception. Speech perception in the second implanted ear remained poorer than the first, but bilateral scores outperformed individual implants.

CONCLUSIONS

Our study provides evidence that simultaneous implantation offers superior surgical and audiological outcomes for pediatric patients due to simultaneous implantation having shorter surgical times and hospital stays.

KEYWORDS

Cochlear implant, simultaneous or consequential

OP-831

Evaluation Of The Long-Term Outcomes Of Surgical Treatment Methods For Typmanic Membrane Pars Tensa Retractions

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BACKGROUND & AIM

The primary objective of our study was to determine the long-term recurrence rate of pars tensa retraction pockets (PTRP) and to identify clinical and surgical factors associated with recurrence in three patient groups undergoing cartilage reinforcement tympanoplasty, ventilation tube insertion, or a combination of both surgical methods. The secondary objective was to evaluate preoperative and long-term postoperative hearing outcomes and to identify factors affecting hearing.

MATERIAL & METHODS

A total of 61 patients (61 ears) who underwent surgical treatment for PTRP between 2018 and 2023, with a minimum postoperative follow-up period of 18 months, were retrospectively analyzed. Patients were categorized into three groups based on surgical technique performed (cartilage reinforcement tympanoplasty, T-tube insertion, cartilage reinforcement tympanoplasty with T-tube insertion). Postoperative PTRP recurrence, factors potentially associated with recurrence and hearing outcomes were assessed. Statistical analysis was performed.

RESULTS

Of the 61 patients, 40 underwent cartilage reinforcement tympanoplasty, 11 underwent T-tube insertion, and 10 underwent cartilage reinforcement tympanoplasty with T-tube insertion. The T-tube insertion group demonstrated a statistically significantly higher recurrence rate compared to the cartilage reinforcement tympanoplasty group (p=0.01). Statistical analysis revealed no significant association between recurrence and preoperative PTRP location or stage, prior surgery history, adenoid hypertrophy grade, or history of allergy. Air-bone gap (ABG) improvement was statistically significant in both the reinforcement tympanoplasty group (p=0.003) and the T-tube group (p=0.035), but did not reach statistical significance in the combined group (p=0.102).

CONCLUSIONS

Cartilage reinforcement tympanoplasty apperars to be safe and effective technique for both early and advanced stage PTRP in terms of recurrence rates and functional outcomes. In patients with early stage PTRP, where eustachian tube function is expected to improve, ventilation tube insertion may be considered; however, due to the high recurrence rate, regular long-term follow-up is necessary. For early stage PTRP patients requiring surgical intervention who may not comply with regular follow-up, cartilage reinforcement tympanoplasty may be considered as first-line treatment.

KEYWORDS

Pars Tensa Retraction, Retraction Pocket, Cartilage Tympanoplasty, Ventilation Tube

OP-832

Stapedotomy Outcomes In Patients With “HRCT Negative Otosclerosis”

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BACKGROUND & AIM

Do patients with clinically suggestive otosclerosis and negative preoperative high-resolution computed tomography (HRCT) achieve hearing outcomes comparable to those with radiologically confirmed disease after primary stapedotomy?

MATERIAL & METHODS

This retrospective matched case–control study was conducted at a single tertiary referral center between January 2019 and December 2024. Ninety-two ears undergoing primary stapedotomy for intraoperatively confirmed stapes fixation were included. Thirty-nine ears with preoperative HRCT reported as negative for otosclerotic foci formed the CT-negative group, while 53 CT-positive cases were selected using nearest-neighbor matching. CT-negative scans were independently re-evaluated by two expert neuroradiologists and subclassified as CT–false-negative (n = 24) or CT–true-negative (n = 15). The exposure of interest was preoperative HRCT status (CT-positive, CT–false-negative, or CT–true-negative).

RESULTS

Baseline AC PTA (mean, 48.55 dB HL), BC PTA (mean, 27.01 dB HL), and ABG (mean, 21.54 dB HL) did not differ significantly between groups (P = 0.21, P = 0.42, and P = 0.09, respectively). Postoperatively, significant improvement in AC PTA was achieved across the groups (mean postoperative AC = 25.49 dB HL; $p < 0.001$), with no significant difference between groups ($p = 0.081$). A postoperative ABG ≤ 10 dB HL was achieved in 89.13% of cases. Complication rates were low and did not differ significantly between groups; one case (1.9%) of postoperative sensorineural hearing loss occurred in the CT-positive group, and no cases of anacusis were observed.

CONCLUSIONS

Stapedotomy is a safe and effective procedure for patients with CT-negative but clinically suggestive otosclerosis, with outcomes and complication rates comparable to CT-positive cases. In typical clinical presentations, negative HRCT findings alone should not preclude surgical exploration when clinical suspicion remains high.

KEYWORDS

Conductive hearing loss, stapes surgery, middle ear, laser

OP-833

IS THE CONE OF LIGHT A RELIABLE INDICATOR OF TYMPANIC MEMBRANE NORMALITY? A LARGE-SCALE ENDOSCOPIC IMAGE ANALYSIS

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BACKGROUND & AIM

The tympanic membrane light reflex, also known as the cone of light, is commonly regarded as an indicator of a normal tympanic membrane during clinical otoscopic examination. This study aimed to evaluate the diagnostic value of the light reflex in predicting tympanic membrane normality using a large series of endoscopic images.

MATERIAL & METHODS

In this retrospective, single-center observational study, 14,429 tympanic membrane images obtained between January 2020 and January 2026 were analyzed. All images were acquired using the same endoscopic system and were classified as normal or pathological by three experienced otorhinolaryngologists. The presence or absence of the light reflex was recorded for each image. Diagnostic performance was assessed by calculating sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and overall accuracy.

RESULTS

Of the 14,429 images, 10,893 (75.5%) were classified as normal and 3,536 (24.5%) as pathological. The light reflex was observed in 7,269 normal tympanic membranes (66.73%), whereas it was absent in 3,624 (33.27%). Among pathological tympanic membranes, the light reflex was present in 917 cases (25.93%). The sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of the light reflex in predicting tympanic membrane normality were 66.73%, 74.07%, 88.80%, and 41.95%, respectively. The overall accuracy was calculated as 68.53% ($p < 0.001$). Subgroup analyses showed that the light reflex could be preserved at relatively high rates in certain pathological conditions, such as serous otitis media (60.69%) and tympanic membrane retraction.

CONCLUSIONS

Although the light reflex is a commonly used finding in tympanic membrane assessment, the results of this study indicate that the light reflex alone is not sufficient to determine tympanic membrane normality. Therefore, in otoscopic evaluation, the light reflex should be interpreted as a supportive finding in conjunction with other clinical findings and audiological tests, rather than as an independent diagnostic criterion.

KEYWORDS

Tympanic Membrane; Otoscopy; Middle Ear Diseases; Endoscopy; Diagnostic Accuracy

OP-834

Is Mastoid Head Bandage Really Required In Patients Undergoing Middle Ear Surgery? A Randomized Control Trial

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BACKGROUND & AIM

Middle ear surgery is a common procedure addressing various pathologies. Postoperative head bandaging has traditionally been used to provide support and prevent complications. However, its necessity remains controversial, with limited empirical evidence supporting its routine use. This randomized controlled trial (RCT) evaluated the necessity of head bandaging in middle ear surgery by comparing postoperative complications between a mastoid head bandage and a simple gauze dressing.

MATERIAL & METHODS

Eighty patients scheduled for middle ear surgery were randomly assigned to two groups: the Pressure Bandage group, where a crepe bandage was wrapped around the head, and the No Pressure Bandage group, where a gauze dressing was secured with Mefix tape. All surgeries were performed by a single otolaryngologist using standardized techniques, with the surgeon blinded to the dressing type. Postoperative complications, including hematoma, erythema, skin abrasion, and wound infection, were recorded and compared.

RESULTS

The mastoid bandage group had a significantly higher incidence of forehead skin abrasions (6/40 vs. 0/40, P = 0.026). No significant differences were observed in hematoma or seroma formation, as neither group developed these complications.

CONCLUSIONS

Routine mastoid head bandaging does not appear necessary, as it does not reduce postoperative complications and may increase patient discomfort due to skin abrasions. Larger studies with longer follow-ups are recommended to strengthen these findings and guide clinical practice.

KEYWORDS

Mastoid Head Bandage; Middle Ear Surgery

OP-835

From Symptoms To Outcomes: Linking Patient-Reported Disease Burden To Outcomes In Ear Surgery

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BACKGROUND & AIM

Revision tympanoplasty is often required in patients with persistent disease or failure of primary surgery, representing a greater surgical and clinical challenge. Beyond anatomical repair and hearing outcomes, these patients frequently experience a significant impact on quality of life due to symptoms. Therefore, evaluating the benefits of revision tympanoplasty should include patient-reported outcomes to better capture its real impact on daily functioning and well-being. Our goals are evaluate the impact on quality of life in adult patients undergoing revision tympanoplasty and to analyze its statistical relationship with graft type and surgical outcomes, namely hearing gain and tympanic membrane perforation closure.

MATERIAL & METHODS

Retrospective study of patients who underwent revision tympanoplasty between July 2023 and July 2025. The Portuguese version of the COMQ-12 was administered pre- and postoperatively to assess perceived benefit, and its relationship with clinical and audiological outcomes was analyzed using data extracted from electronic medical records.

RESULTS

Nineteen patients who underwent revision tympanoplasty were included, with a mean age of 47.8 years. A significant improvement in symptom severity, quality of life, and overall well-being was observed as assessed by the COMQ-12, with no statistical association with the type of graft used. The mean COMQ-12 score decreased from 24.65 ± 10.12 preoperatively to 8.52 ± 7.14 postoperatively ($p<0.001$). A statistically significant correlation was found between COMQ-12 scores and hearing outcomes across all subdimensions, while results were less favorable regarding its relationship with tympanic membrane closure.

CONCLUSIONS

The COMQ-12 proved to be a reliable and sensitive tool for assessing perceived benefit in patients after tympanoplasty, showing a significant correlation with clinical and audiological outcomes, which reinforces its usefulness as a complementary instrument in evaluating surgical results.

KEYWORDS

Revision tympanoplasty, COMQ-12, quality of life

OP-836

Clinical Characteristics, Radiological Findings And Outcomes Of Skull Base Osteomyelitis: A Retrospective Case Series

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BACKGROUND & AIM

Skull base osteomyelitis (SBO) is a severe and potentially life-threatening infection characterized by progressive destruction of the skull base, most commonly arising as a complication of malignant otitis externa (MOE). In addition to its classic presentation, SBO may also develop secondary to chronic otitis media or following head and neck radiotherapy. This study aimed to evaluate the clinical characteristics, radiological findings, and prognostic factors of SBO cases with different etiologies.

MATERIAL & METHODS

In this retrospective study, the medical records of 10 patients (age >18 years) diagnosed with SBO in our clinic between January 2021 and January 2026 were reviewed. Demographic data, presenting symptoms, laboratory parameters (WBC, CRP, ESR, HbA1c), microbiological culture results, radiological findings (CT, MRI, Tc-99m scintigraphy), cranial nerve involvement, treatment modalities, and mortality rates were analyzed.

RESULTS

The study cohort consisted of 10 patients (9 males, 1 female) with a mean age of 70.5 years. Uncontrolled type 2 diabetes mellitus was present in all patients. SBO developed as a complication of MOE in six patients, while one patient developed osteoradionecrosis following radiotherapy for nasopharyngeal carcinoma. All patients presented with severe unilateral otalgia refractory to non-steroidal anti-inflammatory drugs and requiring narcotic analgesics. Microbiological cultures identified Pseudomonas aeruginosa in three patients (30%), while no growth was detected in seven patients (70%). Cranial nerve palsy, most commonly involving the facial nerve (CN VII), developed in six patients (60%). Intracranial complications, including meningitis, venous thrombosis, and cerebrovascular events, occurred in six patients. Radiological evaluation revealed bilateral disease in four patients (40%). Despite prolonged intravenous antibiotic therapy, adjunctive hyperbaric oxygen therapy, and canal wall down mastoidectomy in selected cases, mortality occurred in four patients (40%) due to intracranial spread.

CONCLUSIONS

SBO is an aggressive infection associated with significant morbidity and mortality, particularly in elderly, diabetic, and immunocompromised patients. Lower cranial nerve involvement and intracranial complications are strongly associated with poor prognosis. Early recognition of atypical presentations, especially in patients with chronic otitis media or a history of head and neck radiotherapy, is essential to prevent diagnostic delays and improve outcomes through timely multidisciplinary management

KEYWORDS

Skull base osteomyelitis, Cranial nerve palsy, Intracranial complications, Diabetes mellitus

OP-837

Drying Of Ossicles In Glass Ionomer Cement Application With Air Drying Technique

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BACKGROUND & AIM

Bone cement application plays an important role in ossicular chain reconstruction due to its biocompatibility and ability to provide stable ossicular continuity. However, successful bonding of glass ionomer cement requires a completely dry ossicular surface. Conventional drying methods, including mechanical suction or electrocautery, may result in thermal injury or mechanical trauma to the ossicles.

MATERIAL & METHODS

The technique was applied during ossicular chain reconstruction, particularly in cases of long process incus defects. After microscopic exposure and removal of residual mucosal or pathological tissue, the ossicular surface was dried using a controlled dry oxygen flow delivered through a modified suction catheter system. Dry oxygen was applied for 30–60 seconds to achieve complete surface dehydration. Glass ionomer cement was then prepared to a viscous consistency and applied in a drop-wise fashion, shaped according to native ossicular anatomy. The air-drying method was also used during cement setting to maintain a blood-free and moisture-free field.

RESULTS

The Air Drying Technique allowed rapid and uniform drying of the ossicular surface without the use of thermal energy or direct mechanical manipulation. Adequate cement adhesion and stabilization were achieved in all cases. No intraoperative complications or adverse effects related to the drying method were observed.

CONCLUSIONS

Effective surface drying is a critical determinant of successful bone cement application in ossicular chain reconstruction. The Air Drying Technique provides a simple, atraumatic, and reproducible method for preparing the ossicular surface, potentially enhancing cement bonding and surgical efficiency. This technique represents a novel application in otologic surgery and may be safely adapted for use in other middle ear procedures. Further clinical studies are warranted to evaluate long-term outcomes.

KEYWORDS

Air Drying, Ossicular Replacement, Bone Cements

OP-838

XRCC1 Genetic Polymorphisms And The Risk Of Sudden Hearing Loss

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BACKGROUND & AIM

Sudden sensorineural hearing loss (SSNHL) is a condition of unknown etiology, but vascular and genetic factors are implicated in its pathogenesis. The X-ray repair cross-complementing group 1 (XRCC1) gene has been associated with ischemic stroke and noise-induced hearing loss, potentially through its influence on reactive oxygen species (ROSs), which can cause oxidative damage to nucleic acids. DNA repair mechanisms mitigate such damage, but unbalanced ROS levels have been associated with SSNHL susceptibility. We hypothesized that XRCC1 genetic variants are associated with SSNHL risk. This study examined the association between XRCC1 single nucleotide polymorphisms (SNPs) and SSNHL in Taiwan.

MATERIAL & METHODS

A case–control study was conducted involving 276 patients with SSNHL and 293 healthy controls. Three XRCC1 SNPs (rs1799782, rs25489, and rs25487) were genotyped using TaqMan assays. Each SNP was tested for the Hardy–Weinberg equilibrium, and genetic associations were evaluated under dominant and recessive models.

RESULTS

The TT genotype of rs1799782 was significantly associated with higher SSNHL risk (adjusted odds ratio [aOR] = 2.005; 95% confidence interval [CI] = 1.13–3.62; P = 0.0164) compared with the CC genotype. Under the recessive model (TT vs. CC+CT), rs1799782 remained significantly associated with SSNHL (aOR = 1.983; 95% CI = 1.15–3.49; P = 0.0134). No significant associations were discovered for SNPs rs25489 and rs25487. A multivariate logistic regression analysis revealed that high-tone (aOR = 6.42; P = 0.0043) and flat-type (aOR = 4.12; P = 0.0071) hearing loss patterns, compared with low-tone loss, and longer delay from onset to treatment (each additional day increased the risk of unfavorable recovery by 8%; P = 0.0132) were associated with unfavorable clinical outcomes. XRCC1 genotypes were not significantly associated with treatment outcomes.

CONCLUSIONS

The TT genotype of XRCC1 rs1799782 is associated with an increased risk of SSNHL in the Taiwanese population.

KEYWORDS

Genetic polymorphism, Sudden sensorineural hearing loss , X-ray repair cross-complementing group 1

OP-839

Cholesteatoma Complications In The Era Of Modern Otology: A Persistent Challenge In A Moroccan Tertiary Care Center

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BACKGROUND & AIM

Middle ear cholesteatoma is an expansive and destructive lesion whose intracranial and extracranial complications, while uncommon in contemporary Western series (1–3%), remain a significant burden in resource-limited settings due to diagnostic delays and restricted access to specialized care.

The aim is to determine the incidence and clinical spectrum of cholesteatoma complications, identify independent predictors of their occurrence, and evaluate functional and surgical outcomes in a high-volume Moroccan tertiary center.

MATERIAL & METHODS

Retrospective cohort study over 9 years (2015–2024) including 700 consecutive patients operated for acquired middle ear cholesteatoma. The 30 complicated cases (4.28%) were compared to 670 uncomplicated cases across the following variables: age, sex, symptom-to-surgery delay, affected side, preoperative audiometric profile and cholesteatoma extension. Bivariate analysis followed by multivariate logistic regression was performed to identify independent predictors of complication.

RESULTS

The complication rate was 4.28% (30/700). Mean age in the complicated group was 30.93 years, with a peak in the 21–30-year age group (30%), significantly younger than uncomplicated patients (41.2 years, p=0.003). The male-to-female ratio was 3:1. Median symptom-to-surgery delay was 48 months in the complicated group versus 18 months in uncomplicated patients (p<0.001). Mixed hearing loss predominated (53.33%), reflecting cochlear involvement. Extracranial complications accounted for 60% of cases: mastoiditis (54.55%), facial nerve palsy (18.18%), and labyrinthine fistula (13.64%). Intracranial complications (40%) included cerebral/cerebellar abscess (41.67%), cerebral empyema (33.33%), and lateral sinus thrombosis (25%). On multivariate analysis, two factors were independently associated with complication risk: diagnostic delay >36 months, advanced cholesteatoma extension. Canal wall-up mastoidectomy was the predominant surgical approach, performed in 72.7% of extracranial cases and 83.3% of intracranial cases; canal wall-down mastoidectomy was reserved for cases with extensive disease destruction. Overall outcome was favorable in 80% of patients.

CONCLUSIONS

In this largest North African cohort reported to date, diagnostic delay exceeding 36 months, advanced cholesteatoma extension, and lack of specialized ENT follow-up are the three independent determinants of life-threatening complications. Despite aggressive surgical management yielding favorable outcomes in 80% of cases, the 8.3% intracranial mortality

underscores the need for early detection programs, primary care physician education, and improved access to specialized otologic care in developing countries.

KEYWORDS

Cholesteatoma, Intracranial complications, Extracranial complications, Risk factors

OP-840

A Comparison Of Our VITOM 3D EXOSCOPE Tympanoplasty Results With Microscope- And Endoscope-Assisted Tympanoplasty

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BACKGROUND & AIM

Tympanoplasty surgeries are procedures aimed at surgically repairing perforations of the eardrum and restoring hearing. Various imaging systems are used in these surgeries to enhance the surgeon's field of view and control over the surgical site. The aim of this study was to compare tympanoplasty surgeries performed with the VITOM 3D exoscope, alongside a microscope and an endoscope, in terms of hearing gain, surgeon comfort, and contribution to surgical training.

MATERIAL & METHODS

A total of 60 patients were evaluated in the project conducted at the Department of Otolaryngology, Faculty of Medicine, Gaziantep University. Patients were randomly divided into 3 groups: the group undergoing tympanoplasty with the VITOM 3D exoscope (n=20), the group undergoing tympanoplasty with a microscope (n=20), and the group undergoing tympanoplasty with an endoscope (n=20). Preoperative pure-tone audiometry values (averages at 0.5, 1, 2, and 4 kHz) were recorded for all patients, and the same parameters were re-evaluated at the 3-month postoperative follow-up. The surgeon's comfort level during the procedure was assessed using the 'Difficulties and Comfort Questionnaire,' and the contribution to surgical training for each method was measured using the 'Contribution to Training Questionnaire.'

RESULTS

No significant difference was found between the groups in terms of audiometric improvement. Upon reviewing the survey results, it was observed that the VITOM 3D exoscope group demonstrated a significant advantage over other methods in terms of the surgeon's comfort level and contribution to training. The average scores in the Difficulty and Comfort Survey were determined as follows: VITOM 8.4, Microscope 6.9, Endoscope 5.7.

CONCLUSIONS

The VITOM 3D exoscope was found to be equivalent to the microscope and endoscope in terms of postoperative audiometric improvement. However, it demonstrated clear advantages in terms of ergonomics, surgeon comfort, and contributions to surgical training. Consequently, it was determined that the VITOM 3D exoscope offers a valuable alternative for clinical use, particularly due to its advantages in improving the surgeon's posture and providing educational benefits such as multi-view observation capabilities.

KEYWORDS

VITOM 3D exoscope, Tympanoplasty ,surgeon comfort, ergonomics

OP-841

Postoperative Follow-Up And Recurrence After Cholesteatoma Surgery: A Retrospective Study

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BACKGROUND & AIM

The primary objective of this study was to retrospectively evaluate the data of patients who underwent surgery for cholesteatoma at a tertiary care center, with particular emphasis on the recurrence rate.

MATERIAL & METHODS

All individuals included in this study were patients managed according to the treatment and follow-up protocol of a single faculty member. The study included 144 patients who underwent surgery in our clinic with a preliminary diagnosis of cholesteatoma between May 2017 and June 2024 and were ultimately diagnosed with cholesteatoma. At our clinic, patients diagnosed with cholesteatoma are followed up in the otorhinolaryngology outpatient setting within 2 days at the latest if symptomatic, or at 3-month intervals if asymptomatic, and are assessed annually using diffusion-weighted magnetic resonance imaging (MRI).

RESULTS

Among the 144 patients included in the study, 74 were male and 70 were female. According to age distribution, 21 patients were aged 0–18 years, 112 were aged 18–64 years, and 11 were aged 65 years or older. Adherence to the routine follow-up protocol of our clinic was observed in 71 patients (49.30%), while 18 patients (12.50%) attended follow-up visits every 6 months. The remaining 55 patients (38.20%) presented for follow-up irregularly. Recurrent cholesteatoma was identified in 33

patients (22.9%). Recurrence was detected by diffusion-weighted MRI in 29 patients (20.13% of the overall patients and 87.88% of recurrent cases), whereas it was diagnosed on clinical examination in 4 patients (2.77% of the overall patients and 12.12% of recurrent cases). Age-group analysis showed recurrence in 8 patients (38.09%) aged 0–18 years, 22 patients (19.6%) aged 18–64 years, and 3 patients (27.2%) aged 65 years or older.

CONCLUSIONS

Cholesteatoma may result in complications that can be life-threatening. To minimize these complications, we believe that regular postoperative follow-up is of paramount importance. Even in the absence of symptoms, patients should undergo clinical follow-up every 3 months, and annual diffusion-weighted MRI should be performed even when no clinical signs are evident.

KEYWORDS

Cholesteatoma, Mastoidectomy, Diffusion Weighted MRI.

OP-842

The Relationship Between Audiological And Body Fluid Volume Parameters In End-Stage Renal Disease Patients Undergoing Hemodialysis: Investigation Of Endolymphatic Fluid Dynamics

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BACKGROUND & AIM

In dialysis patients, fluid variability may influence inner and middle ear pressure balance mechanisms. Ultrafiltration during hemodialysis leads to marked changes in extracellular and intracellular fluid distribution, potentially altering middle ear pressure regulation and Wide band tympanometry (WBT) parameters. This study aimed to evaluate pre- and post-dialysis differences in bioimpedance, wide-band tympanometry, and pure-tone audiometry in patients with Chronic Kidney Disease receiving hemodialysis. Additionally, it investigated the relationship between ultrafiltration volume and bioimpedance values, the correlation of bioimpedance with WBT and audiometric findings, and the implications of these interactions for endolymphatic fluid exchange dynamics.

MATERIAL & METHODS

In this study, 31 patients receiving treatment at the Hemodialysis Unit of the Department of Nephrology, Istanbul Faculty of Medicine, Istanbul University, were initially enrolled. The patients were evaluated at the bedside in the hemodialysis unit and underwent otoscopic examination prior to the procedure. Four patients with a history of ear surgery or with pathological findings such as perforation or retraction on examination were excluded. Additionally, one patient who developed complications during hemodialysis was excluded from the study. Consequently, a total of 26 patients were included in the final analysis. These patients underwent bioimpedance measurements, wideband tympanometry, and audiometry both before and after bedside hemodialysis. Routine pre-hemodialysis measurements of B-type natriuretic peptide (BNP) were also performed. The bioimpedance measurements, wideband tympanometry and audiometry results, along with the patients' clinical parameters, were analyzed using the SPSS statistical program.

RESULTS

The mean age of the study group was 55.3 ± 18.3 years, with 11 (42.3%) females and 15 (57.7%) males. All body fluid volume parameters, except diastolic blood pressure, changed significantly after hemodialysis. In pure-tone audiometry, a significant difference was found only in the right ear air conduction threshold at 250 Hz ($p < 0.001$). Wideband tympanometry showed significant pre- and post-dialysis differences in peak pressure and resonance frequency in both ears. Peak pressure absorbance differed at 500 Hz in the right ear and 4000 Hz in the left ear, while ambient pressure absorbance changed at 2000 Hz in the right ear and 4000 Hz in the left ear. Correlation analysis demonstrated weak-to-moderate positive relationships between body fluid volume changes and selected audiometric and WBT frequencies. Overall, post-hemodialysis peak pressure and resonance frequency values showed significant alterations, indicating measurable effects on middle ear mechanics and fluid dynamics.

CONCLUSIONS

Our study is the first to assess pre- and post-hemodialysis body fluid volume, pure-tone audiometry, and wideband tympanometry (WBT) in patients with end-stage renal disease. Dialysis-related fluid shifts appear to influence middle and inner ear impedance, suggesting changes in endolymphatic fluid dynamics. Post-dialysis WBT findings of less negative tympanometric pressure and higher resonance frequency indicate that WBT may be a potential tool for detecting endolymphatic hydrops. These results demonstrate the sensitivity of WBT to fluid-related auditory changes and support its possible clinical value. Nevertheless, further studies are needed to clarify its diagnostic accuracy and clinical role in evaluating endolymphatic hydrops.

KEYWORDS

Wide Band Tympanometry, Endolymphatic Fluid Dynamics, End-Stage Renal Disease

OP-843

A Novel Marker For Graft Success In Tympanoplasty: Can The Triglyceride-Glucose Index Predict Graft Viability?

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BACKGROUND & AIM

Factors determining tympanoplasty success are mostly explained by local and surgical variables, while the role of systemic metabolic status is largely overlooked. This study aimed to investigate the effect of the preoperative triglyceride-glucose (TyG) index on graft viability.

MATERIAL & METHODS

This prospective observational study included 70 patients who underwent primary type 1 tympanoplasty due to central tympanic membrane perforation and had no additional systemic diseases. Preoperative fasting triglyceride and glucose levels were measured in all patients, and the TyG index was calculated. Demographic and clinical variables were recorded. Graft viability was evaluated at 3 months postoperatively. Non-parametric tests and multivariate logistic regression analysis were used for statistical analyses.

RESULTS

The overall graft success rate was found to be 82.9%. The TyG index was significantly higher in the failed group ($p<0.001$). It was particularly noteworthy that the TyG index in the failed group was above the threshold values associated with insulin resistance in the literature. Logistic regression analysis showed that the TyG index was an independent and strong predictor of graft failure; each unit increase in the TyG index was found to increase the risk of failure approximately 36.9 times ($p<0.001$).

CONCLUSIONS

This study reveals that tympanoplasty success may be closely related not only to local factors but also to the patient's metabolic status. The TyG index can be a powerful and clinically significant biomarker for predicting graft success, easily applicable in the pre-surgical period. This finding suggests that metabolic risk analysis should be integrated into pre-tympanoplasty evaluation algorithms.

KEYWORDS

Graft viability, insulin resistance, metabolic status, TyG index, tympanoplasty

OP-844

Diagonal Earlobe Crease Is Associated With Reduced Coronary Flow Reserve And Peripheral Endothelial Dysfunction: A Cross Sectional Study

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BACKGROUND & AIM

Diagonal earlobe crease (DELC) is a physical examination sign of premature aging that is associated with atherosclerotic cardiovascular disease. Coronary microvascular dysfunction (CMD) is the initial manifestation of subclinical atherosclerosis in the heart and is associated with significant morbidity and mortality. This study aimed to understand whether DELC was associated with CMD and peripheral endothelial dysfunction (ED) and whether this association could be explained on the basis of accelerated vascular aging.

MATERIAL & METHODS

A total of 30 individuals with DELC and 35 controls were enrolled. Participants underwent assessment of CMD, ED and vascular age via sonographic measurement of coronary flow reserve (CFR), flow-mediated vasodilatation (FMD) and pulse-wave analysis (PWA).

RESULTS

Participants with DELC had significantly lower CFR (2.51 ± 0.45 vs. 3.14 ± 0.36, $p<0.001$) and FMD (10.4 [9.5 - 11.5] vs. 12.2 [9.6 - 13.8], $p=0.007$) compared to controls, and these findings remained robust following adjustment for covariates ($p<0.001$ for CFR and $p=0.005$ for FMD). Vascular age, as determined by PWA, was a significantly better indicator of DELC compared to chronological age (ΔAUC:0.14 (95%CI:0.08 - 0.27), $p<0.001$). When vascular age replaced chronological age in the adjustment models, DELC was no longer associated with FMD ($p=0.140$), however, the association between DELC and CFR remained significant but with a diminished effect size ($p<0.001$, partial η^2:0.216).

CONCLUSIONS

DELC is independently associated with CMD and peripheral ED. Advanced vascular aging in individuals with DELC partially explains these associations, particularly the link between DELC and peripheral ED.

KEYWORDS
Diagonal earlobe crease; Coronary microvascular dysfunction; Coronary flow reserve; Endothelial dysfunction; Flow mediated vasodilatation; Vascular age.

OP-845

Vestibular Evoked Myogenic Potentials In The Assessment Of Vestibular Functions In Children And Adolescents With Internal Auditory Canal Stenosis

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BACKGROUND & AIM
To determine the vestibular involvement in children and adolescents with internal auditory canal (IAC) stenosis using cervical and ocular vestibular-evoked myogenic potentials (VEMP).

MATERIAL & METHODS
Ten patients with IAC stenosis (study group) and 12 age-and-gender-matched healthy subjects (control group) were enrolled. All patients underwent air-conducted sound cervical VEMP (cVEMP) and ocular VEMP (oVEMP) tests. The elicit rate , amplitudes, thresholds, and latencies of VEMPs were evaluated.

RESULTS
The abnormal rate of cVEMP was 40%, which probably indicates possible inferior vestibular nerve dysfunction or hypoplasia due to the IAC stenosis. The abnormal rate of oVEMP was 30%, which indicates superior vestibular nerve involvements. The 12 controls all showed normal VEMP response and normal parameters.

CONCLUSIONS
Children and adolescents with IAC stenosis may have vestibular dysfunction or hypoplasia, and VEMPs could reflect the degree of damages of the vestibular input pathways.

KEYWORDS
Internal Auditory Canal stenosis; Vestibular Dysfunction; Cervical Vestibular Evoked Myogenic Potential (cVEMP); Ocular Vestibular Evoked Myogenic Potential (oVEMP)

OP-846

Long-Term Outcomes And Failure Patterns Of Malleostapedotomy In Complex Middle Ear Pathology

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BACKGROUND & AIM
Malleostapedotomy is a technically demanding malleus-anchored stapes procedure performed when conventional incus-anchoring stapedoplasty is not feasible. Although favourable audiological outcomes have been reported mainly in otosclerosis and revision stapes surgery, results in ears with tympanosclerosis and other complex middle-ear pathologies remain less predictable. Long-term data regarding durability, complications and failure patterns in these challenging ears are limited. This study aimed to evaluate long-term audiological outcomes and failure patterns after malleostapedotomy in patients with complex middle-ear pathology.

MATERIAL & METHODS
Patients who underwent malleostapedotomy between 2009 and 2023 were retrospectively reviewed. Clinical and audiological follow-up data were collected through 2026. Demographic characteristics, underlying middle-ear pathology, prior surgical history, operative staging and tympanic membrane/graft status at the time of malleostapedotomy were recorded. Pure-tone audiometry was evaluated at 500, 1000, 2000 and 4000 Hz. Air-bone gap (ABG) closure and postoperative hearing status were assessed using the latest available audiogram after malleostapedotomy. Surgical success was defined as postoperative ABG ≤20 dB and clinically meaningful improvement as ≥10 dB ABG closure. Complications including profound sensorineural hearing loss/dead ear, vertigo, prosthesis displacement, tympanic membrane retraction and perforation were documented.

RESULTS
Eighteen patients (10 male, 8 female; mean age 28 years, range 11–49) were included with a mean follow-up of 12.1 years (range 3–17). Tympanosclerosis was present in 16 ears (89%), the remaining cases were revision otosclerosis and congenital ossicular anomaly. Preoperatively, 12 tympanic membranes/grafts were intact, 3 were perforated and 3 were retracted. Malleostapedotomy was performed as a second-stage procedure in 10 patients (56%). Among 13 audiologically evaluable ears, median ABG improved from 37 dB preoperatively to 20 dB postoperatively (p=0.011). Surgical success (ABG ≤20 dB) was achieved in 7 patients (39%) with ≥10 dB closure in 1 additional ear. Four ears showed no meaningful ABG improvement and 1 had ABG worsening with bone-conduction decline. Profound sensorineural hearing loss/dead ear developed in 5 patients

(28%). Prosthesis displacement occurred in 2 patients, including 1 with malleus erosion. Postoperative retraction accounted for 4 of the 5 profound hearing loss cases (p=0.022).

CONCLUSIONS

Malleostapedotomy may provide meaningful hearing improvement in selected patients with complex middle-ear pathology, including tympanosclerosis and chronic otitis media sequelae. However, in this long-term cohort, outcomes were heterogeneous with surgical success achieved in 39% and profound sensorineural hearing loss/dead ear occurring in 28%. Postoperative tympanic membrane retraction and prosthesis displacement emerged as the main failure patterns, emphasizing that durable reconstruction depends on a stable middle-ear environment. These findings suggest that careful patient selection and prolonged audiological and otoscopic follow-up are essential, particularly in ears prone to retraction.

KEYWORDS

Malleostapedotomy, ossiculoplasty, tympanosclerosis, chronic otitis media, incus erosion, stapes surgery, hearing outcomes

OP-847

Role Of High Resolution Computed Tomography Scan In Otosclerosis.

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BACKGROUND & AIM

Otosclerosis, also known as otospongiosis, is an autosomal dominant disorder of the otic capsule characterized by abnormal bone remodeling, leading to progressive conductive, sensorineural, or mixed hearing loss, often with tinnitus or vestibular symptoms. Accurate preoperative assessment is crucial for surgical planning, and high-resolution computed tomography (HRCT) of the petromastoid region has emerged as the gold standard for detecting otosclerotic foci and anatomical variations.

To evaluate the role of HRCT in diagnosing otosclerosis, assessing disease extent, predicting surgical difficulty, and guiding prosthesis planning.

MATERIAL & METHODS

A prospective cross-sectional study was conducted at Bangladesh Medical University from October 2024 to December 2025. Fifty-two patients with clinically and audiologically confirmed otosclerosis were included. HRCT findings, including fenestral and cochlear involvement, stapedial footplate thickening, pericochlear radiolucency, and anatomical variations, were recorded and correlated with intraoperative findings. Diagnostic accuracy metrics and HRCT-based surgical predictions were analyzed.

RESULTS

Among 52 patients, the mean age was 39.1 ± 8.7 years, with female predominance (63.5%) and bilateral involvement in 69.2%. Conductive hearing loss was most common (76.9%), with Carhart's notch present in 80.8%. HRCT detected fenestral otosclerosis in 82.7% and retrofenestral involvement in 30.8%. HRCT grading (Marshall classification) identified 53.8% as Grade 1, and higher grades correlated with mixed hearing loss. HRCT showed strong agreement with intraoperative findings (87.2–100%), with a sensitivity 92.3%, a specificity 86.7%, and overall accuracy 90.4%. Thick footplates, narrow oval windows, facial nerve dehiscence, and higher HRCT grades were significant predictors of surgical difficulty. Predicted prosthesis length closely matched intraoperative measurements ($r = 0.86$, $p < 0.001$).

CONCLUSIONS

HRCT of the petromastoid region is a highly sensitive and accurate tool for diagnosing otosclerosis, assessing disease extent, identifying anatomical variations, predicting surgical challenges, and guiding prosthesis selection. Routine preoperative HRCT is recommended to optimize surgical planning and outcomes in otosclerosis patients.

KEYWORDS

Otosclerosis, High-Resolution Computed Tomography (HRCT), Bone, Fenestral Otosclerosis, Retrofenestral Otosclerosis, Hearing Loss.

OP-848

Prognostic Factors And Clinical Outcomes In Malignant External Otitis And Skull Base Osteomyelitis: A Retrospective Analysis

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BACKGROUND & AIM

Malignant External Otitis (MEO) is an aggressive, potentially fatal infection that can progress to Skull Base Osteomyelitis (SBO). We hypothesized that specific clinical, laboratory, and radiological markers serve as significant prognostic factors for disease severity and patient survival. This study aims to evaluate these markers and treatment outcomes in a tertiary referral center.

MATERIAL & METHODS

This retrospective clinical study was conducted at Ankara Bilkent City Hospital between 2024 and 2025. Subjects included 9 male patients diagnosed with MEO and SBO in a tertiary referral setting. Interventions comprised targeted systemic antimicrobial therapy, surgical debridement (mastoidectomy), and Hyperbaric Oxygen Therapy (HBOT). Outcome measurements included hospital stay duration, treatment response, and mortality. Independent variables analyzed were age, Hemoglobin A1c (HbA1c), C-reactive protein (CRP), and Neutrophil-to-Lymphocyte Ratio (NLR). Statistical analysis was performed using SPSS v27.0, utilizing descriptive statistics (mean ± standard deviation).

RESULTS

All patients (100%) had Diabetes Mellitus (DM), with a mean HbA1c of 7.46 ± 1.67%. Hypertension (HT) was present in 55.5% of cases. Laboratory analysis revealed an elevated mean CRP of 36.27 ± 30.79 mg/L and a mean NLR of 3.7 ± 1.41. Computed Tomography (CT) identified temporal bone erosion in 100% of subjects, while Magnetic Resonance Imaging (MRI) confirmed bone marrow involvement in 88.8%. Microbiology results notably isolated Candida parapsilosis in cultures. The mean duration of systemic antibiotic therapy was 7.22 ± 3.55 weeks. Surgical intervention was performed in 5 patients (55.5%), and 3 patients (33.3%) received HBOT. The mean hospital stay was 45.2 ± 22.65 days. The overall mortality rate was 22.2% .

CONCLUSIONS

MEO and SBO cause significant morbidity in elderly diabetic patients. High HbA1c, CRP, and NLR are key indicators of disease progression. While CT is essential for detecting bone erosion, MRI provides critical detail on skull base involvement. The emergence of fungal isolates like Candida necessitates individualized treatment strategies. Early diagnosis combined with aggressive medical and surgical management is vital for improving survival outcomes.

KEYWORDS

Malignant external otitis, skull base osteomyelitis, diabetes mellitus, prognostic factors, Candida parapsilosis

OP-849

The Protective Effect Of Citicoline Against Cisplatin-Induced Ototoxicity.

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BACKGROUND & AIM

Cisplatin is a potent chemotherapeutic agent widely used in solid tumors; however, its clinical application is often limited by permanent, bilateral sensorineural hearing loss. This ototoxicity is primarily mediated by the accumulation of reactive oxygen species (ROS), the release of pro-inflammatory cytokines, and the activation of apoptotic pathways within the cochlea. Citicoline, a neuroprotective molecule, has demonstrated the potential to maintain cellular integrity and reduce oxidative stress. This study aimed to evaluate the otoprotective efficacy of systemic citicoline administration against cisplatin-induced damage in a rat model.

MATERIAL & METHODS

Twenty-eight adult rats were randomized into four groups (n=7/group): Control, Cisplatin (4.6 mg/kg/day i.p. for 3 days), Citicoline (250 mg/kg/day oral gavage for 27 days), and Cisplatin+Citicoline. Auditory Brainstem Response (ABR) and Distortion Product Otoacoustic Emissions (DPOAE) were recorded at baseline and on day 21. Following functional tests, cochleae were harvested for Myosin VIIa immunohistochemistry, TUNEL assay, and Scanning Electron Microscopy (SEM). Histopathological scoring was performed to evaluate hair cell loss, stria vascularis atrophy, and spiral ganglion degeneration. Statistical analyses were conducted using Kruskal-Wallis and Mann-Whitney U tests with SPSS v23.0 ($p<0.05$).

RESULTS

Cisplatin administration led to significant threshold shifts in ABR (mean: 65.4±4.2 dB SPL) and marked reductions in DPOAE amplitudes across all frequencies ($p<0.001$). In the Cisplatin+Citicoline group, these functional deficits were significantly attenuated, with ABR thresholds preserved at 38.6±3.8 dB SPL ($p<0.01$). Histopathologically, the cisplatin group exhibited extensive outer hair cell loss and high TUNEL-positive apoptotic activity. Conversely, citicoline treatment resulted in significantly higher Myosin VIIa-positive hair cell counts (88.4%±5.2%) and reduced apoptotic cells (12.4±2.1) compared to the cisplatin-only group ($p<0.001$). SEM observations confirmed that citicoline effectively protected stereocilia bundles and stria vascularis integrity from cisplatin-induced ultrastructural degradation. These results suggest that citicoline provides significant functional and structural protection against cisplatin-induced ototoxicity by inhibiting apoptosis and preserving cochlear integrity.

CONCLUSIONS

This study demonstrates that citicoline effectively reduces cisplatin-induced ototoxicity by preserving hearing thresholds and cochlear hair cell integrity. Our findings suggest that the neuroprotective effects of citicoline occur primarily through stabilization of cell membranes and inhibition of apoptotic pathways. The significant reduction in TUNEL-positive cells and preservation of Myosin VIIa expression in the citicoline-treated group highlight the potential of this molecule as a prophylactic agent. These results position citicoline as a promising therapeutic strategy to prevent permanent hearing loss in patients receiving cisplatin-based chemotherapy. Further clinical trials are needed to confirm these findings in human subjects.

KEYWORDS
citicoline, cisplatin, ototoxicity, protective effect

OP-850

Predicting Radiological Mastoid Parameters And Jugular Bulb Position Via Preoperative Wideband Tympanometry In Type 1 Tympanoplasty Patients

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BACKGROUND & AIM

Mastoid pneumatization, mastoid volume, and anatomical variations such as jugular bulb height are recognized determinants of middle ear physiology. Wideband tympanometry (WBT) is an objective diagnostic modality that evaluates middle ear mechanics across a broad frequency spectrum between 226 and 8000 Hz. This study aimed to investigate whether preoperative WBT parameters can predict temporal bone computed tomography findings, including mastoid volume, mastoid surface area, and jugular bulb position in patients undergone type 1 tympanoplasty. We hypothesized that specific WBT absorbance patterns would demonstrate significant correlations with radiological mastoid dimensions and jugular bulb classification.

MATERIAL & METHODS

This prospective study initially enrolled 37 patients scheduled for Type 1 tympanoplasty. Four patients were excluded because of the absence of preoperative CT imaging (n: 4) and technical PACS-related issues (n: 1), resulting in a final cohort of 32 patients. The mean age of patients was 36.4 ± 12.3, and 18 (56.3%) of patients were women. Temporal bone CT images were analyzed by an experienced radiologist using Horos imaging software to calculate mastoid volume and surface area bilaterally. Jugular bulb height was categorized according to the Manjila classification system. 64 ears of 32 patients underwent standardized preoperative WBT and pure-tone audiometry. Absorbance values, resonance frequency, and air bone gap (ABG) were evaluated to determine their predictive value for radiological measurements. Perioperative findings were also noted. Tympanic membrane perforation was noted as the percentage of the perforated area.

RESULTS

14 (43.8%) patients had 50-75%, 13 (24.9%) patients had 25-50%, and 10 (31.3%) patients had subtotal perforation, and 13 (40.6%) patients had right-sided perforation. The mean of ABG in the perforated side was 22.1±7.2 and 4.6±1.8 in the healthy ear ($p<0.01$). Absorbance values of 250 Hz, 500 Hz, 1000 Hz, and 2000 Hz in the perforated ear were lower than those of the healthy ear ($p<0.01$ for four frequencies). The mean of mastoid volume in healthy ears was 4630.1±2494.2, and in the perforated side was 2774.1±1552.3 (p: 0.01). A significant positive correlations were observed between WBT absorbance in 250, 500, 1000, 2000, and 4000 Hz frequencies and radiological mastoid volume ($p<0.01$, p: 0.2; p: 0.01; p: 0.04; p: 0.03, respectively). WBT parameters didn't demonstrate concordance with jugular bulb position. There was also a significant positive correlation between resonance frequency and wide-band volume in healthy ears (ρ: 0.63; $p< 0.01$).

CONCLUSIONS

The results suggest that functional acoustic measurements may reflect the three-dimensional anatomical status of the temporal bone and enable identification of reduced mastoid capacity through non-invasive testing. The demonstrated relationship between WBT-derived functional metrics and CT-based anatomical parameters indicates that WBT may provide a reliable non-invasive approach for preoperative assessment. Integrating WBT with radiological classification systems could enhance surgical planning, facilitate risk stratification, and improve patient counseling in candidates undergoing tympanoplasty. Additional prospective studies with a larger sample size are warranted.

KEYWORDS
Wide band tympanometry, tympanic membran perforation, computed tomography, jugular bulb.

OP-851

Back In The Water In 2 Weeks: Keyhole Surgery For Surfer's Ear

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BACKGROUND & AIM

Background: External auditory canal exostosis (EAE), commonly known as "surfer's ear," is a benign bony proliferation associated with repeated cold-water exposure. Surgical management is indicated in symptomatic cases with significant canal obstruction, recurrent infections, or hearing impairment. Traditional approaches have been associated with morbidity and prolonged recovery. Minimally invasive per meatal techniques have emerged as an alternative, aiming to reduce complications and recovery time.

Objective: To evaluate the outcomes of a minimally invasive transcanal (keyhole) surgical approach for the management of EAE in a high-volume, single-surgeon series.

MATERIAL & METHODS

Methods: A retrospective review was conducted of all patients undergoing surgical management of external auditory canal exostosis by a single surgeon from 2017 onwards. Data collected included patient demographics, indication for surgery, surgical technique, postoperative recovery, complications, and time to return to water exposure.

RESULTS

Results: A total of 600 cases were included. All patients underwent minimally invasive transcanal canalplasty using a keyhole approach. The technique allowed effective removal of exostoses with preservation of canal skin and minimal disruption to surrounding structures. Postoperative recovery was favorable, with minimal downtime reported across the cohort. The majority of patients resumed water exposure at approximately 2 weeks postoperatively. Complication rates were low, and outcomes demonstrated effective symptom resolution, including reduction in recurrent infections and improvement in canal patency.

CONCLUSIONS

Conclusion:Minimally invasive transcanal (keyhole) surgery is a safe and effective technique for the management of external auditory canal exostosis. In this large single-surgeon series, the approach was associated with low morbidity, rapid recovery, and early return to water activities. These findings support the use of transcanal techniques as a preferred surgical approach in appropriately selected patients.

KEYWORDS

exostosis, keyhole surgery, recovery

OP-852

Spontaneous Pneumocephalus Associated With Leptomeningeal Glioneuronal Tumor In An Adult; A Rare Case Report

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BACKGROUND & AIM

Objective: To report a rare case of otogenic tension pneumocephalus as a complication of a diffuse leptomeningeal glioneuronal tumor in a patient with a ventriculoperitoneal (V. P.) shunt.

MATERIAL & METHODS

Patients: Twenty-three- year-old man with a confirmed diffuse leptomeningeal glioneuronal tumor diagnosis was treated for temporal bone defect and considerable pneumocephalus one year after V. P. shunt.

Intervention(s): The patient underwent a Transmastoid, retrolabyrinthine approach. The defect was closed with temporalis facia graft and conchal cartilage as a double-layer closure, and then DuraSeal® was placed over the repaired area.

Main outcome measure(s): Resolution of the pneumocephalus.

RESULTS

Results: There was a significant reduction in the pneumocephalus on the first day post-operatively.

CONCLUSIONS

Conclusions: Spontaneous or secondary pneumocephalus development should be considered in patients with brain tumors, hydrocephalus, and patients who undergo V.P. shunt insertion.

KEYWORDS

Pneumocephalus, Neurotology, Leptomeningeal, otology

OP-853

Outcomes Of Stapedotomy Performed By Residents Under Direct Supervision Versus Experienced Otologists: A Single-Center Cohort Study

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BACKGROUND & AIM

Background: Stapedotomy is the preferred surgical treatment for otosclerosis but demands high microsurgical precision and experience. Prior studies indicate that outcomes achieved by trainees are inferior to those of attending otologists, likely reflecting a short learning curve and limited case volume during residency

Objective: To compare hearing outcomes and complication rates between primary stapedotomies performed by third-year otolaryngology residents under direct faculty

supervision and those performed by attending otologists.

MATERIAL & METHODS

Methods: Retrospective cohort at a tertiary academic center including 83 patients (89 primary stapedotomies) from 2019–2023. Air–bone gap (ABG) closure was classified as successful (≤10 dB), partial (>10 to ≤20 dB), or unsuccessful (>20 dB). Bone-conduction thresholds and perioperative complications were assessed.

RESULTS

Results: Complete ABG closure (≤10 dB) occurred in 77.8% of resident-performed cases versus 95.5% by attendings (p = 0.026). Using the broader criterion of ABG ≤20 dB, results were comparable between groups (p = 0.67). Bone-conduction thresholds remained stable in both cohorts, and complications were more frequent in resident cases but without permanent sequelae.

CONCLUSIONS

Conclusion: Under direct faculty supervision, stapedotomy can be safely performed by residents, yielding favorable functional hearing outcomes and an acceptable complication profile.

KEYWORDS

Keywords: Otosclerosis; Stapedotomy; Stapes surgery; Air–bone gap; Hearing outcomes; Surgical training; Otolaryngology residency.

OP-854

Mastoid Obliteration For Problematic Cavities- Technique Refinements And Lessons Learned From Revision

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BACKGROUND & AIM

Problematic mastoid cavities following canal wall down mastoidectomy can cause chronic otorrhoea, recurrent infection, difficulty with water exposure, and a persistent need for outpatient cleaning. These cases are often complex and may have undergone multiple previous revisions. Secondary mastoid obliteration aims to create a dry, safe, low-maintenance and water-proof ear. This study evaluates the long-term effectiveness of secondary mastoid obliteration in managing difficult mastoid cavities.

MATERIAL & METHODS

A prospective study of secondary mastoid obliterations undertaken between July 2014 and June 2026 is presented. A total of 102 obliterations were performed in 102 ears of 100 patients, including two bilateral cases. Ninety-five cases completing at least one year of follow-up were included. Twelve patients were lost to follow-up, including one unrelated death. The obliteration technique used a combination of local vascularised flaps and graft material, including fascia-periosteal flap, mid-temporal flap, cartilage, bone pâté and Tisseel, with selective use of synthetic material. Patients were followed at 3 and 6 months postoperatively, then annually for a minimum of 5 years. MRI surveillance was performed at 1 and 3 years, with selected cases imaged at 5 years.

RESULTS

Secondary mastoid obliteration achieved long-term control of cavity-related symptoms in the majority of patients, converting difficult cavities into dry, safe and water-resistant ears. Nineteen patients required revision surgery, giving a revision rate of 18.6%. Four patients involving six ears underwent endoscopic revision, while eleven patients underwent open revision; all open revision cases were dry at follow-up. One false-positive MRI led to negative exploration, although subsequent second revision at 11 years demonstrated residual disease.

CONCLUSIONS

Secondary mastoid obliteration is an effective technique for controlling difficult, chronically discharging and multiply revised mastoid cavities. Long-term follow-up extending to 11 years demonstrated durable cavity stability in most patients. Careful analysis of revision patterns allowed refinement of the operative technique, informing practice and improving success rates over time.

KEYWORDS

Secondary mastoid obliteration, cholesteatoma, mastoid cavity revision, long-term outcomes, otology

OP-855

Optimal Head Position For Intratympanic Dexamethasone Injection Relative To The Round Window

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BACKGROUND & AIM

Intratympanic dexamethasone injection (ITDI) is widely used for inner ear disorders. However, optimal head positioning to maximize drug absorption through the round window membrane (RWM) while minimizing Eustachian tube (ET) washout remains undefined. This study aimed to determine the ideal head position for ITDI using a multimodal approach and to compare it with the traditional 45° head rotation.

MATERIAL & METHODS

A multimodal analysis incorporating cadaveric dissection, clinical patient perilymph sampling, and three-dimensional (3D) anatomical modeling was performed. Twelve sagittal-sectioned human temporal bone cadavers were dissected to identify the transcanal angle required for direct RWM contact, and corresponding yaw, roll, and pitch head position angles were measured. Additional cadavers were used to compare perilymph dexamethasone concentrations following ITDI administered in either the traditional or optimal head position. Clinically, five patients undergoing translabyrinthine vestibular schwannoma resection received ITDI before surgery, followed by perilymph sampling. A 3D printed anatomical model of the external auditory canal, RWM, and ET was constructed to confirm fluid flow to the RW.

RESULTS

The optimal head position relative to the RWM was identified as 58.9° yaw, 31.1° roll, and 22.5° pitch. Cadaveric and clinical patient perilymph sampling demonstrated a 2.94-fold increase in perilymph dexamethasone concentration in the optimal head position compared with the traditional 45° position (0.0447% vs 0.0152%). Three-dimensional modeling demonstrated increased drug flow toward the RWM and reduced ET washout when roll and pitch were optimized conjunctively, while yaw alone had minimal effect.

CONCLUSIONS

Ideal intratympanic dexamethasone delivery requires adjustment of roll and pitch in addition to yaw. implementing a three-axis ideal head position is a simple, cost-effective strategy to improve intratympanic steroid absorption and therapeutic efficacy.

KEYWORDS

Intratympanic dexamethasone injecton, Inner ear disorder, Round window, Cadaveric study

OP-856

Intraoperative Ossicular Findings And Surgical Outcomes In Traumatic Conductive Hearing Loss: A Retrospective Analysis

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BACKGROUND & AIM

Conductive hearing loss following temporal bone trauma is an important consequence of ossicular chain disruption. Among the ossicular pathologies that cause conductive hearing loss, incudostapedial (IS) joint dislocation is the most frequently encountered finding; however, erosion of the long process of the incus, stapes discontinuity, and malleus fixation may also be observed. The aim of this study was to retrospectively evaluate the intraoperative ossicular findings, the surgical techniques performed, and the postoperative audiological outcomes in patients who underwent ossiculoplasty for traumatic conductive hearing loss.

MATERIAL & METHODS

In this retrospective study, a total of 10 patients who underwent ossiculoplasty for trauma-related conductive hearing loss at the Department of Otorhinolaryngology of Ankara Etlik City Hospital between January 2023 and February 2026 were analyzed. Patients with persistent post-traumatic conductive hearing loss, available preoperative pure-tone audiometry (PTA) and temporal bone computed tomography (CT), and a postoperative follow-up of at least 3 months were included. Patients with congenital ossicular anomalies, chronic otitis media, secondary ossicular damage due to cholesteatoma or tympanosclerosis, isolated sensorineural hearing loss, or otosclerosis were excluded. Age, sex, trauma etiology, temporal bone CT findings, status of the tympanic membrane, intraoperative ossicular pathology, surgical approach, and ossiculoplasty technique were recorded. Preoperative and postoperative pure-tone audiometric values (air conduction [AC], bone conduction [BC], and air–bone gap [ABG]) were compared using the paired-samples t-test. Surgical success was defined as a postoperative ABG ≤20 dB.

RESULTS

Of the 10 patients included, 5 (50%) were male and 5 (50%) were female. The mean age was 24.8 ± 11.5 years. Trauma etiologies comprised blunt head trauma (n=8) and motor vehicle accidents (n=2). The most frequent ossicular pathology was

incudostapedial joint dislocation (n=6, 60%), followed by erosion of the long process of the incus (n=2, 20%), malleus fixation (n = 1, 10%), and stapes discontinuity with separation of the crura from the footplate (n=1, 10%). Reconstruction was performed with bone cement (Ketacem) in 8 patients, TORP (plastipore) prosthesis in 1 patient. And 1 patient was managed with a Teflon (fluoroplastic) piston without stapedetomy. The mean preoperative air conduction (AC) threshold improved significantly from 53.1 ± 13.4 dB to 24.3 ± 8.3 dB postoperatively ($p < 0.001$), and the mean preoperative air–bone gap (ABG) decreased significantly from 35.9 ± 7.3 dB to 9.5 ± 5.7 dB ($p< 0.001$).

CONCLUSIONS

In traumatic ossicular chain disruption, ossiculoplasty provides statistically and clinically significant improvement in hearing outcomes. In our series, incudostapedial joint pathology was the most common intraoperative finding, and in cases in which the remaining components of the ossicular chain were intact, reconstruction with bone cement was performed with low morbidity and a high success rate (postoperative ABG ≤20 dB in 100% of cases).

KEYWORDS

Traumatic hearing loss, ossiculoplasty, conductive hearing loss

OP-857

Dementia Screening In Routine ENT And Audiology Clinics: Barriers And Enablers

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BACKGROUND & AIM

Dementia is a global health challenge in the 21st century and Age-Related Hearing Impairment is the major modifiable risk factor. This study aimed to explore the feasibility of including a memory screen as part of a standard hearing assessment.

MATERIAL & METHODS

NIHR portfolio adoption and Ethics approval (ID: 257362).

Audiologists were trained to administer Mini Mental State Examination (MMSE). Potential patients referred for hearing assessment were sent Patient Information Sheet. Those over 40 years and average hearing thresholds worse than 35dB were included.

Full history, examination, pure tone audiometry were undertaken and patients were consented if meeting inclusion criteria. Participants completed MMSE with the audiologist. Results shared with them and their GP with advise for onward referral if results outside range.

Declining patients were requested to share their reasons which were recorded with consent.

RESULTS

Of 1145 patients considered 572 failed preliminary screening. 467 (80%) of those invited agreed to participate, 18% declined (42% of them declined to give a reason) and 2% later withdrew. 250 completed the study. Average age was 73 years (range 65-79). Three (1%) had mild cognitive impairment. Hearing thresholds were worse than the group and only 1 of the 3 had noticed memory issues.

Commonest reasons for declining: other health/family commitments, didn't wish to know results, research averse or perceived inadequate information. Barriers to implementation: time constraints, unease at breaking bad news, non-attendance, rushed appointment.

CONCLUSIONS

It is possible to implement dementia screening in audiology clinics but there are a variety of factors to consider, including: patient concerns, staff and logistics, which all need addressing carefully.

KEYWORDS

Audiology, Screening, Dementia, Hearing Assessment

OP-858

Impact Of Tympanoplasty On Tinnitus In Patients Diagnosed With Chronic Otitis Media: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Purpose: Tinnitus is a frequent symptom linked to chronic otitis media (COM) and significantly affects the quality of life for affected individuals. This study aimed to evaluate the effectiveness of tympanoplasty in alleviating tinnitus in patients with COM and to explore the relationship between improvements in hearing and a reduction in tinnitus

MATERIAL & METHODS

Methods: The prospective registration of the systematic review was completed (CRD420250649682) and conducted according to PRISMA guidelines. Four major databases, PubMed, Web of Science, ScienceDirect, and Google Scholar, were searched electronically to identify relevant studies

RESULTS

Results: Twelve studies encompassing 1,139 patients were included in the analysis. Tympanoplasty resulted in a significant decrease in Tinnitus Handicap Inventory (THI) and Visual Analogue Scale (VAS) scores, with a pooled mean difference of 17.10 points (95% confidence interval [CI], 7.59 to 26.61, $p < 0.001$] and 1.92 points (95% CI, 0.65 to 3.19, $p = 0.003$), respectively. Age significantly correlates with improvements in THI, with younger individuals experiencing a greater decrease (beta = -2.04, 95% CI, -3.34 to -0.74, $p = 0.002$). A greater enhancement in bone conduction was associated with greater reduction in tinnitus severity (beta = 7.38, 95% CI, 5.31 to 9.45, $p < 0.001$)

CONCLUSIONS

.Conclusion: Tympanoplasty significantly improved the THI and VAS scores in patients with COM, with significant improvements in air conduction, bone conduction, and air-bone gap. Moreover, an improvement in bone conduction was positively correlated with the THI score after tympanoplasty.

KEYWORDS

Keywords: Chronic otitis media; Tympanoplasty; Tinnitus; Hearing Loss

OP-859

Are Patients With Sudden Hearing Loss Different From Those With Progressive Hearing Loss? A Cross-Sectional Pilot Study

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BACKGROUND & AIM

The aim of this study is to compare the long-term quality of life, treatment satisfaction, depression and anxiety levels, and cognitive functions of patients with a history of sudden hearing loss with those of patients with progressive hearing loss, and to obtain effect size and standard deviation data for future long-term studies.

MATERIAL & METHODS

This study is a cross-sectional study involving 30 patients diagnosed with sudden hearing loss and 30 patients diagnosed with progressive hearing loss, all aged 18 years or older. Patients' demographic data, pre- and post-treatment audiological parameters, and accompanying vestibular symptoms were recorded. To assess functional limitations, psychological status, treatment success, subjective hearing quality, and cognitive impairments, the Dizziness Handicap Inventory (DHI), the Hospital Anxiety and Depression Scale (HADS), the Glasgow Benefit Inventory (GBI), the Speech, Spatial, and Hearing Characteristics Scale (SSQ12), and the Cognitive Failures Questionnaire (CFQ15) were administered. Due to the sample size, both parametric and non-parametric tests (Mann-Whitney U, Kruskal-Wallis, Spearman) were used for data analysis. Pearson correlation analysis was performed for continuous variables.

RESULTS

No significant differences were found between the groups (progressive and sudden hearing loss) in terms of scores on all scales ($p > 0.05$). However, a trend toward higher scores was observed in the progressive group for depression ($p = 0.077$) and cognitive impairment ($p = 0.098$). In the gender-based analysis, women had significantly higher HADS-Total ($p=0.020$) and anxiety ($p=0.034$) and depression ($p=0.044$) subscores, while men had significantly better SSQ12 scores ($p=0.015$). The presence of dizziness ($p<0.001$) and imbalance ($p=0.004$) was associated with a significant increase in DHI scores. In the correlation analysis, it was observed that as the perceived subjective hearing quality increased, anxiety, depression, and cognitive error scores decreased significantly ($p<0.001$). In regression analyses conducted in the sudden hearing loss subgroup, final hearing level (air conduction average at 500–4000 Hz) was a significant predictor of HADS anxiety subscale scores ($p = 0.031$) and depression subscores ($p = 0.015$).

CONCLUSIONS

The initial nature of hearing loss (sudden or progressive) has similar effects on patients' quality of life and psychological morbidity. Female gender and accompanying vestibular symptoms are key risk factors that negatively impact patients' functional and psychosocial status. In the management of hearing loss, focusing solely on audiological success is insufficient; a comprehensive approach, including vestibular rehabilitation, should be adopted by considering the patient's subjective perception of hearing, gender, and accompanying symptoms. The study is currently ongoing with data collection and evaluation.

KEYWORDS

Sudden hearing loss, Progressive hearing loss, Quality of life, Psychometric assessment, Vestibular symptoms.

OP-860

Large Language Model Based Artificial Intelligence In The Diagnosis Of Cholesteatoma A Radiology Pathology Validated Comparison

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BACKGROUND & AIM

To evaluate the diagnostic accuracy of non–echo-planar diffusion-weighted imaging (non-EPI DWI) and large language model (LLM)-based artificial intelligence (AI) in cholesteatoma diagnosis, using histopathology as the reference standard.

MATERIAL & METHODS

This retrospective study included 244 patients who underwent surgery for suspected residual or recurrent cholesteatoma at Bezmialem Vakıf University between 2017 and 2025. All patients had preoperative MRI with non-EPI DWI and histopathological confirmation. Routine radiology reports were reviewed, and images were additionally analyzed using Gemini 2.5, a multimodal LLM optimized for medical imaging. Diagnostic performance was assessed by calculating sensitivity, specificity, accuracy, positive predictive value, negative predictive value , F1 score, likelihood ratios, and diagnostic odds ratio. Subgroup analyses were performed according to lesion size.

RESULTS

Of the 244 patients, 121 had histopathologically confirmed cholesteatoma and 123 had non-cholesteatoma pathology. Overall accuracy was 79.1% for AI and 84.0% for radiology. Radiology showed significantly higher specificity (95.9% vs. 88.6%, p = 0.016), while sensitivities were comparable. In lesions <5 mm, AI sensitivity was markedly lower than radiology (36.8% vs. 68.4%, p = 0.011), whereas in lesions ≥5 mm, both methods showed similar sensitivity (84.7% vs. 93.2%, p = 0.24).

CONCLUSIONS

Gemini 2.5 demonstrated clinically meaningful diagnostic performance comparable to radiology and provided rapid image-based assessment without training requirements. LLMs may serve as practical second-opinion tools, especially in centers with limited radiologic expertise. Further multicenter prospective studies with standardized imaging protocols are warranted to validate their integration into clinical workflows.

KEYWORDS

Cholesteatoma, Non-Echo Planar Diffusion-Weighted Imaging, Artificial Intelligence, Large Language Models, Magnetic Resonance Imaging, Temporal Bone, Gemini 2.5, ChatGPT-5

OP-861

Surgical Outcomes And Hearing Preservation Of Early Cochlear Implantation Using MED-EL FLEX Electrodes In Libyan Children.

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BACKGROUND & AIM

Background: Residual hearing preservation is an increasingly important target in pediatric cochlear implantation. MED-EL FLEX electrode arrays have been developed to minimize intracochlear trauma while providing effective cochlear coverage.

MATERIAL & METHODS

Methods: Children undergoing cochlear implantation were subjected to thorough audiological evaluation before surgery and during a two-year follow-up period. Residual hearing, intraoperative findings, electrode insertion success, postoperative complications, and auditory performance were analyzed by using Auditory performance (CAP score), Auditory development (LittlEARS questionnaire), Speech intelligibility (SIR):and Language development:

RESULTS

. . Analysis of 30 childreen of paediatric age group between 1-5 years was carried out after FLEX MED-EL electrodes insertion showed high rates of hearing preservation, low complication rates, and significant improvements in auditory performance and speech perception

CONCLUSIONS

Conclusion: The findings will provide valuable evidence regarding the safety and effectiveness of FLEX electrode technology in pediatric cochlear implantation within the Libyan healthcare system.

KEYWORDS

Cochlear implantation libya flex

OP-862

Histopathological Correlates Of Impaired Vestibular Compensation After Unilateral Vestibular Neurectomy In GAERS

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BACKGROUND & AIM

Vestibular compensation following unilateral vestibular neurectomy (UVN) relies on central nervous system plasticity, yet the structural mechanisms underlying this process in the context of epileptic pathology remain poorly understood. Building on our prior behavioral evidence demonstrating significantly delayed and incomplete vestibular compensation in Genetic Absence Epilepsy Rats from Strasbourg (GAERS), the present study sought to characterize the histopathological substrates of this impairment, with particular focus on the primary somatosensory cortex (S1) and hippocampal dentate gyrus (DG).

MATERIAL & METHODS

UVN was performed in GAERS (n=7) and non-epileptic Wistar controls (n=7). Prior to the experimental period, successful vestibular loss was confirmed in all animals using the tail-lift and air-righting reflexes. General locomotor function and anxiety-like behavior were assessed using the open field test. Animals were then monitored daily for 7 days following surgery, after which brains were harvested via transcardial perfusion and embedded in paraffin. Serial coronal sections (4–6 µm thickness) were obtained using a rotary microtome from the paraffin tissue blocks, encompassing the primary S1 and hippocampal DG regions, according to the Paxinos and Watson rat brain atlas. Sections were processed with hematoxylin–eosin and cresyl violet staining. Histopathological evaluation was conducted using a semi-quantitative scoring system encompassing four parameters: neuronal degeneration, neuronal loss, perineuronal vacuolation, and gliosis. Group differences were assessed by independent-samples t-test.

RESULTS

Following the 7-day postoperative observation period, controls demonstrated well-preserved neuronal morphology with intact laminar organization throughout S1 and regular cytoarchitecture in the DG. In contrast, GAERS exhibited widespread neuronal degeneration characterized by pyknotic nuclei, cytoplasmic shrinkage, and cytotoxic edema, accompanied by prominent perineuronal vacuolation and reactive gliosis. Structural disruption was particularly pronounced in the DG, where irregular cytoarchitecture and hilum disorganization were consistently observed. Histopathological degeneration scores were significantly higher in GAERS compared to controls ($t(12) = 3.693$, $p < 0.003$), indicating markedly elevated neuronal vulnerability in the epileptic group. Following UVN, GAERS demonstrated increased head shaking and circling behavior compared to controls, which became more pronounced by postoperative 7-day, reflecting progressive postural instability and insufficient vestibular compensation in the epileptic group.

CONCLUSIONS

The present findings demonstrate that epileptic pathology is associated with substantial structural degeneration in cortical and hippocampal regions critical for vestibular plasticity. The histopathological results showed degenerated cellular basis for the impaired behavioral vestibular compensation previously documented in GAERS. These results suggest that pre-existing epileptic activity may compromise the structural integrity necessary for effective central compensation following peripheral vestibular injury. Clinically, these findings may be taken into consideration in individuals with epilepsy, when evaluating vestibular compensation.

KEYWORDS

Vestibular Compensation; Unilateral Vestibular Neurectomy; GAERS; Somatosensory Cortex; Dentate Gyrus; Neurodegeneration; Cortical Plasticity; Epilepsy

OP-863

The ‘Utrecht Experience’ In The Management Of Inner Ear Schwannomas. A Cohort Study

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BACKGROUND & AIM

Inner ear schwannomas (IESs) are a rare subtype of vestibulocochlear nerve schwannomas originating from the vestibular/auditory end organs. They typically present with unilateral sudden or progressive sensorineural hearing loss (SNHL), tinnitus, and/or vestibular symptoms. The widespread use of magnetic resonance imaging (MRI) has substantially increased

the detection of this uncommon entity. The aim of this study was to present the diagnostic and therapeutic management experience of a tertiary referral center in the Netherlands.

MATERIAL & METHODS

A retrospective cohort study was conducted including adults diagnosed with IESs who presented to our tertiary referral center between 2014-2026. Patients were categorized into two management groups: a “watch-and-scan” and a “surgery” group. The main outcomes evaluated included patient demographics (number, age, sex), clinical presentation (hearing loss, tinnitus, vestibular symptoms), pure-tone average (PTA), speech audiometry in quiet, tumor size (maximum diameter on MRI), and tumor classification at initial and most recent follow-up. Descriptive statistics were used to summarize the data. Continuous variables are presented as mean ± standard deviation.

RESULTS

Eleven patients were included (5 females, 6 males; age 54.8 ± 12.9 years). At presentation, all patients reported hearing impairment, 81.8% tinnitus, and 36.4% vestibular symptoms. At the most recent follow-up, hearing had worsened in 54.5% of patients, remained stable in 9.1%, and remained at non-serviceable levels in 36.4%. Tinnitus was present in 63.6% of patients and vestibular complaints in 36.4%. Mean air PTA deteriorated from 71.1 ± 36.6 dB to 102.3 ± 28.8 dB, while speech reception thresholds worsened from 70.8 ± 19.0 dB to non-measurable levels in the majority of patients. Tumor classification included intravestibular tumors (27.3%), intracochlear tumors (63.6%), and a transfundal tumor with modiolus involvement (9.1%). Mean tumor size increased from 5.64 ± 3.18 mm to 7.5 ± 3.13 mm during follow-up. A “watch-and-scan” strategy was adopted in 63.6% of patients, whereas 36.4% underwent surgical treatment. No major postoperative complications were observed in the surgical group.

CONCLUSIONS

IESs represent a heterogeneous group of tumors with variable clinical presentation, hearing outcomes, anatomical location, and size. Management should therefore be individualized and patient-oriented to ensure optimal diagnostic and therapeutic decision-making.

KEYWORDS

inner ear schwannoma, vestibular schwannoma, otology, neurotology

OP-864

Reverse Stapedotomy In Otosclerosis: Outcomes From A Consecutive Series Using A Standardized Surgical Approach

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BACKGROUND & AIM

Stapedotomy is the standard surgical treatment for otosclerosis. Technical variations aim to optimize prosthesis positioning and improve functional outcomes. In our department, the reverse fish technique is used as a standardized approach due to its potential advantages in prosthesis control and reproducibility. This study aims to evaluate audiometric outcomes following this technique.

MATERIAL & METHODS

A retrospective study was conducted including patients with otosclerosis who underwent primary stapedotomy using the reverse fish technique between April 2022 and April 2025 in a secondary referral center, where this represents the standard surgical technique. A total of 62 consecutive procedures were included. Audiometric evaluation was performed preoperatively and at a minimum follow-up of 12 months, in accordance with the guidelines of the American Academy of Otolaryngology–Head and Neck Surgery. Air conduction, bone conduction, and air–bone gap were calculated using pure-tone averages at 0.5, 1, 2, and 3 kHz. The primary outcome was postoperative air–bone gap, with surgical success defined as ≤10 dB. Secondary outcomes included air–bone gap ≤20 dB, air conduction gain, and bone conduction variation.

RESULTS

At a minimum follow-up of 12 months, there was a significant improvement in hearing thresholds, with the mean preoperative air–bone gap improving from 29 ± 8 dB to 9 ± 5 dB postoperatively. An air–bone gap ≤10 dB was achieved in 83% of cases and ≤20 dB in 96%, with a mean air conduction gain of 21 ± 9 dB. Bone conduction thresholds remained stable, with a mean variation of +1 ± 4 dB. No major intraoperative or postoperative complications were observed.

CONCLUSIONS

Reverse fish stapedotomy, applied as a standardized technique, provides reliable and reproducible audiometric outcomes, with high rates of air–bone gap closure and stable bone conduction thresholds at ≥12 months follow-up, supporting its use in the surgical management of otosclerosis.

KEYWORDS

Otosclerosis; Stapedotomy; Reverse Fish Technique; Air–Bone Gap; Hearing Outcomes; Middle Ear Surgery; Audiometry

OP-865

Factors Play A Role In The Prognosis Of Temporal Bone Squamous Cell Carcinoma; Experience In A Tertiary Care Center

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BACKGROUND & AIM

Temporal bone squamous cell carcinoma (TBSCC) is a rare and aggressive head and neck malignancy with no standardized management guidelines due to its low incidence. Delayed diagnosis is common, as it often mimics benign otologic conditions, resulting in poor outcomes, particularly in advanced stages. Our objective is to describe the clinical presentation, management strategies, and outcomes of patients diagnosed with TBSCC at a tertiary care center in Saudi Arabia and to evaluate prognostic factors influencing survival.

MATERIAL & METHODS

A retrospective clinicopathological case series was conducted including all patients diagnosed with TBSCC at King Fahad Medical City, Riyadh, Saudi Arabia, between January 2018 and December 2024. Demographic data, clinical presentation, imaging findings, tumor staging using the Modified Pittsburgh staging system, treatment modalities, and follow-up outcomes were analyzed.

RESULTS

Nine patients were identified with a median age of 60 years (range: 22–87), and a male predominance (66.7%). The most common presenting symptom was otorrhea, frequently associated with otalgia. The external auditory canal and auricle were the most frequent sites of origin. Advanced disease was common, with six patients presenting with stage IV tumors. Surgical management was the primary treatment modality when feasible, with adjuvant radiotherapy or chemotherapy administered based on tumor stage and patient condition. Five patients with advanced-stage disease died during follow-up, with a median survival of 10 months, whereas patients with early-stage disease demonstrated favorable outcomes and remained disease-free.

CONCLUSIONS

TBSCC carries a poor prognosis when diagnosed at an advanced stage. Early recognition, high clinical suspicion in refractory otologic symptoms, and prompt multidisciplinary management are critical to improving survival outcomes. Given the rarity of this malignancy, multicenter collaboration and data pooling are essential to establish evidence-based management guidelines.

KEYWORDS

Temporal bone; Squamous cell carcinoma; External auditory canal; Skull base; Surgical management

OP-866

Prevalence Of High-Riding Jugular Bulb And Bony Dehiscence In Atelectatic Ears: A Comparative CT Analysis With Clinically Normal Ears

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BACKGROUND & AIM

A high-riding jugular bulb (JB) is a significant anatomical variation that can cause severe bleeding during middle ear surgery, particularly in the inferior quadrant. Poor mastoid pneumatization, frequently observed in atelectatic/retracted ears, is thought to be associated with a more superiorly located JB, posing surgical risks. This study aimed to compare the prevalence of high-riding JB and bony dehiscence in atelectatic ears versus clinically normal ears.

MATERIAL & METHODS

This retrospective study included 50 atelectatic/retracted ears and 50 clinically normal contralateral ears of patients requiring unilateral Type 1 tympanoplasty. Temporal bone computed tomography (CT) scans were evaluated. A JB extending above the inferior bony annulus level was defined as a "high-riding JB." JB bony dehiscence and mastoid pneumatization degrees were recorded. Pneumatization was qualitatively categorized based on air cell extent and volume as "well-pneumatized," "moderately pneumatized," or "sclerotic" (compact bone appearance). Chi-square and Fisher's exact tests were used for comparisons. A p-value < .05 was statistically significant.

RESULTS

A high-riding JB was detected in 40 patients (80%) in the atelectatic group and 15 patients (30%) in the control group, showing a significantly higher prevalence in atelectatic ears ($p < .001$). JB bony dehiscence occurred in 8 patients (16%) in the atelectatic group and 2 patients (4%) in the control group ($p = .091$). Sclerotic mastoids predominated in the atelectatic group, while well-pneumatized mastoids were dominant in the control group ($p < .001$). Statistically significant correlations were found between JB height and both bony dehiscence ($p < .005$) and mastoid pneumatization ($p = .005$), indicating that the tendency for a high-riding JB increases significantly as mastoid pneumatization worsens.

CONCLUSIONS

High-riding JB is significantly more common in atelectatic ears than in normal ears. It correlates with both increased bony dehiscence and poor mastoid pneumatization. Careful preoperative temporal bone CT evaluation of JB anatomy is crucial in atelectatic ears to prevent potential vascular complications.

KEYWORDS

Atelectatic ear, High-riding jugular bulb, Jugular bulb dehiscence, Mastoid pneumatization, Temporal bone computed tomography

OP-867

Evaluation Of Demographic And Clinical Characteristics Of Patients Undergoing Otosclerosis Surgery: A Single-Surgeon Experience

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BACKGROUND & AIM

Otosclerosis is a primary metabolic bone disease of the otic capsule characterized by fixation of the stapes footplate, leading to progressive conductive hearing loss. This study aims to evaluate the surgical effectiveness by presenting the demographic data, preoperative clinical characteristics, and postoperative auditory outcomes of patients who underwent stapedotomy by a single surgeon.

MATERIAL & METHODS

Fourty ears of Thirty-nine patients operated on by a single senior surgeon with complete postoperative follow-up were retrospectively analyzed. Demographic data, preoperative and postoperative pure-tone thresholds (0.5, 1, 2, 4 kHz), air-bone gap (ABG), and speech discrimination scores (SDS) were evaluated. Paired t-test and Wilcoxon tests were utilized for statistical analysis following the Shapiro-Wilk normality test.

RESULTS

The mean age of the study group was 43.2 (range 24-59), and 79% (n=30) were female. The most prevalent group consisted of females aged 40-50. Postoperatively, a statistically significant improvement of 22.24 dB was observed in mean airway thresholds ($p < 0.001$). The mean preoperative ABG of 28.95 dB significantly decreased to 11.46 dB postoperatively ($p < 0.001$). No statistically significant difference was observed in SDS values ($p > 0.05$).

CONCLUSIONS

Our results, based on a single-surgeon experience, demonstrate that stapedotomy surgery is a reliable intervention for improving hearing thresholds and closing the air-bone gap in otosclerosis patients, with low complication and high success rates.

KEYWORDS

Otosclerosis, Stapedotomy, Hearing loss, Air-bone gap, Single-surgeon experience.

OP-868

Design And Validation Of Cochlearprint, An Innovative Medical Device For Hearing Loss Theragnostic Exploration

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BACKGROUND & AIM

Sensorineural hearing loss (SNHL) remains largely classified on clinical and audiological criteria, as direct molecular investigation of the inner ear is rarely feasible in routine practice. Perilymph sampling during cochlear implantation provides a unique window into cochlear biology, but existing methods are limited by sample instability, contamination, and poor analytical sensitivity.

MATERIAL & METHODS

We developed CochlearPrint, a medical device integrating a nanoporous silicon chip into a standard cochlear implantation instrument, enabling rapid and stabilized perilymph sampling during surgery without altering the surgical workflow. Nanoporous capture enriches low-abundance biomolecules and attenuates interference from highly abundant proteins, improving downstream molecular analysis.

Patients undergoing cochlear implantation between 2020 and 2022 were included. Clinical data were retrospectively collected from medical records for samples meeting quality criteria. Collected variables included demographic characteristics, medical history, presumed etiology of hearing loss, associated symptoms (tinnitus, vertigo, balance disorders), and imaging findings (CT and MRI). Perilymph samples were collected intraoperatively during routine cochlear implantation procedures and analyzed using matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-ToF). Samples were deposited onto

nanoporous silicon chips, enabling passive capture and enrichment of low-molecular-weight biomolecules. After washing, matrix was applied and samples were directly analyzed.

RESULTS

Perilymph was collected from 21 patients undergoing cochlear implantation and analysed using MALDI–time-of-flight mass spectrometry. Nanoporous sampling significantly enhanced detection of low-molecular-weight molecular species compared with direct analysis and reduced haemoglobin-related signal suppression, yielding interpretable molecular profiles in 71.4% of cases. These profiles revealed marked interindividual molecular heterogeneity despite similar clinical phenotypes.

Surgical feasibility and safety were evaluated in eight human cadavers (16 temporal bones). A 3-mm nanoprobe configuration provided optimal contact with the perilymphatic space while preserving cochlear integrity, with successful deployment achieved in 13 of 16 temporal bones under standard cochlear implantation conditions.

CONCLUSIONS

CochlearPrint enables standardized, minimally invasive access to perilymph during routine cochlear implantation and offers a clinically compatible platform for inner ear molecular profiling. This approach has potential applications in biomarker discovery, etiologic stratification of SNHL, and biologically informed optimization of cochlear implant strategies. It should favour the development of precision medicine and neuroprotective therapies for hearing disorders.

KEYWORDS

CochlearPrint, Innovative medical device, proteomic-metabolic analysis, sensorineural hearing loss, Nanoporous Silicon

OP-869

Investigation Of The Therapeutic Efficacy Of Rosmarinic Acid In An Experimental Chronic Otitis Media Model Induced By Pseudomonas Aeruginosa In Rats

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BACKGROUND & AIM

Chronic otitis media (COM) is a significant global health problem associated with persistent inflammation and therapeutic challenges. Current medical treatments may be insufficient due to reduced drug penetration and bacterial resistance. Rosmarinic acid (RA), a bioactive compound with anti-inflammatory, antibacterial, and antioxidant properties, has demonstrated promising effects in various experimental models. This study aimed to evaluate the therapeutic efficacy of topical RA in an experimental COM model.

MATERIAL & METHODS

Thirty adult female Wistar albino rats were randomly divided into five groups (n=6 per group): healthy control, untreated COM, ciprofloxacin, ciprofloxacin+RA, and RA groups. COM was induced via transtympanic inoculation of Pseudomonas aeruginosa. After a 14-day follow-up period, bilateral temporal bones were harvested. Histopathological evaluation included neutrophil activity, chronicity, histiocyte presence, keratin accumulation, subepithelial edema, congestion, fibroblast proliferation, neovascularization, and tympanic membrane thickness. Statistical analyses were performed for intergroup comparisons.

RESULTS

Significant differences were observed among groups for all evaluated parameters. Neutrophil activity in the untreated COM group was significantly higher compared to the control, ciprofloxacin+RA, and RA groups ($p<0.001$, $p=0.01$, $p=0.02$, respectively). Chronicity and histiocyte scores were also significantly increased in the untreated group ($p<0.001$). Keratin accumulation was significantly higher compared to the RA-treated groups ($p=0.01$). In groups receiving RA, inflammation was reduced, edema and congestion regressed, and a regulatory effect on neovascularization was observed ($p<0.05$). RA demonstrated beneficial effects both as monotherapy and in combination therapy.

CONCLUSIONS

Topical rosmarinic acid reduces inflammation and enhances histopathological recovery in an experimental COM model. RA appears to be a promising alternative or adjunctive therapeutic agent in the treatment of chronic otitis media.

KEYWORDS

Chronic otitis media, Rosmarinic acid, Pseudomonas aeruginosa, Experimental Model, Histopathology

OP-870

Genetic Etiologies Of Sensorineural Hearing Loss And Their Influence On Cochlear Implant Outcomes: A 16-Year Experience At Prince Sultan Military Medical City

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BACKGROUND & AIM

Genetic factors play a significant role in the etiology of sensorineural hearing loss and may influence outcomes following cochlear implantation (CI). Understanding the relationship between genetic findings and postoperative performance is important for patient counseling and prognostic assessment.

Aim:

• To analyze genetic findings in this cohort.

• To evaluate the impact of genetics on post-implant audiological performance and speech development.

Significance:

• Understanding genetic factors help

MATERIAL & METHODS

This retrospective cohort study included all patients who underwent cochlear implantation at our tertiary center between January 2009 and December 2024. A total of 560 patients received CIs during this period. Among them, 111 patients were referred for genetic testing to determine the underlying cause of hearing loss. Demographic, clinical, genetic, audiological, and speech development data were collected and analyzed. Postoperative outcomes were assessed using standardized audiological measures and speech evaluation tools. Patients were stratified according to genetic testing results to evaluate associations with CI outcomes.

RESULTS

Pathogenic or likely pathogenic variants were identified in a proportion of the genetically tested cohort, including both syndromic and non-syndromic etiologies. Significant improvement in aided hearing thresholds and speech perception scores was observed following cochlear implantation across the cohort. While overall outcomes were favorable regardless of genetic findings, variability in postoperative audiological performance and speech development was noted according to genetic etiology. Patients with non-syndromic genetic causes generally demonstrated more consistent improvement, whereas syndromic cases showed greater variability in outcomes.

CONCLUSIONS

Cochlear implantation provides substantial audiological and speech benefits in patients with sensorineural hearing loss. Genetic testing contributes valuable etiological and prognostic information and may assist in preoperative counseling and individualized management. Integrating genetic evaluation into routine CI assessment may enhance outcome prediction and optimize patient care.

KEYWORDS

Cochlear implantation; Genetic testing; Sensorineural hearing loss; Audiological outcomes; Speech development;

OP-871

Across The Midline: Contralateral Sixth Nerve Palsy From An Otogenic Source

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BACKGROUND & AIM

Otogenic bacterial meningitis is a life-threatening intracranial complication of chronic otitis media, most often occurring on the same side as the primary infection. Abducens nerve palsy in the context of Gradenigo's syndrome usually suggests involvement of the petrous apex. We report an unusual case of contralateral abducens palsy caused by otogenic meningitis, highlighting the diagnostic difficulties and the surgical management strategy.

MATERIAL & METHODS

A 19-year-old male with chronic left-sided otitis media presented with intense headache, otalgia, vertigo, hearing loss, and diplopia. Clinical examination revealed right abducens nerve palsy, bilateral papilledema, and purulent left otorrhea. Audiometry demonstrated moderate mixed hearing loss. CT and MRI identified left mastoiditis with extensive inflammatory tissue and posterior fossa dehiscence, without evidence of contralateral intracranial lesions.

RESULTS

The patient was treated with intravenous meropenem, corticosteroids, anticoagulation, and analgesics. A left radical mastoidectomy was performed, revealing sigmoid sinus dehiscence and granulation tissue extending into the middle ear. After surgical debridement and coverage using oxidized regenerated cellulose and bone wax, the patient showed progressive clinical improvement. At one-month follow-up, papilledema had resolved in the left eye and improved in the right, with gradual recovery of abducens nerve function.

CONCLUSIONS

This case illustrates the rare occurrence of contralateral abducens palsy in otogenic meningitis. Prompt multidisciplinary assessment involving otologic and neurologic expertise is crucial for precise localization, timely surgical management, and prevention of permanent cranial nerve deficits in complex intracranial otogenic infections.

KEYWORDS

otogenig meningitis, chronic otitis media, contralateral abducens palsy, gradenigo's syndrome, intracranial complications

OP-872

Middle ear & Bone conduction implants in unilateral aural atresia

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BACKGROUND & AIM

This study compares the efficacy of Vibrant Soundbridge (VSB) and Bonebridge (BB) implants in patients with unilateral aural atresia (UAA), focusing on spatial hearing, masking release, sound localization, and patient-reported satisfaction.

MATERIAL & METHODS

In this ongoing study, 17 VSB and 10 BB recipients with unilateral aural atresia, all active implant users for ≥6 months, served as their own controls. Audiological assessments included pure-tone audiometry, Vibrogram, and word recognition in quiet (WRS; Freiburger monosyllabic test). Spatial hearing was evaluated using the Oldenburg Sentence Test (OLSA) in three spatial configurations. Sound localization was assessed in a horizontal -90°/+90° setup. Patient satisfaction and quality of life were measured using the Speech, Spatial and Qualities of Hearing Scale (SSQ).

RESULTS

All patients exhibited normal inner ear function bilaterally. With the contralateral ear plugged & muffed, the VSB group achieved a mean WRS of 77±16%, the BB group a mean WRS of 68±22%. Significant benefit aided versus unaided was prevalent in the head shadow configuration (ipsilateral signal/contralateral noise), OLSA improvement was 6,3±3,2 dB with the VSB and 3,7±4,0 dB with BB, the difference was significant. Sound localization showed high individual variation, on the ipsilateral hemisphere the mean absolute error in degree changed from unaided 17±6° to aided 10±5° with BB and from unaided 14±9° to aided 8±3° with the VSB. A normal hearing reference group (n=16) achieved a MAE of 5°±2°. Subjective satisfaction regarding the speech, spatial and qualities of hearing scale showed scores above 60% with both implants, without a significant difference in any of the domains comparing BB and VSB.

CONCLUSIONS

VSB and BB recipients showed clinically meaningful improvements in sound field thresholds, speech perception and especially spatial hearing, where superior performance was achieved in the VSB group. Sound localization accuracy in patients with UAA can be close to normal hearing, however individuals with unaided substantially impaired localization, can benefit effectively from implant use in sound localization. These results highlight the critical role of device-specific counselling in achieving optimal patient outcomes.

KEYWORDS

VSB, Bonebridge, congenital aural atresia, unilateral aural atresia

OP-873

Low-Cost Endovascular Balloon Dilation For Pediatric Obstructive Eustachian Tube Dysfunction: A Prospective Feasibility Study

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BACKGROUND & AIM

Balloon dilation of the Eustachian tube (BDET) has emerged as a promising treatment for pediatric obstructive Eustachian tube dysfunction (OETD). Its adoption is limited by the high cost of proprietary balloon systems. This study hypothesized that pediatric BDET performed using low-cost standard endovascular balloon catheters is feasible, safe, and associated with favorable early clinical outcomes. The aim was to evaluate clinical and functional outcomes using objective, subjective, and endoscopic assessments.

MATERIAL & METHODS

This prospective single-arm interventional clinical study included 14 pediatric patients aged ≥5.5 years with bilateral OETD, yielding 28 Eustachian tubes for evaluation. Endoscopic balloon dilation Eustachian tuboplasty was performed in all ears using standard endovascular balloon catheters under endoscopic guidance. Pre- and postoperative assessments included otoscopic examination, tympanometry, pure-tone audiometry (PTA), the Eustachian Tube Dysfunction Questionnaire-7 (ETD-Q7), and functional Eustachian tube evaluation using the Valsalva maneuver. Dynamic flexible nasopharyngeal endoscopy was

employed intraoperatively and during follow-up to assess Eustachian tube lumen patency, mucosal changes, and dynamic tubal function. Pre- and postoperative outcomes were compared per ear using paired statistical analysis.

RESULTS

The mean patient age was 11.3 ± 3.6 years. Procedural success was achieved in 75% of ears. ETD-Q7 scores improved significantly from 3.64 ± 0.91 to 1.72 ± 0.57 ($p < 0.001$). Mean PTA thresholds improved from 24.79 ± 7.88 dB to 9.55 ± 8.34 dB ($p < 0.001$). Tympanometry showed significant improvement, with conversion to type A in 60.7% and type C in 14.3% of ears ($p = 0.004$). A positive Valsalva maneuver was achieved in 71.4% of ears ($p < 0.001$). No complications occurred in 89.3% of cases; reported events were minor and self-limited.

CONCLUSIONS

Low-cost standard endovascular balloon catheters provide a feasible, safe, and cost-effective alternative for pediatric BDET, with favorable early clinical and functional outcomes comparable to proprietary systems.

KEYWORDS

Pediatric Eustachian Tube Dysfunction, Balloon Dilation, Low-Cost Intervention, Feasibility

OP-874

Changes In Wideband Tympanometry Absorbance Following Endolymphatic Sac Drainage For Meniere's Disease

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BACKGROUND & AIM

This study aims to evaluate the changes in the oscillatory properties of the inner ear following endolymphatic sac drainage in patients with Meniere's disease. While endolymphatic hydrops is known to alter ear mechanics, the efficacy of Wideband Tympanometry (WBT) in monitoring these postoperative changes remains to be fully established.

MATERIAL & METHODS

Patients diagnosed with Meniere's disease who underwent endolymphatic sac drainage were enrolled. We analyzed pure-tone audiometry and WBT parameters pre- and postoperatively, specifically focusing on absorbance (226–8000 Hz), resonance frequency, and "twin peaks" morphology (initiation frequency, width, and depth).

RESULTS

Postoperative WBT results showed a distinct shift in absorbance patterns. At both ambient and peak pressure, absorbance decreased at low frequencies and increased at high frequencies compared to preoperative levels. The analysis of the "twin peaks" area revealed significant morphological shifts. Initiation frequency of the twin peaks shifted toward higher frequencies postoperatively. At 2 kHz, the width of the twin peaks narrowed and the depth of the valley became shallower after surgery. Conversely, at 4 kHz, the width increased postoperatively. Clinical outcomes showed a dramatic reduction in vertigo frequency, although pure-tone hearing thresholds showed no significant difference.

CONCLUSIONS

Endolymphatic sac drainage significantly alters the absorbance characteristics and twin peak morphology in WBT. These changes likely reflect the reduction of endolymphatic hydrops and the subsequent restoration of normal oscillatory properties in the inner ear. Evaluation of the "twin peaks" area in WBT serves as a sensitive, non-invasive objective marker for assessing the physiological success of surgical interventions in Meniere's disease.

KEYWORDS

Wideband Tympanometry; Absorbance; Endolymphatic Sac Drainage; Meniere's Disease

OP-875

Does Epitympanic Obliteration Improve The Rates Of Recidivism In Combined Approach Tympanoplasty For Cholesteatoma?

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BACKGROUND & AIM

Combined approach tympanoplasty is widely used in the management of cholesteatoma, but residual and recurrent disease remain important long-term concerns. Epitympanic obliteration may reduce the risk of recidivism by eliminating hidden spaces prone to residual disease and retraction. This study evaluates the impact of epitympanic obliteration on the need for second-look surgery following combined approach tympanoplasty.

MATERIAL & METHODS

A prospective study of 251 stage one combined approach tympanoplasties for cholesteatoma is presented. Following introduction of the obliteration technique in 2018, 54 cases underwent epitympanic obliteration, while previous 197 cases

were managed without obliteration. The technique involved obliteration of the epitympanum using bone pâté and Tisseel, reconstruction of the tympanic membrane with cartilage graft, and primary ossiculoplasty with titanium passive middle ear prostheses where required. Endoscopy and KTP laser were used to minimise the risk of residual disease. Patients were followed clinically at 4 weeks, 3 months, and then annually for a minimum of 5 years. Diffusion-weighted MRI was performed at 1, 3 and 5 years to assess for recidivism.

RESULTS

In the obliteration group, 3 of 54 cases required second-look surgery, a rate of 5.6%. In comparison, 45 of 197 cases in the non-obliteration group required second-look surgery, a rate of 22.8%. The introduction of epitympanic obliteration was therefore associated with a marked reduction in the need for second-look procedures. Radiological surveillance with diffusion-weighted MRI provided ongoing assessment for residual or recurrent cholesteatoma during long-term follow-up.

CONCLUSIONS

Epitympanic obliteration during combined approach tympanoplasty appears to be a successful technique for reducing recidivism in cholesteatoma surgery. These findings support epitympanic obliteration as a valuable refinement in cholesteatoma surgery to improve long-term disease control.

KEYWORDS

Cholesteatoma combined approach tympanoplasty, epitympanic obliteration

OP-876

CONGENITAL ANOMALIES OF THE EXTERNAL EAR AND THE GENDER ASSOCIATIONS AMONG THE URHOBOS IN DELTA STATE NIGERIA.

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BACKGROUND & AIM

This study seeks to provide new information about the presence of congenital anomalies of the external ear such as preauricular sinus and Darwin's tubercle among the Urhobos in Delta State, Nigeria; the gender association was also studied as well as heritability patterns.

MATERIAL & METHODS

The study employed multistage sampling starting with 10 Urhobo speaking local government areas from which a town was randomly selected and 10 families chosen. This resulted in a sample of 100 families. They completed questionnaire on age, gender and ethnicity. Morphological characteristics of the ear were examined and the absence or presence of Darwin's tubercle as well as its type was noted, also observed is the presence of preauricular sinus, either unilateral or bilateral. Thereafter photographs were taken of the subjects' ears.

RESULTS

The presence of Darwin's tubercle was noted in 42.7% of participants with 3 forms observed: nodosity (36.3%), enlargement (3.5%) and projection (3%). The study also confirmed that Darwin's tubercle is more frequently observed in males, although the gender variation is not statistically significant (P>0.05). Prearricular sinus was found in 3.25% of subjects in this study.

CONCLUSIONS

Darwin's tubercle is the most heritable trait in this study, 42.7% of participants were observed to have the Darwin's tubercle. This is a reliable marker for tracing parentage. Preauricular sinus was found in 3.25% of subjects in this study, notably females are more likely to inherit preauricular sinuses from their parents.

KEYWORDS

Congenital, Preauricular Sinus, Darwin's Tubercle, Urhobos.

OP-877

EVALUATION OF THE EFFECTS OF ALCOHOL CONSUMPTION AND EXPOSURE TO LOUD NOISE ON HEARING USING PRESTIN AND HSP70 BIOMARKERS

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BACKGROUND & AIM

Currently, hearing loss is diagnosed through physical examination, imaging, and audiometric testing. The time-consuming nature of the diagnostic process, which requires specialised equipment and trained personnel, has created a demand for new tools that can diagnose hearing

loss quickly, safely and effectively. In our study, we evaluated changes in prestin and HSP70 levels, which are detectable blood biomarkers following exposure to alcohol and/or loud noise.

MATERIAL & METHODS

Baseline prestin and HSP70 levels were measured in 22 adult volunteers with normal audiological evaluations (15 males and 7 females with a mean age of 29.09 years old) (Group A). Participants were assessed under three conditions: alcohol and noise exposure (Group B), alcohol in a quiet environment (Group C), and noise exposure without alcohol (Group D). Subjects consumed approximately 240 mL of a 37.5% alcohol beverage and were exposed to a noisy environment of ≥100 dB. Blood samples were collected on the third day after exposure. Serum prestin (pg/mL) and HSP70 (ng/mL) levels were measured using commercial ELISA kits with duplicate technical repeats and single-blind analysis.

RESULTS

Compared to the baseline levels of serum prestin and HSP70, subsequent samples (Groups B–D) showed an increase. However, no statistically significant differences were observed between groups or in pairwise comparisons ($p>0.05$). There were strong positive correlations between prestin and HSP70 levels measured at different time points (prestin: $r=0.767–0.906$; HSP70: $r=0.764–0.932$; $p<0.01$).

CONCLUSIONS

Prestin and HSP70 levels exhibited an upward trend following exposure; however, no statistically significant differences were observed between the groups. Nevertheless, strong positive correlations were observed between prestin and HSP70 levels across different time points. These findings suggest that prestin and HSP70 levels change in a parallel and consistent manner over time among individuals, which lends them potential as biomarkers. Subsequent studies with augmented sample sizes and varying levels of alcohol and noise exposure are warranted to provide valuable contributions to the extant literature.

KEYWORDS

Hearing loss, prestin, HSP70, biomarker, noise exposure

OP-878

Endoscopic Surgery In Epitympanic Surgery

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BACKGROUND & AIM

To evaluate the contribution of endoscopy in epitympanic surgery, particularly in terms of anatomical exposure, detection of residual lesions, and improvement of surgical outcomes.

MATERIAL & METHODS

This study includes patients operated on for epitympanic pathologies, particularly cholesteatoma. Endoscopy was used either as the primary technique (Transcanal Endoscopic Ear Surgery – TEES) or as an adjunct to microscopy to explore epitympanic recesses and to check for residual disease. The analyzed parameters included quality of surgical exposure, detection rate of hidden lesions, and postoperative anatomical and functional outcomes

RESULTS

Endoscopy allowed better visualization of areas that are difficult to access with the microscope, including the anterior epitympanic recess, sinus tympani, and peri-ossicular region. It facilitated the identification and removal of residual lesions, potentially reducing the risk of recurrence. In some cases, the endoscopic approach also allowed limitation of the extent of surgical procedures while preserving important anatomical structures; We will report on our experience by presenting our videos of the service.

CONCLUSIONS

Endoscopy represents a valuable tool in epitympanic surgery. It improves the exploration of areas with limited microscopic visibility and may help optimize surgical outcomes while promoting less invasive approaches. Its use, either alone or in combination with microscopy, represents an important advancement in the management of middle ear diseases.

KEYWORDS

epitympanum, endoscopy, residual, cholesteatoma

OP-879

External Ear Canal Cholesteatoma In A Child: Report Of A Rare Pediatric Case

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BACKGROUND & AIM

External auditory canal cholesteatoma (EACC) is an uncommon otologic disorder characterized by accumulation of keratinizing squamous epithelium associated with localized bone erosion within the external auditory canal. Pediatric presentations are exceptionally rare and may mimic other external ear pathologies.

MATERIAL & METHODS

A 6-year-old child presented to the otolaryngology outpatient clinic with complaints of progressive hearing loss and a sensation of fullness in the right ear. The patient had no history of previous otologic surgery, trauma, chronic otitis media, or other significant medical conditions.

Otoscopic examination revealed marked narrowing of the right external auditory canal with accumulation of keratin debris, limiting visualization of the deeper canal structures and tympanic membrane.

Audiological assessment demonstrated conductive hearing loss in the affected ear.

Magnetic resonance imaging (MRI) and temporal bone computed tomography (CT) demonstrated a 1.5 cm soft tissue lesion within the right external auditory canal, consistent with cholesteatoma.

Based on clinical examination and radiologic findings, a diagnosis of external auditory canal cholesteatoma was established.

RESULTS

Based on clinical and radiological findings, surgical intervention was planned.

The lesion was excised completely under general anesthesia using microscopic surgical technique. Intraoperative findings demonstrated keratin accumulation with localized erosion of the external auditory canal. Complete removal was achieved while preserving adjacent structures.

Histopathological examination confirmed cholesteatoma characterized by keratinizing squamous epithelium with accumulated keratin debris.

Postoperatively, the patient experienced resolution of symptoms, including hearing loss and ear fullness. During five years of follow-up, no recurrence or complications were observed.

CONCLUSIONS

Pediatric external auditory canal cholesteatoma is an extremely rare condition that may present with hearing loss and ear fullness. Early recognition and complete microscopic excision may achieve excellent long-term outcomes with low recurrence rates.

KEYWORDS

External auditory canal, Cholesteatoma,Pediatric, Hearing loss

OP-880

The Effect Of 5% And 10% Povidone-Iodine Antiseptic Concentrations On Postoperative Sensorineural Hearing Loss In Tympanoplasty

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BACKGROUND & AIM

To evaluate the ototoxicity of povidone iodine (PVP-I) at concentrations of 5% and 10% during tympanoplasty by assessing frequency-specific audiometric outcomes and graft success rates in a large cohort of patients.

MATERIAL & METHODS

This prospective, triple-blinded, randomized clinical trial enrolled 542 patients undergoing primary tympanoplasty. After excluding patients for inadequate follow-up, 204 ears received 10% PVP-I and 199 ears received 5% PVP-I. Audiometric evaluations, including bone conduction (BC), air conduction (AC), air-bone gap (ABG), and speech reception threshold (SRT), were conducted preoperatively and 12 months postoperatively.

The primary outcome was the incidence of sensorineural hearing loss (SNHL), defined as an increase in BC threshold of more than 10 dB. Secondary outcomes included graft success rate and audiometric gains.

RESULTS

The overall incidence of SNHL was 1.5% in the 10% PVP-I group and 1.0% in the 5% PVP-I group, with no significant difference (P=1.000). In ears with preoperative mixed hearing loss, SNHL at 0.25 kHz was significantly higher in the 10% PVP-I group (28,9%) compared to the 5% PVP-I group (6.7%) (P = 0.002). Graft success rates were 94.1% and 97.0% in the 10% and 5% PVP-1 groups, respectively (P = 0.164). No clinically significant differences in audiometric gains were observed between the groups.

CONCLUSIONS

Both 5% and 10% PVP-I concentrations are safe for antiseptic preparation in tympanoplasty, as evidenced by low rates of SHL and high graft success rates. These findings support the use of PVP-I in human otologic surgery without significant ototoxic risk.

KEYWORDS

Povidone-iodine, tympanoplasty, ototoxicity, hearing loss, sensorineural

OP-881

Association Between Presbyacusis Severity And Olfactory Function In Older Adults: A Pilot Cross-Sectional Study

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BACKGROUND & AIM

Presbyacusis and olfactory dysfunction are common age-related sensory impairments, yet the relationship between age-related auditory decline and olfactory function remains insufficiently characterized. This study aimed to evaluate the association between presbyacusis severity, speech discrimination performance, and olfactory function in a prospectively enrolled geriatric population.

MATERIAL & METHODS

This prospective pilot cross-sectional study included older adults who underwent audiometric evaluation, speech discrimination testing, and olfactory assessment using the University of Pennsylvania Smell Identification Test (UPSIT). Participants were classified as controls or patients with presbyacusis. Presbyacusis patients were further stratified according to speech discrimination performance using an 80% cut-off. Smoking status, educational level, diabetes/hypertension, and sinonasal/allergic history were recorded. MoCA scores were excluded from the present analysis. Non-parametric tests and Spearman correlation analyses were used.

RESULTS

Twenty-nine participants were included, comprising 10 controls and 19 patients with presbyacusis. Compared with controls, patients with presbyacusis had significantly higher pure-tone averages and lower speech discrimination scores. UPSIT scores did not significantly differ between the two main groups. However, within the presbyacusis group, higher mean pure-tone averages were moderately associated with lower UPSIT scores (Spearman rho = -0.52, p = 0.022). Speech discrimination scores were not significantly associated with UPSIT scores.

CONCLUSIONS

In this prospective pilot cohort, presbyacusis severity, as reflected by pure-tone thresholds, was associated with reduced olfactory performance among older adults with presbyacusis. These findings support the concept of multisensory aging and suggest that olfactory assessment may provide complementary information in the evaluation of geriatric patients with age-related hearing loss.

KEYWORDS

Presbycusis; Olfaction Disorders; Speech Discrimination Tests; Aged

OP-882

Anatomical Determinants Of Technical Feasibility In Endoscopic Reverse Stapedotomy: A Morphometric Comparative Study

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BACKGROUND & AIM

To identify anatomical predictors of technical feasibility and compare surgical and audiologic outcomes between endoscopic reverse stapedotomy (ERS) and conventional endoscopic stapedotomy (ECS).

MATERIAL & METHODS

Consecutive patients undergoing ECS or ERS between January 2020 and December 2025 were analyzed. Intraoperative morphometric parameters including total stapes footplate width, exposed footplate width, incus–footplate distance, and incus–footplate angle were quantified using calibrated ImageJ software. Anatomical characteristics were stratified using predefined thresholds. Operative duration, 12-month air–bone gap (ABG) closure, and complication rates were compared.

RESULTS

Forty-five patients were included (22 ERS, 23 ECS). Successful ERS was strongly associated with greater total footplate width (1.42 vs. 1.18 mm, $p < 0.001$), greater exposed footplate width (0.69 vs. 0.39 mm, $p < 0.001$), and wider incus–footplate angle (93.9° vs. 85.5°, $p < 0.001$). A blue-appearing footplate was more frequently observed in ERS cases ($p = 0.047$). Operative time was significantly shorter in ERS ($p = 0.049$). ABG closure within 10 dB at 12 months was achieved in 90.9% (ERS) and 91.3% (ECS) ($p = 0.96$). No significant differences were observed in audiometric outcomes or complication rates.

CONCLUSIONS

Objective morphometric parameters particularly footplate width and incus–footplate angle are key determinants of ERS feasibility. When anatomical selection criteria are met, ERS provides equivalent hearing outcomes with reduced operative time and no increase in morbidity.

KEYWORDS

stapes, stapedotomy, endoscopic ear surgery, reversal

OP-883

From Variation To Standardisation: Improving Outcomes In SSNHL With A Structured Proforma

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BACKGROUND & AIM

Background: Sudden sensorineural hearing loss (SSNHL) is an otolaryngological emergency requiring prompt diagnosis, early steroid therapy, and appropriate referral. Initial audit within our Same Day Emergency Care (SDEC) unit demonstrated significant deficiencies in documentation, history-taking, and adherence to ENT UK guidelines, with potential impact on patient outcomes. Contributing factors included high staff turnover and variable familiarity with ENT emergencies.

Aim: To assess whether the implementation of a standardised SSNHL management proforma improved documentation, guideline adherence, and patient management in the second cycle of this quality improvement project.

MATERIAL & METHODS

Methods: A retrospective re-audit of SSNHL cases presenting to SDEC was conducted following the introduction of a guideline-based proforma and targeted clinician education. Data were collected on documentation quality, steroid initiation, and appropriateness of audiology, imaging, and hearing aid referrals, and compared with first-cycle findings.

RESULTS

The second cycle (n=10) demonstrated drastic improvement in several domains, including more consistent documentation of core history elements (up to 100%) and universal documentation of otoscopy. All patients received timely steroid therapy in accordance with guideline recommendations.Audiology follow-up and hearing aid referrals improved significantly, with 80 to 100% of eligible patients receiving timely referral and no delays observed.

Appropriate escalation of care also improved significantly: all patients who required intratympanic steroid injections (ITSI) received them with appropriate follow-up, and post-treatment pure tone audiometry (PTA) was completed in 100% of cases. In addition, audiology and hearing aid referrals were completed promptly for eligible patients, with no delays identified.

CONCLUSIONS

Introduction of a structured SSNHL proforma improved several aspects of patient management, particularly follow-up and referral pathways. Improved accessibility of the proforma, alongside ongoing education and integration into clinical workflows, is essential to achieve sustained improvement and optimise patient outcomes.

KEYWORDS

Otology, Sudden Sensorineural Hearing Loss, oral steroid therapy , ITSI,

OP-884

Predictive Role Of The Eosinophil-To-Lymphocyte Ratio In The Development Of Otitis Media With Effusion In Children

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BACKGROUND & AIM

Aims: Otitis media with effusion (OME) is a common condition in children, characterized by fluid accumulation in the middle ear without acute infection. Its causes include viral and bacterial infections, allergies, autoimmunity, and eustachian tube dysfunction. The aim of this study was to investigate the predictive role of the eosinophil-to-lymphocyte ratio in the development of otitis media with effusion (OME).

MATERIAL & METHODS

Methods: We retrospectively reviewed patients under 18 years old who underwent adenoidectomy at our clinic between 2021 and 2023. Patients were divided into two groups: adenoidectomy only (Group 1) and adenoidectomy with ventilation tube insertion (Group 2). Demographic data and preoperative complete blood counts (CBC) were collected, and eosinophil-to-lymphocyte ratios were calculated. Statistical analysis was performed using SPSS v26.0, with a p-value <0.05 considered significant.

RESULTS

Results: The study included 100 children (57 boys, 43 girls), with a mean age of 5.9 ± 2.0 years. Group 1 had 52 patients, and Group 2 had 48 patients. No statistically significant differences were observed between the groups regarding eosinophil count, lymphocyte count, or eosinophil-to-lymphocyte ratio (p=0.91, 0.91, and 0.44, respectively)

CONCLUSIONS

Conclusion: Our study found no significant association between the eosinophil-to-lymphocyte ratio and the development of OME in patients undergoing ventilation tube insertion for concomitant adenoid hypertrophy. Nevertheless, the prognostic significance of the eosinophil-to-lymphocyte ratio in OME warrants further investigation in studies with larger sample sizes

KEYWORDS

Keywords: Otitis media with effusion, Eosinophil-to-Lymphocyte Ratio, Ventilation Tube, Adenoidectomy

OP-885

MRI–CT Discrepancy In Pediatric Traumatic Facial Paralysis: Evidence Of Severe Neural Injury Without Facial Canal Fracture

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BACKGROUND & AIM

Traumatic facial nerve paralysis is an uncommon complication of temporal bone injury in children. While computed tomography (CT) is the primary imaging modality for evaluating osseous injury, it may not accurately reflect the extent of neural damage. Magnetic resonance imaging (MRI) provides critical information regarding nerve integrity and associated soft tissue involvement.

MATERIAL & METHODS

A 5-year-old boy was admitted to our otorhinolaryngology clinic one month after sustaining blunt head trauma caused by a falling cabinet. He had previously undergone right-sided craniectomy for intracranial injury. On postoperative day 5, after regaining consciousness, he developed complete right-sided peripheral facial paralysis (House-Brackmann grade VI). No additional cranial nerve deficits or other neurological abnormalities were observed. Otoscopic examination was normal.

Audiological evaluation revealed total sensorineural hearing loss in the right ear, and electromyography demonstrated severe axonal degeneration of the facial nerve.

RESULTS

Temporal bone CT demonstrated a non-displaced fracture of the squamous portion of the right temporal bone, without involvement of the facial nerve canal. The otic capsule, ossicular chain, and internal auditory canal appeared intact, and the intratemporal course of the facial nerve was preserved.

MRI of the posterior fossa and temporal bone revealed a lesion filling the right internal auditory canal with T1 hyperintensity and intermediate T2 signal. The facial and vestibulocochlear nerve bundles were not visualized within the canal or cisternal segment. Additional findings included signal changes suggestive of hemorrhagic involvement of the cochlea and vestibule and adjacent petrous apex edema. These findings were compatible with severe neural injury and raised suspicion for avulsion-type damage.

At 40 days post-trauma, no significant improvement in facial function has been observed. The patient remains under close follow-up, and facial reanimation procedures will be considered in the absence of recovery.

CONCLUSIONS

Severe facial nerve injury may occur in the absence of a facial nerve canal fracture on CT. The discrepancy between preserved bony anatomy on CT and marked neural abnormalities on MRI is clinically significant. Non-visualization of the nerve within the internal auditory canal and cisternal segment suggests injury beyond neuropraxia. MRI plays a critical role in detecting severe neural injury and should be considered when CT findings are inconclusive. Early integration of clinical, electrophysiological, and radiological findings is essential for management planning.

KEYWORDS

MRI–CT Findings, Pediatric Traumatic Facial Paralysis, Facial Nerve Injury, Avulsion

OP-886

Temporal Bone Malignancies

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BACKGROUND & AIM

Temporal bone of the auricle generally presents challenges due to the unique anatomy and topography of the temporal bone, as well as tumor behavior. The aim of this study was to evaluate the clinical and histopathological features and surgical outcomes in patients with temporal bone cancer

MATERIAL & METHODS

A retrospective study was conducted on a series of four patients operated on at our ENT department at the Beni Messous University Hospital between January 2024 and Mars 2025.

RESULTS

11 patients have been operated on for temporal bone cancer at our department.10 males and 1 female, with a mean age of 71.25. 100% of patients had unprotected sun exposure as a risk factor, including 10% with the presence of keratotic lesions. All our patients presented with an ulcerative budding lesion of the auricle and/or the ear canal. A head and neck CT scan was requested in all four patients. all our patients had squamous cell carcinoma, with an exclusive pathological diagnosis. total resection of the tumour with lateral temporal bone resection was performed to eradicate the tumour. 9 patients underwent postoperative radiotherapy. there were no recurrence at a follow-up of 3 to 15 months.

CONCLUSIONS

This study demonstrates the value of early, multidisciplinary, and appropriate management of patients with malignant auricle tumors, which are often advanced.

KEYWORDS

temporal bone carcinoma, lateral temporal bone resection

OP-887

Recurrent Bell's Palsy: A Comprehensive Analysis Of Associated Factors And Outcomes

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BACKGROUND & AIM

"Bell's palsy is the most common cause of acute peripheral facial paralysis. Recurrent Bell's palsy is less common and remains poorly understood. This study aimed to identify associated comorbidities and predictors linked to recurrent Bell's palsy and evaluate factors affecting recovery outcomes."

MATERIAL & METHODS

"A retrospective analytical study was conducted on patients diagnosed with Bell's palsy. Demographic characteristics, clinical presentation, comorbidities, recurrence patterns, treatment modalities, and recovery outcomes were reviewed and analyzed. Statistical analysis was performed to identify factors associated with recurrent episodes and prognosis."

RESULTS

"Recurrent Bell's palsy was associated with several systemic comorbidities and clinical predictors. Certain patient-related factors demonstrated a statistically significant association with recurrence rates and recovery outcomes. Most patients showed favorable recovery; however, prolonged recovery duration was observed in recurrent cases."

CONCLUSIONS

"Recurrent Bell's palsy appears to be associated with identifiable systemic and clinical factors. Recognition of these predictors may help improve patient counseling, follow-up strategies, and individualized management of patients at higher risk of recurrence."

KEYWORDS

Bell's palsy, recurrent Bell's palsy, facial paralysis, facial nerve, predictors, comorbidities

OP-888

Masking Level Difference Performance In Patients With Migraine

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BACKGROUND & AIM

To compare masking level difference (MLD) and pure-tone audiometry (PTA) findings between adults with migraine-spectrum disorders and healthy normal-hearing controls, and to investigate whether binaural interaction differs in migraine independent of peripheral hearing levels.

MATERIAL & METHODS

This case–control study included 30 female patients diagnosed with migraine-spectrum disorders and 35 age-matched healthy female controls. All participants had normal otoscopic findings, type A tympanograms, and hearing thresholds within normal limits. Pure-tone audiometry was performed bilaterally, followed by MLD testing using a 500 Hz signal at 60 dB under three binaural conditions: S_0N_0, $S\pi N_0$, and $S_0N\pi$. MLD values were calculated as the threshold differences between S_0N_0 and antiphasic conditions. Group comparisons were performed using independent t-tests or Mann–Whitney U tests as

appropriate. One-way ANCOVA was used to determine whether MLD differences remained significant after controlling for right and left PTA averages.

RESULTS

Although PTA thresholds were within normal limits in both groups, the migraine group showed significantly higher mean PTA values in both ears ($p < 0.001$). No significant between-group difference was observed in the S_0N_0 condition ($p = 0.112$). However, $S\pi N_0$ and $S_0N\pi$ thresholds were significantly higher in the migraine group (both $p < 0.001$). Consequently, both MLD indices ($S_0N_0–S\pi N_0$ and $S_0N_0–S_0N\pi$) were significantly reduced in patients with migraine ($p < 0.001$). After adjustment for PTA covariates, ANCOVA confirmed significantly higher adjusted antiphasic thresholds in the migraine group for both $S\pi N_0$ ($F = 8.66$, $p = 0.005$) and $S_0N\pi$ ($F = 22.81$, $p < 0.001$).

CONCLUSIONS

Patients with migraine-spectrum disorders demonstrate reduced binaural masking release despite normal peripheral hearing, supporting the presence of altered binaural interaction mechanisms potentially related to brainstem-level auditory processing dysfunction.

KEYWORDS

migraine, central auditory processing, masking level difference, auditory brainstem

OP-889

Evaluation Of The Three-Dimensional Anatomical Structure And Dimensions Of The Cochlea In Patients With Congenital Cytomegalovirus-Related Sensorineural Hearing Loss Using OTOPLAN® Software

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BACKGROUND & AIM

Congenital cytomegalovirus (cCMV) infection is the leading cause of non-genetic sensorineural hearing loss (SNHL) in children worldwide. The virus induces a robust inflammatory response in the inner ear, accompanied by reactive oxygen species (ROS), which disrupt the stria vascularis and the blood–labyrinth barrier, leading to permanent cellular damage. However, it remains unclear whether this immunopathological injury results in measurable alterations in the macroscopic morphology and three-dimensional (3D) geometry of the cochlea. Given the limitations of conventional two-dimensional (2D) imaging, this study aimed to evaluate cochlear morphology in cCMV-related hearing loss using advanced 3D reconstruction techniques.

MATERIAL & METHODS

Pediatric patients followed at our institution between 2015 and 2025 with available high-resolution temporal bone computed tomography (CT) imaging were included. Cases were categorized into three groups: cCMV-related SNHL (study group), SNHL due to non-cCMV etiologies (disease control group), and normal-hearing individuals (healthy control group). Image analyses were performed using OTOPLAN® . Cochlear parameters, including basal turn diameter, width, height, and cochlear duct length (CDL) , were measured with millimetric precision. Total cochlear volume was calculated using 3D automated segmentation when image quality was sufficient; otherwise, manual measurement techniques were applied. Patients with slice thickness greater than 0.6 mm or with gross inner ear malformations were excluded.

RESULTS

A total of 203 patients (345 ears) were analyzed, all of which were reported as having normal inner ear structures on standard radiological evaluation. Three-dimensional morphometric analysis revealed no statistically significant differences.

CONCLUSIONS

These findings indicate that, despite causing significant functional impairment, cCMV infection does not result in major abnormalities. This supports the hypothesis that hearing loss in cCMV is primarily related to microscopic inflammatory and neuroepithelial damage rather than a gross structural developmental defect.

KEYWORDS

Congenital Cytomegalovirus Infection (cCMV), Cochlear Anatomy, OTOPLAN, 3D Reconstruction, Sensorineural Hearing Loss.

PEDIATRIC OTOLARYNGOLOGY

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OP-890

Optimising Postoperative Analgesia Following Paediatric Adenotonsillectomy: A Closed-Loop Audit'

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BACKGROUND & AIM

Adenotonsillectomy is one of the most commonly performed paediatric ENT procedures for obstructive sleep apnoea (OSA). Although generally safe, postoperative complications such as bleeding and pain remain important concerns. This audit aimed to identify postoperative complications following paediatric adenotonsillectomy for OSA and implement quality improvement measures to optimise postoperative analgesia.

MATERIAL & METHODS

A retrospective clinical audit was conducted over six months at University Hospital Lewisham. Paediatric patients aged 2–16 years undergoing adenotonsillectomy for OSA were included. Data collected included demographics, surgical technique, indication for surgery, surgeon experience, risk factors, and postoperative complications. Statistical analysis using the Chi-square test was performed to assess potential associations between risk factors and complications. Following the first audit cycle, a weight-based postoperative analgesia regimen using paracetamol and ibuprofen was introduced alongside enhanced discharge guidance, including a parent-friendly medication tracker to improve compliance.

RESULTS

A total of 349 cases were analysed in the first audit cycle. No statistically significant differences in postoperative outcomes were identified based on surgical technique, indication for surgery, or surgeon experience. Overall complication rates were consistent with national standards. Postoperative pain accounted for 2% of complications, highlighting a modifiable area for improvement. In response, a weight-adjusted analgesia protocol using paracetamol and ibuprofen was introduced in line with BAPO and STPN recommendations. Updated discharge information leaflets and a parent-friendly medication tracker were also implemented to improve parental understanding, compliance, and postoperative pain management. A second audit cycle is currently underway to assess adherence to the new analgesia protocol and its impact on pain-related admissions, and will be completed within one month.

CONCLUSIONS

Postoperative pain remains an important yet preventable complication following paediatric adenotonsillectomy. Introducing weight-adjusted analgesia and improving parental education may enhance postoperative pain control and reduce avoidable admissions. Findings from the second audit cycle will help evaluate the effectiveness of these interventions and complete the audit loop.

KEYWORDS

weight based analgesia, adenotonsillectomy

OP-891

Handheld POCUS For Rapid Pre-Esophagoscopy Screening Of Cervical Esophageal Foreign Bodies In Children

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BACKGROUND & AIM

Point-of-care ultrasound is revolutionizing diagnostics by providing bedside, cost-effective imaging. The emergence of handheld devices offers comparable accuracy with enhanced portability. Pediatric foreign body ingestion is a rising global concern, particularly in Saudi Arabia, following the 2017 introduction of coin currency. Although chest X-rays are the standard diagnostic tool, they involve ionizing radiation. Since many objects pass spontaneously, repeat imaging is often required before invasive esophagoscopy. This study evaluates handheld POCUS as a feasible, rapid alternative to identify cervical esophageal foreign bodies (CEFB), aiming to minimize pediatric radiation exposure, minimize anesthesia risks, and assess cost-effectiveness.

MATERIAL & METHODS

This prospective cohort study, conducted at a secondary hospital in Saudi Arabia, evaluates the diagnostic performance of the handheld ultrasound for the identification of CEFB. The study enrolled stable pediatric patients (<14 years) with radiographically confirmed CEFB. Exclusion criteria included sharp objects, button batteries, radiolucent materials, and patients presenting with respiratory distress or clinical instability. Following informed consent from legal guardians, bedside ultrasonography was performed by the authors, who had completed targeted training in head and neck sonography. Using a CMUT probe, the examination was conducted using a standardized scanning technique. Demographic data were recorded for each subject. Diagnostic efficiency and safety were evaluated by comparing POCUS findings with preoperative radiographs and definitive intraoperative results. The time required for both X-ray and POCUS was measured and compared. All sonographic findings were documented and reviewed by the investigators for sensitivity analysis. SPSS version 27 was used for analysis.

RESULTS

A total of 13 pediatric patients were enrolled. The cohort was predominantly male (n = 9; 69.2%), with a mean age of 6.31 years. The clinical presentation was varied, Nausea: 32.1% Vomiting 28.5% Dysphagia: 21.4% Odynophagia: 10.7%, and Drooling: 7.14%. All foreign bodies were successfully identified as coins. Handheld POCUS demonstrated a sensitivity of 100%, correctly localizing the CEFB in all 13 cases. No complications were recorded during the ultrasonographic examinations or the subsequent esophagoscopies. The diagnostic efficiency of handheld point-of-care ultrasound (POCUS) was significantly superior to conventional radiography, with a mean procedure time of 1.65 ± 0.56 minutes compared to 13.23 ±10.29 minutes for chest X-rays (N = 13). A paired samples t-test revealed a statistically significant mean reduction of 11.58 minutes (95% CI, -17.78 to -5.38; t (12) = -4.068, p = .002), demonstrating that POCUS substantially accelerates the clinical workflow.

CONCLUSIONS

Handheld POCUS might represent a paradigm shift in pediatric foreign body management as a complementary investigation, offering a radiation-free alternative that streamlines clinical workflows and enhances patient safety. While our results are highly promising, larger multi-center studies are warranted to validate these findings across a broader range of foreign body types and to establish standardized training protocols for Otolaryngologists, pediatric surgeons, and emergency physicians. Integrating this "handheld advantage" into standard clinical pathways has the potential to optimize resource utilization and improve the quality of care for pediatric patients worldwide.

KEYWORDS

Handheld ultrasound, Pediatrics, Esophageal foreign body, Coin ingestion, Cervical esophagus ,Radiation-sparing, Diagnostic efficiency

OP-892

Forming A Tracheostomy MDT Clinic And Team

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BACKGROUND & AIM

There is an increase in the number of pediatric patients with tracheostomy. Therefore a unified meeting with decision making is essential. There is a need for standardized care and protocols to serve this complex patient population.

MATERIAL & METHODS

Population: children and infants with tracheostomies

Looking into the number of patients with tracheostomies and how to serve them, looking at missed appointments and morbidities due to the tracheostomy

Forming a team of outpatient health care workers including: pediatric ENT surgeon, Pediatric pulmonologist, speech language and swallow therapist and a dedicated tracheostomy nurse/coordinator to care for these patients in an MDT.

Forming a team of inpatient health care workers including but not limited to: pediatric ENT surgeon, pediatric pulmonologists, pediatrician, PICU doctor and nursing.

RESULTS

The patient's were seen promptly in the MDT clinic with meetings every 3 months

Forming proper surgery planning and councelling to the families, proper discharge planning, proper followup, successful decannulation.

CONCLUSIONS

Patients were properly cared for as inpatients and outpatients with proper stoma care and decision making regarding the tracheostomy, wether upsizing or readiness for decannulation.

Steady number of patients seen benefiting from the tracheostomy MDT clinic with proper transition to complex care clinic.

KEYWORDS

Pediatric tracheostomy, Tracheostomy MDT, Pediatric ENT, Pediatric pulmonology, Tracheostomy nurse

OP-893

Thulium Fiber Laser Cauterization Approach To Congenital Pyriform Sinus FIstula： Preliminary Experience

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BACKGROUND & AIM

In recent years, more and more endoscopic or microscopic-assisted treatments for congenital pyriform sinus fistula (CPSF) had been developed, such as carbon dioxide laser cauterization, electrocautery, and radiofrequency ablation, which had gradually replaced traditional open neck surgeries as an alternative option for many medical institutions. In this paper, we retrospectively evaluated the efficacy of Thulium laser cauterization with suspension microlaryngoscopy as a definitive surgical treatment for CPSF in our department, and discussed the timing and protocol of the treatment.

MATERIAL & METHODS

This single-center retrospective study was conducted from September 2024 to December 2025 at the department of Otolaryngology, Head and Neck Surgery at Shanghai Children's Hospital. All cases were collected by searching electronic medical records of children diagnosed with CPSF who underwent Thulium laser cauterization. Postoperative observation indexes: 1) Voice hoarseness; 2) Fever (The parents used an ear thermometer check the child's temperature every 4 hours after the surgery and took the highest value each day); 3) Wound repair to time (the time for the white membrane to completely fall off).

RESULTS

14 patients with CPSF underwent suspension microlaryngoscopy exploration for an internal pyriform sinus fistula from September 2024 to December 2025. The operation time was 15.35 ± 6.27 minutes, with little intraoperative bleeding. None of the patients treated with Thulium laser cauterization showed obvious complications of dysphagia, laryngeal recurrent nerve injury, and pharyngeal fistula. Only 2 children had low fever (< 38℃) on the first day after the operation, and both returned to normal on the second day. The average wound repair time (the time for the white membrane to completely fall off) was 7.64 ± 1.44 days. The total duration of follow-up was 6.01 ± 3.02 months, ranging from 2 to 15 months. Out of the 14 patients, merely 1 child developed recurrent cervical infections after two months from the first operation, indicating the potential recurrence of CPSF, and underwent external cervical approach piriform sinus fistula resection.

CONCLUSIONS

Minimally invasive endoscopic radical treatment for pyriform sinus fistula was a safe and effective method. Thulium laser, as a new type of laser technology, had precise positioning, caused less local thermal damage and pain stimulation, and had unique advantages in the application of deep and narrow cavities. Although there were relatively few studies on the application of thulium laser in the treatment of congenital pyriform sinus fistula in children at present, its working principle and characteristics in other fields could be referred to for further research and analysis.

KEYWORDS

congenital pyriform sinus fistula; Thulium laser cauterization; pediatric; minimally invasive endoscopic radical treatment

OP-894

Diagnosing Pediatric Sleep-Disordered Breathing With Watchpat: Agreement With PSG And Added Value Beyond Oximetry

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BACKGROUND & AIM

Several studies have evaluated the validity of peripheral arterial tonometry (PAT) devices as home-based diagnostic tools for obstructive sleep apnea (OSA) in adults. However, evidence supporting the validity of PAT for diagnosing OSA in children remains limited. This study aimed to assess the utility of the WatchPAT device for diagnosing OSA in children with symptoms suggestive of pediatric sleep-disordered breathing.

MATERIAL & METHODS

Children aged 3–12 years with clinical suspicion of OSA were enrolled in this prospective study. Participants underwent simultaneous in-laboratory polysomnography (PSG) and PAT testing using the WatchPAT 300 between October 2025 and February 2026 at a tertiary university hospital. WatchPAT data were analyzed using the device's automated algorithm. Nocturnal oximetry data were extracted from PSG recordings and interpreted. We evaluated correlation, agreement, and concordance between PAT and PSG for the apnea–hypopnea index (AHI) and minimum oxygen saturation (minSpO2).

RESULTS

A total of 33 children were included (mean age 7.72 ± 1.97 years; 69.7% male; 66.7% overweight or obese). Agreement between PAT and PSG was high (intraclass correlation coefficient [ICC] = 0.973; P < .001 for AHI-PAT vs AHI-PSG, ICC = 0.847; P < .001 for minSpO2-PAT vs minSpO2-PSG). Correlations between PAT and PSG were moderate for both AHI (r = 0.540; P = .001) and minSpO2 (r = 0.465; P = .009). The mean difference between AHI-PAT and AHI-PSG was 0.9 ± 5.80 events/h (95% confidence interval, −1.157 to 2.957). However, concordance for OSA severity classification based on AHI was low (Kendall's tau-b = 0.365, P = .021). In addition, WatchPAT identified OSA (AHI > 1) in 24 of 25 patients (96%) who had negative or inconclusive nocturnal pulse oximetry findings.

CONCLUSIONS

PAT may be a reliable alternative tool for diagnosing pediatric OSA. However, its ability to classify OSA severity may be limited. Further studies using pediatric-specific PAT algorithms and including a healthy control group are warranted.

KEYWORDS

obstructive sleep apnea, pediatric sleep-disordered breathing, polysomnography, peripheral arterial tonometry, WatchPAT, nocturnal pulse oximetry, home sleep test

OP-895

Appropriateness Of Paediatric Sleep Study Utilisation In Suspected Obstructive Sleep Apnoea (OSA): A Quality Improvement Project (QIP)

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BACKGROUND & AIM

The British Association for Paediatric Otorhinolaryngology (BAPO) published the Day Case Paediatric Adenotonsillectomy Consensus Guideline (2024), outlining day-case adenotonsillectomy as safe and effective for the majority of non-comorbid children with obstructive sleep apnoea (OSA). They highlight clinical assessment is the key in decision making, with sleep studies not routinely recommended for non-comorbid children with suspected OSA. GIRFT (2025) guidelines recommend selective use of sleep studies reserved for comorbidity, diagnostic uncertainty or peri-operative risk stratification. However, it has been identified locally that sleep studies are routinely requested in children with clinically suspected OSA, causing pathway delay, additional appointments and unnecessary cost.

MATERIAL & METHODS

A retrospective review of all paediatric sleep studies for suspected OSA over a 2-year period in a district general hospital. Predefined guideline-based criteria were used to classify studies, whilst also assessing estimated costs and patient outcomes.

RESULTS

Of 116 analysed sleep studies, 52.6% were non-indicated, with 61.1% of studies non-indicated in the low-risk, day-case eligible subgroup. 68.3% of surgical patients had moderate/severe classified OSA based on sleep study, reflecting sleep study guided surgical selection. Non-indicated studies represented an estimated £24,705 avoidable cost.

CONCLUSIONS

Over half of sleep studies requested were not guideline-indicated, suggesting sleep studies are embedded as a standard step in the pathway, rather than a targeted investigation. The present QIP proposes a clear local guideline, with clinical assessment as the mainstay of management decision- making, whilst ensuring positive outcomes, and decreasing costs and delays.

KEYWORDS

Paediatric Obstructive Sleep Apnoea, Adenotonsillectomy, Sleep Studies

OP-896

The Burden Of Recurrent Respiratory Papillomatosis In Children Aged Less Than 18 Years Old In France: BREATH Study

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BACKGROUND & AIM

Juvenile-onset recurrent respiratory papillomatosis (JoRRP) is a chronic HPV-associated disease affecting the upper airway, acquired vertically (mother-to-child) during childbirth. Observational studies in the US and Australia have shown declines in JoRRP incidence following introduction of the quadrivalent HPV vaccine. In France, data on the JoRRP epidemiological burden, patient characteristics, and real-world management are limited. The BREATH (Burden of Recurrent REspiratory PApillomaTosis in CHildren) study was designed to address these gaps.

MATERIAL & METHODS

BREATH is a non-interventional, retrospective study using secondary data from the French National Health Data System from 2006-2023. The inclusion window was 2010-2022, allowing a 4-year look-back to distinguish incident from prevalent cases. All RRP patients younger than 18 years were included. A case-identification algorithm based on ICD-10 diagnoses and procedure codes was developed and validated against medical records. Patient characteristics included age, sex and birth order. Surgical and medical events during follow-up were assessed. For mothers of JoRRP cases, delivery mode and C2S status (proxy for socioeconomic deprivation) were obtained through mother–child linkage. Incidence was estimated using JoRRP case counts and national census denominators, and annual percentage change (APC) in incidence was derived using Joinpoint regression. Descriptive statistics summarized all variables.

RESULTS

In total, 263 JoRRP cases were identified; 76% (n=200) were incident. Incidence remained relatively stable, from 0.13 per 100,000 person-years in 2010 to 0.09 in 2022 (APC −3.5%; 95% CI −7.2 to 0.4). Among incident cases, 54% were female, and median age at diagnosis was 3 years, with 62% diagnosed between 0-4 years. Within the first year after diagnosis, 158 patients (79%) underwent RRP-related surgeries, with a mean of 2.8 procedures. Over a median 7.2-year follow-up, malignant transformation occurred in ≤ 10 patients. HPV vaccination after JoRRP diagnosis was recorded in 41% of patients. Maternal linkage was achieved for 82 cases: 60% were first-born, 87% of mothers had vaginal delivery and 26% were C2S beneficiaries.

CONCLUSIONS

This study provides the first nationwide insights into JoRRP epidemiology and burden in France, using a robust case-identification definition in the absence of a specific ICD-10 code, and highlights the need for preventive strategies for this non-curable disease.

KEYWORDS

Human papillomavirus (HPV); Juvenile-onset recurrent respiratory papillomatosis (JoRRP); Burden; Epidemiology; Respiratory disease

OP-897

In-Hospital And Long-Term Complications Following Repair Of Congenital Tracheoesophageal Fistula And Esophageal Atresia: A Retrospective Cohort Study

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BACKGROUND & AIM

Congenital tracheoesophageal atresia with or without esophageal atresia (TEF/EA) affects approximately 1 in 3500 births which can lead to life-threatening aspiration without urgent surgical intervention. Although advances in surgical management have led to improvements in mortality from TEF/EA, patients experience complications such as anastomotic leak, esophageal stricture, and feeding difficulties that impair quality of life. Additionally, there is a subset of patients who have a prolonged

hospital stay following the repair. We aimed to quantify complication rates and identify patients with prolonged hospital stay following TEF/EA repair, and associated patient and perioperative factors at our local pediatric tertiary referral centre.

MATERIAL & METHODS

We conducted a retrospective cohort study of patients who underwent surgical repair of congenital TEF/EA at our local pediatric tertiary referral centre. Demographic data, clinical characteristics, perioperative variables, and complications were extracted from the patient's electronic medical record. In-hospital complications included anastomotic leak, postoperative pneumothorax and chylothorax, surgical site infection, duration of mechanical ventilation, and length of hospital stay. Prolonged hospital stay was defined as a length of hospital stay exceeding the 75th percentile of that of the cohort. Long-term complications included esophageal stricture, tracheomalacia and recurrence of fistula. Univariate analysis was conducted using Chi-square or Fisher exact analysis on 2x2 contingency tables. From the univariate analyses, variables of interest were included in a multivariable regression model with backward elimination using the Wald statistic to identify patient, perioperative, and clinical factors that were independently associated with complications and prolonged hospital stay.

RESULTS

A total of 75 patients were included in the study, 59% male (n=44). Pneumothorax and vocal cord hypomobility were the most common in-hospital complications, affecting 24% (n=18) and 25% (n=19) of the cohort, respectively. Long-term, esophageal stricture was seen in 51 patients (68%) and fistula recurrence in 6 patients (8%). On univariate analysis, the presence of additional anomalies and requiring gastrostomy were significantly associated with the development of in-hospital complications. Being started on an acid-suppressing medication post-repair was associated with not developing any complications. With regards to prolonged hospital stay, this was associated with ventilation issues, having a strong association with prolonged ventilation, requiring re-intubation, and needing a tracheostomy. Our multivariable analysis had revealed that needing gastrostomy was the only factor independently associated with the development of in-hospital complications. The presence of any complication and a long-gap esophageal atresia showed independent association in our multivariable model of prolonged hospital stay.

CONCLUSIONS

Patients undergoing repair of congenital TEF/EA experience substantial in-hospital complications and long-term morbidity, with esophageal stricture representing the most common long-term complication. Need for gastrostomy was independently associated with the development of in-hospital complications, while long-gap esophageal atresia and the occurrence of any complication were independently associated with prolonged hospital stay. This study was limited in suggesting any causation given its retrospective nature. Thus, prospective studies, informed by the findings of the present study, are needed to further characterize factors associated with adverse outcomes following congenital TEF/EA repair.

KEYWORDS

Tracheoesophageal fistula, esophageal atresia, esophageal stricture, fistula recurrence, prolonged hospital stay

OP-898

P300 Evidence Of Auditory And Cognitive Impairment In Children With Adenotonsillar Hypertrophy

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BACKGROUND & AIM

This study aimed to investigate the effects of tonsillectomy and/or adenotonsillectomy on cognitive function, hearing levels, and snoring in children with tonsillar and/or adenotonsillar hypertrophy using various audiological and electrophysiological methods in a prospective design.

MATERIAL & METHODS

This prospective study included patients aged 6-12 years who were evaluated and scheduled for tonsillectomy and/or adenotonsillectomy. Twenty-seven patients underwent pre- and postoperative symptom evaluation, snoring questionnaire assessment, tonsillar and adenoid size evaluation, audiological testing (acoustic immittanceometry, pure-tone audiometry, otoacoustic emissions, auditory brainstem responses), and P300 testing to assess cognitive function. Thirty-six healthy children served as controls and underwent physical examination, audiological testing, and P300 assessment. Postoperative measurements were performed by the same investigators on postoperative day 30.

RESULTS

Preoperatively, the most common symptoms were mouth breathing during sleep and snoring. All symptoms decreased significantly postoperatively ($p<0.05$). At one month postoperatively, statistically significant reductions were observed in all symptoms, snoring questionnaire scores, and endoscopically evaluated adenoid and tonsillar sizes ($p<0.05$). P300 latencies, used to evaluate cognitive function, decreased significantly at 30 days postoperatively ($p<0.01$). Gender and age distributions were similar between groups. Preoperative P300 latency values in the experimental group were similar to those in the control group. No correlation was found between P300 values and snoring questionnaire scores. Kendall's tau-b analysis revealed that both adenoid and tonsillar size correlated with snoring questionnaire scores, with adenoid size showing the strongest

association. When comparing preoperative endoscopic and radiological adenoid size assessments, endoscopic evaluation demonstrated a stronger correlation with snoring questionnaire scores.

CONCLUSIONS

Significant improvement in P300 latency was observed in children with sleep-related breathing disorders following adenotonsillectomy. Our findings confirm that children with obstructive sleep apnea are at risk for cognitive impairment. Cognitive function improved significantly within 30 days of adenotonsillectomy in these children of developmental age with sleep-related breathing disorders. P300 latency, when supported by questionnaires and scales, may serve as a diagnostic tool to objectively and efficiently evaluate cognitive impairment caused by obstructive sleep apnea and assess treatment effectiveness.

KEYWORDS

Adenotonsillar Hypertrophy, Sleep-disordered breathing spectrum, auditory evoked potentials, P300

OP-899

THE PROTECTIVE POWER OF BREASTFEEDING AGAINST CHILDHOOD TONSILLITIS: A SURVEY-BASED STUDY IN ENT PRACTICE

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BACKGROUND & AIM

Tonsillitis is one of the most common upper respiratory tract infections in childhood. Recurrent episodes can significantly impair children's quality of life and lead to frequent antibiotic use. While the protective effects of breast milk against various infections are well-documented, data regarding its specific role in tonsillitis remain limited. This study aims to investigate the relationship between breastfeeding duration and the frequency of tonsillitis in children aged 4–12 years.

MATERIAL & METHODS

This prospective observational study was conducted at the Bursa City Hospital Otorhinolaryngology Clinic between February 1, 2026, and May 1, 2026. Data regarding breastfeeding duration and tonsillitis history were collected through parental surveys. Recurrent tonsillitis was standardized based on Paradise criteria. Disease-specific quality of life and symptom severity were analyzed using a 39-item modified version of the Tonsil and Adenoid Health Status Instrument (TAHSI), validated for the Turkish population by Yüksel et al. Patients were categorized into three groups based on breastfeeding duration: <6 months (Group 1), 6–12 months (Group 2), and ≥12 months (Group 3).

RESULTS

A total of 149 children were included in the study (Group 1: n=42; Group 2: n=28; Group 3: n=79). A significant negative correlation was found between breastfeeding duration and the frequency of tonsillitis attacks ($p < 0.001$). Patients in Group 3 (≥12 months) exhibited significantly lower attack rates and improved TAHSI scores (median: 9.0) compared to Group 1 (median: 20.5) ($p = 0.005$). Multiple linear regression analysis identified breastfeeding duration as the strongest independent protective factor against disease severity, reducing TAHSI scores significantly ($\beta = -4.38$, $p = 0.0003$). Additionally, daycare attendance was found to be an independent risk factor for increased disease severity ($p = 0.043$).

CONCLUSIONS

Long-term breastfeeding, particularly for 12 months or more, significantly reduces the frequency and severity of recurrent tonsillitis in children. Breast milk acts as a "natural immunotherapy" that maintains its protective effect independently of environmental risk factors. These findings emphasize the importance of promoting prolonged breastfeeding to optimize pediatric upper respiratory health.

KEYWORDS

Tonsillitis, Recurrent Tonsillitis, Breastfeeding, Tonsillectomy, Pediatric Age Group, Infection Frequency.

OP-900

Children Hearing Loss: Is Parent's Perception Real?

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BACKGROUND & AIM

Mild hearing loss in school-aged children may negatively impact language acquisition and academic performance, yet it frequently remains unnoticed. In many settings without universal school hearing screening, early detection often depends on parental awareness. This study aimed to evaluate whether parental perception of their child's hearing correlates with objective audiometric findings obtained in a school screening context.

MATERIAL & METHODS

A cross-sectional observational study was conducted in 53 children aged 6–7 years undergoing school hearing screening. Pure-tone audiometry was performed, and hearing was classified according to BIAP criteria as normal hearing or mild hearing loss.

Parental perception of hearing was assessed using a structured Portuguese questionnaire developed based on previously described hearing perception instruments, complemented by a global visual analogue scale (VAS). The questionnaire's psychometric properties were analyzed, including factor structure, internal consistency, and item–total correlation. Convergent validity was assessed through correlation with the VAS, and construct validity through comparison of scores between audiometric groups.

Questionnaire total and item scores were compared between audiometric groups to determine whether parental perception identified mild hearing loss.

RESULTS

Mild hearing loss was identified in 24.5% of children. The questionnaire demonstrated excellent internal consistency (Cronbach's $\alpha = 0.911$) and a unidimensional structure (KMO = 0.837; total explained variance 68.2%). A strong correlation was found between questionnaire score and VAS ($r = 0.702$; $p < 0.001$), supporting convergent validity.

However, no significant difference in mean questionnaire scores was observed between children with normal hearing and those with mild hearing loss ($p = 0.554$). Only the item related to the need for increased television/radio volume showed statistical significance ($p = 0.018$).

CONCLUSIONS

Although the questionnaire demonstrated good psychometric properties, parental perception did not reliably identify mild hearing loss detected through audiometry. These findings reinforce the importance of structured school hearing screening programs, as parental report alone is insufficient for detecting subtle auditory deficits.

KEYWORDS

school hearing screening; mild hearing loss; parental perception; questionnaire validation; pediatric audiology.

OP-901

Creating A Deep Learning Algorithm For Detection Of Abnormalities On Pediatric Functional Endoscopic Evaluation Of Swallowing: Preliminary Results

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BACKGROUND & AIM

Fiberoptic Endoscopic Evaluation of Swallowing (FEES) is a standard instrumental test of pediatric dysphagia. Interpretation is subject to inter-expert variability, and human error despite its other advantages over modified barium swallows (MBS). Automated analysis may improve efficiency, and accuracy, but tools have only been created for MBS. The aim of this study was to develop a deep learning model that can read and interpret pediatric FEES videos.

MATERIAL & METHODS

Thirty-eight pediatric FEES videos were annotated by five expert clinicians (two fellowship-trained pediatric otolaryngologists and three pediatric Speech Language Pathologists) for five key classes: laryngeal inlet, vocal cords, penetration, residue, and premature spillage. Sparse annotations were fused using majority voting to generate consensus masks. 2 different models (U-Net++ and Temporal) were used. U-Net++ models were trained independently for each class, while Temporal (a pretrained zero-shot model) was applied without task-specific training. Segmentation was evaluated using Dice coefficient, sensitivity, precision, and Hausdorff distance. Frame-level detection and false-positive predictions were also assessed.

RESULTS

Temporal model demonstrated higher overall performance than U-Net++, particularly for infrequent events: mean Dice 0.77 vs 0.70, sensitivity 0.82 vs 0.68, precision 0.77 vs 0.73, and Hausdorff distance 25.0 vs 29.6 pixels. Frame-level detection reached 100% for Temporal versus 97% for U-Net++. Temporal was especially effective at detecting penetration, residue, and spillage, whereas U-Net++ exhibited slightly higher precision for larger structures like the vocal cords. False-positive predictions were higher for rare events such as salivary pooling.

CONCLUSIONS

Automated segmentation of pediatric FEES is feasible and can reliably identify both anatomical structures and swallowing abnormalities. Pretrained zero-shot models, like Temporal, generalize well without task-specific training, offering a practical solution in low-data clinical settings. Implementation of such AI-assisted tools may reduce variability, improve diagnostic

efficiency, and support timely management of pediatric dysphagia. Our future step is to validate the model, then test it against expert diagnosis.

KEYWORDS

otolaryngology, pediatric otolaryngology, pediatric dysphagia, functional endoscopic evaluation of swallowing, FEES, swallowing assessment, artificial intelligence, deep learning, automated analysis

OP-902

Saudi National Consensus Recommendations For Pediatric Tracheostomy Care

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BACKGROUND & AIM

Tracheostomy is one of the oldest and most commonly performed airway procedures and, when indicated, it increases the survival despite its associated risk. There is still marked variability in the current practice of pediatric tracheostomy care due to its perceived complexity.

The aim of establishing this consensus is to improve the outcomes for children with tracheostomy based on recent international recommendations, regional available resources and expert opinions. We believe in the pivotal role of the consensus statements in reducing inconsistencies in the provided care and the rate of complications in Saudi Arabia.

MATERIAL & METHODS

The scope of the statements was determined based on review of the literature and gaps in current national practice. The modified Delphi method was used, and panel members comprising pediatric otolaryngologists with more than 3 years of clinical experience were requested to complete a scaled survey in two rounds. Survey items were made comprehensive to cover all stages of tracheostomy care, from pre-operative indications to decannulation protocol.

RESULTS

The expert panel achieved consensus on 53 statements; another 20 were dropped because of lack of consensus. Consensus statements were categorized into five domains as they address pre-operative indications, operative considerations, and post-operative considerations. The latter includes early in-hospital care, routine home care, and decannulation protocol.

CONCLUSIONS

The national consensus established statements on pediatric tracheostomy care the covers peri-operative and long-term tracheostomy care as well as decannulation protocol. This national consensus shall be a clinical guide in Saudi Arabia for physicians, nurses and stakeholders involved in managing tracheostomized children.

KEYWORDS

Children; consensus; decannulation; tracheostomy; pediatric airway

OP-903

Effect Of Warm Saline Irrigation On Intraoperative Bleeding During Pediatric Tonsillectomy: A Prospective Intra-Patient Study

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BACKGROUND & AIM

To evaluate the effect of warm saline irrigation on intraoperative bleeding parameters during pediatric tonsillectomy.

MATERIAL & METHODS

This prospective, randomized, intra-patient (split-body) study included 50 pediatric patients undergoing bilateral tonsillectomy for recurrent tonsillitis. Following tonsillectomy, one tonsillar fossa was irrigated with room-temperature saline (22°C) and the contralateral fossa with warm saline (50°C), according to a predefined randomization protocol. Excision time, bleeding time, and bleeding volume were recorded for each side. Paired-samples t-test was used for statistical analysis.

RESULTS

No statistically significant differences were observed between 22°C and 50°C saline irrigation in terms of excision time (mean difference: 0.10 min; p = 0.553), bleeding time (p = 1.000), or bleeding volume (mean difference: 4.8 mL; p = 0.139). Although bleeding volume tended to be lower with warm saline irrigation, this difference did not reach statistical significance. Postoperative complications were infrequent and managed conservatively.

CONCLUSIONS

Warm saline irrigation did not provide a significant intraoperative hemostatic advantage during pediatric tonsillectomy. These findings suggest that the hemostatic effect of warm saline irrigation may be procedure- and tissue-specific.

KEYWORDS

Pediatric tonsillectomy; warm saline irrigation; intraoperative bleeding; hemostasis

OP-904

Macroscopic And Histopathological Comparison Of The Effects Of Intratonsillar, Short- And Long-Acting Steroid Injections On The Palatine Tonsils In Rabbit Model.

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BACKGROUND & AIM

Tonsils constitute the first line of defense against pathogens in the upper respiratory tract. However, recurrent infections or excessive tonsillar hypertrophy can lead to clinical problems such as upper airway obstruction and snoring. Current literature recommends adenotonsillectomy as the first-line treatment for pediatric obstructive sleep apnea. Nevertheless, surgical intervention carries a risk of various complications, prompting the search for less invasive alternatives.While intranasal steroids are effective for adenoid hypertrophy, evidence for their effect on the palatine tonsils remains insufficient. The aim of this study was to evaluate the effects of steroids on the rabbits' palatine tonsils following intratonsillar steroid injection.

MATERIAL & METHODS

A total of 32 rabbits, all under six months of age, were divided into five groups. Single and multiple doses of short-acting (fluticasone) and long-acting (dexamethasone) steroids were administered into both palatine tonsils, while the control group received saline injections. Tonsil sizes were measured macroscopically at regular intervals, and histopathological evaluations on the number of primary and secondary lymphoid follicles were performed at the end of the study.

RESULTS

The results demonstrated a statistically significant reduction in tonsil size and number of secondary lymphoid follicles in all steroid-treated groups compared to the control group ($p<0.05$). Moreover, the short-acting steroid groups showed a significantly greater reduction in secondary follicles compared to the long-acting steroid groups ($p<0.05$).

CONCLUSIONS

These findings suggest that intratonsillar steroid injections may represent an effective, minimally invasive alternative for reducing tonsillar hypertrophy and suppressing lymphoid follicular activity.

KEYWORDS

palatin tonsils, rabbit, steroid

OP-905

Predictive Value Of Preoperative Hematological Markers For Post-Tonsillectomy Hemorrhage

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BACKGROUND & AIM

Tonsillectomy is one of the most common surgical procedures performed at ear, nose and throat clinics. Post-tonsillectomy hemorrhage (PTH) remains one of the most important complications in pediatric otolaryngology. Potential indicators of PTH include red cell distribution width (RDW) and other hematological parameters such as white blood cell (WBC) count, platelet (PLT) count and international normalized ratio (INR). Some studies suggest that gender, age, MCV and INR levels are all risk factors for PTH. However, their clinical utility remains unclear. In this study we intended to evaluate the association between preoperative hematological parameters and the risk of PTH.

MATERIAL & METHODS

A retrospective case-control study was performed involving 102 pediatric patients who underwent cold dissection tonsillectomy. 51 of these patients experienced postoperative hemorrhage while the other 51 served as controls without bleeding. Demographic data and preoperative hematological parameters (haemoglobin [HGB], hematocrit [HCT], Mean Corpuscular Volume [MCV], RDW-CV, RDW-SD, INR, WBC count, PLT, Neutrophil-to-Lymphocyte Ratio [NLR], Platelet-to-Lymphocyte Ratio [PLR]) were analyzed. Normality was evaluated using the Shapiro–Wilk test. Group comparisons were

performed using the Mann–Whitney U test or chi-square test when appropriate. Receiver operating characteristic (ROC) analysis and binary logistic regression (univariate and multivariate) were used to determine predictive performance.

RESULTS

There were no significant differences between groups in terms of age and sex distribution (p>0.05). Preoperative hematological parameters were compared between groups. No statistically significant differences were observed in RDW-CV, RDW-SD, Hgb, HCT, MCV, PLT, Hgb/MCV, NLR or PLR (p>0.05 for all). INR and WBC levels were significantly higher in the hemorrhage group compared to the control group (p=0.008 and p=0.027, respectively). ROC analysis demonstrated limited discriminative ability of INR for predicting post-tonsillectomy hemorrhage (AUC=0.652, p=0.008). In univariate logistic regression, INR was significantly associated with hemorrhage (p=0.005), however the odds ratio was unstable due to the narrow distribution of INR values. In multivariate analysis including INR and WBC, INR remained independently associated with hemorrhage (p=0.019), whereas WBC lost statistical significance (p=0.095).

CONCLUSIONS

Preoperative RDW parameters were not associated with PTH. Although INR was identified as an independent predictor, its clinical utility is limited due to low discriminative performance and narrow value distribution. These findings indicate that routine hematological indices alone may be insufficient for reliable risk stratification of post-tonsillectomy bleeding. A multifactorial approach incorporating coagulation parameters alongside clinical risk factors may provide a more accurate prediction model for postoperative hemorrhage.

KEYWORDS

Tonsillectomy, postoperative hemorrhage, RDW, INR, pediatric otolaryngology

OP-906

Decoding The Spatiotemporal Evolution Of Recurrent Pediatric Nasal Polyps Through Xenium Spatial Transcriptomics

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BACKGROUND & AIM

Pediatric chronic rhinosinusitis with nasal polyps (CRSwNP) is associated with a high recurrence rate, yet the underlying mechanisms remain poorly understood. This study aimed to construct a comprehensive spatiotemporal atlas of recurrent pediatric CRSwNP using the 10x Genomics Xenium Prime 5K in situ spatial transcriptomics platform, and to analyze the dynamic expression patterns and cell-type-specific functions of SOCS3, a key negative regulator of the JAK-STAT pathway, during disease recurrence.

MATERIAL & METHODS

A total of 20 tissue samples were analyzed, divided into five groups (n=4 per group): recurrent polyps, non-recurrent polyps, paired recurrent mucosa, paired non-recurrent mucosa, and healthy control nasal mucosa. Spatial whole transcriptome analysis was conducted using Xenium Prime 5K on formalin-fixed, paraffin-embedded tissue. Cell segmentation was performed with Xenium Explorer, followed by unsupervised clustering, annotation, and differential expression analysis using R and Python. The analysis focused on spatial cellular architecture, interaction networks, and spatial heterogeneity of gene expression. SOCS3 expression and localization were validated by multiplex fluorescence immunohistochemistry (mIHC). To investigate SOCS3's role, fibroblast cell lines were treated with a SOCS3 inhibitor, and fibrosis-related genes (e.g., COL1A1, α-SMA) were analyzed by qPCR. Additionally, SOCS3 expression and key protein phosphorylation in the JAK-STAT/MAPK pathways were measured by Western blot, and inflammatory factors in serum were quantified by ELISA, correlating with recurrence status.

RESULTS

A high-resolution spatial cellular atlas of pediatric CRSwNP was created, revealing significant differences in cellular ecosystems between recurrent and non-recurrent samples. SOCS3 expression demonstrated disease-stage and cell-type specificity. In the early disease stage (mucosal lesion phase), SOCS3 was upregulated and predominantly expressed in immune cell populations (e.g., CD4+ T cells). In contrast, during the later disease stage (polyp formation phase), SOCS3 expression shifted to activated fibroblasts. This dynamic change suggests that SOCS3 may exert distinct functions via different cell types at different stages of the disease. Pathway enrichment analysis revealed activation of the JAK-STAT and MAPK signaling pathways, along with extracellular matrix organization-related pathways in SOCS3high cell clusters. Spatial neighborhood analysis further identified the formation of an abnormal microenvironmental network in recurrent polyps, centered around SOCS3high fibroblasts, which acted as interaction hubs, closely interacting with surrounding immune cells.

CONCLUSIONS

This study provides the first systematic spatiotemporal mapping of recurrent pediatric CRSwNP at single-cell resolution using Xenium spatial transcriptomics (5K), revealing SOCS3's dynamic expression. Our findings suggest that during mucosal inflammation, SOCS3 upregulation in immune cells modulates immune responses, while in the polyp remodeling phase, its

shift to fibroblasts drives abnormal extracellular matrix deposition and fibrosis via JAK-STAT and MAPK pathways. These results offer novel insights into SOCS3's context-dependent role in CRSwNP and propose targeting cell-type-specific functions or dynamic modulation of SOCS3 to prevent postoperative recurrence in children with CRSwNP.

KEYWORDS

Spatial transcriptomics; Xenium Prime 5K; Chronic rhinosinusitis with nasal polyps; Recurrence; SOCS3; Fibroblasts; JAK-STAT signaling pathway; Pediatric

OP-907

Beyond The First Tube: Predictors Of Repeated Tympanostomy Tube Placement In Children

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BACKGROUND & AIM

Tympanostomy tube (TT) insertion is among the most frequently performed surgical procedures in children, indicated for otitis media with effusion (OME) or recurrent acute otitis media (RAOM). Despite its efficacy, a relevant proportion of children require further tube placement. This study aimed to determine the rate of indication for repeated TT placement and identify independently associated factors.

MATERIAL & METHODS

We retrospectively included children undergoing first TT placement at our institution. The primary outcome was clinical indication for repeated TT during follow-up. Follow-up was defined as time from first surgery to last observation in non-repeaters, and to the indication for repeat procedure in repeaters. Group comparisons used Chi-square or Fisher's exact test and Mann-Whitney U test, as appropriate. Independently associated factors were identified by binary logistic regression.

RESULTS

A total of 149 children were included (57.7% male; median age 4.0 years). Initial indication was OME in 48.3% and RAOM in 51.7%; 81.2% underwent bilateral placement. Repeated TT was indicated in 32 children (21.5%) over a median follow-up of 16 months. Tube retention time was significantly shorter in repeaters (8.5 vs. 12.0 months; p=0.016). On univariate analysis, OME indication, postoperative snoring, postoperative rhinorrhea, and shorter retention time were significantly associated with repeated TT. On multivariate analysis, three independent associated factors were identified: OME as initial indication (OR 2.72; p=0.031), shorter tube retention time (OR 0.884/month; p=0.023), and postoperative snoring (OR 4.951; p=0.003). Postoperative rhinorrhea did not retain independent significance. Gender, age, prematurity, low birth weight, passive smoking, asthma, daycare attendance, bilateral placement, and associated adenoidectomy/adenotonsillectomy were not significantly associated with repeated TT placement.

CONCLUSIONS

Approximately one in five children had an indication for repeated TT placement. OME as initial indication, shorter tube retention time, and postoperative snoring were independently associated with this outcome. Children with these factors may benefit from closer postoperative surveillance.

KEYWORDS

Tympanostomy tubes ; Otitis media with effusion; Recurrent acute otitis media; Repeat tube placement; Tube retention time; Pediatric otolaryngology

OP-908

Presentation Of Fungal Rhinosinusitis In Sudanese Children A Series Of 17Cases

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BACKGROUND & AIM

To present 17 rare cases of Fungal Rhinosinusitis in Sudanese children presented with orbital extension.

MATERIAL & METHODS

I reported a retro-spective 17 cases of children aged 9-11 years , they presented with fungal rhinosinusitis in Africa ENT hospital(Sudan) during the period from Sep 2023 to April 2025.

Patients' diagnosis was established by endoscopic examination, contrast-enhanced CT and MRI and confirmed by histopatholog and fungal culture of tissue biopsies

RESULTS

Patients' aged 9-11 years , this included 12 females and 5 male. Unilateral disease was the commonest type. Orbital extension was identified on imaging in the majority of cases . No intracranial extension was detected . Aspergillus flavus was the most responsible caustive organismisolated in the 14 of 17 cases.

CONCLUSIONS

Fungal rhinosinusitis (FRS) is commonly reported in adult Sudanese patients; however, this series demonstrates that it can also affect immunocompetent children. In the pediatric population, the disease is predominantly caused by Aspergillus species, particularly A. flavus. FRS in children may present with extensive disease and is frequently associated with orbital complications, necessitating early diagnosis and multidisciplinary management.

KEYWORDS

Fungal rhinosinusitis; Pediatric; Orbital complications; Aspergillus flavus; Sudan

OP-909

Studying The Broader Clinical Impact Of Adenoid Surgery By Using Genes As Biomarkers

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BACKGROUND & AIM

Removal of adenoid tissue is a common procedure for pediatric patients with chronic otitis media and obstructive sleep apnea. Despite reports of these conditions running in families, little is known about their heritable factors. Nordic countries have in recent decades steeply restricted this procedure to only confirmed cases.

MATERIAL & METHODS

In order to study the biological aspects leading to need for this procedure, we performed genome-wide association of adenoidectomy in participants with no registered tonsillar operation in the FinnGen release 12 dataset (13,605 cases, 461,213 controls). We also utilized the longitudinal registry data from FinnGen as a natural experiment to examine the impact of changing clinical guidelines, comparing the genetic risk for adenoid surgery in participants who underwent the procedure before the guideline revision (n = 10,932 cases) with those born after the guideline revision who have no record of adenoid surgery (n = 7,326 controls).

RESULTS

We identified genome-wide significant loci linked with tonsillar growth (LTBR), immune deficiency (TNFRSF13B), chronic otitis media (GAS2L2), and childhood-onset asthma (CDHR3). Further, we discovered that the relative genetic contribution to risk for adenoid surgery increased with more stringent guidelines (OR = 1.02, $p < 2e\text{-}16$ in favor of participants born after guideline revision). Further, risk for chronic ear infection after surgery did not associate with genetic adenoidectomy risk ($p = 0.3138$), but after surgical indications were revised, non-operated participants with higher genetic adenoidectomy risk were over twice more likely to be diagnosed with chronic ear infection than those with low risk (14.0 % in high genetic risk group, 6.0 % in low genetic risk group; $p = 0.00154$). Guideline revision did not impact genetic association of adenoid surgery and other childhood diseases, such as childhood-onset allergy or asthma.

CONCLUSIONS

Our findings suggest that the heritable biological factors underlying adenoid surgery contribute to additional phenotypes that may still be influenced by the surgery. We also provide evidence for including genetic factors in clinical decision-making and guidelines.

KEYWORDS

Adenoidectomy, Genomics, Chronic otitis media

OP-910

Chronic Cough In Pediatrics: Update

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BACKGROUND & AIM

Cough in children and adults is a commonly witnessed symptom that can be related to a serious underlying disease. It is a reflex phenomenon that protects the airways and lungs and helps in clearing out the air spaces of accumulated secretions. However, cough in children and adults has some notable differences based on various parameters, including duration, symptoms witnessed, duration, and etiology. Therefore, the tools and processes commonly employed for evaluating cough in adults may not apply to pediatric patients. Furthermore, the management of cough, in general, should be based on the etiology instead of the underlying disease condition.

MATERIAL & METHODS

There is a relative paucity of data related to pediatric cough in comparison to adult cough, making the management of cough challenging. The idea of this conference is to provides a comprehensive review of cough management in children in Paraguay, tropical country, reviewing the literatura, and personal experience from the past 20 years .

RESULTS

Many cases of pediatric chronic cough , in tropical countries, are due to upper airway pathologies, including allergies and chronic sinusitis , with obstructive sleep component and viral infections as a trigger factors , with common association between eatiologist.

CONCLUSIONS

ENT evaluación is important in assessing chronic cough in pediatrics, in order to find the possible aetiologies and evoid excess in medication

KEYWORDS

Pediatric Chronic cough. Pediatric airway

OP-911

Predictors Of Recurrent Ventilation Tube Insertion In Pediatric Otitis Media With Effusion

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BACKGROUND & AIM

Otitis media with effusion (OME) is a common cause of pediatric hearing loss and a frequent indication for ventilation tube insertion. Despite its effectiveness, recurrence requiring repeat tube placement remains a significant clinical challenge. Identifying predictors of recurrence is essential to improve patient selection and optimize surgical decision-making. This study aimed to identify clinical and patient-related predictors of recurrent ventilation tube insertion.

MATERIAL & METHODS

This retrospective cohort study included patients younger than 18 years who underwent ventilation tube insertion at the Department of Otolaryngology, Kocaeli University Faculty of Medicine, for OME between March 2019 and December 2024. Patients with at least 12 months of follow-up were analyzed. Demographic, perinatal, clinical, and environmental variables, including age, gestational age, atopy, passive smoking exposure, presence of cleft palate, number of siblings, air–bone gap, tube retention time, postoperative complications, and concurrent adenoidectomy, were evaluated. Statistical analyses were performed using IBM SPSS version 29.0, with $p < 0.05$ considered statistically significant.

RESULTS

A total of 325 patients (576 ears) were included. Recurrence occurred in 43 patients (13.2%) and in 79 ears (13.7%). Patients with recurrence had significantly higher air-bone gap values and shorter tube retention times compared to those without recurrence ($p = 0.005$ and $p = 0.004$, respectively). Multivariate logistic regression analysis revealed that a greater air-bone gap was independently associated with an increased risk of recurrence (OR = 1.047, 95% CI: 1.014–1.080; $p = 0.004$). Shorter tube retention time was also an independent predictor (OR = 0.913, 95% CI: 0.850–0.980; $p = 0.011$). In contrast, concurrent adenoidectomy demonstrated a strong protective effect, significantly reducing the risk of recurrence (OR = 0.129, 95% CI: 0.032–0.516; $p = 0.004$). Other variables were not significant.

CONCLUSIONS

Greater air–bone gap and shorter tube retention time were independently associated with recurrence, while concurrent adenoidectomy had a protective effect. These findings may aid in risk stratification and suggest that patients at higher risk may benefit from closer follow-up.

KEYWORDS

Otitis media with effusion, Ventilation tube insertion, Recurrence, Risk factors

OP-912

The Utility Of Genetic Testing As Part Of The Routine Workup Of Children With Permanent Hearing Loss Prior To Intervention

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BACKGROUND & AIM

With a prevalence of 2.5 in 1,000 births, hearing loss represents the most common congenital sensory impairment. It is estimated that more than half of the pediatric hearing loss has a genetic cause, and over 280 genes are claimed to be associated with either a non-syndromic or syndromic form of the disease. This became part of our routine extensive workup for our patients diagnosed with permanent hearing loss.

MATERIAL & METHODS

We included 100 consecutive patients and reviewed their performed workup, their demographic data and family history. Clinical genomic investigations included exome-based sequencing, chromosomal microarrays, and/or targeted testing. We

assessed the diagnostic yield and implications for clinical management among this population. Variables were compared using the Fisher exact test. Tests were 2-tailed, and P < .05 was considered statistically significant.

RESULTS

Genetic testing was positive in 58% of the patients, 22% have a positive family history of hearing loss, 53.57% had abnormality on ophthalmological assessment, 54.55% were positive for IgG CMV, 44.74% had abnormal findings in the performed imaging studies, 42.86% had positive findings on their ECG, and 20.59% had abnormality in the urine test. The most common genetic abnormality findings were GJB2 in 17.24% of the positive cases, followed by SLC6A4 in 10.34%, PDZD7 in 5.17% and 3.44% in each of CHD7, PTPN11, TMC1. IMPG2; and 1.72% in 22 other genes.

CONCLUSIONS

The diagnostic yield of our workup for permanent hearing loss is significant and is important in early detection of abnormalities that might go unnoticed until becoming more symptomatic. Understanding the genetic profile of our affected population will not only help in counselling the parents and unveiling other related disorders in case of a known syndrome, but also in forming a database for future gene therapy that is starting its way in the field of congenital hearing impairment.

KEYWORDS

genetic testing, workup, hearing loss, children, utility

OP-913

Choanal Atresia With No Stents: 180 Cases Review

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BACKGROUND & AIM

Congenital choanal atresia (CCA) is a life-threatening neonatal airway obstruction and a cause of chronic nasal dysfunction in children. High restenosis rates after stent-based surgery limit long-term results. The aim of this study is to develop an innovative method of endoscopic correction without the use of stents and to substantiate their effectiveness in various forms of CCA in children.

MATERIAL & METHODS

A comparative cohort study (2015–2026) included 181 children aged 0–17 years. Group I (n=137) underwent primary stentless endoscopic choanoplasty, while Group II (n=44) comprised patients treated for restenosis after prior stent-based surgery. The original surgical technique performed in both groups involved partial posterior septectomy, mucosal flap creation from the atretic membrane, and fixation of vascularized flaps to the nasopharynx using fibrin glue without stent placement. Primary outcomes were neochoana patency and restenosis rate; secondary outcomes included postoperative pain (VAS), quality of life (SF-36), anterior active rhinomanometry (AARM), and mucociliary clearance (MCC). Assessments were performed preoperatively, at discharge, and at 1 and 6–12 months postoperatively, with follow-up up to 8 years.

RESULTS

Primary septal flap choanoplasty achieved functional neochoana formation in 98.1% of patients in 3 months ($p<0.001$) with a low partial restenosis rate (1.9%). In revision cases, recurrence decreased to 5.2% ($p<0.001$), with no complete restenosis observed. Early postoperative pain was minimal (≤1 point in >90% on day 1). SF-36 scores improved significantly in physical and social domains ($p<0.001$). AARM demonstrated significant airflow improvement across all age groups ($p<0.001$); in children aged 4–6 years, airflow increased from 137±20 to 209±17 cm^3/s at 1 month. MCC normalized in 98% of patients at 12 months.

CONCLUSIONS

Endoscopic fibrin glue choanoplasty provides effective results in children: durable neochoana patency, restores nasal physiology, and significantly improves quality of life. It represents an effective and safe strategy for both primary and revision CCA in children. The proposed choanoplasty technique can be used as a life-saving alternative to tracheostomy or prolonged intubation in infants with bilateral CCA.

KEYWORDS

Choanal atresia, Choanoplasty, Stentless, Children, Flaps

OP-914

The Variant Type Of Preauricular Sinus With Recurrent Postauricular Abscess: Excision Using A Single-Incision Preauricular Approach

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BACKGROUND & AIM

Congenital preauricular sinus (PAS) openings near the crux of the helix or tragus vary with incomplete fusion of the six hillocks of His. Using an imaginary line from the posterior margin of the ascending helix to the upper base of the tragus, pits are classified as classical (anterior) or variant (posterior). In variant PAS, the tract typically runs posteriorly toward the

postauricular region, causing recurrent postauricular abscesses that may be misdiagnosed as isolated infections because the pit appears silent. This study assesses a single-incision preauricular approach for complete excision of the tract and terminal cystic sac.

MATERIAL & METHODS

Study type:Retrospective case series

Setting:A tertiary care hospital

Duration :Nov 2020 to October 2025

Inclusion criteria: variant PAS with recurrent postauricular abscess, with or without prior incision and drainage. Exclusion criteria: Presence of a postauricular fistula or skin defect.

Surgical Technique

Under general anesthesia and microscopic visualization, 2% xylocaine with adrenaline (1:200,000) was infiltrated around the pit. No dyes or lacrimal probes were used. An elliptical incision was made around the pit at the root of the crus of the helix. Skin was elevated to the perichondrium, and a small strip of cartilage with inferior perichondrium was removed using a Plester knife. Dissection proceeded posteriorly along the tract until the blind cystic pouch was identified deep to the auricularis posterior muscle. The wound was closed in a single layer with 4-0 polypropylene, and a mastoid dressing was applied.

RESULTS

Twelve patients aged 3–17 years underwent the single-incision procedure. All had variant PAS with 3–9 episodes of recurrent postauricular abscess. Most were initially misdiagnosed because the sinus pit showed no obvious signs of infection.

Complete one-piece excision of the sinus tract and blind cystic sac was achieved in all cases. Minor deformity of the crus of the helix occurred in the first two patients during the early learning curve. No recurrences were observed during up to four years of follow-up.

CONCLUSIONS

The presence of congenital pits at the crus of the helix with postauricular abscess formation almost warrants the diagnosis of the variant type of preauricular sinus. The single incision preauricular approach utilizing an operating microscope is a useful surgical technique for the variant type of the preauricular sinuses with postauricular abscess without fistulous opening in the postauricular region.

KEYWORDS

Preauricular sinus, variant type, post-auricular abscess, single incision

OP-915

Metagenomic Insights Into The Middle Ear Microbiome In Health And Otitis Media With Effusion: Comparison With Conventional Culture Methods

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BACKGROUND & AIM

To compare the middle ear microbiota of children with otitis media with effusion (OME) and healthy controls using conventional culture techniques and 16S rRNA gene–based metagenomic sequencing.

MATERIAL & METHODS

This study examined 22 children scheduled to receive ventilation tubes due to OME and 20 healthy children scheduled to receive cochlear implants. Samples were collected under aseptic conditions. Culture results were evaluated using classical methods and MALDI-TOF MS. The same samples were sequenced through the V3-V4 regions of the 16S rRNA gene using the Illumina MiSeq platform and analyzed with QIIME2 software.

RESULTS

Culture positivity was 77.3% in the OME group and 35.0% in the control group ($p=0.012$). In the metagenomic analysis, Alloiococcus otitidis was the most dominant species in both groups; however, its relative abundance was higher in the OME group (33.8% vs. 20.2%). Haemophilus influenzae and Veillonella dispar increased significantly in the OME group, while Propionibacterium acnes and Ruminococcus bromii decreased significantly ($p<0.05$). There was limited agreement between culture and metagenomic sequencing results; only H. influenzae and A. otitis were detected by both methods.

CONCLUSIONS

This study highlights three key findings. First, significant alterations in the middle ear microbiome are associated with OME. Second, culture-based methods alone are insufficient to accurately characterize the middle ear microbiome. Third, metagenomic approaches are essential for a comprehensive understanding of OME pathogenesis. Notably, the high prevalence of A. otitidis and the increased abundance of H. influenzae and V. dispar appear to play important roles in OME pathogenesis and may represent potential targets for diagnostic and therapeutic interventions.

KEYWORDS
Otitis media with effusion, Middle ear microbiome, Next-generation sequencing, Metagenomic analysis, Dysbiosis, Culture

OP-916

Beyond Infection Control: Favorable Weight Outcomes After Tonsillectomy For Recurrent And Chronic Tonsillitis In Children

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BACKGROUND & AIM

Recurrent or chronic tonsillitis is a common pediatric condition frequently treated with tonsillectomy. However, the impact of tonsillectomy on long-term weight outcomes, including the risk of obesity, remains incompletely understood. This study aimed to evaluate short- and long-term obesity risk following tonsillectomy in pediatric patients.

MATERIAL & METHODS

A retrospective cohort study was conducted using de-identified electronic health record data from the TriNetX US Collaborative Network. Pediatric patients (<18 years) diagnosed with recurrent or chronic tonsillitis between January 2015 and December 2023 were included, excluding those with obesity prior to the index date. Patients were categorized based on treatment with tonsillectomy or non-surgical management. Propensity score matching was performed to balance demographic and clinical variables between cohorts. Patients were followed for incident obesity within 24 months after the index date. Hazard ratios (HR) with 95% confidence intervals (CI) were calculated.

RESULTS

After propensity score matching, baseline characteristics were well balanced between the tonsillectomy and non-surgical cohorts. At 24 months, pediatric patients undergoing tonsillectomy demonstrated a significantly lower incidence of obesity compared with matched non-surgical controls (7.9% vs 10.6%; HR 0.73, 95% CI 0.68–0.79; $p < 0.001$).

During the early postoperative period, however, children who underwent tonsillectomy exhibited increased weight gain within the first 6 months, with a higher incidence of obesity compared with non-surgical controls (12.4% vs 10.1%; HR 1.18, 95% CI 1.08–1.29; $p < 0.001$).

CONCLUSIONS

Tonsillectomy in pediatric patients was associated with transient early postoperative weight gain followed by a significantly reduced incidence of obesity at 24 months compared with non-surgical management. These findings suggest that although short-term weight increases may occur after tonsillectomy, long-term obesity risk may be reduced. Further prospective studies are needed to clarify underlying mechanisms and the temporal relationship between tonsillectomy and pediatric weight outcomes.

KEYWORDS
Obesity, Tonsillectomy, Chronic Tonsillitis, Recurrent tonsillitis

OP-917

ENDOSCOPIC TISSUE ALBUMIN GLUE BIOCAUTERIZATION FOR CONGENITAL PYRIFORM SINUS FISTULA

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BACKGROUND & AIM

Background: Pyriform sinus fistulas are often associated with malformations of the III/IV branchial apparatus and are a major cause of recurrence after treatment. The condition typically presents as acute inflammatory symptoms in the neck, such as recurrent deep cervical abscesses, recurrent cystic swelling, or acute suppurative thyroiditis. Surgical removal of the III/IV branchial sinus cysts/fistulas has a high recurrence rate if the piriform sinus fistula is not properly identified and closed.

Objective: To evaluate the treatment outcomes of pyriform sinus fistula closure with biological glue.

MATERIAL & METHODS

Methods: From January 2024 to June 2025, 19 patients were diagnosed and treated for pyriform sinus fistula. Under laryngoscopy, the pyriform sinus fistula was identified, monopolar electrocautery was performed, followed by injection of biological glue. A Levin tube was placed post-operatively. Results were re-evaluated by postoperative endoscopy.

RESULTS

Results: The study included 19 patients, with an average age of 20.6 years and a male/female ratio of 1:1.37. The method of closing the piriform sinus fistula with biological glue combined with monopolar electrocautery achieved a 100% success rate, with no recurrence or complications. In 57.8% of cases, the procedure was combined with neck incision and abscess drainage. The methods of closing the piriform sinus fistula combined with fistula excision or conservative treatment were evenly distributed, each accounting for 21.1%. The average surgical time was 39.7 ± 28.4 minutes. The average follow-up time after treatment was 11.9 ± 10.8 months.

CONCLUSIONS

Conclusions: Closing the piriform sinus opening with biological glue is a safe surgical procedure with a 100% success rate and an average follow-up time of one year.

KEYWORDS

Keywords: Albumin glue, biocauterization, congenital pyriform fistula

OP-918

SINONASAL LESIONS IN CYSTIC FIBROSIS IN CHILDREN IN RUSSIA: EPIDEMIOLOGY, RADIOLOGIC SIGNS, SURGERY AND EFFECTS OF CFTR-MODULATORS

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) is a common manifestation of cystic fibrosis (CF). However, its prevalence in children with CF remains unclear, and treatment options are still controversial. The clinical course demonstrates certain genotype–phenotype correlations and varies across regions due to differences in CFTR mutations.

MATERIAL & METHODS

As part of a global investigation in this field, we revised the criteria of CRS indexation in the Russian National Cystic Fibrosis Registry (n=2785) and conducted a caregiver-based questionnaire survey involving 501 children with CF. In addition, we analyzed 570 CT scans of the paranasal sinuses with a focus on genetic variants. Data from 225 surgeries were also included in the analysis. Finally, a controlled study of the effectiveness of two CFTR modulators (n=36) on CRS severity was performed.

RESULTS

The prevalence of CRS in Russian children with CF is 71.6% (39.5% with nasal polyps; 32.1% without polyps). The most frequent CT findings in this cohort are “natural contrast enhancement” (97.9%) and bone destruction (45.8%). In contrast to European and US cohorts, frontal and sphenoid sinus hypoplasia were relatively uncommon (20.5% and 36.3%). A 20-year experience of sinus surgery in CF patients demonstrated the advantage of modified endoscopic medial maxillectomy with complete mucosal debulking over classic functional endoscopic sinus surgery ($p<0.001$). The CFTR modulator elexacaftor/tezacaftor/ivacaftor showed wondering effect on paranasal sinus pathology in comparison with lumacaftor/ivacaftor and control group ($p<0.01$, $p=0.750$, $p=0.108$).

CONCLUSIONS

CRS is a frequent manifestation of CF; thus, the term “CF-related CRS” (CF-CRS) should be introduced. CT features of CF-CRS are rather specific and differ depending on major genetic variants. Modified endoscopic medial maxillectomy with complete mucosal debulking represents the preferred surgical technique for managing maxillary sinus disease in CF children. Novel therapeutic strategies with CFTR modulators are highly promising and may potentially replace surgery in some patients.

KEYWORDS

cystic fibrosis, children, chronic rhinosinusitis, endoscopic sinus surgery, CFTR-modulators

OP-919

Retrospective Review Of Neonatal Ear Molding With The Scalp Securing Technique

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BACKGROUND & AIM

The purpose of this study was to evaluate the efficacy, outcomes, and complications of neonates in the treatment of various congenital ear abnormalities utilizing the scalp securing technique at a single institution.

MATERIAL & METHODS

A retrospective chart review of 154 neonates who underwent ear molding with the scalp securing technique with pediatric otolaryngology - head and neck surgery from July 2019 through March 2024 was conducted. Specific congenital ear abnormalities, age at the time of initiation, and duration of the treatment was aggregated for all patients. Patients were followed for their longitudinal experiences with a 58.4% response rate with the ear molding process, long-term outcomes, parental satisfaction, and likelihood to recommend the treatment while assessing for effect of the intervention and for potential complications.

RESULTS

154 neonates were included in the study with 304 ears molded during the period of the study. The average age at the initiation of ear molding was 24 days with an average treatment lasting a median of 28 days. Helical rim deformities (N = 105 ears) and lop ear deformities (N = 67 ears) were the most predominant congenital ear abnormalities. All identified ear abnormalities

were successfully molded utilizing this cost-effective technique with 91% of families reporting that the ear maintained its corrected shape. Parental satisfaction was high with 97.6% of families reporting that they would recommend the procedure to a friend. There were zero reported pressure ulcers, eczematous dermatitis, or skin injury with this technique.

CONCLUSIONS

Ear molding utilizing the scalp securing technique is an effective treatment strategy for congenital ear abnormalities.

KEYWORDS

congenital ear abnormalities, ear molding, abnormal ear, protruding ear, lop ear, ear shaping, Stahl's ear, helical rim deformity, neonatal

OP-920

Beyond Newborn Screening: Toward A Global Strategy For Childhood Hearing Screening

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BACKGROUND & AIM

Despite the widespread implementation of Universal Newborn Hearing Screening (UNHS), a significant proportion of childhood hearing loss remains undiagnosed due to late-onset, progressive, or acquired conditions, as well as gaps in follow-up systems. Current evidence highlights the need for continued surveillance beyond the neonatal period. However, school and preschool hearing screening programs remain inconsistently implemented worldwide, with marked heterogeneity in protocols and access.

The aim of this work was to evaluate the feasibility and clinical utility of a school-based hearing screening program and to contribute to the development of a standardized, scalable model that supports a global screening strategy.

MATERIAL & METHODS

A pilot, two-phase observational study was conducted in children aged 6–7 years. Initial school-based screening included otoscopy, tympanometry, and pure-tone screening audiometry (20 dB HL at 500–4000 Hz), followed by hospital-based reassessment for referred cases. Diagnostic performance of individual and combined tests was analyzed.

RESULTS

Among 53 children screened, referral rate was 47.2%, with 88% follow-up adherence. Confirmed hearing loss was identified in 5.6% of the total sample, predominantly conductive and related to middle ear pathology. Pure-tone audiometry demonstrated optimal sensitivity as a first-line screening tool, while tympanometry improved diagnostic specificity when used sequentially. School-based implementation reduced access barriers and proved operationally feasible.

CONCLUSIONS

School hearing screening is a feasible and effective strategy for early identification of hearing disorders missed by UNHS. These findings reinforce the urgent need for a coordinated global approach and the standardization of screening protocols, ensuring equitable access, improved detection rates, and optimized child health outcomes worldwide.

KEYWORDS

children, hearing loss, screening

OP-921

Cross- Cultural Validation Of The Otitis Media-6 (OM-6) Questionnaire In French- Speaking Caregivers In Canada.

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BACKGROUND & AIM

Otitis media (OM) imposes substantial symptoms and quality of life burden in children and families, yet no validated French version of the Otitis Media-6 (OM-6) questionnaire is available for routine clinical use. This study aimed to translate and cross-culturally validate the OM-6 in Canadian French for caregivers of children with OM.

MATERIAL & METHODS

A prospective validation study was conducted in a pediatric otolaryngology clinic. The OM-6 was professionally translated into French, and bilingual caregivers of children aged 6 months–12 years completed both English and French versions in randomized order. Participants included children with OM and controls presenting for unrelated conditions. Statistical analysis included demographic analysis, Intraclass Correlation Coefficient (ICC), Pearson/Spearman correlation, paired t-test, Wilcoxon signed-rank, Cronbach's alpha and Mann–Whitney U test for discriminant validity.

RESULTS

A total of 152 participants were included in the study (107 OM, 45 controls). The French OM-6 showed strong internal consistency (Cronbach's alpha = 0.87). Agreement between English and French versions was excellent, with item ICCs ranging from 0.78- 0.95 and a total score ICC of 0.93 ($p<0.001$). Only one item, emotional distress, showed a significant difference between language versions, which did not remain significant after Bonferroni correction. The French version successfully discriminates well between OM and control groups ($p<0.001$), and language administration order or questionnaire sequencing effects were detected. The mean English- French total score difference was clinically negligible.

CONCLUSIONS

The Canadian French OM-6 is a reliable and valid patient reported outcome measure for pediatric otitis media. Its successful validation reinforces the value of culturally adapted disease- specific quality of life measures in multilingual otology practice.

KEYWORDS

Otitis Media, OM-6, Cross-Cultural Validation, French translation, Quality of life, pediatric ENT

OP-922

Why Is Cholesteatoma More Aggressive In Children?

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BACKGROUND & AIM

Chronic middle ear disease in children is a significant public health problem in both developed and developing nations. Over half of the patients with COM have hearing impairment, and in children in particular, this has a significant impact on language development and education. Very little is known about why some children with COM develop cholesteatoma. Paediatric cholesteatoma tends to be significantly more aggressive than the adult form of the disease and the reasons for this are not clear. We hypothesise that Paediatric cholesteatoma may have a different inflammatory profile than adult cholesteatoma, which could underlie the clinically different behaviour.

MATERIAL & METHODS

We are analysing the profile of inflammtory and stromal cells (macrophages and fibroblasts) using and bone erosion markers (RANK Ligand) in the peripheral blood (using ELISAs and immuneplex analysis) and in cholesteatoma tissue (using immunohistochemistry) from adult and paediatric patients.

RESULTS

Several inflammatory markers were found to be different in the serum of paediatric patients compared to adult patients on immuneplex of 92 protiens. Analysis of fibroblasts and macrophages in adult and paediatric cholesteatoma using immunohistochemistry is undergoing.

CONCLUSIONS

There is evidence of different inflammatory profile in paediatric cholesteatoma compared to adult disease. This could lead to identification of novel targets to improve outcomes in paediatric cholesteatoma

KEYWORDS

macrophages, fibroblasts, paediatric cholesteatoma

OP-923

Intracapsular Vs Extracapsular Tonsillectomy In A Tertiary Saudi Pediatric Population: A Retrospective Comparative Cohort Study

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BACKGROUND & AIM

Intracapsular tonsillectomy has gained popularity for its favorable recovery profile, yet concerns remain regarding regrowth and revision rates, particularly in pediatric patients with recurrent infections. This study compares outcomes of intracapsular and extracapsular tonsillectomy techniques in a large cohort.

MATERIAL & METHODS

We conducted a retrospective analysis of 1197 pediatric patients who underwent tonsillectomy at King Abdulaziz University Hospital from 2015 to 2024. Patients were categorized by surgical technique—intracapsular or extracapsular—and assessed for rates of primary and secondary hemorrhage, infection, tonsillar regrowth, revision surgery, pain, and recovery time. Statistical comparisons were made using chi-squared and Mann–Whitney U tests.

RESULTS

Intracapsular tonsillectomy was associated with significantly lower rates of primary hemorrhage (0% vs. 4.7%, $p = 0.027$) and secondary hemorrhage (0.8% vs. 5.6%, $p = 0.039$) compared to extracapsular. Pain scores and recovery markers (diet return

and activity resumption) also favored the intracapsular technique. Only three patients in the intracapsular group underwent revision surgery for recurrent symptoms, and all were initially operated on for obstructive sleep apnea (OSA). Importantly, no revision surgeries were required among patients who underwent intracapsular tonsillectomy for recurrent infections. These findings suggest that while regrowth is more common with the intracapsular technique, it is often clinically insignificant, and true recurrence requiring revision is rare and confined to OSA cases.

CONCLUSIONS

Intracapsular tonsillectomy offers a superior safety and recovery profile, with significantly lower rates of postoperative hemorrhage. Although associated with higher regrowth and revision rates, these long-term outcomes remain comparable to short-term post-operative complications of the extracapsular technique. Our findings suggest that recurrent infections should not be considered a contraindication to intracapsular tonsillectomy, as they did not lead to revision in this cohort.

KEYWORDS

Intracapsular tonsillectomy, Pediatric tonsil surgery, Postoperative hemorrhage, Tonsillar regrowth and revision

OP-924

Mechanistic Study Of The SPI1–HMOX1 Axis In Regulating Ferroptosis-Like Metabolic Reprogramming Of M2 Macrophages To Drive Fibrosis In Pediatric Chronic Rhinosinusitis With Nasal Polyps

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BACKGROUND & AIM

Pediatric chronic rhinosinusitis with nasal polyps (CRSwNP) is characterized by early onset, high heterogeneity, and severe tissue remodeling, yet its immune-metabolic regulatory mechanisms remain poorly understood. This study aimed to investigate the expression characteristics of the SPI1–HMOX1 axis and its association with ferroptosis-like metabolic reprogramming and tissue remodeling in pediatric CRSwNP.

MATERIAL & METHODS

Nasal polyp (NP), inflamed mucosa (NM), and healthy control (HC) tissues were collected from pediatric subjects. Histopathological changes and mitochondrial ultrastructure were assessed using hematoxylin–eosin staining and transmission electron microscopy. Ferroptosis-related metabolic features were evaluated by measuring 4-HNE, MDA, Fe^{2+}, and GSH levels. Integrated transcriptomic and proteomic analyses were performed to identify key regulatory molecules, followed by validation using ELISA and immunohistochemistry. Single-cell RNA sequencing was conducted to identify the cellular origin and reconstruct transcriptional regulatory networks.

RESULTS

HE staining revealed prominent non-eosinophilic inflammatory infiltration and marked mucosal remodeling in NP tissues. Transmission electron microscopy demonstrated ferroptosis-associated mitochondrial abnormalities, including reduced mitochondrial volume and decreased cristae density. Compared with NM, NP tissues exhibited significantly elevated levels of 4-HNE, MDA, and Fe^{2+}, along with reduced GSH levels. Multi-omics integration identified consistent upregulation of SPI1 at both transcriptomic and proteomic levels, with SPI1 and HMOX1 occupying central positions in protein interaction networks. Single-cell analysis identified $APOE^{+}$/$CCL20^{+}$ M2 macrophages as the primary cellular source of HMOX1. Pseudotime trajectory analysis revealed coordinated upregulation of SPI1 and HMOX1 during macrophage differentiation from M1 to M2 states. Transcriptional regulatory network analysis further demonstrated enhanced SPI1 regulatory activity, with its downstream targets enriched for immune regulatory genes including HMOX1. CellChat analysis indicated enhanced intercellular communication between this macrophage subset and fibroblasts via NAMPT, AREG, and PDGF signaling pathways.

CONCLUSIONS

Pediatric CRSwNP exhibits significant ferroptosis-like metabolic abnormalities. The SPI1–HMOX1 axis is specifically activated in $APOE^{+}$/$CCL20^{+}$ M2 macrophages and may promote tissue remodeling by inducing ferroptosis-like metabolic reprogramming and profibrotic paracrine signaling. These findings provide novel insights into immune-metabolic mechanisms and identify potential therapeutic targets for pediatric CRSwNP.

KEYWORDS

SPI1; HMOX1; M2 macrophages; ferroptosis； pediatric； CRSwNP

OP-925

The Usefulness Of Sodium Hypochlorite/Hypochlorous Acid Solutions In Intraoperative And Postoperative Management Of Pediatric Otorhinolaryngological Surgical Procedures

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BACKGROUND & AIM

Various solutions have been used in or after Pediatric Otolaryngological surgeries (saline or saline/antibiotic solutions). Sodium hypochlorite/hypochlorous acid solutions (NaClO/HClO) have emerged as a promising alternative.

MATERIAL & METHODS

Children operated on by the author over 3 years at a Children's Tertiary Hospital and had NaClO/HClO used intraoperatively and/or postoperatively were reviewed. The indications for its use intraoperatively were noted, postoperative prescriptions were examined to identify the mode of NaClO/HClO delivery, and postoperative findings during follow-up visits were documented.

RESULTS

The reviewed surgeries included nasal procedures (46 inferior turbinate reduction, nine septoplasty, and six choanal atresia repair, two nasal stenosis, and four endoscopic sinus surgeries), adenotonsillar procedures (279), infective major ear surgeries (21), chronic infections, and hearing device implantation (48). The primary purpose of using it intraoperatively was to clear the nasal passages, providing both disinfection and hemostasis; to clear the nasopharynx of purulent secretions before and after adenotonsillar surgery; to irrigate infected mastoid cavities; and to irrigate the implant and the surgical field before implantation (instead of Wilson solution). The postoperative follow-up showed no significant halitosis in all adenotonsillar patients, clear nasal passages after intranasal surgery, and rapid, smooth healing of the postauricular wound in major ear surgeries.

CONCLUSIONS

Sodium hypochlorite/hypochlorous acid solutions are reliable in disinfecting and clearing the surgical field. Its use postoperatively contributes to a smooth healing process, especially in intranasal surgeries, replacing the need for decongestants and intranasal steroids. Randomized controlled trials would provide a more objective assessment of this observation.

KEYWORDS

sodium hypochlorite, surgical wound, pediatric ENT, postoperative care

OP-926

NEBULIZED TRANEXAMIC ACID FOR TREATMENT OF POST-TONSILLECTOMY BLEEDING: A SYSTEMATIC REVIEW AND META-ANALYSIS

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BACKGROUND & AIM

Purpose: Post-tonsillectomy bleeding (PTB) is a significant complication and common reason for emergency department (ED) visits. Limited literature has investigated the clinical efficacy of nebulized tranexamic acid (TXA) for treating PTB; however, the results were conflicting and not comprehensively summarized. This study aimed to provide the first-ever systematic review encompassing all literature exploring the efficacy and safety of nebulized TXA in treating PTB.

MATERIAL & METHODS

Methods: We screened six databases until 01-July-2024, for relevant studies and assessed their quality using validated tools. We provided a qualitative summary of baseline characteristics and clinical data. The primary endpoint was the reoperation rate to manage PTB, and its effect size was aggregated as a proportion or risk ratio (RR) with a 95% confidence interval (CI) using a random-effects model.

RESULTS

Results: We analyzed nine studies (2 case reports, 4 case series, and 3 retrospective comparative studies), all of which demonstrated good quality and low risk-of-bias. In studies using nebulized TXA for treating PTB (n = 9 studies), the pooled proportion of reoperation to control bleeding was 0.27 (95% CI: 0.08-0.5). The rate of reoperation to control bleeding was significantly lower in the nebulized TXA arm compared to the no-TXA arm (n = 3 studies, RR = 0.55, 95% CI [0.39-0.77], p < 0.001).

CONCLUSIONS

Conclusion: Nebulized TXA is safe and promising for treating PTB. This is evidenced by its high efficacy in achieving hemostasis in acute settings during ED visits and reducing the rate of reoperations needed to control PTB. Further high-quality investigations are warranted to corroborate these findings.

KEYWORDS

Nebulized tranexamic acid; Post-tonsillectomy hemorrhage; Systematic review; Tonsillectomy.

OP-927

Hemostasis Techniques After Cold Dissection Tonsillectomy: A Prospective Study And Literature Review

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BACKGROUND & AIM

Tonsillectomy is one of the most commonly performed surgical procedures in the pediatric population. Despite that, postoperative pain continues to represent a considerable source of morbidity. The impact of haemostatic technique on pain outcomes following cold dissection tonsillectomy has yet to be definitively established.

Aim: Compare suture ligation and bipolar diathermy following cold steel tonsillectomy in children on postoperative pain, analgesic consumption, operative time, and complications and literature review

MATERIAL & METHODS

A prospective observational study was conducted including 51 pediatric patients aged 3 to 17 years undergoing cold dissection tonsillectomy. Hemostasis was achieved using either bipolar diathermy or suture ligation. Postoperative throat pain was quantified using a visual analog scale (VAS) on postoperative days 1, 3, and 10. All patients received paracetamol at a dose of 15 mg/kg every 8 hours, and the total number of days during which analgesics were required was recorded as a secondary outcome measure. Operative time was analyzed using a multivariable general linear model with adjustment for surgical procedure type to control for potential confounding.

RESULTS

The suture ligation group reported significantly lower pain scores (p = 0.025) on postoperative day 10. No statistically significant differences in pain scores were identified on postoperative days 1 and 3. The duration of postoperative analgesic intake was significantly shorter in the suture ligation group, median 2.0 days, IQR (1.5–4.5) than in the bipolar group, median 4.0 days, IQR (3.0–7.75), (p = 0.038). After adjustment, operative time did not differ significantly between haemostatic techniques. Postoperative haemorrhage rates were low and comparable across groups.

CONCLUSIONS

Suture ligation and bipolar diathermy provide comparable early postoperative pain outcomes following paediatric tonsillectomy. However, suture ligation was associated with lower late postoperative pain scores and reduced analgesic intakes, without increasing operative time or complication rates and may offer advantages in late postoperative recovery. Few studies have been conducted on the impact of hemostasis techniques after cold dissection tonsillectomy and these findings may be explained by differences in local tissue healing.

KEYWORDS

Paediatric tonsillectomy, Bipolar diathermy, Suture ligation, Postoperative ain

OP-928

Preoperative Immunonutritional And Inflammatory Indices As Predictors Of Secondary Post-Tonsillectomy Hemorrhage In Children

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BACKGROUND & AIM

Post-tonsillectomy hemorrhage (PTH) remains a significant cause of morbidity in pediatric patients, with limited reliable preoperative predictors. While inflammatory markers such as the neutrophil-to-lymphocyte ratio (NLR) and systemic immune-inflammation index (SII) have been associated with bleeding risk, they may not fully reflect the patient's physiological reserve. Immunonutritional indices, including the prognostic nutritional index (PNI) and hemoglobin–albumin–lymphocyte–platelet (HALP) score, offer additional insight into nutritional and immune status. This study aimed to evaluate the association between these indices and secondary PTH, and to assess their potential role in preoperative risk stratification.

MATERIAL & METHODS

This retrospective cohort study included 2250 pediatric patients aged 3–17 years who underwent tonsillectomy or adenotonsillectomy between January 2021 and August 2025 at a tertiary referral center. Patients who developed secondary post-tonsillectomy hemorrhage (n = 90) were compared with those without hemorrhage (n = 2160). Preoperative inflammatory indices (systemic immune-inflammation index [SII], neutrophil-to-lymphocyte ratio [NLR], platelet-to-lymphocyte ratio [PLR]) and immunonutritional indices (prognostic nutritional index [PNI], hemoglobin–albumin–lymphocyte–platelet [HALP] score) were analyzed. In patients with hemorrhage, dynamic changes between the day of surgery and the day of bleeding were evaluated. Receiver operating characteristic (ROC) analysis was performed to assess predictive performance.

RESULTS

Secondary post-tonsillectomy hemorrhage occurred in 4.0% (n = 90) of patients. Patients with hemorrhage had significantly higher preoperative inflammatory indices (SII, NLR, PLR) and lower immunonutritional indices (PNI, HALP) compared to those without hemorrhage (p < 0.001). In patients with hemorrhage, inflammatory indices increased significantly on the day of

bleeding, whereas PNI and HALP decreased ($p < 0.001$). ROC analysis demonstrated that PNI (AUC = 0.704) and HALP (AUC = 0.666) had clinically relevant predictive performance. The addition of these indices to clinical variables improved the predictive model (AUC = 0.715).

CONCLUSIONS

Preoperative inflammatory and immunonutritional indices are significantly associated with secondary post-tonsillectomy hemorrhage in pediatric patients. Lower PNI and HALP values, along with higher inflammatory markers, were observed in patients with hemorrhage and showed further deterioration at the time of bleeding. These findings suggest that a combined assessment of inflammatory and immunonutritional parameters may provide a practical and effective approach for perioperative risk stratification. Incorporating these indices into clinical evaluation may help identify high-risk patients and improve postoperative management strategies.

KEYWORDS

Pediatric tonsillectomy,Post-tonsillectomy hemorrhage,Prognostic nutritional index,HALP score,Systemic immune-inflammation index

OP-929

A Modern Volumetric Framework For Managing Pediatric Subperiosteal Abscess

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BACKGROUND & AIM

Subperiosteal abscess (SPA) is a serious complication of acute rhinosinusitis. Treatment ranges from antibiotics to surgery and decision-making often depends on abscess size, yet current estimates oversimplify complex shapes and fail to incorporate clinical markers or child growth and development. Assessing SPA volume relative to total orbital volume may better reflect severity. With modern imaging enabling precise volumetrics, this study evaluates clinical and radiologic predictors of surgical intervention and develops a predictive scoring tool.

MATERIAL & METHODS

A retrospective review was conducted of children with SPA (2000–2025). SPA volumes were calculated using CT/MRI (ellipsoid method). Using OsiriX MD, SPA/contralateral orbit boundaries were segmented, 3D reconstruction was created with computed volume. Ellipsoid calculated-SPA volume, Osirix SPA volume, and SPA-to-orbit ratios were compared between surgically and medically managed patients. A multivariable predictive model was created to estimate the need for endoscopic sinus surgery (ESS).

RESULTS

Fifty-seven children (3 months–17 years; mean) were included. Mean orbital volume was 18.2 cm^3; mean SPA volume was 2.8 cm^3 by ellipsoid and 1.7 cm^3 by OsiriX. Mean SPA:orbit ratios were 0.12 in ESS patients versus 0.05 in non-ESS patients ($p<0.05$). ROC analysis for SPA:orbit ratio showed an AUC of 0.8. A predictive model incorporating age >11, ellipsoid volume >2.4 cm^3 (2 points), SPA volume:orbit volume ratio (2 points), WBC >16.4 (1 point), and proptosis (1 point) achieved an AUC of 0.89.

CONCLUSIONS

Higher SPA orbital occupancy strongly correlated with need for ESS and may represent a clinically meaningful severity marker. With continued validation, the developed scoring tool may assist in early identification of children requiring surgical management.

KEYWORDS

sinusitis, subperisoteal abscess, pediatrics, orbital cellulitis

OP-930

Endoscopic Percutaneous Repair Of Pediatric Laryngeal Cleft

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BACKGROUND & AIM

To evaluate the safety, feasibility, and therapeutic outcomes of a novel endoscopic percutaneous repair technique for pediatric laryngeal cleft (LC), which not only eliminates the need for open transcervical surgery but also enhances the stability and success rate of endoscopic repair.

MATERIAL & METHODS

A retrospective study was conducted involving 77 consecutive patients with LC who underwent endoscopic percutaneous repair at our tertiary pediatric hospital between February 2021 and July 2025. The surgical technique involves percutaneous

needle-guided suturing through the airway and esophageal walls under endoscopic visualization, enabling secure closure without anterior laryngotracheal incision. Patient demographics, LC classification, associated comorbidities, surgical outcomes, and complications were analyzed. Primary outcome was surgical success defined by negative aspiration on modified barium swallow (MBS) studies at 3-month follow-up. Secondary outcomes included revision surgery rates, complication rates, and symptom resolution.

RESULTS

The cohort included 77 patients (male:female ratio 1.66:1) with type I (n=53, 68.8%), type II (n=14, 18.2%), and type III (n=10, 13.0%) LC. Associated comorbidities included tracheomalacia, laryngomalacia, subglottic stenosis, gastroesophageal reflux disease, and congenital heart disease. Of the 77 patients, 74 (96.1%) achieved successful repair with primary endoscopic percutaneous procedure. Among 3 treatment failures, 2 patients (2.6%) required conversion to open transcervical repair due to repair failure, while 1 patient (1.3%) underwent successful revision using the same technique. Overall success rate after revision was 97.4% (75/77). No major surgical complications occurred, including recurrent laryngeal nerve injury, neck infection, or pharyngocutaneous fistula. Follow-up MBS demonstrated complete resolution of aspiration in 75 patients (97.4%). Complete symptom resolution was achieved in 75 patients (97.4%), with significant improvement in feeding difficulties, recurrent pneumonia, and respiratory symptoms.

CONCLUSIONS

Endoscopic percutaneous repair represents a paradigm shift in the surgical management of pediatric LC, offering a minimally invasive alternative to traditional open transcervical approaches. This novel technique achieves excellent success rates (97.4%) across all LC types with zero major complications, while avoiding the potential risks associated with anterior laryngotracheal incision including airway framework instability and need for tracheostomy. The technique demonstrates particular advantages for type III LC, where traditional endoscopic approaches often fail due to limited working space. These findings establish endoscopic percutaneous repair as a safe, effective, and preferred first-line surgical option for pediatric LC management.

KEYWORDS

laryngeal cleft, aspiration, dyspnea, endoscopic, repair

OP-931

Nasal Airway Growth Patterns And Surgical Readiness In Pediatric Craniosynostosis: Insights From A Morphometric Analysis

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BACKGROUND & AIM

Children with craniosynostosis commonly develop critical nasal airway obstruction and may tracheostomy for airway support. This study examined nasal airway morphology in syndromic craniosynostosis to evaluate longitudinal airway development and the feasibility of endoscopic intervention.

MATERIAL & METHODS

A retrospective matched case-control study (2000–2025) was completedin children with Apert or Crouzon syndrome and ≥2 CT scans. Cases were age- and sex-matched to non-syndromic controls. Prior nasal or midface surgery was excluded. Standardized morphometric measurements (>20 distinct parameters) were obtained by 2 researchers across 3 imaging planes. Feasibility of skull base reconstruction was assessed using a nasoseptal flap (NSF):sellar defect length ratio.

RESULTS

164 scans from 58 patients were analyzed. 59% had OSA, 31% were PAP-dependent, and 5% had a tracheostomy. Apert patients (n=31, median age 11 mo) demonstrated significantly narrower pyriform apertures (-3.8 mm, $p<0.01$) and choanae (-4.3 mm, $p<0.01$) versus controls. Crouzon patients (n=27, median age 41 mo) showed similar reductions (-2.6 mm and -4.7 mm respectively, $p<0.01$) across all age groups. Among 30 fully pneumatized scans, 93% had a nasoseptal flap:sellar defect ratio >1 (mean 1.8, SD=0.6), indicating feasible NSF reconstruction in most patients ≥3 years old.

CONCLUSIONS

We present the comprehensive morphometric nasal analysis of children with craniosynostosis to date. Apert and Crouzon syndromes show persistent nasal airway restrictions, supporting anatomical over age-based criteria for endoscopic intervention. NSF analysis suggests skull base reconstruction becomes feasible at ≥3 years. These results provide a foundation for predictive airway growth modeling to inform early surgical planning.

KEYWORDS

craniosynostosis, apert, crouzon, skull base surgery, piriform aperture stenosis, choanal stenosis

OP-932

Improvement In Quality Of Life And Sleep Apnea After Turbinate Reduction In Children With Refractory Allergic Rhinitis

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BACKGROUND & AIM

Refractory allergic rhinitis can cause a significant impact on the quality of life of children. Treatment with surgery is associated with high rates of decreased daily medication use and minimal postoperative risk. However, data is scarce regarding the impact of surgery on the quality of life and sleep apnea outcomes in children with refractory allergic rhinitis. The aim of this study is to determine the impact of surgery on the quality of life and sleep apnea outcomes in children with refractory allergic rhinitis.

MATERIAL & METHODS

This is a prospective cohort pilot study in which children aged 5-17 years with a documented allergic rhinitis refractory to 3 months of medical therapy, were recruited. The study group consisted of children who underwent surgery and the control group included children who remained on medical therapy. Three questionnaires pertaining to the sinus and nasal quality of life (SN-5), obstructive sleep apnea symptoms (OSA-18), and nasal obstruction symptom evaluation (NOSE) were collected before and after intervention at 1 and 3 months. Flexible endoscopic findings of disease regression before and after intervention were also mentioned.

RESULTS

Thirty-four subjects were recruited, 17 of whom underwent surgery and 17 who received medical therapy. At 1 month follow-up, the mean drop in the questionnaires' scores (SN-5; OSA-18; NOSE) was greater in the study group (9.9±5.8; 23.2±9.8, 8.2±3.8, respectively) compared to the control group (6.8±3.9, 17.3±7.1, 4.6±2.8, respectively). The difference in symptoms improvement between the two groups was a statistically significant in all three questionnaires ($p=0.029$; $p=0.037$; $p=0.005$; respectively). Similar results were obtained at 3 months follow-up. Almost all patients in the surgery group (88.2%) had complete disease regression in comparison to only 29.4% in the control group ($p<0.001$).

CONCLUSIONS

Introducing surgery to children with refractory allergic rhinitis can significantly improve the patient's quality of life and sleep apnea symptoms.

KEYWORDS

Allergic rhinitis; Nasal obstruction; Turbinate reduction; Rhinology; Pediatric otolaryngology

OP-933

Safety Protocol And Animated Education For Parental Presence In Pediatric ENT Surgery Induction

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BACKGROUND & AIM

Parental presence during pediatric anesthesia induction is increasingly used to reduce anxiety in children undergoing otolaryngology (ENT) procedures. However, when performed without structured protocols, it may introduce safety risks for both patients and accompanying adults.

We hypothesized that implementing a standardized safety protocol combined with an animated educational video would improve safety conditions and communication with families in pediatric ENT surgical settings.

MATERIAL & METHODS

Following an intraoperative incident involving parental syncope during anesthesia induction for pediatric ENT surgery, a multidisciplinary team (anesthesiology, otolaryngology, nursing, and hospital management) developed a structured protocol.

The protocol includes: eligibility criteria, informed consent with safety screening, defined staff roles, and a structured evacuation pathway adapted to the surgical environment.

Additionally, an animated educational video was created to provide clear preoperative information for families regarding the ENT surgical process, expected behavior, and safety measures.

The intervention has been implemented in a private hospital environment as part of a quality and safety improvement strategy in pediatric ENT surgery.

RESULTS

The protocol enabled standardization of clinical practice and defined clear safety conditions for parental presence during induction in pediatric ENT surgery.

The animated video provided a structured tool for patient and family education, facilitating consistent communication prior to ENT procedures.

The combined intervention supports improved organization of care and reinforces a safety-oriented approach in clinical practice.

CONCLUSIONS

The implementation of a structured safety protocol together with targeted audiovisual education represents a feasible strategy to safely integrate parental presence during anesthesia induction in pediatric ENT surgery.

This model aligns patient-centered care with safety principles and may be applicable to other otolaryngology units.

KEYWORDS

Pediatric ENT surgery, anesthesia induction, parental presence, patient safety, clinical protocol, audiovisual education, quality improvement

OP-934

Microlaryngobronchoscopy (MLB) In Recurrent Croup: Is It Always Necessary? A Tertiary Centre Experience And Literature Review

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BACKGROUND & AIM

Recurrent croup in children presents a diagnostic challenge and often prompts airway evaluation with microlaryngobronchoscopy (MLB)1. The diagnostic yield of this procedure, particularly in children without persistent symptoms or red flags, remains unclear, and no consensus exists on the optimal threshold for proceeding to MLB3,5,6.

Aim: To evaluate the diagnostic utility of elective MLB in children with recurrent croup at a tertiary paediatric ENT centre and contextualise findings against published literature.

MATERIAL & METHODS

Retrospective review of consecutive children undergoing elective MLB for recurrent croup at Imperial College Healthcare NHS Trust from January 2023 to June 2025. Inclusion: ≥3 documented croup episodes, referral for airway evaluation, and no known pre-existing airway anomaly. Data: episodes/severity, red flags, MLB findings, and subsequent management.

RESULTS

Fifteen children met criteria. Two had clinically relevant findings: (i) one Grade I subglottic stenosis (SGS); (ii) one supraglottic laryngomalacia (tight aryepiglottic folds, omega epiglottis, mild posterior collapse); The remaining 13/15 MLBs were normal; no intraoperative interventions were required; all were managed conservatively.

Our local yield for surgically significant pathology in elective MLB for typical recurrent croup was low (13%), aligning with a systematic review/meta-analysis reporting 8.7% clinically significant bronchoscopy findings overall; the three most common findings were SGS, reflux changes, and broncho/tracheomalacia [1]. Other series report higher abnormal-finding rates and specific SGS proportions (e.g., SGS ~9% in a UK 10-year cohort and ~21% SGS in a single-centre endoscopic series), underscoring population- and selection-bias effects [4,5]. Collectively, these data support selective endoscopy: prioritise MLB when red flags persist (stridor between episodes, poor response to standard therapy, atypical course, history of intubation/prematurity, growth concerns) and consider conservative management otherwise [2–4].

CONCLUSIONS

Across January 2023–June 2025 at our centre, elective MLB for recurrent croup without red flags rarely altered management; most MLBs were normal and no procedures were performed. Our findings, together with contemporary evidence, support targeted MLB reserved for children with high-risk features or persistent/atypical symptoms.

KEYWORDS

Endoscopy, MLB, Croup, URTI, Malacia, Stenosis

OP-935

Evaluation Of Family History And Related Environmental Factors In Children Undergoing Ventilation Tube Insertion Due To Otitis Media With Effusion

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BACKGROUND & AIM

Otitis media with effusion (OME) is a prevalent childhood middle ear condition that frequently necessitates ventilation tube (VT) insertion. Although familial predisposition to middle ear disease has been recognised, the role of this in surgically treated cases and its relationship to environmental factors has not been sufficiently investigated. The aim of this study was to assess the frequency of family history of middle ear disease and its association with environmental factors in children who underwent VT insertion.

MATERIAL & METHODS

This retrospective observational study was conducted at a single center. Children under 18 years of age who underwent VT insertion due to OME were included. Demographic and clinical data were retrieved from hospital records; missing data were supplemented through telephone interviews with caregivers, covering family history, environmental exposures, and coexisting conditions. The primary outcome was the presence of a positive family history.

RESULTS

A total of 53 patients were included. A positive family history was identified in 33 patients (62.3%); 17 (32.1%) had a family history of recurrent ear infections and 16 (30.2%) had a family history of ear surgery. Middle ear disease was reported in mothers (24.5%), fathers (28.3%), and siblings (28.3%). Parental nasal problems were present in 45.3% and cigarette smoke exposure in 60.4% of cases. Asthma and/or allergic rhinitis was noted in 50.9% of children, and 24.5% had undergone two or more prior VT insertions.

CONCLUSIONS

The high prevalence of positive family history suggests a significant familial predisposition to OME in surgically managed children. Elevated cigarette smoke exposure and upper airway comorbidities further highlight the role of environmental factors. These findings emphasize the multifactorial nature of OME and warrant further prospective studies investigating gene-environment interactions in this population.

KEYWORDS

Otitis media with effusion (OME), ventilation tube (VT), family history

OP-936

" EARLY DIAGNOSIS AND TREATMENT OF HEARING LOSS IN CHILDREN IN ALBANIA. OUR EXPERIENCE SO FAR"

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BACKGROUND & AIM

Hearing impairment (HI) is the inability to perceive and understand acoustic stimulus. HI is a result of physiological changes within the human hearing system. Consequences of hearing impairment are: a decrease in auditory stimulus sensitivity (attenuating factor) or disorder of auditory stimulus perception characteristics (distortion factor).

MATERIAL & METHODS

PURPOSE OF THE STUDY

This study aims is to assess: the hearing acquisition among patients undergoing Cochlear implantation and improvement in perceptual and communicative skills.

METHODOLOGY

Patients who underwent the intervention were selected by a working group consisting of physicians, speech therapists and engineers. Due to the Pandemic the first interventions could be realized in September 2020.

RESULTS

So far 43 patients have been implanted. Mean age is 3.89 years old. The standard deviation is 4.94. The minimal age is 2.3 years old and the maximal age: 22.1 years old.

Almost all implanted children have benefited significantly in terms of hearing: only in one child we still do not see a reaction (the child has not been taught by the parents to keep the implant all day).

Most children benefited from speech therapy. The results of our study demonstrate a significant improvement in the perception and communication of the vast majority of children as a result of intervention with a speech therapist (5.3% satisfactory, 21.1% good and 15.8% very good).

CONCLUSIONS

The children who benefited the most in terms of hearing and significant improvement of perception and communication were those who, in addition to Cochlear Implantation, underwent speech therapy education and continue to wear a hearing aid in the other ear. This proves once again the importance of binaural prosthesis or implantation.

KEYWORDS

HEARING LOSS, COCHLEAR IMPLANTATION

OP-937

Comparative Outcomes Of Mucosa-Preserving One-Step Supraglottoplasty (OST) Vs. Conventional Technique

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BACKGROUND & AIM

Supraglottoplasty (SGP) is the established surgical treatment for severe laryngomalacia (LM); however, existing descriptions lack anatomical precision, impeding standardization and surgical teaching, and are associated with variable rates of postoperative swallowing dysfunction and revision surgery. We describe the mucosa-preserving one-step supraglottoplasty (OST), a refined modification grounded in the cartilaginous theory of LM that targets the cuneiform cartilages directly, preserves the overlying mucosa as wound cover, and avoids aryepiglottic fold transection to protect the sensory branches of the superior laryngeal nerve.

MATERIAL & METHODS

A retrospective cohort study was conducted at the Stollery Children's Hospital, reviewing all pediatric SGP cases performed by a single surgeon between December 2013 and June 2025. Patients with neurological or syndromic comorbidities were excluded. Patients were allocated by operative technique: OST or conventional SGP. Primary outcomes were overnight sleep oximetry indices and instrumental swallowing assessment (FEES and VFSS) at baseline and last follow-up. Secondary outcomes included revision surgery rate, residual symptoms, and operative duration. Mann-Whitney U and Chi-square tests were used as appropriate.

RESULTS

107 procedures were included: 62 conventional and 45 OST. Groups were comparable at baseline in age, sex, and LM subtype. Follow-up was significantly shorter in the OST group (0.46 vs 0.71 years, p=0.002). Both groups demonstrated significant improvement in desaturation index, nadir SaO_2, and McGill score (p<0.001), with no significant between-group difference at follow-up. The OST group demonstrated significant overall swallowing improvement (OR 87, p=0.001), while the conventional group did not (OR 2.37, p=0.145). Revision rates (4.4% vs 11.3%, p=0.297) and residual symptoms (15.6% vs 21.0%, p=0.478) were comparable, with numbers consistently favouring the OST.

CONCLUSIONS

The OST is a reproducible, anatomically precise modification of SGP that achieves comparable airway outcomes and significant swallowing improvement. It additionally allows concomitant laryngeal cleft repair in the same sitting. Its precise description allows standardization and may facilitate structured surgical training. These preliminary results support prospective validation with a larger cohort.

KEYWORDS

Supraglottoplasty, surgical technique, outcome, laryngomalacia

OP-938

Investigation Of DNA Damage, Inflammation, And Oxidative Stress In Chronic Tonsillitis

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BACKGROUND & AIM

This study aims to determine oxidative stress, antioxidant capacity, and inflammatory response in chronic tonsillitis and tonsillar hypertrophy, and to evaluate their genomic effects through DNA damage/repair mechanisms.

MATERIAL & METHODS

In this prospective study, patients aged 3-14 years who underwent adenotonsillectomy at Fatih Sultan Mehmet Training and Research Hospital were divided into chronic tonsillitis and hypertrophic tonsils groups. Clinical and demographic data, including age, sex, and tonsil size, were recorded.

Serum and tissue samples were analyzed for oxidative/antioxidant stress products, cytokines, and DNA damage/repair markers. Samples were stored at -80°C for ELISA/biochemical analyses and at -20°C for gene expression analysis.

Following tissue homogenization, total protein was determined via the Bradford method. Serum TOS, TAS, thiol-disulfide homeostasis, and IMA levels were measured colorimetrically, and the OSI was calculated. Cytokines (IL-1β, IL-6, TNF-α, TGF-β1, HIF-1α) and 8-OHdG levels were measured using commercial ELISA kits. For genomic analysis, RNA was isolated to determine APEX1 and ERCC5 mRNA expression levels via qRT-PCR.

Statistical analyses were performed using independent samples t-test, Mann-Whitney U, chi-square, Fisher's exact, and Pearson/Spearman correlation tests.

RESULTS

This prospective study included 47 patients, with 21 in the chronic tonsillitis group and 26 in the hypertrophic tonsil group. Most cases (74%) presented with stage 2 or 3 tonsils. No significant differences in age or sex were found (p>0.05).

In the chronic tonsillitis group, serum genomic panels correlated with TOS and TGF-β1 (p<0.001). Tissue analysis showed correlations between IL-1β and 8-OHdG, ERCC5, and APEX1. IMA strongly related to 8-OHdG, and HIF-1α positively correlated with serum APEX1.

In the hypertrophic tonsil group, serum TOS correlated with APEX1 and ERCC5, while TNF-α and TGF-β1 correlated with ERCC5. Tissue TOS and OSI correlated positively with ERCC5, whereas IL-6 and TNF-α correlated negatively with APEX1. IMA was associated with ERCC5, and tissue HIF-1α correlated negatively with APEX1.

Comparatively, serum and tissue levels of all analyzed parameters (TOS, OSI, cytokines, IMA, 8-OHdG, APEX1, ERCC5) were significantly higher in the chronic tonsillitis group ($p<0.001$).

CONCLUSIONS

Chronic tonsillitis appears to involve the co-activation of oxidative stress, inflammation, hypoxia-associated response, and DNA damage/repair mechanisms. Furthermore, the activation of both the APEX1 and ERCC5 pathways can be linked to genomic stress. This suggests that an integrated mechanism, which may be defined as the "oxidative-inflammatory-genomic stress axis," could play a key role in the pathogenesis of this disease.

KEYWORDS

Chronic tonsillitis, APEX1, ERCC5, oxidative stress

OP-939

Inside The Airway Surgeon's Mind: Decision-Making Strategies In Pediatric Posterior Glottic Stenosis

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BACKGROUND & AIM

Posterior glottic stenosis (PGS) is a rare condition that causes upper airway obstruction. It is characterized by fibrosis of the posterior commissure and impaired vocal fold abduction.

This study aimed to evaluate the influence of the extent of airway disease in the posterior glottis on surgical strategy in order to achieve optimal airway and functional outcomes.

MATERIAL & METHODS

A retrospective, single-center cohort study was conducted including 63 children who underwent surgery for PGS. Patients were divided into two groups: isolated PGS (n = 22) and multilevel airway obstruction involving the posterior glottis (n = 41). We analyzed demographics, surgical approaches, additional endoscopic procedures, complications, time to decannulation, and the need for push-down tracheostomy. Functional outcomes were assessed using a parental questionnaire grading voice, swallowing, and breathing. Postoperative airway size was also analyzed

RESULTS

Patients with multilevel obstruction were significantly younger at the time of surgery (mean age: 4.5 years vs. 8.5 years; p = 0.0175) and were more likely to be tracheostomy-dependent preoperatively (90.5% vs. 33%).

Multilevel obstruction required more complex surgery, including double-stage reconstruction (90% vs. 36%; p = 0.0026), extended CTR (48% vs. 0%; p = 0.0118), and laryngeal mold placement (90% vs. 40%; p = 0.0059). The median time to decannulation was longer in patients with multilevel disease (115.5 vs. 79 days). Voice outcomes were comparable between the two groups. Despite more complex surgery and delayed decannulation in multilevel disease, long-term breathing outcomes were comparable. Postoperative airways were age appropriate in both groups. However, swallowing function was significantly worse in the multilevel disease group

CONCLUSIONS

Multilevel airway obstruction associated with PGS represents a more severe phenotype requiring greater surgical complexity and longer time to decannulation. Although final respiratory outcomes were comparable, multilevel disease significantly impaired swallowing. These findings highlight the importance of comprehensive airway assessment and tailored decision-making in pediatric PGS

KEYWORDS

posterior glottic stenosis; pediatric airway reconstruction; multilevel airway obstruction; functional outcomes

OP-940

Hearing Loss In Children: Otitis Media With Effusion And The Impact Of Modern Technology

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BACKGROUND & AIM

Background: Hearing loss in childhood is a frequent condition that may negatively affect speech development, learning abilities, and social interaction. The most common type of hearing impairment in young children is conductive hearing loss, mainly caused by otitis media with effusion (OME). In recent years, the increasing use of modern technology, including smartphones, tablets, and personal audio devices, has raised concerns about its potential impact on pediatric hearing health.

Aim: To review the literature regarding the prevalence and types of hearing loss in children, with particular emphasis on otitis media with effusion and the influence of modern technology use.

MATERIAL & METHODS

A narrative review of international literature was conducted, including epidemiological studies, clinical reports, and systematic reviews on pediatric hearing loss. The findings were analyzed in the context of a pediatric population of approximately 500 children aged 4–7 years attending public kindergartens.

RESULTS

The literature indicates that conductive hearing loss is the most common form of hearing impairment in children, predominantly associated with OME. OME affects approximately 20–30% of preschool children, with a peak incidence between 4-6 years of age. Hearing loss related to OME is usually bilateral and mild to moderate, ranging from 20 to 40 dB, and may persist for several months if untreated. Up to 80% of children experience at least one episode of OME before school age.

Sensorineural hearing loss is less frequent, with an estimated prevalence of 1–3 per 1,000 live births, but represents the majority of permanent hearing loss cases in childhood. Recent studies report that over 90% of children aged 4–7 years are regularly exposed to digital devices, with an average daily screen time of 4–6 hours. Prolonged exposure to high sound levels through headphones has been associated with auditory fatigue and potential early cochlear damage.

CONCLUSIONS

Hearing loss in children is predominantly conductive and potentially reversible, with otitis media with effusion as the leading cause. However, excessive use of modern technology may represent an emerging risk factor for early auditory impairment. Early screening, appropriate management of OME, and parental education on safe technology use are essential to prevent long-term consequences.

KEYWORDS

OME, modern technology, hearing impairment, pediatric hearing health

OP-941

Safety Of Concomitant Tympanostomy Tube Placement During Pediatric Adenotonsillectomy: A Retrospective Cohort Study

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BACKGROUND & AIM

To evaluate whether concomitant paracentesis and/or tympanostomy tube placement increases early postoperative morbidity in pediatric patients undergoing adenotonsillectomy, and to identify factors associated with early complications.

MATERIAL & METHODS

This retrospective cohort study included pediatric patients (<18 years) who underwent adenotonsillectomy between January 2015 and December 2025 at a tertiary referral center. Patients were grouped according to whether concomitant ear procedures were performed. The primary outcome was early postoperative morbidity, defined as a composite of postoperative hemorrhage, hematemesis, impaired oral intake, respiratory distress, cough, or adhesion formation. Continuous variables were compared using the Mann–Whitney U test and categorical variables using the chi-square test. Univariable and multivariable logistic regression analyses were performed to identify independent predictors. Subgroup analysis was conducted for patients aged ≤2 years.

RESULTS

A total of 1309 patients were included, of whom 388 (29.6%) underwent concomitant ear procedures. Patients in the ear procedure group were younger and had longer operative times (both $p < 0.001$). The overall complication rate was 3.5%. Composite complications did not differ between patients with and without concomitant ear procedures (4.1% vs. 3.3%, $p = 0.439$). In multivariable analysis, concomitant ear procedures were not associated with increased complications (OR 1.26, 95% CI 0.66–2.41, $p = 0.477$), and no independent predictors were identified. Subgroup analysis demonstrated a significantly higher complication rate in children aged ≤2 years compared to older patients (8.1% vs. 3.1%, $p = 0.010$).

CONCLUSIONS

Concomitant paracentesis and/or tympanostomy tube placement does not increase early postoperative morbidity in pediatric adenotonsillectomy. Younger age, particularly ≤2 years, appears to be a more relevant factor influencing postoperative risk than the addition of ear procedures.

KEYWORDS

Adenotonsillectomy, Tympanostomy tube, Paracentesis, Postoperative complications, Pediatric, Age factors

OP-942

Outcomes Of Pediatric Tracheostomy In A Tertiary Referral Center: A Single-Center Study

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BACKGROUND & AIM

Pediatric tracheostomy is a critical intervention for children requiring prolonged airway support but is associated with substantial morbidity and high mortality largely driven by underlying disease severity. Heterogeneity in complication definitions and timing has limited outcome interpretation across studies. This study aimed to evaluate clinical outcomes, complication patterns, and mortality determinants in pediatric tracheostomy patients using an event-specific timing approach distinguishing cannula-related and non–cannula-related complications.

MATERIAL & METHODS

This retrospective single-center cohort included all pediatric patients (<18 years) who underwent tracheostomy between January 2015 and December 2025. Demographics, comorbidities, tracheostomy indications, perioperative ventilation, cannula characteristics, complication profiles, decannulation outcomes, and mortality were analyzed. Complications were categorized as cannula-related or non–cannula-related and classified as early (≤14 days) or late (>14 days). Associations between clinical variables, complications, decannulation, and mortality were evaluated using univariable and multivariable analyses.

RESULTS

A total of 53 patients were included (median age 6.0 years); neurologic disease was the predominant comorbidity (77.4%). Overall mortality was 53.0%, with no deaths directly attributable to tracheostomy. At least one complication occurred in 58.5% of patients. Cannula-related complications occurred predominantly early, whereas non–cannula-related complications developed later (p≈0.002). Older age was associated with complication development (p=0.007), while younger age was associated with mortality (p=0.001); early deaths may have precluded late complications. Preoperative intubation duration correlated positively with hospital length of stay (r≈0.40, p=0.003), and prolonged hospitalization showed a borderline association with mortality (p=0.084). Hydrocephalus was associated with increased mortality (OR≈5.45, p=0.043), whereas cerebral palsy was associated with lower mortality (p=0.021). Metabolic disease independently predicted mortality (univariable OR=7.44, p=0.011; adjusted OR=7.66, p=0.030). Successful decannulation occurred in three patients (5.66%); none requiring multiple cannula changes were decannulated, precluding meaningful statistical inference.

CONCLUSIONS

Pediatric tracheostomy is associated with high morbidity and mortality primarily determined by underlying disease severity. Mechanical stability and cannula management complexity influence morbidity and decannulation outcomes, whereas younger age and metabolic disease independently predict mortality. These findings support longitudinal, phase-adapted, multidisciplinary care strategies to optimize outcomes in pediatric tracheostomy patients.

KEYWORDS

Airway management; Cannula-related complications; Decannulation; Pediatric tracheostomy.

OP-943

Short- And Long-Term Clinical Outcomes Of Tonsillectomy Versus Tonsillotomy In Pediatric Obstructive Sleep-Disordered Breathing

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BACKGROUND & AIM

Obstructive sleep-disordered breathing (OSDB) is a common indication for pediatric tonsillar surgery. Although tonsillectomy (TE) provides complete tonsillar removal, tonsillotomy (TT) is increasingly used because of lower postoperative morbidity. However, concerns remain regarding long-term recurrence of obstructive symptoms. We aimed to compare early morbidity and long-term outcomes between children undergoing TE and TT for OSDB.

MATERIAL & METHODS

This retrospective cohort study included patients younger than 18 years who underwent TE or TT for OSDB at the Department of Otolaryngology, Kocaeli University Faculty of Medicine, between January 2019 and March 2025. Patients with at least 12 months of postoperative follow-up were eligible. Demographic data, atopic comorbidities, surgical technique, duration of postoperative analgesic requirement, complications, length of postoperative hospitalization, readmission after discharge, and late symptoms were reviewed. Complications were analyzed overall and separately as bleeding, limited oral intake, and other complications. Long-term outcomes included recurrent snoring, postoperative apnea, sleeping with an open mouth, and recurrent obstructive symptoms. Statistical analyses were performed using IBM Statistical Package for the Social Sciences (SPSS) version 29.0; p<0.05 was considered significant.

RESULTS

A total of 363 patients were included; 299 (82.4%) underwent TE and 64 (17.6%) underwent TT. Overall complications were more frequent after TE than TT (20.4% vs. 7.8%, p=0.028), although separate analysis of bleeding, limited oral intake, and other complications showed no significant difference. Duration of postoperative analgesic requirement (p<0.001) and length of postoperative hospitalization (p=0.023) were longer in the TE group. Readmission after discharge did not differ. Postoperative snoring was more frequent after TT than TE (21.9% vs. 10.4%, p=0.043), while postoperative apnea and sleeping with an open mouth did not differ. Revision surgery was required in 3 of 64 TT patients (4.7%).

CONCLUSIONS

TE was associated with higher early postoperative morbidity, including longer analgesic requirement, longer hospitalization, and higher overall complication rates. TT showed more favorable early outcomes but higher long-term postoperative snoring. These findings may guide surgical planning and family counseling regarding the benefits and potential long-term risks of each procedure in children with OSDB.

KEYWORDS

Tonsillectomy; Tonsillotomy; Obstructive sleep-disordered breathing; Pediatric otolaryngology; Postoperative outcomes

OP-944

Retrograde Cricopharyngeal Dysfunction In Pediatric Patients: Recognition And Management Across The Age Spectrum

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BACKGROUND & AIM

Retropulsive cricopharyngeal dysfunction (RCPD) is a recently recognized clinical condition characterized by inability to burp, abdominal bloating, chest discomfort, throat gurgling, nausea, and significant quality-of-life impairment. While increasingly described in adults, pediatric data remain limited, and diagnosis is frequently delayed because symptoms overlap with common gastrointestinal complaints. We hypothesized that pediatric patients with RCPD experience delayed recognition, extensive gastrointestinal workup, and variable treatment outcomes, with differences across age groups.

MATERIAL & METHODS

A retrospective case series was performed at a single tertiary pediatric otolaryngology institution between 2021 and 2025. Pediatric patients diagnosed with RCPD were included. Demographics, presenting symptoms, referral patterns, prior gastrointestinal evaluation, esophageal manometry findings, treatment details, and outcomes were reviewed. Patients were categorized into two age groups based on median age at first surgery: <16 years and 16–18 years. Treatment consisted primarily of botulinum toxin injection to the cricopharyngeus muscle. Improvement was defined as any symptom relief; complete resolution as full symptom resolution; recurrence as return of symptoms after initial improvement requiring repeat intervention or documented clinical recurrence. Descriptive statistics were performed using SPSS version 25.

RESULTS

Twenty-seven patients were included (59.3% female), with a mean age at first surgery of 14.9 ± 3.0 years. All patients reported inability to burp (100%), with abdominal bloating in 96.3%, throat gurgling in 74.1%, nausea in 63.0%, and chest pain in 40.7%. Symptom onset occurred before age 6 years in 81.5% of patients. Most referrals originated from pediatric gastroenterology (59.3%), and 77.8% had prior gastroenterology consultation. Esophagogastroduodenoscopy was performed in 70.4%, most commonly with normal findings (44.4%). Botulinum toxin injection resulted in symptom improvement in all patients (100%). Complete resolution occurred in 37.0%, while 63.0% had partial improvement. Recurrence occurred in 22.2%, with a mean of 1.33 treatments per patient. Younger patients (<16 years) demonstrated higher recurrence rates (35.7% vs 7.7%) and lower complete resolution rates (28.6% vs 46.2%) compared with older adolescents.

CONCLUSIONS

Pediatric RCPD is frequently underrecognized despite early symptom onset and often leads to extensive gastrointestinal evaluation before diagnosis. Botulinum toxin injection provides universal symptomatic improvement, although complete resolution is less common and younger children may experience higher recurrence rates. Greater awareness of RCPD among pediatric providers may facilitate earlier diagnosis, reduce unnecessary workup, and improve patient outcomes.

KEYWORDS

Retrograde Cricopharyngeal Dysfunction (RCPD), Pediatric Dysphagia ,Inability to Burp, Cricopharyngeus Muscle, Botulinum Toxin Injection, Esophageal Dysmotility, Abdominal Bloating, Pediatric Otolaryngology, Upper Esophageal Sphincter Dysfunction, Functional Esophageal Disorders

OP-945

Acute Mastoiditis In Western Norway- A 25 Year Retrospective Analysis

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BACKGROUND & AIM

The aim of this study was to retrospectively analyse the incidence, diagnostic findings, clinical course, treatment strategies, microbiology and outcomes in consecutive patients treated in our clinic over a 25-year period.

MATERIAL & METHODS

We conducted a retrospective chart review of paediatric patients diagnosed with mastoiditis in Haukeland University Hospital from 01.01.2000 to 31.12.2024. For the micorbiology analysis, year 2025 is also included. Data on presenting symptoms, clinical history, CT findings, surgical procedures, micobiology results and complications were recorded.

RESULTS

A total of 143 cases met the inclusion criteria, corresponding to an annual incidence of 1.3 per 100,000 in the Bergen region. Acute mastoiditis was most frequent in children under two years of age, with a median age of 1.8 years. Patients with intracranial complications had higher C-reactive protein (CRP) levels at admission compared to those without. All CT scans that indicated the presence of an abscess were confirmed intraoperatively. Streptococcus pneumonia was the most common patogen, even after introduction of pneumococcal vaccine. Collecting puss on a sterile glass had a higher positivity rate than e-swab.

CONCLUSIONS

The key finding of this study is the association between elevated CRP levels and intracranial complications. Streptococcus pneumonia was the most common pathogen and collecting pus in a sterile glass had a higher positivity rate than eswab. CT imaging proved highly reliable for diagnosing subperiosteal abscesses and can be effectively integrated with surgical intervention during the same anaesthesia. Together, these findings emphasize the value of combining laboratory markers and imaging to optimize early risk stratification, guide surgical decision-making, and ultimately reduce morbidity in paediatric mastoiditis.

KEYWORDS

acute mastoditis in children

OP-946

Laryngomalacia: Do We Know What We Don't Know?

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BACKGROUND & AIM

Laryngomalacia is the most common congenital anomaly of the larynx and the most common cause of congenital stridor. The etiology of the condition is unknown, the diagnostic value of the static laryngeal image is not defined, the possibility of genetic predisposition is barely discussed. The risk factors of failure of the surgical intervention are also poorly described. Laryngomalacia is often combined with gastroesophageal reflux, obstructive sleep apnea, neurological conditions, a second lesion in the respiratory tract, and others. The etiopathogenetic relationship between laryngomalacia and concomitant conditions has not been proven.

MATERIAL & METHODS

We summarize the results of the diagnosis and treatment of 58 patients with congenital stridor who underwent the ENT Clinic of the University Hospital "St. Marina" Varna for the period 2010-2025.

RESULTS

Of the 58 patients, 31 had different types of laryngomalacia. We performed a morphometric analysis of the larynx in laryngomalacia and found that the supraglottis has a different contour from the normal larynx in this disease, that is, our findings support the anatomical theory of the etiology of the condition. We analyzed the frequency of concomitant diseases - 35%. We discovered the first two sets of twins in the world with laryngomalacia - there is no similar experience in the literature to date. We also confirmed in practice that supraglottoplasty fails in cases of accompanying neurological deficit.

CONCLUSIONS

The results of our work over a period of 15 years show that the frequency of concomitant diseases is high, and morphometric analysis of endoscopic images shows that the static image of the larynx in laryngomalacia differs from the norm, which leads rather to support the anatomical theory of the etiology of the condition. We report the first two pairs of twins in the world with laryngomalacia, suggesting a possible genetic predisposition.

KEYWORDS

larynx; laryngomalacia; pediatric; stridor

OP-947

Surgical Management Of Otorhinolaryngological Disease In Children With Primary Ciliary Dyskinesia

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BACKGROUND & AIM

Primary ciliary dyskinesia (PCD) is a rare genetic disorder characterized by impaired mucociliary clearance leading to chronic upper and lower respiratory tract disease (including chronic rhinosinusitis, recurrent otitis media, and chronic wet cough),

neonatal respiratory distress, laterality defects (such as situs inversus), and subfertility. Optimal management of ear, nose, and throat manifestations in children with PCD remains controversial. We hypothesized that sinonasal and otologic surgical interventions improve disease-specific quality of life and objective clinical outcomes in children with severe, therapy-resistant PCD-related disease.

MATERIAL & METHODS

A retrospective cohort study was conducted from 2019 to 2024 at a tertiary referral center, including 176 children diagnosed with PCD presenting with otorhinolaryngological symptoms. Thirty-four patients with refractory disease underwent surgical intervention. Procedures included functional endoscopic sinus surgery (FESS), adenoidectomy, and tympanostomy tube placement.

Outcome measurements included quality of life assessed using the 22-item Sinonasal Outcome Test (SNOT-22), pure-tone audiometry, radiologic staging using the Lund–Mackay score, and endoscopic evaluation using the Lund–Kennedy score. Assessments were performed at the initial visit, preoperatively, and 6 months postoperatively. Patients were followed for up to 5 years. Independent variables included type of surgery and baseline disease severity. Comparative analyses were performed between preoperative and postoperative outcomes.

RESULTS

At 6 months postoperatively, patients undergoing FESS with or without adenoidectomy demonstrated significant improvement in SNOT-22 scores and significant reductions in Lund–Mackay and Lund–Kennedy scores ($p < 0.05$). Two patients required revision sinus surgery due to recurrent severe polypoid rhinosinusitis.

Among patients with chronic suppurative otitis media, tympanostomy significantly improved hearing thresholds at 6 months ($p < 0.05$). However, 50% experienced persistent otorrhea, and one-third developed at least one episode of tube occlusion during follow-up.

CONCLUSIONS

FESS, alone or combined with adenoidectomy, significantly improves both subjective and objective sinonasal outcomes in children with PCD. Tympanostomy improves hearing but is associated with frequent postoperative complications, highlighting the need for careful patient selection and long-term monitoring.

KEYWORDS

Primary Ciliary Dyskinesia, Surgery, FESS, Adenoidectomy, Grommets

OP-948

Clinical Diagnosis And Treatment Of Pediatric-Onset Relapsing Polychondritis With Airway Involvement

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BACKGROUND & AIM

We herein retrospectively analyzed the clinical characteristics and treatment protocols of children with relapsing polychondritis (RP) with airway involvement.

MATERIAL & METHODS

We reviewed the medical records of eight children with pediatric-onset RP with airway involvement who presented to Shanghai Children's Hospital from June 2021 to June 2024. All children met Damiani's criteria for the diagnosis of RP. One child underwent "laryngotracheal reconstruction with hyoid graft + T-tube implantation + bioabsorbable corticosteroid-eluting stent implantation," while five children underwent "balloon dilatation + T-tube implantation + bioabsorbable corticosteroid-eluting stent implantation." After the initial surgery, follow-up was performed every two months for a total of six months. Three bioabsorbable corticosteroid-eluting stents were placed in the upper left and upper and lower right T-tubes during this time.

RESULTS

All eight patients were seen in our department for outpatient follow-up: one patient was extubated; five patients remained in outpatient follow-up; and the remaining two patients continued to be treated in the rheumatology and immunology department due to poor control of their primary disease.

CONCLUSIONS

Tracheotomy can be used to rapidly improve symptoms of dyspnea in children with RP disease progression. In the stable stage of the disease, the minimally invasive surgical method of "balloon dilatation + T-tube implantation + bioabsorbable corticosteroid-eluting stent implantation" was adopted to reduce secondary injury caused by surgical trauma (to the extent possible) and to improve the survival and quality of life of the children.

KEYWORDS

Relapsing polychondritis; Laryngeal and tracheal stenosis; Bioabsorbable corticosteroid-eluting stent implantation; Laryngotracheal reconstruction; Pediatric

OP-949

PEDIATRIC TYMPANOPLASTY: ANATOMICAL AND AUDIOLOGICAL OUTCOMES.

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BACKGROUND & AIM

There are no previous studies, comparing anatomical and functional success rates of adenoidectomy and tympanoplasty performed either simultaneously, during single general anesthesia, or sequentially, separated at least 12 weeks, in pediatric patients

MATERIAL & METHODS

We retrospectively enrolled 65 children (36 males, 29 females; mean age 9.16 ± 3.82 years; range 3-17 years) who underwent both tympanoplasty and adenoidectomy from March 2018 to March 2021. The children were assigned to two groups according to the type of surgery management. The groups were compared with regard to anatomical results (tympanic membrane status) and functional outcomes (pre- and post-operative air-bone gap (ABG) values). All study participants had a 12-months follow-up period after surgery.

RESULTS

There were no statistically significant differences between the groups regarding pre- and post-operative ABG values (after 12 months) and average hearing gains. Additionally, the post-operative ABG was significantly lower than the pre-operative ABG in both groups ($p<0.001$). Also, no statistically significant difference was found in successful anatomical restoration rates in two groups. No complications such as mastoiditis, loss of blood, persistent otorrhea, sore throat, fever, or dizziness were detected during or after surgery in both groups.

CONCLUSIONS

In our first comparative study of simultaneous versus sequential tympanoplasty and adenoidectomy, no advantage for sequential approach was observed. The simultaneous surgery management demonstrates the clinical results comparable to those in the sequential group. The simultaneous surgery approach appears to be associated with low rate of complications. Therefore, simultaneous surgery management might be beneficial reducing anesthesia exposure in pediatric patients.

KEYWORDS

Tympanoplasty, adenoid hypertrophy, pediatric ENT, otosurgery

OP-950

IMPACT OF PERIODIC FEVER, APHTHOUS STOMATITIS, PHARYNGITIS, ADENITIS (PFAPA) SYNDROME ON OLFACTORY AND GUSTATORY FUNCTIONS

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BACKGROUND & AIM

The aim of this study was to evaluate olfactory and gustatory functions in children with pediatric periodic fever, aphthous stomatitis, pharyngitis, and adenitis (PFAPA) syndrome and to contribute to filling the existing knowledge gap in this field.

MATERIAL & METHODS

The study included 40 pediatric patients diagnosed with PFAPA syndrome from the Pediatric Rheumatology Unit and 40 healthy age-matched controls. Olfactory functions were assessed using the Sniffin' Kids test, while gustatory functions were evaluated using the ODOFIN Taste Test.

RESULTS

The study comprised 80 participants, including 40 healthy controls (male: 25, 62.5%) and 40 patients with PFAPA syndrome (male: 26, 65%). The mean ages of the patient and control groups were 6.83 (4–12) and 6.89 (4–12) years, respectively. Sniffin' Kids scores (9.75 ± 1.30) were not significantly different in the patient group compared with the control group (10.00 ± 1.24; $p = 0.381$). Likewise, gustatory function scores in the patient group (11.83 ± 2.05) were not significantly different from those in the control group ($p = 0.825$).

CONCLUSIONS

The findings suggest that PFAPA syndrome may not have a significant impact on olfactory or gustatory functions. No statistically significant differences were observed between patients with PFAPA syndrome and healthy controls in either smell or taste test scores. These results indicate that sensory functions may be preserved in this patient population. However, further studies with larger sample sizes and multicenter designs are needed to confirm these findings and to evaluate possible changes during active disease periods.

KEYWORDS
PFAPA syndrome, smell, taste, olfaction disorders

OP-951

Unique Characteristics Of Pediatric Sporadic Vestibular Schwannoma

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BACKGROUND & AIM

To investigate characteristics of pediatric sporadic (non-NF2) vestibular schwannoma (VS), we compare outcomes of sporadic adult-type vestibular schwannoma which were size- and location-matched cohort.

MATERIAL & METHODS

Pediatric patients (≤21 years) with sporadic unilateral VS and ≥15 months of follow-up were identified and each matched 1:2 to adult patients (>21 years) by tumor size and location. The primary outcome was tumor control (stable vs recurrence/regrowth requiring treatment). Outcomes within the pediatric cohort were further analyzed for age- related differences.

RESULTS

Nine pediatric patients were matched to 18 adult controls. Baseline characteristics and presenting symptoms were similar. Gross total resection was achieved in 44% of children and 22% of adults (P=0.071). Tumor control differed significantly: recurrence/regrowth occurred in 44% of children versus 6% of adults (P=0.005). Within the pediatric group, patients with recurrence were younger (13.8±2.8 vs 17.6±2.6 years; P=0.043). Using a 14-year cutoff, three of four recurrences (75%) occurred in children <14 years versus none in older children (P=0.048).

CONCLUSIONS

Children, particularly those under 14 years, experienced significantly poorer tumor control after surgery for sporadic VS compared with adults, despite similar tumor size and location. The higher recurrence and regrowth rates observed in the pediatric cohort suggest that a more aggressive treatment and surveillance approach may be warranted.

KEYWORDS
Pediatrics, Vestibular schwannoma, Acoustic neuroma, CPA tumor

OP-952

Preoperative PLCC And PLCR For Predicting Pediatric Post-Tonsillectomy Hemorrhage

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BACKGROUND & AIM

Post-tonsillectomy hemorrhage is the most concerning complication after pediatric tonsillectomy and remains hard to predict with routine preoperative assessment. Because complete blood count (CBC) indices are inexpensive and widely available, platelet large cell count (PLCC) and platelet large cell ratio (PLCR) have been proposed as potential markers of platelet turnover and primary hemostasis. We aimed to evaluate whether preoperative PLCC/PLCR and selected coagulation and platelet parameters are associated with post-tonsillectomy hemorrhage and provide clinically useful risk discrimination.

MATERIAL & METHODS

We conducted a retrospective case-control study of children undergoing tonsillectomy between January 2020 and December 2024 at a tertiary training and research hospital. The laboratory dataset included 958 patients: 918 controls with an uneventful course and 40 patients with post-tonsillectomy hemorrhage (PTH). PTH was defined as postoperative bleeding requiring clinical evaluation. Preoperative platelet indices (platelet large cell count [PLCC], platelet large cell ratio [PLCR], platelet count [PLT], mean platelet volume [MPV], platelet distribution width [PDW]) and coagulation tests (activated partial thromboplastin time [aPTT], prothrombin time [PT], international normalized ratio [INR]) were extracted from electronic records. Groups were compared with distribution-appropriate analyses, and logistic regression assessed associations with PTH.

RESULTS

Among 958 children (918 controls, 40 PTH; 4.18%), patients with post-tonsillectomy hemorrhage were older (9.55 ± 3.69 vs 7.96 ± 2.61 years; p=0.00993). PLCC did not differ between groups (78.24 ± 27.05 vs 74.70 ± 24.98; p=0.433). PLCR showed a modest, non-significant trend lower in PTH (19.00 ± 5.93 vs 20.87 ± 7.51; p=0.066) with poor discrimination (AUC 0.431); PLCC discrimination was also poor (AUC 0.539). In contrast, aPTT and platelet count were higher in the PTH group (p=0.00635 and p=0.00731). Univariable standardized analysis associated PTH with age (OR 1.64, 95% CI 1.25–2.14), platelet count (OR 1.47, 1.10–1.96), and aPTT (OR 1.34, 1.04–1.71).

CONCLUSIONS

In this pediatric cohort, preoperative PLCC and PLCR were not clinically useful standalone predictors of post-tonsillectomy hemorrhage and showed poor discriminatory performance. Older age, higher aPTT, and higher platelet count were more

consistently associated with hemorrhage, although differences were modest. These findings suggest that routine platelet large cell indices should not be used alone for preoperative risk stratification, and future models should prioritize clinically interpretable covariates with validation in larger cohorts.

KEYWORDS

post-tonsillectomy hemorrhage; platelet indices; PLCC; PLCR; aPTT; platelet count

OP-953

Pain Trajectories After Partial Versus Total Tonsillectomy: A Prospective Cohort Study

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BACKGROUND & AIM

Pain control remains a key concern in pediatric tonsil surgery, directly influencing recovery, complication rates, and the overall patient experience. This study aimed to compare postoperative pain between partial and total tonsillectomy and to evaluate pain outcomes across commonly used surgical instruments—coblation, microdebrider, and monopolar cautery.

MATERIAL & METHODS

A prospective observational study was conducted at the Montreal Children's Hospital. Parents of children undergoing partial or total tonsillectomy completed pre- and postoperative questionnaires, followed by daily pain assessments for 14 days using the Parents' Postoperative Pain Measure. Parents also documented all analgesic use, including non-opioid and opioid medications.

RESULTS

A total of 188 children were included. Mean pain scores were consistently higher after total tonsillectomy compared with partial tonsillectomy during the first postoperative week, before declining in both groups. Among surgical techniques, coblation was associated with significantly lower pain during the first 7 days compared to cautery ($p < 0.05$); differences were no longer significant beyond day 7. Coblation also demonstrated a trend toward lower pain than microdebrider during the first postoperative week, although not statistically significant ($p > 0.05$). Children treated with coblation or microdebrider required significantly less non-opioid medication from days 2–7 ($p < 0.05$) and less opioid medication from days 2–10 ($p < 0.05$) compared to those treated with cautery.

CONCLUSIONS

Partial tonsillectomy — particularly when performed using coblation or microdebrider—was associated with less postoperative pain and reduced analgesic requirements compared to total tonsillectomy. These findings support the growing adoption of intracapsular techniques to optimize recovery and patient comfort following pediatric tonsil surgery.

KEYWORDS

partial tonsillectomy; total tonsillectomy; postoperative pain; pediatric otolaryngology; analgesic use; prospective cohort study

OP-954

Research Progress On The Nasal Mucosal Immune Microenvironment Of Chronic Rhinosinusitis (CRS) In Chinese Children

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) is a heterogeneous disease characterized by chronic inflammation of the nasal mucosa. Distinct from adults, chronic rhinosinusitis with nasal polyps (CRSwNP) in children is marked by early onset, high heterogeneity, insidious progression, and often severe clinical manifestations. This report summarizes and presents the latest research advances from the National Children's Medical Center regarding the characteristics of the nasal mucosal immune microenvironment in Chinese pediatric CRS patients.

MATERIAL & METHODS

A prospective cohort of pediatric CRS patients was established to analyze clinical features. Nasal mucosa and nasal polyp tissue samples were collected and subjected to comprehensive analysis using multi-omics technologies, including transcriptomics, proteomics, metabolomics, single-cell sequencing, and Xenium spatial transcriptomics, followed by experimental validation.

RESULTS

The study cohort of Chinese children with CRSwNP showed a mean age of 10.4 years, with nearly 8% preschool-aged. Median disease duration was 36 months. Key clinical features included impaired lung function in 40.2%, comorbid asthma in 16.7%, and a postoperative recurrence rate of 31.4%. Histologically, pediatric nasal mucosa exhibited thickened basement layer and high mucous gland density. Additionally, reduced ionocyte numbers and CFTR function, along with ciliary abnormalities

mediated by DNAH9, DNAI2, and ODAD4, were observed. Notably, 83.3% of patients had non-eosinophilic endotypes, characteristic of pediatric CRS progression. Multi-omics analysis identified oxidative stress-antioxidant defense imbalance as a key mechanism, involving HMOX1 hyperactivation triggering ferroptosis and M2 macrophage signaling, and abnormal metabolism of Streptococcus, 13'-Hydroxy-alpha-tocopherol, and glutathione. Disease recurrence was linked to phagosome pathway activation in neutrophils and M2 macrophages via ITGAM and FCGR33B.

CONCLUSIONS

Chronic rhinosinusitis in Chinese children presents distinct clinical and pathological characteristics compared to adults and constitutes an essential part of the "pan-airway inflammation spectrum." Pediatric CRSwNP is not only characterized by a protracted disease course and a propensity for lower airway involvement but also demonstrates significant "refractoriness" and "recurrence".

KEYWORDS

China; Children; Chronic Rhinosinusitis; Nasal Mucosa; Immune Microenvironment

OP-955

Multidimensional Assessment Of Voice Quality, Nasal Resonance, And Quality Of Life After Adenotonsillectomy: A Praat-Assisted Prospective Study

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BACKGROUND & AIM

Adenotonsillectomy is one of the most commonly performed surgical procedures in pediatric otolaryngology; however, its multidimensional effects on voice quality, nasal resonance, and voice-related quality of life remain incompletely characterized. This study aimed to prospectively evaluate changes in voice handicap, vocal quality of life, and acoustic parameters before and after adenotonsillectomy in a pediatric cohort, using the Pediatric Voice Handicap Index (pVHI), the Pediatric Voice-Related Quality of Life Survey (pVRQOL), and Praat-Assisted Nasalance Meter.

MATERIAL & METHODS

Thirty-seven pediatric patients (19 male, 18 female; mean age: 7.78 ± 2.08 years; range: 4–12 years) who underwent adenotonsillectomy (n=30) or adenotonsillectomy combined with bilateral ventilation tube insertion (n=7) were prospectively enrolled. Chief complaints included recurrent infections (70.3%) and nocturnal mouth-breathing or snoring (29.7%). Assessments were performed at three time points: preoperatively, and at postoperative months 1 and 3. Outcome measures included: (1) the Pediatric Voice Handicap Index (pVHI), comprising functional, physical, and emotional subscales; (2) the Pediatric Voice-Related Quality of Life Survey (pVRQOL), comprising physical function and social-emotional subscales; and (3) acoustic parameters including fundamental frequency (F0), jitter, shimmer, harmonics-to-noise ratio (HNR), and nasalance percentages obtained using a Praat - Assisted Nasalance Meter. As data did not conform to a normal distribution (Shapiro-Wilk test, $p<0.05$), the Wilcoxon Signed-Rank Test was applied for all pairwise comparisons.

RESULTS

The pVHI total score declined significantly from 13.78 ± 15.02 preoperatively to 5.86 ± 10.48 at postoperative month 1($p=0.001$) and 4.62 ± 10.37 at postoperative month 3($p<0.001$).No statistically significant difference was observed between postoperative months 1 and 3 ($p=0.356$),suggesting that the primary improvement occurs within the first postoperative month.The pVRQOL physical function subscale score decreased from 11.54 ± 6.57 preoperatively to 9.35 ± 5.80 at month 1 ($p=0.016$) and further to 7.73 ± 3.55 at month 3 ($p=0.002$), with continued significant improvement between months 1 and 3 ($p=0.019$).The pVRQOL social-emotional subscale did not demonstrate statistically significant change at either postoperative time point ($p>0.05$).Regarding acoustic parameters,nasalance (%/m) increased significantly from 90.73 preoperatively to 95.51 at postoperative month 3 ($p=0.020$), reflecting normalization of nasal resonance following adenoid removal.HNR decreased from 26.91 dB preoperatively to 20.43 dB at month 3 ($p=0.013$).No statistically significant changes were observed in F0, jitter, or shimmer($p>0.05$ for all).

CONCLUSIONS

Adenotonsillectomy confers significant multidimensional benefits in the pediatric population, extending beyond airway obstruction relief to encompass measurable improvements in voice handicap, physical vocal function, and nasal resonance. The concordance between objective acoustic findings and patient/caregiver-reported outcomes underscores the clinical validity of this multidimensional approach. Notably, Praat-assisted nasalance analysis emerged as a cost-effective, accessible, and objective digital tool for monitoring postoperative vocal outcomes in clinical practice, without the need for high-cost dedicated hardware.

KEYWORDS

adenotonsillectomy · pediatric voice handicap index (pVHI) · pediatric voice-related quality of life (pVRQOL) · Praat · nasalance · acoustic analysis · pediatric otolaryngology

OP-956

Current Practices In Choanal Atresia Repair: A Comprehensive European And International Perspective

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BACKGROUND & AIM

Managing patients with congenital choanal atresia (CA) is challenging for Ear, Nose and Throat (ENT) surgeons as it is an uncommon condition. Despite valuable prior works having been published, actual practice often deviates from the recommendations set out in expert opinions. The aim of this study was to elucidate the current standard of care for CA patients in Europe and worldwide, and to identify aspects that require critical discussion.

MATERIAL & METHODS

An online survey, available in English and German, was conducted among subscribed members of the European Rhinologic Society and the European Society of Pediatric Otorhinolaryngology between July and November 2025. Survey items queried preoperative diagnostics, surgical procedures, and postoperative care in CA patients.

RESULTS

A total of 116 ENT departments from 46 countries and six continents participated. CA repairs were rarely performed (median 3 per year). Elective repair of unilateral CA was performed on patients under five years of age in 64% of cases. Of these, 19% were operated on within the first six months of life. Standardised preoperative hearing tests were performed by 19% of participants and preoperative CT scans by 84%. The main approach to CA repair was endoscopic transnasal (81%). While 57% of participants stated that they routinely resected the posterior vomer, mucosal flaps were elevated by 48%. In total, 40% never or hardly used stents, and 33% always or mostly used stents across all continents Recommended postoperative nasal care measures included saline irrigations (77%), topical corticosteroids (37%), and perioperative antibiotics (32%). Recurrences were attributed to scarring (71%), granulation tissue (40%) and insufficient vomer resections (21%).

CONCLUSIONS

According to current expert opinions, the age range for patients undergoing elective unilateral CA repair should be reduced. Although preoperative age- and development-adapted hearing tests are recommended by experts in literature, they are not commonly implemented. CT imaging is widely used despite the associated radiation exposure. Its role should be critically discussed. Over half of the participants resected the posterior vomer, which may help to minimise recurrence rates. The current use of stents and perioperative antibiotics should be discussed further and reduced, in line with current specialist recommendations.

KEYWORDS

Choanal atresia, diagnostics, surgery, postoperative care, survival

OP-957

Prospective Evaluation Of The Effects Of Adenotonsillectomy On Growth, Bone Age And Biomarkers In Children With Obstructive Sleep Apnea Syndrome

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BACKGROUND & AIM

To evaluate the effects of adenotonsillectomy on growth and development parameters, skeletal maturation, and growth-related biomarkers in children with obstructive sleep apnea syndrome (OSAS).

MATERIAL & METHODS

In this single-center prospective study, 50 children (aged 3–12 years) with OSAS who underwent adenotonsillectomy (January–September 2024) were evaluated preoperatively and at postoperative follow-up. Height/weight percentiles, BMI Z-score, Pediatric Sleep Questionnaire (PSQ), Greulich–Pyle bone age, and serum IGF-1, IGFBP-3, ALP, osteocalcin, sclerostin, and DKK-1 were measured. Paired comparisons and correlation analyses were performed; ROC analysis assessed sclerostin for predicting advanced bone age.

RESULTS

Bone age and height age increased significantly (p<0.001). Height and weight percentiles improved, PSQ decreased (9.92±2.63 to 3.22±2.36), and BMI Z-score increased (all p≤0.002). IGF-1 and ALP increased significantly (p<0.001); IGFBP-3 was unchanged (p=0.497), and osteocalcin showed a borderline increase (p=0.081). Sclerostin and DKK-1 decreased significantly (p<0.001). Both pre- and postoperative bone age correlated positively with IGF-1, IGFBP-3, and ALP (all p<0.05); the strongest preoperative association was with IGF-1 (r=0.459; p=0.001), and the strongest postoperative association was with IGFBP-3 (r=0.569; p<0.001).The preoperative BMI Z-score correlated with anabolic markers and bone/height age (strongest with IGF-1: r=0.470; p<0.001). The postoperative BMI Z-score correlated positively with IGF-1 and bone age and inversely with sclerostin; the strongest correlation was observed with sclerostin (r=−0.408; p=0.006).A preoperative sclerostin cut-off of ≤395.3 identified advanced bone age with good sensitivity (90.0%) and moderate specificity (64.7%) (AUC=0.760; p=0.013).

CONCLUSIONS

Adenotonsillectomy in pediatric patients with OSAS was associated with symptom improvement, accelerated growth, and skeletal maturation, as well as increased anabolic markers and decreased sclerostin/DKK-1 levels. Preoperative sclerostin levels may help identify advanced bone age.

KEYWORDS

pediatric OSAS; adenotonsillectomy; bone age; IGF-1; sclerostin; DKK-1

OP-958

Effect Of Adenoidectomy On Nasal Mucociliary Transport In Children: Objective Assessment Using Activated Charcoal

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BACKGROUND & AIM

Adenoid hypertrophy may impair nasal physiology, including nasal mucociliary transport. Objective pediatric data on the effect of adenoidectomy remain limited, especially when visual rather than taste-based assessment is used. This study aimed to evaluate the effect of adenoidectomy on nasal mucociliary transport in children using an objective activated charcoal method.

MATERIAL & METHODS

A prospective clinical study was performed in children aged 3–12 years with clinically and endoscopically confirmed adenoid hypertrophy undergoing adenoidectomy. Nasal mucociliary transport time was measured 7 days preoperatively and on postoperative day 14. A standardized activated charcoal suspension was applied under endoscopic control to the medial surface of the inferior turbinate, approximately 1 cm posterior to its anterior end. The endpoint was the first visualization of the marker on the posterior pharyngeal wall. Pre- and postoperative transport times were compared using paired statistical analysis.

RESULTS

Thirty-seven children aged 3–12 years were included, with predominance of the 4–6-year age group (23/37, 62.2%). Mean preoperative nasal mucociliary transport time was 16.1 ± 1.8 min and decreased to 9.1 ± 2.0 min on postoperative day 14. The mean reduction was 6.9 ± 0.5 min. All children had transport times >10 min preoperatively, whereas this was observed in 10/37 children postoperatively. In sex-stratified analysis, mean transport time decreased from 15.6 ± 1.8 to 8.6 ± 2.0 min in girls and from 16.6 ± 1.7 to 9.7 ± 1.9 min in boys. The difference between pre- and postoperative values was statistically significant (paired analysis, p < 0.001).

CONCLUSIONS

Adenoidectomy was associated with significant improvement in nasal mucociliary transport in children with adenoid hypertrophy. The activated charcoal method appears to be a feasible, low-cost, and objective tool for functional assessment of nasal mucociliary transport in pediatric patients. Further studies with larger cohorts are warranted.

KEYWORDS

adenoidectomy; adenoid hypertrophy; nasal mucociliary transport; activated charcoal; children

OP-959

The Use Of Topical Antibiotic Therapy For Acute Otitis Media Without Tympanic Membrane Perforation: A Randomized Case-Control Study

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BACKGROUND & AIM

Acute otitis media is a major cause of pediatric antibiotic prescriptions, with oral amoxicillin-clavulanic acid as standard therapy despite modest symptom relief and systemic side effects. Topical antibiotics excel in perforated acute otitis media or

tympanostomy tube otorrhea but lack evidence in intact tympanic membrane cases due to penetration barriers. This study evaluates adjunctive topical ciprofloxacin ear drops with oral therapy versus oral alone in non-perforated cases.

MATERIAL & METHODS

We conducted a matched case-control study of 90 children, aged 0-15 years, with acute otitis media and intact membranes. Randomized groups included combined therapy (n = 45, ciprofloxacin drops + oral amoxicillin-clavulanic acid) versus oral alone (n = 45), matched for age, gender, baseline pain. Primary outcomes included time to complete pain resolution, fever resolution, and daily pain trajectory assessed using the Faces Pain Scale-Revised. Secondary outcomes included analgesic use and adverse events. Analyses included Kaplan-Meier survival curves, effect size estimation (Cohen's d), and mixed-effects longitudinal modeling.

RESULTS

Combination therapy significantly accelerated pain resolution (3.29 ± 0.84 vs 5.10 ± 1.86 days; mean difference −1.81 days, 95% CI −2.43 to −1.18; Cohen's d = −1.27; $p < 0.001$). Fever resolution was also faster in the combination group (3.91 ± 1.51 vs 5.09 ± 2.02 days; mean difference −1.18 days, 95% CI −1.94 to −0.42; Cohen's d = −0.66; $p = 0.0026$). Kaplan–Meier analysis demonstrated a significantly higher probability of earlier symptom resolution with combination therapy. Mixed-effects longitudinal modeling revealed significant group-by-time interactions for NSAID ($p = 0.007$) and paracetamol use ($p = 0.017$). Adverse events were mild and comparable between groups.

CONCLUSIONS

Adjunctive topical ciprofloxacin combined with oral antibiotics may significantly accelerate symptom and fever resolution in children with non-perforated acute otitis media without increasing adverse events. These findings suggest a potential complementary role for topical therapy, deserving further randomized controlled trials.

KEYWORDS

Acute otitis media; topical antibiotics; ciprofloxacin; pain resolution; tympanic membrane.

OP-960

PEDIATRIC THYROID SURGERY: A 7-YEAR EXPERIENCE FROM A HIGH-VOLUME TERTIARY CENTER

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BACKGROUND & AIM

Pediatric thyroid disorders requiring surgery are uncommon but are associated with a higher risk of malignancy and postoperative complications than in adults. Evidence regarding surgical outcomes in children remains limited despite the availability of pediatric thyroid management guidelines. This study aimed to evaluate the spectrum of pediatric thyroid diseases, surgical procedures, histopathological outcomes, and postoperative complications in a high-volume tertiary referral center.

MATERIAL & METHODS

This hospital-based retrospective single-center study included pediatric patients (≤18 years) who underwent thyroid surgery between January 2018 and January 2025. Patients undergoing nodulectomy, lobectomy, or total thyroidectomy for symptomatic thyroid disease or suspicious thyroid nodules were included. Demographic, clinical, radiological, laboratory, operative, histopathological, and follow-up data were collected from electronic medical records. Statistical analysis was performed using SPSS version 26. Correlations were assessed using Spearman's rank test, with $p<0.05$ considered statistically significant.

RESULTS

A total of 60 patients were included. The median age was 14 years (interquartile range: 11–15), and 46 patients (76.7%) were female. The most common presenting complaint was anterior neck swelling (58.3%). Preoperatively, thyroid nodules were identified in 44 patients (73.3%). Histopathological examination revealed benign disease in 41 patients (68.3%) and papillary thyroid carcinoma in 19 patients (31.7%). Total thyroidectomy was the most frequently performed procedure (43.3%). Malignant cases had significantly longer operative times than benign cases (90 vs. 50 minutes, $p=0.002$). Fine-needle aspiration cytology was strongly associated with final histopathological diagnosis ($p<0.001$). A significant positive correlation was observed between operative duration and length of hospitalization ($r=0.528$, $p<0.001$). During a median follow-up of four years, no permanent recurrent laryngeal nerve injury, hypocalcemia, or hypoparathyroidism was recorded.

CONCLUSIONS

Pediatric thyroid surgery can be performed safely in specialized high-volume centers with excellent outcomes. The relatively high rate of papillary thyroid carcinoma highlights the importance of thorough evaluation and multidisciplinary management. Surgical expertise and coordinated care remain essential for optimizing outcomes in pediatric thyroid disease.

KEYWORDS

thyroid gland; children; surgical outcome; complication; total thyroidectomy.

OP-961

Ten-Year Experience In Pediatric Tracheostomy Cases: Analysis Of Factors Determining Complications And Mortality

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BACKGROUND & AIM

This study aims to evaluate the demographic characteristics, clinical variables, complication rates, and factors affecting mortality in pediatric patients who underwent tracheostomy, and to compare these findings with the literature.

MATERIAL & METHODS

In our center, 243 pediatric tracheostomy patients who underwent the procedure between 2014 and 2024 were retrospectively examined through the hospital system. Age, gender, presence of syndrome, indications, comorbidities, intubation duration, type of intervention (emergency/elective), birth period, complication development, and causes of mortality were analyzed. 30 patients were excluded from the study due to missing data. The data obtained from 213 patients were analyzed using the IBM SPSS 25.0 program.

RESULTS

54.5% of the patients were male, 45.5% were female, and the average age was 3.40±4.70 years. The most common indication was prolonged intubation (83.6%). Complications developed in 17.8% of the patients; the most common were granulation tissue (5.6%) and accidental decannulation (6.6%).In the multivariable logistic regression analysis, intubation duration (OR=1.009; 95% CI: 1.001–1.017; p=0.036) and being in the neonatal period (OR=2.435; 95% CI: 1.243–4.770; p=0.009) were identified as independent and statistically significant risk factors for mortality. In contrast, sex, comorbidity, age, weight, type of intervention, and the presence of syndrome did not have a significant effect on mortality (p>0.05).None of the variables evaluated in terms of complication development showed an independent and statistically significant effect (p>0.05).

CONCLUSIONS

As in the literature, in our study as well, emergency tracheotomies performed due to acute upper respiratory tract infections have increasingly been replaced by elective tracheostomies performed due to prolonged intubation, congenital pathologies, neuromuscular, and cardiopulmonary diseases. Pediatric tracheotomy, while a safe procedure in experienced centers, carries an increased risk of mortality, particularly in neonates and cases with prolonged intubation duration. Identifying early risk factors can contribute to optimizing patient management and improving clinical outcomes.

KEYWORDS

Pediatric tracheotomy, mortality, complications,duration of intubation, neonatal period

OP-962

Auditory Electrophysiological Assessment Of Hearing Function In Infants And Children With Esophageal Atresia: A Cross-Sectional Study

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BACKGROUND & AIM

Esophageal atresia (EA) is a congenital malformation occurring in approximately 1 in 4,000 births, with an unknown etiology. Some studies have reported an association between EA, cleft palate, and conductive hearing loss. This study investigates the potential involvement of the middle ear and auditory dysfunction in infants and children with EA (ages 0 - 15 years) using audiological assessments, particularly distortion product otoacoustic emissions (DPOAE) and auditory brainstem response (ABR) tests.

MATERIAL & METHODS

This study aims to assess the prevalence and characteristics of auditory dysfunction in infants and children with EA (ages 0 - 15 years) through electrophysiological tests (ABR and DPOAE), identifying potential correlations between EA and hearing impairments.

RESULTS

The results indicated a significant difference in the ABR test between the test group (n = 150) and the control group (n = 150), with a higher prevalence of conductive hearing loss in the test group (62 out of 150 cases; 41.3%, P ≤ 0.01, independent t-test). Additionally, 40% (60 out of 150) of children with EA had cleft palate lesions, which were strongly associated with conductive hearing loss (chi-square test, P < 0.05). Tympanometry results showed that 41 cases (27.3%) had type B curves, and 21 cases (14%) had type C curves, indicating middle ear dysfunction. Acoustic reflex testing revealed that all 41 cases with type B tympanograms had absent reflexes, while in the 21 cases with type C tympanograms, reflexes were either absent or elevated depending on the severity of negative middle ear pressure.

CONCLUSIONS

The study findings indicate a significant prevalence of conductive hearing loss in children with EA, particularly among those with cleft palate. Middle ear dysfunction, as evidenced by abnormal tympanometry and absent acoustic reflexes, suggests that structural and physiological factors associated with EA contribute to auditory impairment. These results highlight the need for routine audiological screening in children with EA to facilitate early intervention and improve long-term auditory outcomes.

KEYWORDS

Esophageal atresia, Auditory brain stem response, Infant, Conductive hearing loss

OP-963

PAIN SCORES IN CHILDREN UNDERGOING TONSILLECTOMY WITH COLD DISSECTION VERSUS LOW TEMPERATURE PLASMA ABLATION: IS THERE A DIFFERENCE?

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BACKGROUND & AIM

Tonsillectomy remains one of the most frequently performed pediatric surgical procedures worldwide. Postoperative pain continues to represent its most relevant morbidity, influencing oral intake, hydration, sleep quality, and caregiver anxiety. Although low-temperature plasma ablation (coblation) theoretically reduces thermal tissue injury compared with traditional techniques, evidence comparing extracapsular coblation and cold dissection remains inconsistent. Most studies report small early differences with unclear clinical relevance. This prospective study aimed to determine whether low-temperature plasma extracapsular tonsillectomy reduces postoperative pain burden compared with cold dissection with pillar suturing in children undergoing surgery for sleep-disordered breathing.

MATERIAL & METHODS

A prospective comparative study was conducted between January and June 2024 at a tertiary pediatric center. Consecutive children aged 5–12 years undergoing outpatient extracapsular tonsillectomy for sleep-disordered breathing were included. Patients were allocated according to surgical scheduling to cold dissection with pillar suturing (COLD group) or low-temperature plasma extracapsular tonsillectomy (PLMA group). Exclusion criteria comprised relevant comorbidities, age outside limits, and inability of caregivers to complete Portuguese-language materials.

Postoperative pain was assessed using the Wong–Baker FACES scale on postoperative days 0, 1, 3, and 7. Cumulative pain burden was calculated using area under the curve (AUC D0–D7). Analgesic consumption and complications were recorded. Statistical analysis was performed using SPSS v27. Continuous variables were compared using t-test or Mann–Whitney U test, and categorical variables with chi-square or Fisher's exact test. Significance was set at $p<0.05$.

RESULTS

Sixty-five children were included (COLD n=38; PLMA n=27). Groups were comparable regarding age and sex. Operative time was significantly longer in the COLD group (median 40.5 vs 27.0 minutes, $p<0.001$). A higher proportion of children in the COLD group exhibited intraoperative heart rate above the 90th percentile ($p=0.044$).

Immediate postoperative pain scores were significantly lower in the PLMA group ($p<0.001$), and fewer children required recovery-room analgesia (33.3% vs 71.1%, $p=0.005$). However, total postoperative analgesic intake did not differ significantly between groups ($p=0.193$).

Cumulative pain burden (AUC D0–D7) was significantly higher in the PLMA group (17.52±7.60 vs 14.41±4.48, $p=0.042$; moderate effect size). Time to analgesic cessation showed no statistically significant difference. Two postoperative events occurred in the PLMA group; none were observed in the COLD group.

CONCLUSIONS

Low-temperature plasma extracapsular tonsillectomy was associated with reduced immediate postoperative pain and lower need for recovery-room analgesia. However, these early benefits did not translate into reduced total analgesic use or shorter recovery duration. When cumulative pain burden was analyzed, the plasma group demonstrated higher overall pain load during the first postoperative week.

These findings suggest that early postoperative differences may not reflect overall recovery trajectory. Surgical energy modality alone may not determine total postoperative pain burden, highlighting the importance of standardized perioperative analgesic strategies. Larger multicenter randomized studies are warranted to clarify clinical relevance.

KEYWORDS

Pediatric tonsillectomy Coblation Cold dissection Postoperative pain Extracapsular tonsillectomy Pain trajectory Analgesic consumption Sleep-disordered breathing Plasma ablation Pediatrics

OP-964

Phenotypic And Strategic Determinants Of Treatment Outcomes In Pediatric Head And Neck Lymphatic Malformations: A Single-Center Retrospective Analysis

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BACKGROUND & AIM

Pediatric head and neck lymphatic malformations (LMs) represent a heterogeneous group of congenital vascular anomalies characterized by variable anatomical extent, cystic architecture, and recurrence behavior. Although mortality is rare, morbidity related to airway compromise, infection, and repeated interventions remains substantial. Current management strategies—including surgical resection, image-guided intervention, and medical therapy—are widely used, yet comparative evidence integrating time-dependent failure dynamics and imaging response patterns remains limited.

MATERIAL & METHODS

We conducted a retrospective cohort study including 210 pediatric patients treated between 2016 and 2025. Primary treatment modalities included surgical resection, image-guided intervention, and medical therapy. The primary endpoint was treatment failure, defined as recurrence or imaging-defined non-response. Secondary endpoints included complete response (CR) and objective response rate (ORR = CR+PR). Multivariable Cox regression adjusted for age and number of involved regions was performed. Sensitivity analyses included recurrence-only restriction and follow-up ≥6 months limitation.

RESULTS

The overall failure rate was 15.2% (32/210). Failure rates were 16.4% for surgery, 7.5% for intervention, and 41.2% for medical therapy. Intervention was associated with reduced hazard of failure compared with surgery (HR 0.29, 95% CI 0.11–0.76, P=0.011), with consistent findings in recurrence-only and follow-up-restricted analyses.

CR rates differed significantly across treatment modalities (P < 0.001), with higher CR observed in the surgery group (73.2%) compared with intervention (11.7%) and medical therapy (14.7%). However, ORR was highest in the intervention group (92.5%), compared with 83.9% in the surgery group and 58.8% in the medical group. Subgroup analysis demonstrated distinct response patterns by cystic subtype, while results in microcystic lesions should be interpreted cautiously due to limited sample size. Findings remained consistent in the ≥6-month sensitivity cohort.

CONCLUSIONS

Treatment modality was associated with differential failure dynamics and imaging response patterns in pediatric head and neck LMs. Although surgery achieved higher CR rates, image-guided intervention demonstrated consistently lower observed failure hazard and higher overall response rates across analytic frameworks, supporting risk-informed and lesion-contextualized therapeutic selection.

KEYWORDS

Pediatric Otorhinolaryngology； Head and Neck Lymphatic Malformation； Treatment Outcomes

OP-965

A Single-Center,Single-Arm Studyon Luvometinib (FCN-159) For Treating Pediatric Plexiform Neurofibromas In NF1: Interim Report.

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BACKGROUND & AIM

To evaluate the efficacy and safety of the MEK inhibitor Luvometinib(FCN-159) in plexiform neurofibromas associated with type I neurofibromatosis in children.

MATERIAL & METHODS

This study is a single-center, single-arm, prospective trial designed to enroll 20 subjects. Participants will receive oral treatment with 5 mg/m² of Luvometinib(FCN-159) daily based on body surface area. The primary endpoint is tumor volume reduction assessed via MRI and tumor marker evaluation every 4 months. Additional endpoints include pain scores, motor function scores, and adverse events. The study has completed registration with the China Clinical Trial Registry (Registration Number: ChiCTR2500109679).

RESULTS

All 20subjects enrolled in this study from October2023 provided valid data. The mean age at enrollment was 108.95 months (30-191 months), with a mean tumor volume of 66.85 cm3 (7.1-257.7 cm3) at follow-up, and a median follow-up time of 18 months (12-24 months). After MRI,75% (15/20) of patients showed tumor shrinkage or trends toward shrinkage, with a median best response of36.6% (1%-60.8%). 40% (8/20) experienced a reduction of up to 20%(36.6%-60.8%), while35% (7 patients) showed trends without reaching 20% shrinkage (1%-15.9%). One patient (5%)discontinued treatment due to disease progression, and 3 (15%) voluntarily switched treatments. Common adverse events included decreased albumin (11 patients), elevated creatine kinase (9 patients), gastrointestinal symptoms (9 patients), rash (5 patients), and oral ulcers (5 patients). Two grade 3 events (new tumors, scarlet fever) were deemed unrelated to the experimental drugs.

CONCLUSIONS

In this study, 75% of pediatric NF1-PNs showed a trend toward tumor shrinkage or reduction in response to Luvometinib (FCN-159) within the first 18 months of treatment, but adverse effects were also more common, and subsequent, larger studies are still needed to assess the effectiveness and long-term adverse effects of Luvometinib (FCN-159).

KEYWORDS

Type I Neurofibromatosis; Plexiform Neurofibromas; Clinical Trials; Prospective; Efficacy and Safety

OP-966

Effect Of Inferior Turbinate Radiofrequency Added To Adenoidectomy On Early Postoperative Tolerability In Children

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BACKGROUND & AIM

Adenoid hypertrophy is a major cause of upper airway obstruction in children. Although adenoidectomy is generally effective, persistent nasal obstruction may occur due to inferior turbinate hypertrophy. Radiofrequency (RF) turbinate reduction is increasingly used as a minimally invasive adjunct; however, its impact on early postoperative tolerability remains unclear. We hypothesized that adding inferior turbinate RF to adenoidectomy does not worsen early postoperative tolerability in pediatric patients

MATERIAL & METHODS

This retrospective comparative cohort study included 86 pediatric patients aged 3–15 years who underwent surgery for adenoid hypertrophy between July 2017 and November 2025 at a tertiary care center. Patients were divided into two groups: adenoidectomy alone (n=45) and adenoidectomy combined with inferior turbinate radiofrequency (RF) (n=41). All procedures were performed under general anesthesia using a conventional curettage technique. Postoperative tolerability outcomes included pain scores, additional analgesic requirements, early complications (bleeding, infection, nasal crusting), and recovery parameters (time to oral intake and return to daily activities). Statistical analyses were performed to compare groups, with $p<0.05$ considered significant.

RESULTS

There were no significant differences between groups in terms of demographic characteristics. The addition of RF did not result in a statistically significant increase in postoperative pain scores or additional analgesic requirements ($p>0.05$). Early complication rates were low in both groups. In the RF group, minor complications occurred in 5 patients (12.2%), including self-limited minimal nasal bleeding (n=2) and transient nasal crusting (n=3), whereas no complications were observed in the adenoidectomy-alone group ($p>0.05$). Recovery parameters, including time to oral intake and return to daily activities, were similar between groups ($p>0.05$).

CONCLUSIONS

Inferior turbinate radiofrequency added to adenoidectomy is a safe and well-tolerated procedure in children. It does not adversely affect early postoperative recovery. These findings support its use in selected pediatric patients with concomitant inferior turbinate hypertrophy.

KEYWORDS

Adenoidectomy, inferior turbinate hypertrophy, radiofrequency, pediatric nasal obstruction, postoperative tolerability

OP-967

Indications And Outcomes Of Pediatric Tracheotomy: A Single-Center Retrospective Study

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BACKGROUND & AIM

Pediatric tracheotomy has long been utilized for acute infectious airway obstruction; however, vaccination has significantly reduced the need for such emergency procedures. Despite advances in vaccination and critical care, its incidence remains notable in tertiary institutions, driven by advances in critical care and improved survival of children with chronic respiratory insufficiency and complex comorbid conditions. Tracheotomy in pediatric patients presents greater technical challenges and is associated with higher morbidity and mortality than in adults. This study aims to evaluate the indications, clinical characteristics, and outcomes of pediatric patients who underwent tracheostomy in our institution.

MATERIAL & METHODS

We conducted a retrospective analysis of 86 pediatric patients who underwent planned tracheotomy at our Department of Otorhinolaryngology between 2021 and 2026. Patients were classified into five categories based on the indication for

tracheotomy: cardiopulmonary disease, neurological impairment, traumatic injury, craniofacial anomalies and airway obstruction. Data on age, weight, gender, comorbidities, presence and type of syndromic conditions, duration of intubation, decannulation outcomes, time to decannulation, mortality rates, causes of death (tracheotomy-related or unrelated), alength of hospital stay before and after tracheotomy, and duration of intensive care unit stay before and after tracheotomy were collected and analyzed. Data were collected through telephone interviews and systematic review of the Hospital Information System.

RESULTS

A total of 86 pediatric patients who underwent tracheotomy were included in the study; 55.8% (n=48) of the patients were female and 44.2% (n=38) were male. The median age at the time of tracheotomy was 16.0 months (IQR: 42.2), and the mean duration of intubation was 47.4±34.9 days. The most common comorbidity was cardiopulmonary disease (45.3%, n=39), followed by neurological impairment (39.5%, n=34). Age at tracheotomy significantly differed according to the comorbidity groups (Kruskal-Wallis H=23.169; p=0.0001) ; patients with traumatic injury underwent tracheotomy at a significantly older age compared to the neurological and cardiopulmonary groups. In the airway obstruction group, the duration of intubation was significantly shorter than in all other groups (p<0.01). The overall mortality rate was 54.7% (n=47) ; all deaths were associated with the underlying disease, and no tracheotomy-related mortality was observed. Decannulation was achieved in only one (2.6%) of the 39 surviving patients.

CONCLUSIONS

In our cohort, cardiopulmonary disease was the leading comorbidity (45.3%), followed by neurological impairment (39.5%), consistent with the findings of Gergin et al. and Funamura et al. The older age at tracheotomy in the trauma group reflects the tendency for traumatic injuries to occur later in childhood, as also reported by Lin et al. and Gergin et al. In the airway obstruction group, shorter intubation times reflect the acute and reversible nature of this condition. The low decannulation rate (2.6%) is attributable to the irreversible nature of the underlying conditions, consistent with the findings of Chia et al.

KEYWORDS

Pediatric tracheotomy, Tracheotomy indications, Decannulation,Intensive care unit, Tracheotomy outcomes, Hospital length of stay

OP-968

Reflection Of Pediatric Otolaryngology In ENT Residency Theses In Turkey

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BACKGROUND & AIM

To determine the extent to which topics related to Pediatric Otolaryngologyhave been represented in ENT residency theses conducted in Turkey.

MATERIAL & METHODS

Topics classified under Pediatric Otolaryngology in both the Turkish and European core curricula for Otolaryngology were reviewed, and relevant keywords were identified. A total of 1,230 ENT residency theses registered in the national thesis database which are between 1970- 2026 years were screened using 58 predefined keywords. The data obtained were categorized by year and subject matter. Annual trends in thesis numbers were illustrated graphically. Additionally, the most frequently studied topics were identified based on keyword frequency. The number of Pediatric Otolaryngology–related theses was compared with the total number of ENT residency theses.

RESULTS

A total of 229 ENT residency theses addressed topics related to Pediatric Otolaryngology, representing 18.61% of all ENT residency theses.

The distribution of theses identified through keyword screening is presented below (keywords yielding no results were excluded), listed in descending order:

Otitis: 86 (37.55%)

Adenoidectomy, tonsillectomy, adenotonsillectomy: 60 (26.20%)

Cochlear implant: 24 (10.48%)

Myringotomy, ventilation tube, tympanostomy tube:** 23 (10.04%)

Airway: 15 (6.55%) (foreign body, tracheotomy, tracheal stenosis, OSAS)

Hearing loss: 9 (3.93%)

Nasal conditions: 5 (2.18%) (endoscopic surgery, choanal atresia, cleft palate, nasopharyngeal angiofibroma)

Newborn hearing screening: 3 (1.31%)

Vestibular disorders: 3 (1.31%)

Ear: tympanoplasty 1 (0.43%)

CONCLUSIONS

An evaluation of ENT residency theses between 1970 and 2026 demonstrated that Pediatric Otolaryngology topics accounted for 18.61% of all ENT medical specialty theses in Turkey. The number of theses in this field has shown an increasing trend over the years. The distribution of subjects largely reflects the most common pediatric patient groups encountered in routine ENT practice. Pediatric ear diseases were the most frequently studied topics. The growing number of residency theses focusing on Pediatric Otolaryngology indicates a steadily increasing academic interest in this subspecialty over time

KEYWORDS

pediatric otolaryngology, bibliometric analysis, medical specialization theses

OP-969

Effect Of Nasal Irrigation On Microplastic Clearance In Children With Adenoid Hypertrophy, With Or Without Otitis Media With Effusion

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BACKGROUND & AIM

This study aimed to evaluate the presence of microplastics (MPs) and to assess the effect of nasal irrigation in children with adenoid hypertrophy (AH), with or without otitis media with effusion (OME).

MATERIAL & METHODS

Group 1 comprised children with AH, Group 2 included children with AH and OME, and Group 3 consisted of healthy controls. Nasal lavage samples were collected at baseline and after 1 month of twice-daily saline nasal irrigation. MP density (pieces/ml) and total MP count were quantified.

RESULTS

Microplastics were detected in nearly all participants. Baseline MP density did not differ significantly among groups. After 1 month of nasal irrigation, a significant reduction in MP density and total MP count was observed only in the control group ($p<0.001$ and $p=0.003$, respectively), whereas no significant changes were detected in the AH groups. Intergroup comparison of reduction values demonstrated a significantly greater decrease in the control group. Adenoid size was negatively correlated with the magnitude of MP reduction, indicating that greater adenoid obstruction was associated with reduced microplastic clearance. Multivariate analysis identified adenoid hypertrophy as an independent predictor of reduced microplastic clearance, whereas age was not significant. ROC analysis demonstrated that an adenoid size >65% was associated with reduced clearance, with moderate discriminatory ability (AUC=0.662).

CONCLUSIONS

Microplastics are present even in healthy children. Hypertrophic adenoid tissue may function as a reservoir for microplastics, independently limiting the effectiveness of nasal irrigation.

KEYWORDS

Microplastics, Adenoid Hypertrophy, Nasal Irrigation, Microplastic Clearance, Otitis Media with Effusion

OP-970

Infantile External Auditory Canal Hemangioma In A 12 Month Old Male: Case Report With Literature Review

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BACKGROUND & AIM

Infantile hemangiomas of the external auditory canal (EAC) are exceptionally rare vascular lesions with limited documentation in pediatric otolaryngology literature. These lesions can cause significant conductive hearing impairment and complete canal obstruction in young children. This case report aims to describe the clinical presentation, diagnostic evaluation, surgical management, and outcomes of a rare infantile EAC hemangioma in a 12-month-old patient, contributing valuable insights into the management of this uncommon condition in which this is the 2nd case worldwide to be published.

MATERIAL & METHODS

A 12-month-old male presented with progressive left-sided EAC occlusion and hearing loss. Clinical examination revealed a soft, compressible, skin-covered mass completely filling the left EAC, obstructing visualization of the tympanic membrane. Diagnostic workup included contrast-enhanced magnetic resonance imaging (MRI) demonstrating a well-defined oval vascular lesion measuring 9.2 millimeters anteroposterior by 17 millimeters transverse by 10 millimeters craniocaudal, showing hyperintensity on T2-weighted sequences and homogeneous post-contrast enhancement. Auditory brainstem response (ABR) testing confirmed moderate left-sided conductive hearing loss across 2 to 4 kilohertz frequency range. Complete transcanal

excision was performed under general anesthesia with bipolar cauterization for hemostasis. The mass was dissected from the tragus to the bony-cartilaginous junction and removed with overlying skin. Canal reconstruction was achieved using an inferiorly-based rotated preauricular flap sutured to the anterior canal wall, with partial tragal excision to facilitate flap rotation and prevent postoperative stenosis

RESULTS

Histopathological examination confirmed lobular capillary hemangioma, demonstrating characteristic lobular arrangement of capillary-sized vessels with plump endothelium and organizing stroma, without cellular atypia or malignant features. The immediate postoperative course was uncomplicated with confirmed flap viability and restored canal patency. Follow-up monitoring for wound healing, canal stenosis, and audiological recovery is ongoing, with expected hearing improvement following removal of the canal-obstructing lesion.

CONCLUSIONS

Infantile EAC hemangioma, though extremely rare, requires comprehensive preoperative evaluation with MRI and ABR for accurate diagnosis and surgical planning. Complete transcanal excision combined with preauricular flap reconstruction offers definitive treatment with favorable outcomes and low recurrence rates. This case emphasizes the importance of tailored reconstructive techniques in restoring canal anatomy and preventing stenosis in pediatric patients with EAC vascular lesions

KEYWORDS

Hemangioma, External auditory canal, Surgical Excision

OP-971

Tracheocutaneous Fistula In Pediatric Patients: A Decade Of Experience From An Italian Center

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BACKGROUND & AIM

Tracheostomy decannulation has the potential to be complicated by tracheocutaneous fistula (TCF). Persistent fistulas have been reported to occur in between 6.2% and 52.2% of paediatric patients following tracheostomy decannulation. While some TCF sites close spontaneously, persistent fistulas often result in surgical closure. The primary objectives of this study were to compare outcomes between patients who had a spontaneous closure versus a primary closure versus closure by secondary closure after excision of a TCF to determine the frequency and risk factors.

MATERIAL & METHODS

Patients ages 0-18 years who had primary or secondary closure of a TCF at a tertiary

care children's hospital following decannulation of a tracheostomy tube were reviewed and those with a tracheostomy placement ≥1 year old were included. Demographic information, comorbidities, and surgical information were extracted from inpatient and outpatient charts. Mann-Whitney U test, Fisher's Exact test, and logistic regression to compare outcomes across the three TCF groups.

RESULTS

One hundred forty-five patients ranging from 98 days to 19 years of age underwent tracheostomy decannulation. 58 (40%) patients underwent surgical closure of TCF, with primary closure in 9 patients (6.2%) and secondary closure in 49 (33.8%) patients. Compared to those with spontaneous closure by multivariable analysis, those with surgical closure were younger at tracheostomy placement, had a tracheostomy for a longer duration and were diagnosed with other comorbidities of the upper and lower airways.

CONCLUSIONS

Approximately 60% of pediatric tracheostomy stoma sites will close spontaneously. Development of a persistent TCF was associated with younger age at placement, longer duration of tracheostomy, and the

presence of tracheobronchomalacia. These observations may help clinicians following tracheostomy decannulation in children.

KEYWORDS

Tracheocutaneous Fistula, pediatric tracheostomy

OP-972

Aspiration Risk After Pediatric Open Airway Surgery: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Open pediatric airway reconstruction procedures, such as laryngotracheal reconstruction, cricotracheal resection, and slide tracheoplasty, restore airway patency in children with severe stenosis but may result in swallowing dysfunction and aspiration.

While decannulation outcomes are well documented, aspiration has been inconsistently reported, leaving uncertainty about its true prevalence, risk factors, and management. This study aimed to systematically review and quantify the prevalence of postoperative aspiration in children undergoing open airway reconstruction, and to synthesize available evidence on its diagnosis, management, and resolution.

MATERIAL & METHODS

We performed a systematic review and meta-analysis in accordance with PRISMA guidelines. PubMed, Embase, Scopus, and Cochrane Library were searched through August 2025 for studies reporting aspiration or swallowing outcomes after pediatric airway reconstruction. Eligible studies included children (0–18 years) undergoing open airway surgery with documented postoperative aspiration, assessed by clinical or instrumental methods. Data extraction covered patient demographics, surgical procedures, diagnostic tools, prevalence of aspiration, interventions, and outcomes. Study quality was appraised using the Newcastle–Ottawa Scale. Pooled prevalence was calculated using random-effects models.

RESULTS

Twenty-two studies (874 children) were included. Aspiration rates ranged from 0% to 50%, with higher rates in smaller cohorts and complex reconstructions. The pooled prevalence of postoperative aspiration was 15.8% (95% CI: 10.7–20.9%). Diagnostic methods varied widely, with nearly half of studies not specifying an assessment approach. Reported management was mainly conservative such as: diet modifications, thickened feeds, swallowing therapy, or temporary tube feeding, and most cases resolved within six weeks. Series that documented outcomes generally reported full recovery.

CONCLUSIONS

Aspiration is a clinically significant yet often temporary complication following pediatric airway reconstruction, affecting roughly one in six patients. Routine postoperative swallow assessment and early multidisciplinary management are recommended to mitigate morbidity. Standardized diagnostic protocols and prospective studies are needed to improve care pathways and clarify long-term outcomes.

KEYWORDS

Pediatric airway reconstruction, Laryngotracheal reconstruction, Cricotracheal resection, Aspiration, Dysphagia, Swallowing dysfunction

OP-973

Influence Of Tumor Size On Survival Rates In Pediatric And Adolescent Patients With Malignant Peripheral Nerve Sheath Tumors: A Study Utilising The SEER Database

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BACKGROUND & AIM

Malignant peripheral nerve sheath tumors (MPNSTs) are rare and highly aggressive soft-tissue sarcomas, with limited literature available on pediatric and adolescent populations. This study assessed the impact of tumor size on overall survival (OS) and disease-specific survival (DSS) in individuals aged 18 years and younger.

MATERIAL & METHODS

Individuals with MPNSTs were identified from the SEER database. Cox regression analysis were employed to identify characteristics correlated with overall survival (OS) and disease-specific survival (DSS). Receiver operating characteristic (ROC) analysis determined the appropriate tumor size threshold, whereas survival outcomes were evaluated by Kaplan–Meier analysis.

RESULTS

ROC analysis determined 5.75 cm as the best tumor size threshold for overall survival prediction (AUC = 0.718). Tumor size served as an independent prognostic indicator for both overall survival (OS) (HR = 1.008, P < 0.001) and disease-specific survival (DSS) (HR = 1.008, P = 0.007), whereas treatment modality was independently linked to enhanced OS (HR = 0.504, P = 0.035). Tumors measuring ≥5.75 cm were correlated with elevated tumor grade, greater frequency of metastasis, and higher fatality rates (all P < 0.001). Patients with smaller tumors exhibited markedly improved overall survival. Consistent results were noted in patients aged 14 years or younger, with an optimum threshold of 5.70 cm.

CONCLUSIONS

The size of a tumor is a robust and independent prognostic indicator of survival in pediatric and adolescent MPNSTs. Increased tumor size correlates with significantly poorer prognoses, highlighting the necessity of prompt identification and treatment.

KEYWORDS

Malignant Peripheral Nerve Sheath Tumor; SEER; Tumor Size; Children and Adolescents; Prognosis; Survival Analysis.

OP-974

Feasibility Of An Accessible Rib Carving Simulator For Microtia Reconstruction As A Global Surgical Training Tool

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BACKGROUND & AIM

Rib cartilage framework creation for microtia reconstruction is a challenging technique, with limited opportunities to practice due to rarity of the condition and scarcity of realistic simulations. We hypothesize that our accessible simulation model will demonstrate face and content validity across international training cohorts.

MATERIAL & METHODS

Participants were trainees from the University of Washington Otolaryngology Head and Neck Surgery (UW-OHNS) and Plastic Surgery (UW-PS), and Smile Cambodia Plastic Surgery (SC-PS). Sessions were run by expert microtia surgeons using our published synthetic rib model, ensuring content validity. Participants completed Likert scales to self-report pre- and post-simulation confidence and skill, and simulation quality assessments.

RESULTS

Participants (n=60; UW-OTO 35%, UW-PS 28%, SC-PS 37%,) were resident physicians (61.7% post-graduate year (PGY) 1–3). Most (61.7%) reported no prior exposure to rib carving. All cohorts had similar prior exposure and PGY levels. SC-PS reported significantly higher pre-simulation confidence and skill than both UW cohorts ($p<.01$). Post-simulation, both UW cohorts reported significant improvement in confidence and skill (all $p<.001$). SC-PS showed statistically significant score increases, though no shift in median score, for either outcome (Δ median=0, $p<.01$). SC-PS reported significantly less confidence and skill gain than UW-OHNS ($p<.05$). Across the three cohorts, median realism was 4.00 (IQR 3.00–5.00) and ease-of-use was 5.00 (IQR 4.00–5.00) on a scale from 1 (not at all) to 5 (excellent). SC-PS median satisfaction with this simulation as a global tool was 4.00 (IQR 3.00–4.75). On regression analysis, cohort did not independently predict post-simulation score; and PGY significantly predicted post-simulation skill ($\beta=0.170$, $p=.011$).

CONCLUSIONS

This accessible rib carving simulator improved self-reported confidence and skill among American and Cambodian trainees, with favorable realism and ease-of-use ratings. The Cambodian cohort reported higher pre- and lower post-simulation metrics, despite similar training and exposure levels to American cohorts. This suggests cultural differences in self-assessment. Higher training level independently predicted post-simulation skill rating, but cohort did not, supporting the face validity of our construct. Future work could establish predictive validity through objective performance metrics and longitudinal follow-up.

KEYWORDS

Microtia, Simulation, Facial Plastic Surgery, Global Surgery

OP-975

The Effect Of Adenotonsillectomy On Enuresis: A Multidisciplinary Prospective Study

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BACKGROUND & AIM

In this study, we evaluated the effect of adenotonsillectomy (AT) on primary monosymptomatic enuresis (PME) in children with both upper respiratory tract obstruction and persistent PME.

MATERIAL & METHODS

We received approval from the tertiary hospital's ethics committee for our prospective, multidisciplinary descriptive study (Date: 11.10.2023, Decision number: 2023/514/259/6). Patients who underwent adenotonsillectomy or adenoidectomy between 2023 and 2025 were evaluated in our prospective study. Children aged 5 to 18 years with PME were monitored both pre-operatively and post-operatively.

Enuresis associated with sleep disordered breathing (SDB) due to adenotonsillar hypertrophy was the primary inclusion criterion for the study. This study utilised the International Children's Continence Society (ICCS) update and the EAU-ESPU pediatric urology guidelines to help accurately select patients with PME.

Weekly counts of wet nights were recorded for all patients both before and three months after their operations. The modified Epworth Sleepiness Scale (mESS), defined as a measure of sleepiness in children, was also recorded both preoperatively and postoperatively.

RESULTS

Our study involved 140 patients with PME who exhibited obstructive sleep symptoms due to adenoid and/or tonsillar hypertrophy. In our evaluation of enuresis resolution, measured by wet nights/week, 74 patients (52.8%) showed complete

resolution, 42 (30%) partial improvement (more than 50% reduction in wet nights/weeks), and 24 (17.2%) no response. We divided the patients into two distinct groups: ages 5-6 (group 1) and ages 7 and older (group 2). In group 1, the mEES were 4.11 ± 2.38 (0–12) preoperatively and 1.74 ± 1.51 (0–6) postoperatively. In group 2, the mESS were 4.12 ± 2.58 (0–15) preoperatively and 1.94 ± 1.80 (0–8) postoperatively.

CONCLUSIONS

PME typically resolves spontaneously in about 15% of children each year. In our study, 52% of PME patients achieved complete resolution, while 30% showed a partial improvement. Despite conflicting results in the literature, our prospective study indicates that enuresis should be considered in cases of adenotonsillar hypertrophy.

KEYWORDS

enuresis, adenotonsillectomy, adenotonsillar hypertrophy, sleep

OP-976

Diagnostic Accuracy Of AI-Assisted Lateral Neck Radiographs In Adenoidectomy Decision-Making

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BACKGROUND & AIM

Endoscopic examination is the reference standard for assessing adenoid hypertrophy and determining adenoidectomy indication, although lateral skull radiographs remain widely used in clinical practice. With the increasing integration of artificial intelligence (AI) into clinical workflows, the reliability of large language model (LLM)-assisted radiographic interpretation requires validation. This study evaluated the agreement and diagnostic performance of two LLMs (ChatGPT and Gemini) in estimating adenoid vegetation ratio from lateral radiographs compared with endoscopic findings. We hypothesized that AI-derived measurements would demonstrate significant agreement and acceptable discrimination for severe obstruction.

MATERIAL & METHODS

This retrospective diagnostic accuracy study included 159 pediatric patients evaluated for adenoid hypertrophy. Endoscopic vegetation ratio (%) served as the reference standard. AI-estimated vegetation ratios from lateral skull radiographs were obtained using ChatGPT and Gemini. Normality was assessed with the Shapiro–Wilk test. Normally distributed variables were expressed as mean ± standard deviation and non-normally distributed variables as median (interquartile range). Agreement with endoscopic measurements was analyzed using Spearman correlation and Wilcoxon signed-rank tests. Diagnostic performance for severe obstruction was evaluated using receiver operating characteristic (ROC) curve analysis with area under the curve (AUC), adopting ≥80% endoscopic obstruction as the predefined surgical threshold. Statistical significance was set at $p < 0.05$.

RESULTS

The mean age was 7.66 ± 2.29 years. Median endoscopic vegetation ratio was 80%, compared with 60% for ChatGPT, while the mean Gemini value was 70.32 ± 13.33%. No significant association was found between ChatGPT and endoscopy ($\rho = 0.008$, $p = 0.916$). Gemini demonstrated a weak but significant correlation ($\rho = 0.217$, $p = 0.006$). Paired comparisons showed significant differences between endoscopic measurements and both AI models (both $p < 0.001$), indicating systematic underestimation. For ≥80% obstruction, diagnostic discrimination was limited (AUC ≈ 0.50 for ChatGPT; AUC ≈ 0.57 for Gemini), both below acceptable performance levels (AUC ≥ 0.70).

CONCLUSIONS

LLM-assisted interpretation of lateral radiographs showed weak agreement with endoscopic findings and insufficient accuracy for identifying surgically significant adenoid hypertrophy. Although Gemini performed relatively better, neither model achieved clinically acceptable diagnostic performance.

KEYWORDS

Adenoid hypertrophy; Artificial intelligence; Large language models; Diagnostic accuracy; Endoscopy; Pediatric otolaryngology

OP-977

Impact Of Parental Anxiety On Reported Severity And Objective Clinical Outcomes In Pediatric Epistaxis

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BACKGROUND & AIM

Pediatric epistaxis is a common emergency that often causes disproportionate parental distress. This study aimed to evaluate whether parental anxiety levels are associated with the reported severity and clinical management of pediatric epistaxis.

MATERIAL & METHODS

This prospective study included 100 pediatric patients presenting with epistaxis and their accompanying parents. Parental anxiety was assessed using the State-Trait Anxiety Inventory (STAI). Based on STAI-State scores, parents were categorized into

mild (n=15), moderate (n=43), and severe (n=42) anxiety groups. Epistaxis frequency, bleeding duration, recurrent emergency department (ED) visits, comorbidities, and treatment modality (observation, nasal packing, or packing with cauterization) were recorded. Group comparisons (Chi-Square Test, Kruskal-Wallis Test, Mann-Whitney Test Post-hoc) and correlation analyses (Pearson Correlation) were performed.

RESULTS

Epistaxis frequency increased significantly with higher parental anxiety levels ($p = 0.0001$). The severe anxiety group reported markedly longer bleeding duration compared to the moderate and mild groups ($p = 0.0001$ for both). STAI-State and STAI-Trait scores demonstrated significant positive correlations with both frequency ($r=0.60$ and $r=0.54$, respectively; $p = 0.0001$) and duration ($r=0.33$, $p = 0.001$ and $r=0.25$, $p= 0.01$ respectively). Despite these findings, no significant associations were observed between parental anxiety and recurrent ED visits ($p = 0.73$), treatment modality ($p = 0.21$), or comorbidities ($p = 0.39$).

CONCLUSIONS

Higher parental anxiety is strongly associated with increased reported frequency and duration of pediatric epistaxis but does not correlate with objective clinical severity or intervention need. These findings suggest that parental anxiety may substantially influence symptom perception and healthcare-seeking behavior. Incorporating structured reassurance and anxiety management strategies into clinical care may improve both patient experience and resource utilization.

KEYWORDS

Epistaxis; Parental Anxiety; Pediatric Emergency Department; Symptom Perception; State-Trait Anxiety Inventory

OP-978

Evaluation Of Large Language Model Performance In Responding To Parental Concerns About Pediatric Adenoid Hypertrophy: A Multidimensional Comparative Study

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BACKGROUND & AIM

Large language models (LLMs) are increasingly used by parents seeking medical information, yet their reliability in pediatric otolaryngology remains unvalidated. This study aimed to evaluate the performance of four LLMs (GPT-4o, Gemini 2.0 Pro, Claude Sonnet 4.6, Perplexity Sonar Pro) in responding to real-world parental concerns about pediatric adenoid hypertrophy, using multidimensional quality metrics including DISCERN, PEMAT-P, and triage safety assessment.

MATERIAL & METHODS

Outpatient records of 791 pediatric patients (aged 2–18) who underwent adenoidectomy between January 2025 and January 2026 were retrospectively reviewed. Parental concerns were extracted via thematic coding, yielding 18 themes; the 10 most frequent were converted into standardized questions. These were directed to four LLMs, and responses were blindly evaluated by two ENT specialists using DISCERN (information quality, 1–5), PEMAT-P (understandability and actionability, 0–1), and triage safety criteria (emergency detection, referral accuracy, hallucination, 0–1). Inter-model comparisons used Kruskal-Wallis with Bonferroni-corrected Mann-Whitney U post-hoc tests; inter-rater agreement was assessed via ICC(2,1).

RESULTS

Claude Sonnet 4.6 achieved the highest overall score (86.0 ± 8.0), followed by GPT-4o (76.9 ± 13.8), Perplexity Sonar Pro (73.6 ± 11.2), and Gemini 2.0 Pro (67.2 ± 8.0). The inter-model difference was statistically significant ($H = 28.27$; $p < 0.001$; $\varepsilon^2 = 0.33$). Post-hoc analysis confirmed significant differences between Claude and Gemini ($p < 0.001$) and Claude and Perplexity ($p = 0.002$). Hallucination rates were highest for Gemini (30%) and lowest for Claude and Perplexity (5% each). Emergency detection failure was 40% for Gemini and Perplexity versus 20% for GPT-4o and Claude. Inter-rater agreement was excellent ($ICC = 0.83$; $p < 0.001$).

CONCLUSIONS

LLMs demonstrate significantly variable performance in addressing parental concerns about pediatric adenoid hypertrophy. Claude Sonnet 4.6 outperformed other models in information quality, understandability, and safety. Gemini 2.0 Pro's high hallucination rate and poor triage safety raise patient safety concerns. No LLM can replace expert clinical counseling; however, selected models may serve as supplementary informational tools under physician guidance.

KEYWORDS

Adenoids, large language model, artificial intelligence

OP-979

Unusual Complications Of Tonsillectomy: An Updated Systematic Review (2007–2025)

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BACKGROUND & AIM

Tonsillectomy is widely performed in otolaryngology. Beyond common complications such as hemorrhage (3%), pain, and nausea, rare but serious events are also reported. The most comprehensive systematic review on this subject was published by Leong et al. in 2007. Since then, with the increasing use of new surgical techniques (e.g., coblation, harmonic scalpel, plasma blade), the spectrum of complications has expanded.

MATERIAL & METHODS

A systematic search of PubMed and Web of Science (2007–2025) was performed. Case reports and series on rare complications were included, while typical outcomes were excluded. Data were extracted on study and patient characteristics, type and timing of complication, management, and outcome. Analysis was descriptive, following PRISMA guidelines.

RESULTS

A total of 92 studies (n=94 cases) were included in the review. Complications were classified according to clinical groups: respiratory/thoracic (n=27), neurological (n=20), vascular/thromboembolic (n=19), infectious (n=13), structural/wound healing (n=6), and others (n=9). The most frequently reported complication was subcutaneous emphysema (n=25). Cases reported for the first time in the literature, such as oculomotor nerve palsy, Jackhammer esophagus, and Foreign Accent Syndrome, were included. Two cases with pulmonary embolism and pneumothorax had a fatal outcome.

CONCLUSIONS

Tonsillectomy is a frequently performed and generally safe surgical procedure; however, rare complications may lead to significant morbidity and mortality. The current literature demonstrates that the spectrum of complications is broader than previously assumed. Particularly in the pediatric age group, where this surgery is commonly performed and provides clinical improvement, recognition of rare complications by clinicians is of great importance.

KEYWORDS

Tonsillectomy, Rare complications, Systematic review, Surgical safety.

OP-980

Inhaled F.B Complicating The Bronchial Tree: A Novel Removal Technique

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BACKGROUND & AIM

Introduction: Foreign body aspiration is a major cause of morbidity and mortality in children. Despite its clinical significance, data from underdeveloped countries—particularly Sudan—remain limited.

Objective: To describe the clinical presentation, management approaches, and complications among paediatric patients with foreign body aspiration in Sudan .

MATERIAL & METHODS

A retrospective cross-sectional hospital-based study was conducted at Sudan hospitals, including all patients diagnosed with foreign body aspiration from April 2023 to April 2025. Data were collected using predesigned checklists and analyzed using SPSS.

RESULTS

A total of 142 patients were evaluated. Most were aged 1–2 years (45%), with a male predominance. Cough (66.9%) was the most common presenting symptom, while wheeze (89.4%) was the most frequent clinical sign. The interval between aspiration and bronchoscopy ranged from 24 hours to more than one month, with 45% presenting within 1 day to 1 week. Elective bronchoscopy was performed in 62.7% of cases. A foreign body was visualized in 91% of patients. New technichqe was applied(named sharfi technique) to some difficult cases and removal was successful.

The right main bronchus was the most common site of lodgment (63.8%), and watermelon seeds were the most frequently aspirated objects. Complications occurred in 21 patients (14.7%), including hypoxia (5%), delayed recovery (4%), postoperative stridor (2.1%), and one case requiring urgent tracheostomy. Mortality was recorded in two patients (1.4%).

CONCLUSIONS

Foreign body aspiration predominantly affected male children aged 1–2 years. Cough and wheezing were the most common presenting features, and the right main bronchus was the typical site of lodgment. Early presentation (within one week) and elective bronchoscopy were associated with improved outcomes, while the type of aspirated foreign body did not significantly influence prognosis.

KEYWORDS

Foreign body, aspiration, bronchoscopy,

OP-981

National Consensus Recommendation On Congential Nasal Pyriform Aperture Stenosis(CNPAS)

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BACKGROUND & AIM

Congenital Nasal Pyriform Aperture Stenosis (CNPAS) is a rare congenital anomaly resulting from overgrowth of the medial nasal processes, with an estimated incidence of 1 in 25,000 live births worldwide. Due to its rarity, there is scarcity in the current literature on its diagnosis and management, relying on isolated case reports and series. Consequently, there is a lack of standardized guidelines for diagnosing and treating patients with CNPAS. This study aimed to construct a national consensus recommendation to establish a unified diagnostic and management approach for patients with CNPAS. Thus, outlining clinical practices and decision-making processes for patients with CNPAS.

MATERIAL & METHODS

This study targets expert pediatric otorhinolaryngologists involved in the care of patients with CNPAS. A structured survey was conducted to cover various aspects of CNPAS care, including diagnosis and operative approaches, as well as post-operative in-hospital and outpatient care. The Delphi method will be used to gather the opinions of experts on the care of CNPAS patients. The first round of the survey will be introduced at the annual Saudi Otolaryngology Society meeting (2026) and will be followed by multiple survey-filling rounds till consensus is reached. A consensus is reached when 80% or more of the experts rate an item similarly. A final analysis will be conducted to construct consensus recommendations.

RESULTS

The survey will be fulfilled by pediatric otorhinolaryngologists attending the annual Saudi Otolaryngology Society meeting (2026). The same participants will complete the survey in the subsequent rounds, thereby implementing the Delphi method.

CONCLUSIONS

This study aims to establish a national consensus recommendation regarding the diagnostic and management strategies for patients with CNPAS.

KEYWORDS

neonatal nasal stenosis, CNPAS

OP-982

Bridging The Gap: Integrating Maternal Psychotherapy Into Cleft Lip And Palate (CLP) Care Planning

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BACKGROUND & AIM

Mothers experience heightened levels of psychological challenges due to the stigma associated with the physical deformity, financial burden, and uncertainty of treatment outcomes. Despite the known impact of CLP on mothers, psychotherapy are underutilized. This study aims to evaluate the effectiveness of integrating routine psychotherapy into CLP Care Planning on the overall maternal well-being and psychosocial outcomes among mothers, help mothers cope with the emotional impact of having a child with CLP, addressing guilt and anxiety, and to empower the mother to become proactive in their child's care, leading to treatment adherence and better clinical outcomes.

MATERIAL & METHODS

This is a 2-year prospective cohort study, with 36 mothers who fulfilled the criteria. Subjects received psychotherapy using a validated psychosocial questionnaire. Paired t-tests were used to compare pre- and post-counseling psychological scores, while regression analysis was used to determine the factors associated with psychotherapy and CLAP care plan outcomes.

RESULTS

Following psychotherapy, participants demonstrated a significant reduction in stress levels, with post-counseling scores (M=4.2, SD=1.0) significantly lower than pre-counseling scores (M=7.5, SD=1.2; $p < 0.05$). Adherence to the CLAP care plan increased from 65% (N=23) prior to psychotherapy to 90% (N=32) afterward. Additionally, 85% (N=31) of mothers reported enhanced understanding of feeding techniques and surgical timelines. Emotional well-being also showed notable improvement, with 75% (N=27) of mothers exhibiting better psychosocial outcomes as assessed by the standardized questionnaire.

CONCLUSIONS

These findings indicate that integrating routine maternal psychotherapy into CLP care planning significantly improve maternal psychological well-being, reduce maternal stress, and understanding of CLP management leading to treatment compliance and enhanced mother-child bond.

KEYWORDS

Cleft Lip; Cleft Palate; Psychotherapy

OP-983

Subannular T- Tube Insertion In Recurrent Otitis Media With Effusion

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BACKGROUND & AIM

Chronic otitis media with effusion (COME) is very frequent in children and associated with a significant health burden (hearing loss, etc.) and socioeconomic impact prompting defining effective management.

Primary surveillance and conservative measures are eventually followed by placement of tympanostomy tubes ± adenoidectomy. About 25% of children need more than one intervention increasing the risk for chronic perforation and or hearing impairment. The subannular tube (SAT) technique has been proposed to increase duration of the tubes in the middle ear Our goal is to present a treatment algorithm for COME in children highlighting the role of SAT.

MATERIAL & METHODS

Retrospective chart analysis performed in children aged < 18 years treated by SAT insertion at the University Hospital Basel during 2015-2020. 'Tympanic membrane retraction' defined as stage I, II, or III and 'adhesive otitis media' as stage IV according to the Sadé classification. Data is presented as means ± SDs. For statistical analysis: Prism 9 software (GraphPad, La Jolla, CA, USA).

RESULTS

The mean duration was 21.4 months. The main complication was blockage; no chronic perforation was seen. The PTA mean was 18.4 dB HL.

CONCLUSIONS

The SAT insertion represents an effective method with few complications in the treatment algorithm of children with COME. Hearing is good to excellent. The longer duration of 21 in comparison to the transtympanic technique (4-12 months) leads to fewer interventions and anesthesia.

KEYWORDS

otitis media with effusion, t-tube, children,

OP-984

Complications And Recurrence After Coblation Intracapsular Tonsillectomy: A Retrospective Study

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BACKGROUND & AIM

The Coblation® intracapsular tonsillectomy approach has gained popularity in the management of obstructive sleep apnoea (OSA), due to reduced pain and faster recovery after surgery. However, its adoption has been limited by concerns surrounding tonsillar regrowth and symptom recurrence, particularly in the context of recurrent tonsillitis. This retrospective review evaluated the outcomes of 101 cases, with obstructive and infective indications.

MATERIAL & METHODS

A single-centre retrospective audit of cases between November 2020 and December 2025 was conducted at a district general hospital. Demographic and complication data was collected from electronic patient records and telephone interviews were performed using the validated T-14 questionnaire. Overall, obstructive symptom and infective symptom scores were calculated from the T-14 data and residual symptom burden by indication for surgery was compared.

RESULTS

101 patients (mean age 7.1 years, 59% males) who underwent Coblation® intracapsular tonsillectomy with or without adenoidectomy and insertion of grommets were included. Indication for surgery was either OSA only (57%), recurrent tonsillitis only (28%) or both OSA and recurrent tonsillitis (15%). Rates of admission with postoperative pain and symptomatic regrowth were 4% and 1% respectively and there was only 1 case of bleeding, although this was a severe example of primary haemorrhage. Telephone interviews were completed in 84 patients at an average follow-up time of 20 months. Mean postoperative T-14 overall score was 6.19, whilst the mean obstructive symptom score was 4.32 and the mean infective symptom score was 1.87. At the time of follow up, the residual infective symptom burden for recurrent tonsillitis patients was significantly lower than the residual obstructive symptom burden for OSA patients ($p<0.001$).

CONCLUSIONS

Coblation® intracapsular tonsillectomy is effective in achieving symptom control for patients with either OSA or recurrent tonsillitis, whilst maintaining a very low complication rate. However, the favourable safety profile is dependent on meticulous technique to avoid inadvertently breaching the capsule, and the risk of serious primary haemorrhage should not be underestimated. Further studies should compare these outcomes with extracapsular techniques and evaluate the risk of symptom recurrence in the long term.

KEYWORDS
tonsillectomy; coblation; intracapsular; complications; recurrence

OP-985

Comparative Efficacy Of Intranasal Corticosteroids, Saline Irrigation, And Combination Therapy In The Management Of Moderate To Severe Pediatric Allergic Rhinitis

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BACKGROUND & AIM

In pediatric allergic rhinitis, achieving strong symptomatic control and preventing secondary complications is crucial. Intranasal treatments are important for this treatment strategy. This study aimed to investigate the therapeutic efficacy of intranasal corticosteroids, saline solutions, and combination therapy in patients with moderate-to-severe pediatric allergic rhinitis.

MATERIAL & METHODS

This study was designed as a prospective, randomized clinical trial. A total of fifty seven pediatric patients with allergic rihinitis included. The patients were divided into three groups. In addition to systemic treatment, Group 1 received intranasal steroids, Group 2 received steroid-containing saline irrigation, and Group 3 received saline irrigation for four weeks. Pre- and post-treatment endoscopic examination scores, results of the olfactory test, Eustachian function test, peak nasal inspiratuar flow test, nasal eosinphilia evaluation, nasal symptom scores and questionnaire scores of quaility of life, strenghts and difficulties and brief symptom inventory were recorded. Intra-group comparisons and the correlation between changes in different parameters was analyzed. Inter-group comparisons were conducted and for variables where a significant difference was detected, the pairwise comparisons applied to identify specific group differences.

RESULTS

In within-group analysis, Group 1 showed significant improvement in all parameters except olfactory test and nasal eosinophilia, while Groups 2 and 3 showed significant improvement in all parameters except Eustachian tube function test. In the intergroup comparison, the endoscopic examination score showed a significant improvement in Group 3 compared to Group 1 (p=0.002). Additionally, there was a slightly significant improvement in nasal eosinophilia in Group 2 compared to Group 1 (p=0.049). No statistically significant differences were found between the groups in other parameters.

CONCLUSIONS

According to results of the this study, the question of whether intranasal saline irrigation can be an alternative to intranasal steroids in the treatment of moderate to severe pediatric allergic rhinitis deserves further discussion. More studies with larger patient participation are needed in the literature.

KEYWORDS

nasal irrigation, pediatric allergic rhinitis, nasal steroids, olfactory test, nasal eosinophilia, pediatric quality of life

OP-986

Bacteremia During Tonsillotomy In Children

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BACKGROUND & AIM

To evaluate the incidence of transient bacteremia following coblation-assisted intracapsular partial tonsillectomy (tonsillotomy) in children.

MATERIAL & METHODS

In this prospective study included 36 children with grade 3–4 tonsillar hypertrophy undergoing coblation-assisted tonsillotomy for obstructive sleep apnea syndrome included. Aerobic and anaerobic blood cultures were obtained preoperatively and immediately after the tonsillotomy. Intraoperative throat cultures were also collected.

RESULTS

All preoperative blood cultures were negative. Postoperative blood cultures demonstrated two patient (5.6%) had positive blood culture. Streptococcus pyogenes and actinomyces were isolated in the cultures. One of these patients had streptococcus pyogenes in the corresponding throat culture.

CONCLUSIONS

This study is the first to determine the rate of transient bacteremia developing after tonsillotomy surgery.

Despite the minimally invasive technique and the use of coblation technology, the rate of transient bacteremia was 5.6%. Therefore, clinicians should keep prophylactic antibiotics in mind for high-risk patients.

KEYWORDS
Tonsillotomy; intracapsular partial tonsillectomy; coblation; bacteremia; pediatric otolaryngology

OP-987

Newborn Hearing Screening In A Crisis-Affected Middle-Income Country: A 10-Year Tertiary Center Experience

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MATERIAL & METHODS
We conducted a retrospective cohort study of all live births at a tertiary academic medical center in Lebanon between 2015 and 2024. Universal screening was performed using OAE and/or AABR according to institutional protocol aligned with JCIH 1-3-6 principles. Data collected included screening coverage, initial referral rate, rescreening attendance, diagnostic confirmation, time to retest, permanent hearing loss prevalence, and documented reasons for parental refusal. The 10-year period was stratified into three eras: pre-crisis (2015–2019), crisis period (2020–2022), and recovery (2023–2024). Multivariable logistic regression was used to assess the independent association between era and screening completion/referral outcomes. Chi-square testing with adjusted residuals evaluated differences in refusal reasons across eras. Statistical significance was set at $p<0.05$. Program performance indicators were benchmarked against international tertiary data.

RESULTS
Among the total of 13,043 live births over the 10-year period, 10,777 newborns completed screening, corresponding to a coverage rate of 82.6%. Screening completion differed significantly across eras. In multivariable logistic regression adjusting for era and gender, era remained independently associated with screening status ($p<0.001$). Compared with the COVID era (2020–2022), infants born in 2015–2019 had lower odds of screening completion (adjusted OR 0.83; 95% CI 0.74–0.92), whereas infants born in 2023–2025 had higher odds (adjusted OR 1.24; 95% CI 1.06–1.44). The prevalence of confirmed permanent hearing loss was 9 cases among 13,043 births (0.69 per 1,000). Refusal reasons differed significantly across eras ($\chi^2(6)=104.5$, $p<0.001$), with financial hardship disproportionately represented during the crisis period. Median time to retest did not differ across eras in either normal nursery ($p=0.243$) or NICU settings ($p=0.818$).

CONCLUSIONS
This is the first Lebanese study quantifying newborn hearing screening performance and referral patterns. Despite unprecedented national crises, screening services demonstrated resilience and rapid recovery. Financial barriers significantly influenced parental refusal, highlighting the need for mandatory, free-of-charge national screening with structured follow-up systems. These findings provide the first institutional evidence base to inform Lebanese national policy development. Establishing mandatory universal screening, strengthening counseling systems, and expanding early intervention access, including cochlear implantation pathways, are critical next steps to reduce preventable disability and long-term societal burden.

KEYWORDS
Universal Newborn Hearing Screening - Congenital Hearing Loss - Otoacoustic Emissions (OAE) - Auditory Brainstem Response (ABR)

OP-988

Demographic Characteristics And Risk Factors For Recurrence Of Nasal Polyps In Chinese Children

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BACKGROUND & AIM
Nasal polyps, characterized by benign and edematous inflammation of the nasal mucosa, occur less frequently in children than in adults. As treatment resistance and recurrence are major challenges, this study aims to delineate the demographic characteristics and medical burden of Chinese pediatric patients, analyze the risk factors for postoperative recurrence, and construct a prognostic model.

MATERIAL & METHODS
A combined multicenter retrospective and single-center follow-up study design was adopted. We analyzed the epidemiological characteristics of 2,846 children with nasal polyps treated across 36 hospitals in China from 2016 to 2023. Additionally, clinical data were collected from 102 pediatric patients who underwent functional endoscopic sinus surgery (FESS) at Beijing Children's Hospital, Capital Medical University, between 2021 and 2024. Clinical features of chronic rhinosinusitis with nasal polyps (CRSwNP) and antrochoanal polyps (ACP) were compared. Univariate and multivariate logistic regression, along with least absolute shrinkage and selection operator regression (LASSO) regression, were employed to screen for risk factors and construct a prognostic model. Model performance was evaluated using receiver operating characteristic (ROC) curves, area under the curve (AUC), and calibration curves.

RESULTS

The average prevalence of pediatric nasal polyps in China was approximately 1.68 per million during the period from 2016 to 2023. In China, nasal polyps were predominantly seen in males (65.9%) and children aged 6-12 years (62.0%), with peak visits occurring in summer and an increasing annual trend. Adenoid hypertrophy was the most common comorbidity, and 85.8% of patients underwent surgical treatment. Subgroup analysis revealed that visual analog scale (VAS) scores for olfaction, Lund-Kennedy scores, and Lund-Mackay scores were significantly higher in the CRSwNP group than in the ACP group. Previous surgical history, Lund-Mackay scores, and VAS-sneezing scores were identified as independent risk factors for recurrence. The recurrence prediction model based on LASSO regression demonstrated excellent predictive performance (AUC = 0.821).

CONCLUSIONS

Pediatric nasal polyp visits in China show a rising trend annually. Although surgical outcomes are favorable, focused management of localized symptoms remains crucial. Our clinical indicator-based prognostic model serves as a robust and practical tool for recurrence risk stratification and guides personalized management strategies for children with nasal polyps.

KEYWORDS

Children, Nasal Polyps, Recurrence, Risk Factors, Prognostic Model

OP-989

Hospital Readmission And Postoperative Hemorrhage In Intracapsular And Extracapsular Pediatric Tonsillectomy

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BACKGROUND & AIM

Adenotonsillectomy remains one of the most commonly performed procedures in Otolaryngology and even more so in pediatric Otolaryngology. While traditionally performed extracapsularly, intracapsular tonsillectomy has emerged as a favorable alternative, potentially conferring faster recovery time, reduced postoperative bleeding risk, and a lower incidence of hospital readmission secondary to dehydration and inadequate pain control. In this study we aimed to identify differences in postoperative complications between intracapsular and extracapsular tonsillectomy, and determine the role of perioperative interventions and patient characteristics in optimizing outcomes.

MATERIAL & METHODS

This was a retrospective cohort study of pediatric patients who underwent tonsillectomy with the senior authors from January 2024 until November 2025. Tonsillectomies were performed in either an extracapsular or intracapsular fashion with the Coblator (Arthocare Inc.). The primary outcome was return to the emergency department. Secondary outcomes were postoperative hemorrhage, repeat cauterization in the operating room (OR), and hospital readmission. An analysis was performed examining the effects of bleeding disorders and postoperative steroid administration on the primary and secondary outcomes.

RESULTS

329 (37.1%) intracapsular tonsillectomies and 557 (62.9%) extracapsular tonsillectomies were performed. Intracapsular tonsillectomy was associated with lower rates of return to the ER (6.6% vs 10.1%, p=0.035), OR cauterization (0.33% vs 2.15%, p=0.046) and inpatient readmission (1.22% vs 4.49%, p=0.038). Intracapsular tonsillectomy did not confer a lower risk of bleeding events prompting return to the ER (1.82% vs 3.59%, p=0.130). Postoperative steroids were not associated with lower readmission rate (7.44% vs 10.27%, p=0.1453).

CONCLUSIONS

These findings suggest the intracapsular technique may offer meaningful improvements in surgical complication rate and resource utilization in pediatric tonsillectomy. While bleeding rates did not differ significantly, an overall reduction in return to OR for cautery illustrates a decrease in clinically significant complication. Intracapsular tonsillectomy remains a favorable surgical technique that, in the right patient population, can reduce surgical morbidity and optimize patient recovery.

KEYWORDS

intracapsular tonsillectomy, extracapsular tonsillectomy, pediatric tonsillectomy, obstructive sleep apnea

OP-990

Long-Term Outcomes Of Ventilation Tube Insertion In Children: A 5-Year Retrospective Analysis Of Extrusion Times And Tympanic Membrane Sequelae

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BACKGROUND & AIM

Otitis media with effusion (OME) is a leading cause of pediatric hearing impairment, frequently associated with adenoid hypertrophy (AH). While ventilation tube (VT) insertion is the gold-standard surgical intervention, the optimal duration of tube retention remains controversial. We hypothesized that specific VT extrusion time intervals are directly correlated with long-term structural integrity of the tympanic membrane (TM) and that there is a critical "turning point" beyond which the risk of permanent sequelae increases significantly.

MATERIAL & METHODS

This retrospective cohort study involved 157 pediatric patients (157 ears) aged 2–10 years who underwent VT insertion (with or without adenoidectomy) for persistent OME at a tertiary training and research hospital between 2020 and 2025. The study design focused on a 5-year longitudinal follow-up. Independent variables included age, gender, type of middle ear effusion (serous vs. mucoid), and surgical intervention type. Outcome measurements were categorized by VT extrusion time (<6 months, 6–15 months, and >15 months) and TM structural status at the fifth year (Normal, Myringosclerosis, Atrophy, Permanent Perforation, and Retraction). Statistical analyses were performed using Chi-square and Fisher's exact tests, with $p < 0.05$ considered significant.

RESULTS

The distribution of VT extrusion times was: <6 months (13.4%), 6–15 months (59.2%), and >15 months (27.4%). Mucoid effusion was significantly associated with longer retention ($p = 0.001$). At the 5-year follow-up, 58.6% of ears showed a normal TM. A highly significant correlation ($p < 0.0001$) was found between retention duration and sequelae: early extrusion (<6 months) was associated with 90% of all TM retraction cases. Conversely, the 6–15 month interval yielded the highest rate of normal TM outcomes (83.9%). Prolonged retention (>15 months) was significantly linked to myringosclerosis (44.2%), atrophy (32.6%), and all 5 cases (100%) of permanent perforation.

CONCLUSIONS

The duration of VT retention is a critical determinant of long-term outcomes. While retention for at least 6 months is necessary to prevent retractions, our results suggest that clinicians should consider 15 months as a critical threshold. Beyond this period, the risk of irreversible TM damage, including permanent perforation, rises sharply. Therefore, proactive removal of VTs remaining in situ for more than 15 months should be considered to preserve tympanic membrane health.

KEYWORDS

Ventilation tube, Otitis media with effusion, Pediatric otolaryngology, Tympanic membrane sequelae

OP-991

Prevention And Reduction Of Tonsillectomy Complications With Platelet-Rich Plasma Application

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BACKGROUND & AIM

Tonsillectomy is one of the most frequently performed surgical procedures in otolaryngology practice. Despite numerous studies investigating different surgical techniques and adjunctive treatment modalities aimed at reducing postoperative complications, it remains a significant clinical concern. In recent years, platelet-rich plasma (PRP) applications have gained attention for their potential to accelerate tissue healing and reduce complications. This study aimed to evaluate the effects of locally administered PRP into the tonsillar fossae following tonsillectomy on postoperative pain, nutritional intake, analgesic requirements, bleeding, hospital readmission rates, recovery process, and quality of life, with the goal of preventing or minimizing postoperative complications.

MATERIAL & METHODS

All patients in both the control and study groups underwent standard tonsillectomy performed by the same surgeon using an identical surgical technique. In the study group, platelet-rich plasma was injected subcapsularly into both tonsillar fossae. In the postoperative period, the same procedure was applied to all patients in both the study and control groups for each stage, and postoperative complications were monitored using questionnaire forms we developed. These data were then statistically compared.

RESULTS

A total of 126 patients aged 3 to 58 years were included, with 63 in the study group and 63 in the control group. Postoperative pain scores, measured from the 6th hour to the 10th day, were significantly lower in the PRP group compared to controls. Analgesic requirements were also reduced in the study group during the first seven days and on day 10. No significant difference was found in nutritional intake between groups. Subgroup analysis showed that PRP was particularly effective in reducing pain and analgesic use and improving nutritional intake in patients aged 6–17 years. All postoperative bleeding events were secondary hemorrhages, occurring at rates of 6% in the study group and 13.7% in controls, without statistical significance. No other complications were observed in either group.

CONCLUSIONS

It was found that PRP application after tonsillectomy reduced postoperative pain levels, correspondingly decreased the need for analgesia, and improved nutritional intake. These positive effects were particularly observed in the 6–17 age group.

KEYWORDS

Tonsillectomy, platelet rich plasma (PRP), tonsillectomy complications, tonsil disease

OP-992

Personalized Treatment Of Robin Sequence With A 3D-Printed Palato-Lingual Plate

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BACKGROUND & AIM

Robin sequence (RS) is a congenital condition characterized by micrognathia, glossoptosis, and resultant upper airway obstruction. Cleft palate is commonly present and, combined with the aforementioned pathologies, results in dysphagia. A highly successful treatment option is the application of a personalized palatal plate or preepiglottic baton plate, which enables newborns to breathe freely and restore oral intake. Despite its proven efficacy, this method is currently used in only a few specialized centers. This study aims to demonstrate how advancements in 3D scanning and 3D printing can facilitate the fabrication of these devices.

MATERIAL & METHODS

This study is currently in-progress at the National Institute of Children's Diseases in Bratislava. The workflow involves obtaining an intraoral 3D scan from the patient, followed by designing the device using computer-aided design (CAD) software. The device is then 3D-printed from medical-grade biocompatible resin and post-processed for immediate clinical application.

RESULTS

As a proof of concept, 11 patients have been treated thus far at our hospital. While comprehensive long-term data are currently unavailable, no serious adverse effects have been observed, with the exception of minor mucosal lesions caused by local pressure. Crucially, none of the patients required a tracheostomy, and all successfully resumed full oral intake. These preliminary results highlight the reliability of the digital production chain.

CONCLUSIONS

Integrating 3D technologies streamlines the production of personalized RS devices. Digitalization facilitates manufacturing and offers a platform for inter-center collaboration, providing a viable pathway for smaller centers to implement this specialized treatment and enhancing global access to non-invasive management.

KEYWORDS

Robin sequence; palato-lingual plate; 3D printing; digital workflow; additive manufacturing; computer-aided design

OP-993

Immediate Extubation After Single Stage Laryngotracheal Reconstruction For Subglottic Stenosis In Children

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BACKGROUND & AIM

Pediatric subglottic stenosis (SGS) traditionally requires prolonged postoperative intubation or tracheostomy following laryngotracheal reconstruction, leading to increased morbidity and healthcare burden. This study evaluated the safety and feasibility of immediate extubation following single-stage laryngotracheal reconstruction (SS-LTR) with anterior costal cartilage graft, and established appropriate patient selection criteria for this innovative surgical strategy.

MATERIAL & METHODS

A retrospective cohort study was conducted from July 2017 to July 2022. All patients underwent SS-LTR with anterior costal cartilage graft followed by immediate postoperative extubation. Study design included systematic analysis of demographics, comorbidities, intubation/tracheostomy history, stenosis classification and grading. Primary outcome measurements were operation-specific decannulation rate and overall decannulation rate. Secondary outcomes included immediate extubation success rate and postoperative airway complications.

RESULTS

Twenty-two patients with simple SGS were included. Median age at SS-LTR was 19 months (IQR = 18.5 months). Fourteen patients (63.6%) had prior intubation history and 14 patients (63.6%) required preoperative tracheostomy. SGS etiology comprised congenital in 8 patients (36.4%), acquired in 10 patients (45.5%), and mixed in 4 patients (18.2%). Stenosis severity included Grade II in 3 patients and Grade III in 19 patients. Comorbidities were present in 10 patients (45.5%), with pneumonia predominating. Congenital airway anomalies coexisted in 6 patients (27.3%). Remarkably, all 22 patients (100%) achieved

successful immediate extubation post-anesthesia with direct transfer to general ward. Twenty patients (90.9%) maintained excellent airway patency following SS-LTR. Two patients required reintubation or tracheostomy postoperatively. Operation-specific decannulation rate reached 90.9%, with overall decannulation rate of 100%.

CONCLUSIONS

SS-LTR with anterior costal cartilage graft combined with immediate extubation represents a highly effective and safe innovative approach for treating simple SGS Grades II-III in children. This technique achieves superior airway reconstruction outcomes while eliminating postoperative intubation-related complications in appropriately selected patients, thereby reducing morbidity and healthcare costs.

KEYWORDS

Laryngotracheal reconstruction;Subglottic stenosis;Costal cartilage;Graft;Stent

OP-994

Investigation Of The Effect Of Dexpanthenol–Vitamin A Containing Sprays On Postoperative Wound Healing In Patients Undergoing Tonsillectomy

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BACKGROUND & AIM

To investigate the effect of the local application of a spray containing dexpanthenol and vitamin A (Nazalnem) on postoperative pain and wound healing in children undergoing tonsillectomy.

MATERIAL & METHODS

A total of 54 patients who underwent tonsillectomy for recurrent tonsillitis at the Department of Otorhinolaryngology and Head and Neck Surgery, Şişli Hamidiye Etfal Hospital, were included in the study. The patients were divided into two groups: 27 in the study group and 27 in the control group. The study was designed as prospective, randomized, double-blind, and placebo-controlled. Patients in the study group applied a dexpanthenol–vitamin A (Nazalnem) spray to the right and left halves of the oropharynx, 2 puffs, 3 times daily for 7 days postoperatively. Patients in the control group applied a saline spray with the same frequency and duration. Postoperative pain was assessed daily for 14 days using the Wong-Baker FACES Pain Rating Scale. Wound healing in the tonsillar fossae was evaluated at the first and second postoperative weeks.

RESULTS

A total of 54 patients aged 3–15 years (27 females and 27 males) were included. While no significant difference in pain scores was observed between the groups on postoperative day 1, pain scores in the study group were significantly lower than those in the control group between postoperative days 2 and 10 ($p < 0.05$). The rates of tissue healing in the tonsillar fossae at week 1 and week 2 in the study group (26.48% and 84.26%, respectively) were significantly higher compared to the control group (11.11% and 70.37%, respectively) ($p < 0.006$, $p < 0.005$).

CONCLUSIONS

The local application of a dexpanthenol–vitamin A (Nazalnem) spray reduces postoperative pain and accelerates wound healing following tonsillectomy. The addition of dexpanthenol–vitamin A (Nazalnem) spray to standard postoperative care may be beneficial in patients undergoing tonsillectomy. However, further randomized controlled studies with larger sample sizes are needed, as the current literature on this topic remains limited.

KEYWORDS

Tonsillectomy, Dexpanthenol, Vitamin A, Wound Healing

OP-995

Independent Predictors Of Post-Tonsillectomy Hemorrhage: A Tertiary Center Experience

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BACKGROUND & AIM

Tonsillectomy is one of the most commonly performed surgical procedures worldwide. Post-tonsillectomy hemorrhage (PTH) is a serious and potentially life-threatening complication, occurring in approximately 4% of cases. Several risk factors have been associated with PTH, including age, obesity, recurrent tonsillitis, attention deficit hyperactivity disorder, and surgical technique. However, inconsistent evidence has limited the development of validated clinical prediction models.

MATERIAL & METHODS

We conducted a retrospective case-control study including patients who underwent tonsillectomy at the ENT department of a tertiary care center between January 2020 and November 2025. Our initial sample comprised 50 patients who developed PTH

(cases) and 42 patients who did not (controls). Data collected for each patient included age, sex, weight, comorbidities, preoperative laboratory values, surgical indication, Brodsky Tonsil Scale, surgical technique, surgeon experience, and postoperative use of corticosteroids, nonsteroidal anti-inflammatory drugs, and antibiotics. Variables associated with PTH in univariate analysis were entered into a multivariable binary logistic regression model to identify independent risk factors.

RESULTS

In multivariable binary logistic regression analysis, older age was an independent predictor of PTH (OR 1.251; $p < 0.001$). Conversely, greater surgeon experience was a protective factor against PTH (OR 0.173; $p=0.032$). The remaining variables were not statistically significant.

CONCLUSIONS

Older age and lesser surgeon experience are independent risk factors for PTH and should be integrated into clinical risk assessments. Identifying these predictors provides a valuable foundation for the future development of machine learning-based clinical predictive models capable of stratifying preoperative risk groups.

KEYWORDS

Tonsillectomy; Hemorrhage; Complication; risk factors

OP-996

Is Routine Pathological Examination Necessary In Pediatric Adenotonsillectomy?

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BACKGROUND & AIM

To evaluate the necessity of histopathologic examination for routine tonsillectomy and/or adenoidectomy in terms of unexpected malignancy and other clinically significant pathologic findings by evaluating a large group of pediatric patients retrospectively.

MATERIAL & METHODS

A retrospective chart review of all patients 18 years of age or younger who underwent tonsillectomy and/or adenoidectomy between August 2016 and December 2024 was carried out at Sakarya Training and Research Hospital. The records were analyzed concerning each patient's age, sex, indication for surgery, type of surgical procedure, and the result of histopathologic examination of the specimen. Patients operated on for chronic or recurrent infections and obstructive hypertrophy were included in the study.

RESULTS

The total number of 4,919 patients with an age distribution from 1 to 18 years (mean: 7.71) were reviewed. There were 2,670 males (54%) and 2,249 females (46%). Adenoidectomy ± ventilation tube and adenotonsillectomy ± ventilation tube were performed together on 4,751 patients (97%) while tonsillectomy ± ventilation tube alone was performed on 159 patients (3%). Evaluation of the pathology reports revealed no malignancies. The most common histopathologic findings were lymphoid hyperplasia (97.5%) and chronic tonsillitis (29.7%). Actinomyces colonization was identified incidentally in 37 specimens (0.75%), representing the only clinically significant unexpected finding in the series.

CONCLUSIONS

After being evaluated by an experienced otolaryngologist, pathologic evaluation of all specimens may not be necessary if a child undergoing routine tonsillectomy and/or adenoidectomy is not found to have certain preoperative risk factors. The absence of any malignancy in this large single-center series of 4,919 pediatric patients over 8 years supports a selective, risk-stratified approach to histopathologic examination. The incidental detection of Actinomyces colonization in 0.75% of cases suggests that targeted pathologic review remains valuable in selected subgroups.

KEYWORDS

Tonsillectomy; Adenoidectomy; Histology; Pathology; Malignancy; Actinomyces

OP-997

B-SAFE: A Novel Otolaryngology-Focused Clinical Score For Risk Stratification In Paediatric Airway Foreign Body Aspiration

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BACKGROUND & AIM

Foreign body aspiration (FBA) remains a potentially life-threatening pediatric airway emergency and continues to pose diagnostic challenges, particularly in children with non-specific clinical presentations. Although several clinical predictors of FBA have been described, there remains a need for an otolaryngology-focused tool that supports procedural decision-making in real-world airway practice. B-SAFE (Bahrain Suspected Aspiration Foreign-body Evaluation) was developed as a clinician-

designed scoring system to assist otolaryngologists in the assessment and management of children with suspected airway foreign body aspiration.

MATERIAL & METHODS

A retrospective cohort study was performed at a government hospital in Bahrain including pediatric patients who underwent bronchoscopy for suspected airway foreign body aspiration. B-SAFE incorporates patient factors, clinical history, presenting symptoms, physical examination findings, and imaging features into a cumulative point-based score. The primary outcome was bronchoscopy-confirmed foreign body aspiration. Diagnostic performance was evaluated using receiver operating characteristic analysis, score discrimination, and calculation of sensitivity and specificity.

RESULTS

Thirty-two pediatric patients were included, of whom 21 (65.6%) had bronchoscopy-confirmed foreign body aspiration. Patients with confirmed foreign bodies had significantly higher B-SAFE scores compared with those with negative bronchoscopy findings (median score 8 vs 5; p=0.0009). The B-SAFE score showed good diagnostic performance with an area under the curve of 0.86. A cutoff score of ≥8 yielded 71.4% sensitivity and 90.9% specificity for predicting positive bronchoscopy (p=0.002). Significant predictors included suspected foreign body exposure, persistent symptoms, unilateral wheeze, and radiographic air trapping.

CONCLUSIONS

B-SAFE showed good diagnostic performance and clinically meaningful risk stratification in children with suspected airway foreign body aspiration. As an otolaryngology-focused decision-support tool, it may assist in selecting patients for airway endoscopy or bronchoscopy and support the future development of a structured management algorithm for pediatric airway foreign body evaluation.

KEYWORDS

Foreign body aspiration, Paediatric Airway, Bronchoscopy

PHONIATRICS

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OP-998

OCCUPATIONAL VOICE DISORDERS – CLINICAL ASSESSMENT AND MANAGEMENT STRATEGIES

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BACKGROUND & AIM

In clinical practice, a significant number of patients are referred to ENT with long-lasting dysphonia and no obvious anatomical modification. Functional voice disorders are frequently misdiagnosed or inadequately characterised, leading to delayed or suboptimal management. Beyond laryngoscopic visualisation, standardised tools such as the VHI-10 and the GRBAS perceptual scale serve as complementary instruments for accurate diagnosis.

This paper aims to highlight the impact of voice on quality of life in functional voice disorders. Alongside diagnostic work-up and individualised management using VHI-10 and GRBAS, education regarding vocal hygiene, vocal abuse, and correct muscle tension use is key to satisfactory voice emission.

MATERIAL & METHODS

From clinical experience, data were collected on patients who complained of persistent dysphonia with no structural or neurological abnormalities found on clinical examination. The evaluation of the patients included a detailed anamnesis, endoscopic examination of the larynx, as well as questionnaires to quantify the degree of dysphonia. Severity was graded using the GRBAS scale and patient-reported handicap was quantified using the VHI-10. Therapeutic interventions consisted of drug treatment in certain cases, individualized voice therapy programs and reeducation regarding vocal hygiene.

RESULTS

Clinical assessment revealed a consistent pattern: voice impairment was significantly shaped by habitual vocal misuse, occupational vocal demand and limited patient awareness of laryngeal physiology. VHI-10 and GRBAS scores served primarily to guide the clinical picture and track progress. Patients who received a combination of targeted pharmacotherapy alongside structured vocal hygiene education and voice therapy affirmed sustained improvement. With patients' education of the disruption of the balance between the three essential subsystems of voice production: the respiratory system (airflow), the laryngeal system (vibration), and the resonance system (the vocal tract) engagement with therapy improved markedly. Cases that proved most challenging were those where functional and organic features coexisted, but when correct medical and therapeutic approach was addressed, the pathology was improved. Overall, the series reinforced that no single intervention suffices – recovery in functional dysphonia is best understood as a process of reeducation rather than treatment in the conventional sense.

CONCLUSIONS

Functional voice disorders present distinct diagnostic and therapeutic challenges in the ENT setting. Concurrent use of VHI-10 and GRBAS provides a practical, reproducible framework for severity grading and outcome monitoring. While voice therapy

remains the cornerstone of management, a medical approach is as important in rulling out structural pathologies and addressing co-existing reflux, psychological, or muscular factors. Ultimately, success depends on moving the patient from cognitive awareness to the autonomous application of these new habits, ensuring that therapy is a personalized process rather than a generic recipe.

KEYWORDS

voice, evaluation, voice therapy

OP-999

Evaluation Of The Effect Of Rhinoplasty Surgery On Nasal Consonants

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BACKGROUND & AIM

Rhinoplasty alters nasal cavity volume and airflow dynamics, potentially affecting speech resonance. While functional nasal surgeries have been studied extensively, the impact of aesthetic rhinoplasty in patients without septal deviation remains unclear. This study aimed to prospectively evaluate the effect of primary aesthetic rhinoplasty on the acoustic characteristics of Turkish nasal consonants using objective nasalance measurements.

MATERIAL & METHODS

This prospective study included adult patients undergoing primary aesthetic rhinoplasty without septal deviation or significant nasal obstruction. Voice recordings were obtained preoperatively and at postoperative 1st and 3rd months. Speech material included isolated sounds, nasal consonant-containing words ([m], [n]), adjacent vowels, and standardized nasal and oral sentences. Recordings were analyzed using the Praat-Assisted Nasalance Meter (PANM). Nasalance values across time points were compared using appropriate statistical tests, with $p<0.05$ considered significant.

RESULTS

Postoperative evaluations demonstrated a tendency toward decreased nasalance values in nasal consonants and adjacent vowels compared to preoperative measurements. The reduction was more pronounced in nasal speech material, whereas oral plosive sentences showed no significant changes. Isolated vowel measurements remained largely stable. These findings suggest that structural narrowing following rhinoplasty may influence nasal resonance characteristics.

In both sexes, nasalance values in nasal sentences and words decreased at the 1st and 3rd postoperative months compared to the preoperative values.

CONCLUSIONS

Primary aesthetic rhinoplasty in patients without septal deviation may lead to a reduction in nasal resonance. Although changes are generally subtle, they may be clinically relevant, particularly in professional voice users. Preoperative counseling regarding potential resonance alterations should be considered in selected patients.

KEYWORDS

Rhinoplasty; Nasalance; Nasal Consonants; Speech Acoustics; Resonance; Voice Analysis

OP-1000

Evaluating Large Language Models As Patient Information Sources For Voice Feminisation Surgery: Quality, Readability And Reliability

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BACKGROUND & AIM

Voice feminisation surgery (VFS) is a key component of gender affirmation for many transgender individuals. Limited patient-clinician contact and prolonged waiting times drive patients to seek information online, increasingly from artificial intelligence (AI) large language models (LLMs). This study evaluates the quality and readability of LLM-generated responses to frequently asked questions (FAQs) about VFS.

MATERIAL & METHODS

Thirty FAQs were collated from open-access patient population surveys, including general, voice therapy, surgical, recovery and complex question categories. Each question was entered into three LLMs (ChatGPT-5.5, Gemini 3.5 Flash and Claude Sonnet 4.6), generating a total of ninety responses. A consultant laryngologist with subspecialty expertise in VFS assessed response quality using the Global Quality Scale (GQS), a Likert-based scoring tool, and qualitative analysis to compare LLM-responses. The responses were evaluated with the Flesch Reading Ease (FRE) and Flesch-Kincaid Grade Level (FKL) for readability and a modified-DISCERN (questions 1-8 of the original DISCERN tool) questionnaire for reliability.

RESULTS

Expert laryngologist GQS ratings favoured Claude across all question categories (mean 4.3/5), followed by ChatGPT (3.6/5) and Gemini (3.5/5). Claude scored highest in the complex question category (4.9/5), whilst Gemini and ChatGPT performed comparably across most domains. Qualitative analysis revealed specific inaccuracies across all LLMs. Significant differences in readability were identified across all three LLMs (Kruskal-Wallis, $p<0.001$ for both FRE and FKG). Gemini produced the most readable responses (mean FRE 57.2 ± 7.3; mean FKG 8.7 ± 1.2), whilst Claude and ChatGPT scored comparably on FRE (37.4 ± 8.0 and 34.5 ± 7.4 respectively, $p=0.117$) but differed significantly on FKG (Claude 11.0 ± 1.2; ChatGPT 10.0 ± 1.1, $p=0.003$). Modified DISCERN scores also differed significantly ($p=0.007$), with Claude scoring highest (25.9 ± 2.1), followed by ChatGPT (25.3 ± 1.7) and Gemini (24.5 ± 1.9).

CONCLUSIONS

Claude demonstrated higher quality and reliability of patient-information compared to ChatGPT and Gemini, though Gemini produced the most readable responses. All LLMs produced responses which varied significantly in readability, reliability and quality, highlighting the need for caution when patients use chatbots as a source of information regarding VFS, and emphasizing the importance of accessible clinician-verified resources in this constantly evolving field.

KEYWORDS

Voice Feminisation Surgery, VFS, artificial intelligence, large language models, patient information

OP-1001

Effects Of Injectable Platelet-Rich Fibrin (I-PRF) On Voice Quality In Phonosurgery: A Retrospective Comparative Study

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BACKGROUND & AIM

Benign vocal fold lesions have been shown to alter the superficial lamina propria biomechanics, resulting in dysphonia. Whilst phonosurgery aims to restore functional anatomy, the prevention of postoperative scarring and the optimisation of tissue regeneration remain significant clinical challenges. Injectable platelet-rich fibrin (i-PRF) is an autologous biomaterial that facilitates the sustained release of growth factors. The objective of this study is to evaluate the clinical and acoustic effects of intraoperative i-PRF application on voice quality following the surgical excision of benign vocal fold lesions.

MATERIAL & METHODS

The present retrospective comparative study comprised 70 patients (aged 18–65) who underwent phonosurgery for benign vocal fold lesions. The study cohort (n=35) received an intraoperative i-PRF injection into the operated vocal fold immediately following lesion excision, whereas the control cohort (n=35) underwent standard excision alone. Voice assessments were conducted preoperatively and at one and three months postoperatively. The subjective outcomes were measured using the Voice Handicap Index-10 (VHI-10), the GRBAS scale, and a Visual Analog Scale (VAS). Objective acoustic analyses were performed via Praat software to evaluate fundamental frequency (F0), jitter, shimmer, harmonics-to-noise ratio (HNR), and Cepstral Peak Prominence (CPP). Furthermore, videolaryngostroboscopic parameters were also assessed.

RESULTS

The final analysis included 70 patients (35 per cohort). There were no significant differences in baseline demographic characteristics between the two groups ($p > 0.05$). Both groups demonstrated clinical improvements from baseline to three months. However, at the 3-month evaluation, the i-PRF group exhibited significantly better VHI-10, GRBAS, and VAS scores compared to controls ($p < 0.05$). Objective acoustic analyses (Jitter, Shimmer, HNR, CPP) also revealed statistically significant differences favoring the i-PRF cohort ($p < 0.05$). Additionally, videolaryngostroboscopy showed more consistent mucosal wave restoration and glottic closure in the i-PRF group.

CONCLUSIONS

The adjunctive use of i-PRF during the excision of benign vocal fold lesions is associated with improved subjective and objective voice outcomes at three months. These findings suggest that i-PRF may support postoperative tissue healing and serve as a useful adjunct for functional voice recovery.

KEYWORDS

Phonosurgery, injectable platelet-rich fibrin, vocal fold scarring, acoustic voice analysis, Cepstral Peak Prominence

OP-1002

Features Of Rehabilitation Of Voice Function With Severe Laryngeal Pathology

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BACKGROUND & AIM

The aim of this study was to evaluate the characteristics of and patient pathway in comprehensive rehabilitation of voice and respiratory function in patients with severe laryngeal pathology. The study was designed to identify which approaches most effectively contributed to restoration of vocal function, reduction of compensatory disorders, and improvement of patients' quality of life.

MATERIAL & METHODS

The study included 50 patients with bilateral and unilateral laryngeal paralysis, patients after laryngeal resection or laryngectomy, cicatricial stenosis, laryngeal papillomatosis, and combined disorders of voice, swallowing, and breathing. Particular attention was given to the early initiation of corrective measures and the selection of individualized phonopedic techniques. The rehabilitation program included methods aimed at activating the neuromuscular apparatus of the larynx, neurophoniatric electrical myostimulation, biofeedback training, breathing exercises, and psychological support. Effectiveness was assessed using acoustic analysis, videolaryngostroboscopy, high-speed laryngeal imaging, as well as patients' subjective self-assessment using the Voice Handicap Index (VHI) and a visual analog scale for voice assessment.

RESULTS

It was found that early initiation of phonopedic correction contributed to faster recovery of vocal function and reduced the risk of pathological compensatory mechanisms, including the involvement of the vestibular folds in phonation. In patients with severe lesions and combined disorders, standard techniques were adapted with an emphasis on breathing techniques and swallowing rehabilitation. The use of biofeedback and electrical myostimulation increased training effectiveness through visualization and process control. Psychological support significantly improved patient adherence to the long-term rehabilitation program.

CONCLUSIONS

Rehabilitation of vocal function in severe laryngeal pathology should be early, comprehensive, and strictly individualized. The best results are achieved through a combination of phonopedic therapy, device-based methods, and psychological support. Long-term follow-up is essential for preventing recurrence and consolidating the achieved functional outcomes. In cases of combined voice, swallowing, and breathing disorders, the patient pathway should be multidisciplinary and involve an otolaryngologist, phoniatrician, speech therapist, rehabilitation specialist, and, when necessary, other specialists.

KEYWORDS

Voice rehabilitation, laryngectomy, compensatory communication, multidisciplinary approach, speech pathology, visual analog scale for voice assessment, neurophoniatric electrical myostimulation

OP-1003

The Impact Of The Middle Third Acoustic Signal Sampling Technique On The Outcome Of Acoustic Analysis

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BACKGROUND & AIM

Acoustic Analysis is a key instrumental tool in assessing Voice disorders. Earlier work showed that collecting the acoustic signal from the middle segment eliminates the effects of voice onset and offset on the acoustic analysis. The middle third of the acoustic signal showed the greatest correlation with Jitter percent scores across MDVP and PRAAT. Earlier work on the PQVD database used a subjectively selected middle portion of a steady, sustained vowel; we reanalysed the signals using MDVP and PRAAT, collecting parameters from the objectively calculated mathematical third of the acoustic signal

MATERIAL & METHODS

The Maximum Phonation Time signal duration in the PQVD database was measured from its PRAAT display, and the middle Third was mathematically calculated and extracted. The Trimmed signals for 103 Normal Voices and 143 Dysphonic samples were pooled and analysed with PRAAT and MDVP. The researchers investigated the perturbation parameters Jitter and Shimmer's ability to differentiate between Dysphonia presence and absence, and compared the findings with earlier PRAAT results for the same sample.

RESULTS

Our results show that The Area under the curve for Jitter in both MDVP and PRAAT in our mathematically timed signal was 0.78, compared to 0.66 in PRAAT using the subjective stable sample selection. The sensitivity was 0.80 and 0.86 in MDVP and PRAAT, respectively, in our analysis, compared to 0.80 in the earlier work. For Shimmer, The Area under the curve was again identical across MDVP and PRAAT in our analysis, 0.82, compared to 0.72 in the earlier work. At the same time, we found sensitivities of 0.86 in PRAAT and 0.80 in MDVP, compared with 0.80 in the earlier study used for comparison. In all the above analyses, the specificity ranged from 0.46 to 0.49, except for Jitter, which scored 0.34 in the subjective stable sample selection.

CONCLUSIONS

Mathematically selecting the acoustic signal for analysis, when contrasted with subjective, stable sample selection, shows a positive impact on the diagnostic value of Jitter and Shimmer; moreover, it improves the percentage agreement in Dysphonia Discrimination between MDVP and PRAAT at their respective cut-offs for the perturbation parameters.

KEYWORDS

Dysphonia, Voice Analysis, Acoustics, MDVP, PRAAT

OP-1004

Pediatric Voice Disorders: From Physiological Development To Clinical Management

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BACKGROUND & AIM

Pediatric voice disorders represent a significant yet frequently underdiagnosed clinical problem, affecting approximately 4–30% of the child population. Early identification and appropriate management are essential to prevent chronic pathology and to improve quality of life. This study aims to provide a comprehensive overview of the anatomical and physiological characteristics of the developing pediatric larynx, outline key stages of voice formation, and highlight the most common voice disorders encountered in children.

MATERIAL & METHODS

Special attention is given to functional dysphonia, which accounts for up to 70% of pediatric voice disorders, as well as mutation-related dysphonia during puberty. The paper discusses the pathophysiological mechanisms, clinical manifestations, and differential diagnosis of both physiological and pathological voice mutation, including delayed, prolonged, and incomplete mutation. Organic conditions such as vocal fold nodules, laryngopharyngeal reflux, adenoid hypertrophy, and neurologically voice disorders are also examined. The importance of comprehensive diagnostic evaluation is emphasized, including videolaryngoscopy and videolaryngostroboscopy as gold-standard tools for assessing vocal fold structure and function. The study highlights common diagnostic pitfalls, such as underestimation of persistent dysphonia and overreliance on limited examination methods.

RESULTS

Management strategies are discussed within a multidisciplinary framework involving otolaryngologists, phoniatricians, speech therapists, and other specialists. Conservative treatment, including vocal hygiene and voice therapy, is shown to be effective in the majority of cases, while clear indications for active intervention are defined.

CONCLUSIONS

The findings underscore the necessity of early diagnosis, individualized treatment planning, and interdisciplinary collaboration in pediatric phoniatrics, reinforcing the principle that even minor voice complaints in children require thorough clinical attention.

KEYWORDS

dysphonia, phoniatrcis, pediatric, childrens voice

OP-1005

Efficacy Of Test Electrode-Based Method Of Measuring Achievable Electrode Insertion Depth In Cochlear Implantation On Communicative Outcomes

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BACKGROUND & AIM

Background: Optimal electrode insertion depth in cochlear implantation (CI) is critical for maximizing auditory outcomes. A novel color-coded test electrode array enables intraoperative simulation of multiple electrode lengths, potentially improving surgical precision and post-implant communicative development.

Objectives: To evaluate the effect of test electrode-guided insertion depth selection on communicative outcomes in pediatric CI recipients over a 12-month rehabilitation period.

MATERIAL & METHODS

Methods: Twenty children (aged 12–48 months) with congenital bilateral profound sensorineural hearing loss were prospectively enrolled and equally divided into two groups. Group A (n=10) underwent unilateral CI using a MED-EL custom test electrode array with five color-coded depth markers, while Group B (n=10) was implanted without the test electrode. All subjects received standardized auditory-verbal therapy commencing one month post-implantation. Communicative outcomes were assessed using the Post-cochlear Auditory Skills (PAS) checklist across detection, discrimination, identification, and comprehension domains at 3, 6, 9, and 12 months post-operatively.

RESULTS

Results: Both groups demonstrated significant auditory improvement over time (F=225.73, p<0.001). Group A achieved consistently superior total PAS scores (65.40 vs. 53.80; F=25.34, p<0.001, η^2=0.585) with a significantly faster rate of improvement (Time×Group interaction: F=5.26, p=0.003). Group A reached near-ceiling performance by 12 months (75.80±0.42 vs. 68.70±2.83). Significant between-group differences were observed in detection, discrimination, and comprehension (all p<0.05), with parallel improvement trajectories noted only in identification.

CONCLUSIONS

Conclusion: Intraoperative use of a color-coded test electrode for insertion depth guidance significantly enhances communicative outcomes in pediatric cochlear implant recipients, facilitating earlier and more robust acquisition of auditory skills across all domains. These findings support its integration into routine CI surgical practice.

KEYWORDS

Keywords: Cochlear implant; electrode insertion depth; test electrode; pediatric audiology; auditory-verbal therapy; communicative outcomes

OP-1006

Objective Tracking Of Abdomino-Phonatory Motor Skill Acquisition In Smith Accent Technique Training: A Pilot Study

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BACKGROUND & AIM

The Smith Accent Technique (SAT) is a method of voice development and therapy that focuses on abdomino-phonatory (AP) control. It is based on a hierarchical progression of control of abdominal wall contractions during exhalation for phonation across progressive levels of speech and communication complexity. In clinical practice, the effect of SAT is usually evaluated subjectively, mainly by observing abdominal movement during phonation. Objective physiological measurements of AP control are still limited. The aim of this pilot study was to assess objectively the acquisition and progression of abdomino-phonatory control during SAT training by measuring abdominal wall excursion at several time points.

MATERIAL & METHODS

A repeated-measures pilot study was carried out. Two vocally healthy adult female participants (ages 38 and 41) completed 8 sessions of SAT-based AP motor training. Abdominal wall displacement was measured using respiratory inductance plethysmography (RIP) at five time points: baseline (T1), after 3, 6, and 8 sessions (T2–T4), and one month after the training period (T5). The tasks were performed in sitting and standing positions under two conditions: habitual breathing and SAT breath-supported phonation. Mean inward (expiratory) and outward (inspiratory) abdominal displacement values were calculated. Differences between conditions were analysed using bootstrapped independent-samples t-tests.

RESULTS

Considerable increases in abdominal wall displacement during breath-supported exhalation were observed from T1 to T5 (P1: +409.7% sitting, +100.2% standing; P2: +307.9% sitting, +185.0% standing). The largest changes were found between T1 and T2. The progression was not linear, with small plateaus and reductions observed during later sessions. At later stages, habitual breathing occasionally approached or exceeded the displacement measured during supported phonation. Differences in participants' progression patterns were noted.

CONCLUSIONS

The results indicate that RIP can be used as an objective method to monitor AP control during SAT training. The most marked improvements occurred in the early phase of training. Further research with a larger sample is needed to examine the relationship between physiological measurements and subjective ratings of abdominal wall displacement throughout training /therapy and how can it be used to predict the voice outcome.

KEYWORDS

Smith Accent Technique, abdomino-phonatory control, diaphragmatic breathing, respiratory inductance plethysmography, motor learning, voice therapy, pilot study

OP-1007

Artificial Intelligence Meets Voice: A Comparative Study Of LLM-Assisted Automated Acoustic Analysis And Praat

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BACKGROUND & AIM

Objective: The aim of this study was to quantify the diagnostic utility of AI derived acoustic features generated using the large language model ChatGPT 5.1 and to examine their correlation with conventional Praat based measurements.

MATERIAL & METHODS

Materials and Methods: We analyzed voice recordings from a total of 126 participants, comprising 63 patients exhibiting diverse laryngeal pathologies (e.g., vocal fold paralysis, polyps, nodules, sulcus vocalis) and 63 healthy volunteers individually matched for age and sex. Conventional acoustic perturbation measures (Jitter%, Shimmer%, HNR, CPPS) and AI-based spectral features (MFCCs 1–13, Spectral Centroid, Roll-off) were automatically extracted from the samples. Statistical analyses included Mann–Whitney U and Kruskal–Wallis tests for between group comparisons, and Spearman's rank correlation to assess interparameter relationships

RESULTS

Results: No statistically significant demographic disparities were observed between the cohorts ($p>0.05$). The AI-driven analysis revealed significantly lower MFCC-1 values and higher Spectral Centroid values in the pathological group (both $p<0.001$). A robust positive correlation was observed between Spectral Centroid and Shimmer% ($r=0.76$; $p<0.001$). In subgroup analyses, particularly among patients with vocal fold paralysis where signal aperiodicity often limits the interpretability of conventional acoustic measures AI-based features delineated a distinct, high fidelity "acoustic signature" with superior discriminatory power, enabling the statistically significant differentiation of paralysis cases from the polyp/nodule group ($p<0.05$).

CONCLUSIONS

Conclusion: Our findings demonstrate that LLM derived acoustic attributes are highly concordant with traditional Praat outputs and are clinically robust. Most notably, in severe dysphonia with marked loss of periodicity, AI assisted analysis proved more resilient, more discriminative, and diagnostically more informative than conventional methods. These data suggest that LLM supported acoustic analysis is well positioned for integration into routine clinical practice as a rapid, noninvasive, and objective tool for triage and preliminary diagnosis in modern laryngology.

KEYWORDS

Keywords: artificial intelligence; acoustic analysis; Praat; MFCC; vocal fold paralysis; large language model (LLM).

OP-1008

Speech-Language Pathologists' Motor Learning Strategies For Three Vocal Exercises: An Analysis Based On The Motor Learning Classification Framework

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BACKGROUND & AIM

The Motor Learning Classification Framework (MLCF-v2) is an organizational framework designed to classify behaviors produced within vocal therapy during therapist-client interaction, with the aim of observing the impact of a task on motor learning. These behaviors are divided into explicit and implicit variables, which define the characteristics of each pedagogical practice. The aim of this research is to contrast the pedagogical practices employed by speech-language pathologists when directing different vocal exercises using the Motor Learning Classification Framework (MLCF-v2).

MATERIAL & METHODS

Simulated speech-language therapy sessions were conducted involving one actress and nine speech-language pathologists specializing in voice. During these sessions, the clinicians were instructed to guide three exercises: a nasal glissando, vocal fry, and the yawn–sigh technique. The dialogue between the therapist and the patient throughout the session was audio-recorded and subsequently transcribed. Each communicative turn, whether verbal or nonverbal, was analyzed using the Motor Learning Classification Framework to establish a profile associated with each exercise.

RESULTS

The chi-square analysis revealed significant differences in the distribution of explicit pedagogical practices across techniques ($\chi^2 = 25.0563$, $p = 0.0146$). Post-hoc comparisons showed distinct technique-specific patterns. In the glissando exercise, self-evaluation feedback was significantly less frequent compared to the other techniques. In the vocal fry, requests for self-evaluation were significantly less prevalent than in the remaining techniques. In contrast, the yawn–sigh technique was characterized by a significantly higher use of modeling, while both requests for self-evaluation and self-evaluation feedback were significantly less frequent relative to the other exercises. No significant differences were observed in the distribution of implicit pedagogical practices across techniques ($p = 0.267$), with perceptual training and attentional focus predominating over motivational strategies in all cases.

CONCLUSIONS

Different strategies are employed by speech-language pathologists in the pedagogy of various vocal techniques; however, they share a similar overall profile. Future research should examine additional factors that may influence the pedagogical strategies used by professionals.

KEYWORDS

motor learning, voice therapy, vocal exercises, Motor Learning Classification Framework

OP-1009

Speech And Language Therapy In Larynx Paresis. Why? When? How?

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BACKGROUND & AIM

This presentation provides an overview of the indications, timing, and methods of SLT in patients with laryngeal paresis.

MATERIAL & METHODS

The analysis is based on current literature and clinical practice, with a focus on the integration of SLT into multidisciplinary management. Key aspects include early versus delayed intervention and commonly used therapeutic techniques.

RESULTS

Available evidence suggests that early initiation of SLT may support functional voice recovery, facilitate compensatory strategies, and help prevent maladaptive phonatory behaviors. Voice and swallowing therapy and neuromuscular facilitation are widely used in clinical practice.

CONCLUSIONS

SLT should be considered an essential component of laryngeal paresis management, and clearer clinical frameworks may improve patient outcomes.

KEYWORDS

Laryngeal paresis, Speech and language therapy, Voice disorders, Dysphagia, Neuro-laryngology, Multidisciplinary rehabilitation

OP-1010

Voice-Related Outcomes In Call Center Employees: Findings From Acoustic Analysis And Self-Report Measures

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BACKGROUND & AIM

Voice problems among call center employees may negatively affect occupational performance and quality of life. However, studies combining self-report voice assessment scales with acoustic analysis in this population remain limited. The aim of this study was to examine the voice characteristics of call center employees using both objective and subjective methods and to investigate the influence of voice-use habits and occupational variables on voice-related outcomes.

MATERIAL & METHODS

The study included 63 participants, consisting of 55 women and 8 men. For subjective assessment, the Call Center Employees' Professional Voice Use and Vocal Risk Factors Questionnaire, Voice Handicap Index-10 (VHI-10), the Vocal Tract Discomfort (VTD), and Reflux Symptom Index (RSI) were administered. For objective assessment, acoustic analysis was performed using the Praat program. Participants were asked to produce a sustained /a/ sound and read a standardized text.

RESULTS

The analyses revealed that smoothed cepstral peak prominence for sustained /a/ (CPPS-a) differed significantly by workers' years of experience and daily voice use duration ($p<0.05$). Additionally, years of professional experience and workplace noise levels were significantly associated with VTD scores ($p<0.05$). Regarding vocal hygiene habits, carbonated beverage consumption was significantly associated with VHI-10 scores, whereas smoking was significantly associated with VTD scores ($p<0.05$).

CONCLUSIONS

Call center employees may be at risk for voice-related problems due to their occupational voice demands. A combined use of acoustic analysis and self-reported voice evaluations may give a comprehensive understanding of voice-related outcomes in this occupational group.

KEYWORDS

Call Center Employees, Voice Quality, Occupational Voice, Acoustic Analysis, Self-Reported Voice Outcomes

OP-1011

EVALUATION OF THE EFFECTIVENESS OF VOICE RESTORATION IN THE EARLY POSTOPERATIVE PERIOD AFTER REMOVAL OF A BENIGN LARYNGEAL NEOPLASM

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BACKGROUND & AIM

Introduction: Treatment of benign laryngeal neoplasms is complex. The recovery period of the voice in the postoperativeperiod depends on the magnitude of the surgical injury, the regenerative abilities of the human body, the rehabilitationmeasures used, as well as the patient's conscientious implementation of recommendations, his desires andefforts.

Aims: To evaluate the effectiveness of the method of postoperative voice rehabilitation in the complex treatment of patients with benign laryngeal neoplasm.

MATERIAL & METHODS

The study involved 105 patients who were divided into two groups, where in the study group, unlike the control group, after phonomicrosurgery, in addition to corticosteroid inhalation 2 times a day for 4 days, absolute vocal rest for 2-3 days, followed by relative rest for 7-10 days, physiotherapy with a low-frequency stationary pulsed magnetic field was additionally performed within 4 days.

RESULTS

At the end of 6 months of follow-up, the disease relapsed in 4% of cases in the control group, and no relapse was observed in the study group. The objective parameters of the acoustic analysis of the voice of the study group significantly exceeded the parameters of the control group in the postoperative period from the 5th day of follow-up. Dysphonia severity index (DSI) ($p < 0.001$), median DSI (in the control group) =0.58, median DSI (in the study group) =2.21. Stroboscopic parameters such as the mucosal wave, the amplitude of movement of the vocal folds, and the closure of the glottis were restored in the study group on the 5th day, and in the control group on the 10th day of the postoperative period. There were no statistically significant differences in the VHI-30 and Yanagihara voice scores during the control and interim periods.

CONCLUSIONS

An integrated approach to the treatment of patients with benign laryngeal pathology, in particular with polyps of the vocal folds, including phonosurgery followed by the use of the ALMAG+ device, made it possible to restore the vibratory function of the vocal apparatus in a short period of time, as well as prevent the recurrence of the disease.

KEYWORDS

benign laryngeal lesions, vocal fold polyps, phonosurgery, voice rehabilitation, magnetic therapy

OP-1012

Psychological Factors And Voice Outcomes: Individual And Group Mechanisms

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BACKGROUND & AIM

The interaction of psychological factors and voice outcomes can be complex and heterogeneous. Recent advances in analytic methodology allow causal examination of how these factors impact each other, raising the possibility of valuable mechanistic insights.

MATERIAL & METHODS

Measures of key voice and psychological factors, including the Voice Handicap Index-10, perceived present control, distress, and affect were collected multiple times per day from adults (n=40) with primary muscle tension dysphonia. Causal analyses were performed using the Greedy Fast Causal Inference algorithm.

RESULTS

At the group level, anxiety was causal for subsequent voice handicap scores. At the individual level, approximately half of participants had a psychological factor causal for voice handicap, but there was heterogeneity in terms of which factors were causal. These included perceived control, negative affect, anxiety, and stress.

CONCLUSIONS

Examination of causality can identify heterogeneity at the individual level which is not apparent at the group level, and is applicable to the complex intersection of psychological factors and voice outcomes. This approach contributes to a foundation for mechanistically individualizing treatment of voice disorders.

KEYWORDS
psychology, voice, ecological momentary assessment, causality

OP-1013

Analyzing The Vocal Cycle: Methodological Insights From Electroglottography And Biomechanical Analysis Of Voice

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BACKGROUND & AIM

To evaluate the ability of biomechanical analysis of voice in sustained non-nasalised vowels to estimate the duration of the phases of the vocal cycle in comparison to the measurement provided by electroglottography.

MATERIAL & METHODS

444 recordings of low, normal, and high pitches of 148 subjects were evaluated, and the measurements of the duration of the vocal cycle phases obtained by electroglottography were compared to the T wave measurements provided by the biomechanical analysis tool Voice Clinical Systems® .

RESULTS

Simultaneous comparative analysis of the electroglottography and T wave has provided equivalent reference points that represent the principal events of the vocal cycle. When comparing the duration of the phases of the cycle based on the pitch of the vocal emission, it was observed that biomechanical analysis can identify a significant reduction in the duration of the closed phase in high pitch compared to the other ($p<0.005$).

CONCLUSIONS

Biomechanical analysis has proved to be an effective tool to measure the phases of the vocal cycle, demonstrating a strong correlation between the T wave and the electroglottography curve. It is also able to detect variations in the duration of the phases of the cycle in relation to changes in the pitch.

KEYWORDS

Electroglottography; biomechanical analysis of voice; vocal cycle phases measurement; mucosal wave.

OP-1014

Surgical Considerations And Speech Outcomes In Infants Who Undergo Cochlear Implantation

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BACKGROUND & AIM

To evaluate the feasibility and outcomes of cochlear implantation (CI) in infancy.

MATERIAL & METHODS

All infants who underwent CI from January 2011 to October 2018 at a tertiary referral center in the Kingdom of Saudi Arabia were retrospectively reviewed. Demographic data, factors associated with early detection, and any surgical difficulties or postoperative complications were extracted from the medical records. The outcome of CI was determined by a speech pathologist.

RESULTS

Fifteen patients underwent CI during the study period (9 bilateral and performed simultaneously, 6 unilateral). The round window was difficult to identify in 5 cases. Incomplete electrode insertion because of cochlear ossification secondary to meningitis was documented in one patient. No major postoperative complications were encountered. The average auditory performance score was 7 and the speech intelligibility rating was 5.

CONCLUSIONS

This study represents the largest national cohort of pediatric patients undergoing CI in infancy. In this series, the surgery was safe and the speech outcome was good. With implementation of the neonatal screening program in the Kingdom of Saudi Arabia, the number of infants undergoing CI is likely to increase in the near future, paving the way for more research in infant CI.

KEYWORDS

To evaluate the feasibility and outcomes of cochlear implantation (CI) in infancy.

OP-1015

Voice Analysis After Endotracheal Intubation

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BACKGROUND & AIM

The aim of this study is to determine the duration of voice disorders associated with endotracheal intibation and the funtional recovery time of patients. Additionally, it aims to estimate the period required for patients to regain their baseline vocal tone and speaking abilities.

MATERIAL & METHODS

In our study, patients undergoing non-laryngeal surgeries under general anesthesia with endotracheal intubation were included. Exclusion criteria were prior voice-altering surgeries, neurological diseases, recent general anesthesia (within 3 months), difficult intubation, advanced septal deviation, allergic rhinitis, nasal polyps, asthma, pregnancy, existing vocal cord pathologies, laryngopharyngeal reflux, recent upper respiratory infections, smoking, and postoperative vomiting. Participants completed the Voice Handicap Index-10 (VHI-10), Grade, Roughness, Breathiness, Asthenia, Strain (GRBAS) scale, Reflux Symptom Index (RSI), and Voice-Related Quality of Life (V-RQOL) questionnaires. Voice recordings were performed in an anechoic room using a Samson CO3U condenser microphone and Adobe Audition. The microphone was positioned 4 cm from the mouth at a 45-degree angle. Participants sustained the /a/ vowel and read a standard text. Acoustic analyses were conducted using Praat software (v.12.1).

RESULTS

In our study, 66 patients (62.1% female, 37.9% male) with a mean age of 38.5 ± 14.2 years were included. Mean intubation duration was 101.4 minutes with 1.25 mean attempts. At T1 (24h post-extubation), statistically significant deteriorations were observed in Acoustic Voice Quality Index (AVQI) (1.91 to 2.78, p=0.000), jitter (0.41 to 0.52, p=0.014), Maximum Phonation Time (MPT) (17.27s to 16.00s, p=0.000), GRBAS (0.41 to 1.05, p=0.000), and VHI-10 scores. No significant changes were found in shimmer (p=0.081), HNR (p=0.932), F0 (p=0.448), or RSI scores (p=0.167). By T2 (5th day), all affected parameters showed a significant recovery trend toward baseline (T0) values.

CONCLUSIONS

In this study, it was found that endotracheal intubation negatively impacts voice quality, vibratory stability, aerodynamic capacity, and voice-related quality of life at 24 hours post-extubation, with recovery beginning by the 5th day. These findings are independent of reflux and purely mechanical-traumatic in origin. Predicting this transient dysphonia is clinically essential—especially for professional voice users—to ensure effective patient counseling, postoperative voice rest planning, and the physician's medicolegal security.

KEYWORDS

Endotracheal intubation, Voice quality, Acoustic Voice Quality Index (AVQI), Maximum Phonation Time (MPT), Postoperative dysphonia, Voice analysis.

OP-1016

Is Acoustic Analysis A Reliable Non-Invasive Method In The Pediatric Population?

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BACKGROUND & AIM

Objective: To determine the clinical reliability and applicability of instrumental acoustic analysis as a swallowing assessment method in children.

MATERIAL & METHODS

Methods: An integrative review was conducted, analyzing studies applying digitalized cervical auscultation or sound analysis in pediatric populations with typical development or with dysphagia.

RESULTS

Results: The evidence indicates a nuanced utility profile. The technique is feasible and well-tolerated as a non-invasive procedure. Distinct parameters have been identified across infants, children, and adolescents, establishing age-specific normative curves. It is particularly reliable for detecting suck-swallow-breathe discoordination patterns in preterm infants and for monitoring post-intervention changes in children with cerebral palsy. However, its diagnostic reliability is lower than in adults due to greater anatomical and physiological variability, alongside difficulties in standardizing bolus volume and food consistency. The signal can be degraded by movement or vocalization artifacts, and its correlation with gold-standard instrumental findings (VFSS) is high for detecting aspiration events but moderate for characterizing specific pathophysiology.

CONCLUSIONS

Conclusion: Acoustic analysis is a feasible and moderately reliable non-invasive method in pediatrics. Its greatest strength lies in serial monitoring and screening within high-risk populations. To achieve optimal diagnostic reliability, it must be interpreted by trained professionals within the patient's global clinical context.

KEYWORDS
dysphagia Acoustic analysis swallowing

OP-1017

Objective And Subjective Evaluation Of Voice Quality In Electronic And Conventional Cigarette Smokers

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BACKGROUND & AIM

The aim of this study is to compare chronic changes in voice quality between users of conventional cigarettes, electronic cigarettes (e-cigarettes) and both products concurrently (dual users), using objective acoustic, endoscopic and self-reported measures.

MATERIAL & METHODS

48 participants were assessed in four groups: conventional smokers (n=17), e-cigarette users (n=9), dual users (n=13) and healthy non-smoking controls (n=9). Mean age was 30.0 years (range 20–46); mean exposure among users was 8.7 years (maximum 20). Exclusions were professional voice training, previous laryngeal surgery, malignant or premalignant lesion history, lower airway disease or active upper respiratory infection, neurological disease and pre-existing benign vocal fold lesions; controls additionally had no second-hand smoke exposure and had stopped any past smoking at least five years earlier. Tobacco consumption was stopped at least one hour before testing to exclude acute effects. Acoustic analysis (F0, jitter, shimmer, HNR) was performed in Praat on sustained /a/ recordings, laryngeal findings by 70° rigid videostroboscopy, perceptual quality with CAPE-V and self-reported handicap with the VHI-10. Irritation findings were ascertained from the stroboscopy report. Non-parametric tests were used throughout, acoustic values standardised within sex, and pairwise comparisons Holm-corrected.

RESULTS

Laryngeal irritation findings (hyperaemia, oedema, pachydermia) were the clearest discriminator between groups: present in 71% of conventional smokers, 56% of e-cigarette users and 85% of dual users, versus 11% of controls ($p = 0.004$). Pooled, 28/39 users versus 1/9 controls showed irritation ($p = 0.001$). Among acoustic parameters, sex-standardised shimmer differed across the four groups (Kruskal-Wallis $p = 0.047$, $\varepsilon^2 = 0.115$), being highest in conventional smokers and lowest in controls; HNR followed the same ordering ($p = 0.054$). In raw values, shimmer was 5.27% in conventional smokers versus 3.47% in controls, and jitter 0.61% versus 0.43%. However, no pairwise comparison survived Holm correction. Fundamental frequency did not differ significantly between groups ($p = 0.266$). VHI-10 scores did not differ between groups ($p = 0.238$), and 32 of 48 participants scored zero, indicating a marked floor effect.

CONCLUSIONS

In this sample, visible laryngeal irritation was present in the majority of conventional, e-cigarette and dual users but in almost none of the controls, while self-reported voice handicap did not distinguish the groups — suggesting that endoscopic change precedes symptom awareness. Acoustic parameters were ordered in the expected direction, but with the present sample size no individual group contrast is statistically established. These findings do not support e-cigarettes as a vocally safe alternative; however, an e-cigarette-specific effect cannot yet be isolated, as 7/9 e-cigarette users and 10/13 dual users had prior conventional smoking exposure.

KEYWORDS

Electronic cigarette, Smoking, Voice quality, Acoustic analysis, Videostroboscopy

OP-1018

Free Hands Speech Use In Patients With Tracheoesophageal Voice Prosthesis After Total Laryngectomy

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BACKGROUND & AIM

Total laryngectomy (TL) remains the gold standard treatment for locally advanced laryngeal cancer. Tracheoesophageal (TE) speech using a voice prosthesis (VP) is currently the main method of voice rehabilitation. Free hands (FH) speech allows digital occlusion-free communication and is associated with improved quality of life and social reintegration. However, long-term adherence remains reported to around 30% of patients. This study aims to evaluate the use and adherence to FH speech among patients rehabilitated with a VP.

MATERIAL & METHODS

The study design was a retrospective cohort and included patients admitted to TL between 2020 and 2024 with at least 6 months follow-up. Voice and speech quality data were prospectively collected as part of standard clinical follow-up with voice handicap index 10 (VHI-10) questionnaire. Time to functional TE speech, FH adoption rate, duration of use, and causes of discontinuation were analyzed.

RESULTS

Thirty-three patients were included. Functional TE speech was achieved in 75.8% of patients at a mean of 5.8 ± 3.01 months postoperatively. Among these, 48% initiated FH speech at a mean of 9.35 ± 4.36 months after surgery. FH speech dropping-out rate was 83,3%, mostly due to patch displacement (44,4%) which held a mean fixation time of 1,5 ± 0,71 hours, followed by prosthesis-related complications (22,2%), shortness of breath (22,2%) and excessive cough (11,1%). FH speech was being used by 21,7% patients 1 year after TL, increasing to 29,4% 2 years after surgery. Among FH speech daily users, the device was used for 11 ± 1,41 hours. Mean VHI-10 score was 12 ± 4.95, with no significant difference between TE users with or without FH devices.

CONCLUSIONS

FH speech represents a promising but currently underperforming extension of TE rehabilitation. Without improvements in device reliability and patient-centered design, its clinical impact will remain limited despite high rates of functional TE speech acquisition.

KEYWORDS

Total Laringectomy; Voice Rehabilitation; Free Hands Speech; Tracheoesophageal Voice Prosthesis

OP-1019

Occupational Voice Use On Vocal Fatigue, Voice Handicap, Vocal Tract Discomfort, And Acoustic And Aerodynamic Voice Parameters In Academics

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BACKGROUND & AIM

This study aimed to determine the level of vocal fatigue associated with occupational voice use among academics actively engaged in teaching/lecturing and to examine the relationship between vocal fatigue, voice handicap, vocal tract discomfort, and acoustic and aerodynamic voice parameters.

MATERIAL & METHODS

Academics at universities were included. Demographic data, occupational voice-use characteristics, weekly teaching duration, microphone use, smoking history, and clinical factors affecting vocal health were recorded. Morning and evening assessments were conducted in participants to examine changes associated with occupational voice use. Vocal fatigue was evaluated using the Turkish Vocal Fatigue Index and a 0–10 Visual Analog Scale. Voice handicap was assessed with the SHI-10/VHI-10, and vocal tract discomfort with the Vocal Tract Discomfort Scale. Acoustic analyses included fundamental frequency, jitter, shimmer, and noise-to-harmonic ratio, whereas maximum phonation time and the s/z ratio were aerodynamic parameters. Data were analyzed using SPSS. Normality was tested with the Shapiro–Wilk test. Normally distributed data were presented as mean ± standard deviation and compared using paired-samples t-tests; non-normal data were presented as median and minimum–maximum and analyzed using Wilcoxon signed-rank tests. Categorical variables were reported as frequencies and percentages. Statistical significance was set at $p<0.05$.

RESULTS

Vocal fatigue levels were expected to increase with greater weekly teaching/lecturing duration and intensive occupational voice use. Evening measurements were expected to show higher vocal fatigue scores, shorter maximum phonation time, altered s/z ratio, and possible deterioration in acoustic voice parameters compared with morning measurements. Academics with higher vocal fatigue levels were also have higher voice handicap and vocal tract discomfort scores.

CONCLUSIONS

This study is expected to contribute to the identification of vocal fatigue risk associated with occupational voice use among academics and to support the development of preventive vocal health strategies.

KEYWORDS

vocal fatigue; academics; occupational voice use; voice handicap; vocal tract discomfort; acoustic voice analysis; maximum phonation time; s/z ratio

OP-1020

Nationwide Survey On The Characteristics And Treatment Of Age-Related Vocal Fold Atrophy In Japan

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BACKGROUND & AIM

As the global population ages, age-related vocal fold atrophy (ARVA) is increasingly recognized. However, no nationwide epidemiological studies have been conducted. We aimed to investigate the clinical characteristics and treatments of ARVA in Japan, the world's most aged society.

MATERIAL & METHODS

This multicenter retrospective study, part of the Tokyo Voice Center Initiative, analyzed medical records of 1365 patients diagnosed with ARVA between 2018 and 2022. The primary survey examined the involvement of speech language pathologist (SLP) and the routine use of stroboscopic examinations at 34 certified institutions. The secondary survey assessed hoarseness severity (via maximum phonation time and voice handicap index-10), age of onset, treatment methods, and treatment outcomes at 14 certified institutions.

RESULTS

All diagnoses and assessments were conducted by departments of otolaryngology—head and neck surgery. Of the 1365 patients (637 females, 728 males; mean age: 64.6 ± 14.7 years), 1097 received treatment and 268 did not. Treatments included voice therapy (n = 1031), injection augmentation (n = 162), and surgery (n = 18), with some receiving multiple therapies. Voice therapy was more effective when provided by voicespecialized SLPs. Invasive treatments yielded greater voice improvement overall. Significant differences in age and sex ratios were found between institutions ($P < 0.01$).

CONCLUSIONS

These findings underscore the need for cross-specialty education, broader awareness of ARVA, and establishment of a national database and severity classification system.

KEYWORDS

Age-related vocal fold atrophy, Japan, Nationwide, Characteristics

OP-1021

Voice Prosthesis Lifetime Before And After Fluconazole Initiation.

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BACKGROUND & AIM

Biofilm-related deterioration is a major cause of tracheoesophageal voice prothesis failure, and fungal colonization is frequently implicated in early device dysfunction. However, the effect of systemic antifungal treatment on prosthesis lifetime remains uncertain. We aim to evaluate whether initiation of fluconazole was associated with a change in completed voice prosthesis lifetime in patience, undergoing repeated prosthesis replacement. Our hypothesis was that prosthesis lifetime might differ after fluconazole initiation.

MATERIAL & METHODS

This was a retrospective interval-based clinical study. Records of 52 patient with 166 voice prosthesis replacement procedures were reviewed. Prosthesis lifetime was defined as the number of days between two consecutive recorded replacement date. Only completed lifetimes, defined as interval bracketed by two replacements procedures, were included in the primary analysis. Patient with fewer than 2 recorded replacements were excluded from interval-based analysis. Lifetimes were assigned according to fluconazole status at the start of each interval. Descriptive interval-level results were summarized using median values. To reduce between-patient variability, we added additionally performed paired patient-level analysis, including only the patients with completed prosthesis lifetimes in both periods. The paired comparison was performed using the Wilcoxon signed-rank test.

RESULTS

Interval-base analysis was possible 32 of 52 patients. A total of 101 completed prosthesis lifetimes were identified, including 82 in the pre-fluconazole period and 19 in the fluconazole period. At the interval level, median prosthesis lifetime was 356 days before fluconazole and 224 days during the fluconazole period. Because multiple completed intervals could arise from the same patient, these values were treated as descriptive rather than inferential. For the primary within-patient comparisons, 12 patients have completed prosthesis lifetimes in both periods and were included in analysis. No statistically significant difference was found between the periods for patient-level, median lifetime, $Z=-0.292$, $p= 0.695$.

CONCLUSIONS

In this retrospective within-patient analysis, fluconazole initiation was not associated with a significant change in the complete voice prosthesis lifetime. These findings do not support a clear prolongation effect of fluconazole in discord in this cohort.

KEYWORDS

Voice prosthesis, voice rehabilitation, fluconazole, laryngeal cancer

OP-1022

Voice, Speech, And Swallowing Experience During ORL-HNS Residency In Turkiye: A Function-Oriented Multicenter Survey

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BACKGROUND & AIM

Voice, speech, and swallowing are core domains of the Phoniatrics, clinically relevant for Otorhinolaryngology – Head and Neck Surgery (ORL-HNS) specialist. The International Classification of Functioning, Disability and Health (ICF) emphasizes functioning, activity, and participation, rather than diagnosis, making it a relevant conceptual framework for clinical assessment. Surveys have shown substantial variability in residency education. In parallel, disability-related competencies are underrepresented in graduate medical education. The objective of this study is to assess whether ORL-HNS residency training in Turkiye provides sufficient experience in voice, speech and swallowing for function-oriented clinical decision making.

MATERIAL & METHODS

This cross-sectional, multicenter, survey included 104 ORL-HNS residents from four institution types in Turkiye. The questionnaire was developed using the Turkish ORL-HNS core curriculum, the UEP/UEMS Phoniatrics Logbook perspective, and function oriented-domains reflected in adult disability assessment. The first section evaluated institutional resources, structured teaching, and resident experience in core diagnostic and therapeutic areas. The second section, limited to senior residents, explored self-perceived competence in function-oriented impairment/disability evaluation across six domains.

RESULTS

Any clinical experience was reported by 87.5% of residents in voice, 83.7% in swallowing, and 73.1% in speech, while active participation was lower, 39.4%, 30.8%, and 23.1%, respectively. Perception of structured teaching was uncommon across all domains, with only 14.4% reporting formal training in voice, 8.7% in speech, and 13.5% in swallowing. Stroboscopy showed the broadest hands-on exposure, whereas perceptual/objective voice assessment, and speech assessment were less represented. In the swallowing domain, 35.6% reported no experience with FEES/VFSS. Among senior residents, only 23.1% reported formal teaching in disability regulations, and self-perceived competence was highest for upper airway defects and lower for voice, language, and chewing/swallowing.

CONCLUSIONS

ORL-NHS residency training in Turkiye appears to provide broader experience in voice and swallowing than in speech. But structured teaching remains limited across all three domains. The findings also suggest that multidisciplinary access and planned teaching are associated with broader resident experience. Disability-related teaching is perceived as limited. An ICF-informed, function-oriented approach may help strengthen curriculum design in voice, speech, and swallowing training.

KEYWORDS

Deglutition Disorders; Education, Medical, Graduate; Internship and Residency; Otolaryngology; Speech Disorders; Voice Disorders

OP-1023

Automated Classification Of Pediatric Vocal Fold Nodules: A Machine Learning Approach Based On Voice Recordings

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BACKGROUND & AIM

Vocal fold nodules (VFN) are among the most frequently encountered pathologies in the pediatric group. The relationship between voice disorders and acoustic voice characteristics has been clinically validated. Acoustic features derived from voice signals are effectively utilized in the classification of voice disorders. Research has focused on the role of the voice signal as a part of this process through the use of machine learning models. However, the majority of studies in the literature focus on the

adult population. This study aims to automatically classify pediatric VFN using machine learning methods based on voice recordings.

MATERIAL & METHODS

Within the scope of the study, sustained /a/ phonation and spontaneous speech recordings were obtained from a total of 71 participants, consisting of 32 children diagnosed with VFN by an otorhinolaryngologist and 39 healthy children. All recordings were acquired using the Audacity software and stored in .wav format. Fundamental frequency (F0), jitter, shimmer, and harmonic-to-noise ratio (HNR) were calculated from the sustained /a/ phonation data. Mel-frequency cepstral coefficients (MFCC) and various spectral and energy-based features were extracted from the spontaneous speech data. The most discriminative acoustic features determined using the Welch t-test were modeled with Support Vector Machine (SVM), K-Nearest Neighbors (KNN), Random Forest (RF), and Naive Bayes algorithms using the 5-fold cross-validation method.

RESULTS

According to the classification results, the RF algorithm stands out with 83.1% accuracy, 71.9% sensitivity, 92.3% specificity, a 79.3% F1 score, and an AUC value of 0.891. Naive Bayes ranked second with an accuracy rate of 78.9%, while SVM and KNN methods had the lowest accuracy rate at 74.6%. Although the KNN method reached the highest specificity value at 97.4%, it lagged behind the other models in overall performance with a low sensitivity of 46.9% and an AUC value of 0.774. While the AUC value obtained with SVM in the preliminary analysis using only /a/ phonation features was 0.795, this value increased to 0.891 for RF when both recording types were combined.

CONCLUSIONS

An accuracy of 83.1% and an AUC value of 0.891 were achieved with the RF classifier using acoustic features extracted from sustained vowel phonation and spontaneous speech recordings. The obtained results indicate that voice-based acoustic analysis can be used as a supportive diagnostic tool in the detection of pediatric VFN. Furthermore, the findings suggest that integrating spontaneous speech recordings into sustained vowel phonation analysis may carry a strong and supportive potential as a clinical tool in pediatric VFN detection.

KEYWORDS

Pediatric vocal fold nodule, machine learning, acoustic voice analysis

OP-1024

The JISH Speech, Language, And Hearing School Readiness Screening In Jeddah, Saudi Arabia

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BACKGROUND & AIM

This retrospective study presents the results of an Arabic school readiness screening conducted between the years of 2000 and 2010 at the Jeddah Institute for Speech and Hearing (JISH) in Jeddah, Saudi Arabia. The study was conducted to obtain estimates of prevalence of speech, language, and communication disorders and hearing disorders among Arabic-speaking children in the Kingdom of Saudi Arabia prior to entering school (in order to assist in determining the readiness of these children for school) and to determine the types of speech and language deficits exhibited among Arabic-speaking children.

MATERIAL & METHODS

The records of 1543 children were screened using the JISH Arabic Speech, Language and Hearing Screening Protocol between the years of 2000 and 2010 were reviewed. The following materials were used to conduct each screening:

The JISH Arabic Speech-Language-Hearing-Screening Protocol, screening record (pass-fail forms) and

the Oral-Speech-Mechanism-Screening-Examination-Revised (OSMSE-R). Other materials used during

each screening included: gloves, tongue depressors, penlight, stickers, and an audiometer.

RESULTS

Analysis of results showed statistically significant prevalence rates in all areas for which screening was conducted: hearing (7.1% “0.0000”); language comprehension (1.7% “0.0000); language expression (2.7% “0.0000); voice (5.1% “0.0000); fluency (3.2% “0.0000), and articulation (30.3%).

CONCLUSIONS

The findings of the study assured the need to screen speech, language and hearing skills of children before sending them to schools. This is significantly needed in the Middle East and in the whole Arab region due to the fact that general physical examinations are not enforced in most of the medical insurance policies, therefore, communication deficits will not be detected from early ages.

KEYWORDS

Speech; Language; Hearing; School; Screening; Readiness; Jeddah; Academic; Prevalence; Risk

OP-1025

Development Of A Social Validity Questionnaire For Voice Therapy: A Pilot Study

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BACKGROUND & AIM

Evaluating the clinical efficacy of voice therapy often overlooks the patient's perspective regarding the intervention's social relevance. This study aims to present the pilot results of a newly developed Social Validity Questionnaire designed to assess the meaningfulness, applicability, and usefulness of voice therapy practices. The goal was to examine the instrument's preliminary psychometric properties and determine its potential as a standardized tool for measuring perceived social validity in clinical settings.

MATERIAL & METHODS

The study utilized a Social Validity Questionnaire developed based on a comprehensive review of the social validity literature and clinical voice therapy practices. The instrument consists of 12 Likert-type items assessing the dimensions of meaningfulness, applicability, and usefulness. To further support the scale and evaluate alignment, additional questions were included regarding the program's contribution. In addition, three open-ended questions were incorporated to explore the most beneficial aspects of the program, areas for improvement, and perceived changes in voice use. The items were reviewed for content relevance and clarity by an expert panel consisting of two speech and language therapists and one otolaryngologist. A pilot study was conducted with 17 participants who had completed a voice therapy program. Quantitative data were analyzed using descriptive statistics, the Wilcoxon Signed-Rank Test, and Cronbach's alpha to evaluate internal consistency. Qualitative data obtained from the open-ended responses were analyzed through content analysis.

RESULTS

The pilot results demonstrated that social validity scores across all subdimensions were significantly higher than the neutral value of 3 ($p < 0.001$). The Cronbach's alpha coefficient for the total scale was calculated as 0.73, indicating acceptable internal consistency. Examination of the subscales revealed acceptable internal consistency for the meaningfulness ($\alpha = 0.74$) and usefulness ($\alpha = 0.64$) dimensions, whereas the applicability dimension demonstrated low internal consistency ($\alpha = 0.27$). Responses to the open-ended questions yielded themes that supported the content validity of the items.

CONCLUSIONS

The findings suggest that the developed Social Validity Questionnaire may be a useful measurement tool for assessing perceived social validity in voice therapy practices. While the meaningfulness and usefulness dimensions showed reliability, the low consistency in the applicability subscale indicates a need for item refinement. Overall, the pilot supports the tool's utility, though further research with a larger sample size is necessary to confirm its long-term construct validity and clinical reliability.

KEYWORDS

Voice therapy; social validity; scale development; measurement and evaluation

OP-1026

Stages Of Medical Rehabilitation Of The Patients With Bilateral Paresis And Paralysis Of The Larynx

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BACKGROUND & AIM

Bilateral laryngeal paresis and paralysis are severe conditions that substantially reduce quality of life due to impairment of respiratory, phonatory, and protective functions. In many cases, modern medicine makes it possible to restore breathing and voice production; however, treatment success depends on an interdisciplinary approach involving surgeons, phoniatrician, speech therapists, and psychologists. The aim of this study was to develop and evaluate the effectiveness of a comprehensive medical rehabilitation program based on the combination of conservative, instrumental, and educational methods in patients with bilateral laryngeal disorders.

MATERIAL & METHODS

At the Phoniatrics Department of the National Medical Research Center for Otorhinolaryngology, 49 patients with bilateral laryngeal paresis and paralysis of various etiologies were examined. The patients were divided into two groups: a control group of 20 patients who received conventional treatment, and a study group of 29 patients who underwent comprehensive medical rehabilitation. In the study group, a three-stage program was used: stage I included drug therapy, psychological support, and assessment of voice, swallowing, and breathing disorders, aspiration risk, laryngeal structural impairment, and patient activity and participation; stage II included instrumental methods and speech therapy aimed at correcting the respiratory pattern and dysphagia; and stage III focused on consolidating breathing and phonation skills and adherence to vocal hygiene.

RESULTS

The analysis demonstrated a significant advantage of the comprehensive approach. In the control group, recovery was slower: 45% of patients continued to have voice impairment and dyspnea. In the study group, 86% of patients achieved stabilization of breathing and widening of the glottic airway without the need for additional surgical correction. In addition, dysphagia was completely resolved in 82% of patients in the study group, which made it possible to eliminate the risk of aspiration complications and improve functional prognosis.

CONCLUSIONS

The three-stage medical rehabilitation program integrating pharmacological, instrumental, and voice therapy methods is superior to conventional approaches. Interdisciplinary patient management makes it possible to restore respiratory, voice, and swallowing functions more effectively, shorten treatment duration, and improve quality of life. The results confirm the feasibility of early initiation of comprehensive rehabilitative treatment and the sequential use of specialized programs in this patient population.

KEYWORDS

bilateral laryngeal paresis, laryngeal paralysis, medical rehabilitation, voice therapy, vocal function, respiratory function, dysphagia, voice, interdisciplinary team

RHINOLOGY

Oral Presentations · OP-1027 – OP-1276 · 250 abstracts

OP-1027

Surgical Success And Resolution Rates Of Endoscopic Sinus Surgery For Odontogenic Maxillary Sinusitis: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Odontogenic maxillary sinusitis (OMS) is an increasingly recognized cause of chronic unilateral maxillary sinus disease, often requiring combined dental and sinonasal management. While endoscopic sinus surgery (ESS) has become the preferred surgical approach, reported outcomes vary, and a comprehensive quantitative synthesis of surgical success and safety remains limited. This systematic review and meta-analysis aimed to evaluate the effectiveness, recurrence, revision, and complication rates of ESS in the management of OMS.

MATERIAL & METHODS

A systematic search of PubMed/MEDLINE, Web of Science, and the Cochrane Library (January 2000–January 2025) identified studies reporting outcomes of ESS for OMS. Thirty-five studies encompassing 2,586 adult patients met inclusion criteria. Pooled proportions were calculated using random-effects models. Primary outcome was surgical success (disease resolution). Secondary outcomes included recurrence, revision surgery, and complication rates

RESULTS

The pooled surgical success rate following ESS was 97.1% (95% CI: 95.5–98.1%; I^2 = 46.4%). After adjustment for publication bias, the success rate remained high at 92.9%. The pooled recurrence rate was 3.0% (95% CI: 2.0–5.0%), while revision surgery was required in 3.0% (95% CI: 2.0–4.0%) of cases. ESS demonstrated a favorable safety profile, with a pooled complication rate of 2.0% (95% CI: 1.0–5.0%), predominantly minor and self-limiting. Sensitivity analyses confirmed the robustness of all pooled estimates.

CONCLUSIONS

Endoscopic sinus surgery provides excellent disease resolution with low recurrence, revision, and complication rates in patients with odontogenic maxillary sinusitis. When performed as part of multidisciplinary management that includes definitive dental or oral surgical treatment of the odontogenic source, ESS represents a highly effective and safe surgical strategy, supporting its role as the preferred approach for OMS.

KEYWORDS

Odontogenic sinusitis; Endoscopic sinus surgery; Maxillary sinusitis; Dental sinusitis; Meta-analysis

OP-1028

Navigating The Middle Ground: A Comprehensive Analysis Of Otolaryngologists' Practices On Middle Turbinate Resection In Endoscopic Sinus Surgery

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BACKGROUND & AIM

Controversies persist regarding middle turbinate (MT) resection during endoscopic sinus surgery, with conflicting views on its benefits and risks. This study explores current practices among otolaryngologists, assessing the frequency of MT resection and factors influencing decision-making, shedding light on this contentious aspect of sinus surgery. By assessing current practices and identifying factors influencing MT resection frequency, this work sheds light on the ongoing debate on the merits and drawbacks of this surgical intervention.

MATERIAL & METHODS

A survey was used to explore MT resection practices among actively practicing otolaryngology consultants, employing a purposive sampling strategy to ensure demographic diversity. Statistical analysis of questionnaire responses facilitated a robust exploration of factors influencing MT resection variability, revealing MT resection practices among otolaryngologists and recognizing potential limitations.

RESULTS

The analysis of 65 participants revealed significant findings on MT resection practices: 29.2% of participants believed that MT resection was moderately beneficial in improving visualization. Concerning MT resection, 46.2% typically resected the anterior inferior one third. Likelihood of MT resection was significantly increased in CRS with NP, allergic fungal sinusitis, and cystic fibrosis. Empty nose syndrome was the complication of least concern (50.8%). Tertiary hospital practitioners reported significantly lower frequencies ($P<0.001$) of MT resection.

CONCLUSIONS

Significant variations in MT resection practices among otolaryngologists, with variations in practice based on years of experience, practice setting, type of sinus disease, and slight concern for potential complications.

KEYWORDS

middle turbinate resection, endoscopic sinus surgery, nasal, practice

OP-1029

Clinical Outcomes And Morbidity Of The Endoscopic Prelacrimal Recess Approach In Antrochoanal Polyps: A Real-World Experience

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BACKGROUND & AIM

Antrochoanal polyps (ACP) are benign unilateral lesions originating from the maxillary sinus, most commonly affecting children and young adults. Complete surgical excision is the treatment of choice; however, polyps arising from the anterior or inferior maxillary sinus walls are difficult to access using standard endoscopic techniques. The endoscopic prelacrimal recess approach (PLA) provides improved access to challenging maxillary regions while preserving the inferior turbinate and nasolacrimal duct. This study evaluates postoperative morbidity, recurrence rates, and anatomical risk factors in patients with ACP treated using PLA.

MATERIAL & METHODS

This retrospective case series included 42 patients with primary ACP who underwent endoscopic PLA. Patients younger than 10 years, those with recurrent ACP, uncontrolled systemic disease, or other maxillary sinus pathology were excluded. Demographic data, polyp origin, and postoperative outcomes were collected from medical records. Preoperative paranasal sinus CT scans were reviewed to measure the width of the prelacrimal recess (WPR), classified according to Simmen's classification, and the anterior–posterior nasal dimension (APN). Postoperative endoscopic follow-up was performed at one month and continued for at least six months. Morbidity included cheek numbness and epiphora, classified as temporary or permanent. Statistical analysis was performed using SPSS version 27, with a significance threshold of $P < 0.05$.

RESULTS

The cohort included 23 males and 19 females, with a mean age of 15.2 years. Polyps were right-sided in 73.8% of patients. Among cases with documented origin, 69.2% arose from the anterolateral maxillary wall. The mean WPR was 5.9 mm; 52% of patients were classified as type 2, 32% as type 3, and 16% as type 1. Temporary cheek numbness occurred in 28.5% of patients and resolved within three months, while permanent numbness was observed in 9.5%. One patient developed transient epiphora due to nasolacrimal duct injury. Recurrence occurred in one patient (2.4%). No significant association was found between postoperative numbness and WPR type ($P > 0.05$) or mean APN ($P = 0.85$).

CONCLUSIONS

The endoscopic prelacrimal recess approach is a safe and effective technique for complete resection of antrochoanal polyps, including those arising from anatomically challenging maxillary sinus regions. Despite concerns regarding anatomical limitations, PLA demonstrated low recurrence rates and acceptable, predominantly transient morbidity, with no clear CT-based predictors of complications.

KEYWORDS

Endoscopic Sinus Surgery,Antrochoanal Polyp,Prelacrimal recess approach

OP-1030

Sinonasal Inverted Papilloma .Radiological Findings And Management In Eight Patients

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BACKGROUND & AIM

Sinonasal inverted papillomas (IP) are benign nasal tumours, they represent 0,4-4,7% of all nasal tumours and have an incidence of 0,74-1,5 cases per 100.000 population per year. Although histologically benign, they are locally invasive, with high recurrence rates (15-20%) and possibility of malignant transformation.

Objective To present radiological and intraoperative findings regarding the attachment of 8 cases of inverted papilloma that were treated with endoscopic nasal surgery

MATERIAL & METHODS

Eight patients with inverted papillomas were studied .Preoperative CT scan was examined regarding inverted papilloma attachment.Hyperostosis was evident in 3 out of 8 patients .The attachment was determined intraoperatively and involved the lateral nasal wall in 4 cases, maxillary sinus in 2 cases, nasal septum and frontal sinus in one case.

RESULTS

Preoperative CT scan revealed attachment of inverted papilloma in 3 out of 8 cases preoperatively .There was one patient with IP recurrence .

CONCLUSIONS

Preoperative CT scan may fail to show the attachment of the IP .All patients were operated with endoscopic nasal surgery.

KEYWORDS

inverted papilloma computed tomography

OP-1031

Treatment Of Post Viral Olfactory Dysfunction With Olfactory Training: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Post-viral olfactory dysfunction (PVOD) has increased in prevalence and media attention with the COVID-19 pandemic. Pharmacologic therapy for PVOD is limited, and olfactory training (OT) has shown varying efficacy. This study is the first meta-analysis on OT for PVOD in the post-COVID era.

MATERIAL & METHODS

We performed a systematic review and meta-analysis of published English studies queried through MEDLINE, EMBASE, CINAHL and Web of Science. The search strategy was developed in collaboration with a clinical librarian and targeted articles looking at OT for PVOD. The meta-analysis was performed looking at patients achieving minimal clinically important difference (MCID) olfactory testing when treated with OT compared to control groups.

RESULTS

The search yielded 8263 de-duplicated articles; 60 were included. The majority showed improved olfaction with OT. However, 3 studies did not show any difference between OT and control groups. Improved adherence and longer duration of OT were shown to improve olfactory outcome, whereas longer duration of PVOD worsened outcomes. Modifying OT protocols did not seem to impact olfactory outcomes. The meta-analysis revealed that OT is 2.6 times more likely to result in an MCID compared to control groups (OR=2.61; 95%CI 1.26-5.42). Included studies were most commonly moderate quality based on the Methodological Index for Non-Randomized Studies.

CONCLUSIONS

OT for PVOD is shown to have 2.6 times greater odds of achieving MCID compared to control groups. The systematic review suggests that the protocol of OT may have less of an impact compared to patient-specific factors such as adherence, duration

of training and duration of olfactory dysfunction. We have demonstrated that OT is effective and should be utilized as first-line therapy for patients with PVOD.

KEYWORDS

Olfactory Training; Post-Viral; Olfactory Dysfunction; Anosmia; Hyposmia; Rhinology; Smell; Smell Training; Olfaction; COVID-19; Post-Infectious

OP-1032

Intranasal Platelet-Rich Plasma Injection For Persistent Post–COVID-19 Olfactory Dysfunction: A Prospective Randomized Crossover Pilot Study

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BACKGROUND & AIM

Persistent olfactory dysfunction following COVID-19 infection has emerged as a major clinical problem, with a substantial proportion of patients experiencing prolonged impairment despite standard management such as olfactory training and corticosteroids. Given the limited therapeutic options, regenerative strategies targeting the olfactory neuroepithelium are of increasing interest. Platelet-rich plasma (PRP), enriched with neurotrophic and growth factors, may facilitate neural recovery and mucosal regeneration in post-viral olfactory dysfunction.

MATERIAL & METHODS

This prospective, single-center, single-blind, randomized crossover pilot study enrolled adults aged ≥19 years with persistent olfactory dysfunction lasting more than 2 months after confirmed COVID-19 infection and refractory to conventional therapy. Participants were randomized to receive intranasal PRP followed by saline or saline followed by PRP. Autologous PRP was prepared from 30 mL of peripheral blood using a two-spin protocol, and 2 mL was endoscopically injected into the olfactory cleft mucosa. The primary endpoint was change in Cross-Cultural Smell Identification Test (CCSIT) score at 6 months. Secondary outcomes included CCSIT at 1 and 3 months, Korean Version of the Sniffin' Sticks test (KVSS), Questionnaire of Olfactory Disorders (QOD), visual analog scale (VAS), and growth factor profiling. Safety was assessed through adverse event monitoring and laboratory parameters.

RESULTS

Thirty patients were enrolled, and 25 completed both treatment phases during the study period; 15 reached the 6-month follow-up. The prespecified 6-month CCSIT comparison did not show a significant between-group difference, likely due to a carryover effect inherent to the crossover design. However, during the initial 3-month treatment period, the PRP-first group demonstrated greater improvement in objective olfactory measures compared with the saline-first group (mean KVSS-TDI: 18.25 to 20.96 vs. 17.20 to 19.20). Among patients younger than 60 years, KVSS-TDI improved from 19.72 to 22.04 after PRP, whereas minimal change was observed after saline (19.60 to 19.25), and this improvement was sustained at 6 months. Growth factor analysis revealed substantial increases in BDNF and SDF-1 following PRP administration, supporting a regenerative mechanism. No serious treatment-related adverse events occurred.

CONCLUSIONS

Intranasal autologous PRP appears safe and may promote sustained olfactory recovery in patients with persistent post–COVID-19 olfactory dysfunction, particularly in younger individuals. These findings support further large-scale, parallel-group trials to confirm efficacy and define optimal patient selection.

KEYWORDS

Olfaction, Platelet-rich plasma, COVID-19, Growth factor

OP-1033

When De Lab Meets The Polyp: Performance Of Histopathologic Checklist And Validation Of Eosinophiles/Mm2 In Crswnp Polyp Samples

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps (CRSwNP) is a prevalent disorder affecting quality of life. Nasal eosinophilia is a key T2 biomarker, frequently expressed as cells/HPF. Digital anatomopathology enables quantification as cells/mm², offering reproducibility and standardization. This study evaluated the feasibility of structured histopathology in CRSwNP, focusing on tissue eosinophilia and its clinical associations.

MATERIAL & METHODS

Retrospective observational study including 84 consecutive CRSwNP patients (2022–2025, EPOS2020 criteria). Histological samples were analyzed for inflammatory cells, tissue remodelling markers, and eosinophilia quantified per HPF and mm². Clinical associations with asthma, NSAID-exacerbated respiratory disease (N-ERD), and oral corticosteroid (OCS) use were assessed.

RESULTS

Mean tissue eosinophil counts were 196±192 cells/HPF and 965±964 cells/mm², with near-perfect correlation between methods (r=0.980, p<0.001). Asthmatic patients showed significantly higher eosinophilia than non-asthmatics (238±208 vs. 124±134 cells/HPF; 1,168±1,069 vs. 618±626 cells/mm², p<0.01). Charcot–Leyden crystals, eosinophil aggregates, and degranulation correlated strongly with higher eosinophilia. No significant differences were found for N-ERD or OCS subgroups

CONCLUSIONS

Eosinophils/mm² correlates strongly with HPF counts, providing a standardized, reproducible outcome measure for nasal tissue eosinophilia. The association between asthma and higher nasal eosinophilia reinforces the clinical relevance of asthma as a CRSwNP comorbidity.

KEYWORDS

CRSwNP, T2 inflammation, nasal polyps, histopathology

OP-1034

Efficacy Of Increased Versus Standard Dosage Of Azelastine/Fluticasone Propionate Nasal Spray (Dymista) In Reducing Symptoms In Patients With Persistent Allergic Rhinitis: A Randomized Controlled Trial

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BACKGROUND & AIM

Intranasal corticosteroids (INCSs) are the mainstay of treatment for allergic rhinitis (AR). However, many patients remain symptomatic despite monotherapy. The fixed-dose combination of an INCS and an intranasal antihistamine (MP-AzeFlu) has demonstrated superior efficacy in relieving nasal and ocular symptoms compared with INCSs alone. Doubling the INCS dose has been reported to accelerate and enhance symptom improvement. However, evidence on the efficacy of higher-dose MP-AzeFlu regimens is limited. This study evaluated the clinical efficacy and safety of an increased-dose MP-AzeFlu regimen compared with the standard dose in patients with persistent AR.

MATERIAL & METHODS

A prospective, randomized, placebo-controlled trial was conducted in patients with persistent AR. Participants were randomized to receive either standard-dose MP-AzeFlu (1 spray per nostril twice daily) or increased-dose MP-AzeFlu (2 sprays twice daily, with optional escalation up to 2 sprays six times daily for refractory symptoms) for 7 days. The primary outcome was the time to achieve a sustained ≥20-point reduction in the Visual Analog Scale (VAS) score. Secondary endpoints included mean daily VAS, total nasal symptom score (TNSS), itchy eye symptom, and adverse events.

RESULTS

Sixty participants were enrolled and equally randomized (n=30 per group; median age 22–23 years). Both regimens achieved a≥20-point reduction in VAS within 2 days. There were no statistically significant differences between increased- and standard-dose groups in mean VAS at day 7 (26.0 ± 4.32 vs 30.2 ± 4.32; mean difference −4.22 ± 6.15; 95% CI −16.27 to 7.82; p = 0.49), TNSS, or ocular itch score. Adverse events were comparable, with bitter taste being most frequently reported.

CONCLUSIONS

Increasing the dosage of MP-AzeFlu did not provide additional benefit over the standard regimen. The standard recommended dose appears sufficient for optimal control of persistent allergic rhinitis symptoms.

KEYWORDS

Allergic Rhinitis, Skin prick test, Intranasal Corticosteroids, Azelastine, Fluticasone Propionate

OP-1035

Evaluation Of CSF1R And CD206 Levels In Patients With Nasal Polyps

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps (CRSwNP) is an inflammatory disease with unclear pathogenesis. Recent studies demonstrate that macrophage polarization, particularly the M1 to M2 transition, plays a key role in disease pathogenesis. Although histological studies show increased M2 macrophage infiltration in polyp tissue, translating this finding into a non-invasive biomarker remains challenging. The relationship between serum levels of the M2 macrophage specific surface receptors CSF1R and CD206 and disease presence and severity remains largely uninvestigated. This study aimed to evaluate the biomarker potential of CSF1R and CD206 in CRSwNP.

MATERIAL & METHODS

A total of 42 adult patients diagnosed with CRSwNP according to the European Position Paper on Rhinosinusitis and Nasal Polyps (EPOS) 2020 criteria and 42 healthy controls without nasal pathology were included in the study. Individuals meeting the general exclusion criteria specified in EPOS 2020 were excluded. Sociodemographic data of the participants were recorded, and symptom severity was assessed using the Sino-Nasal Outcome Test-22 (SNOT-22). Patients were evaluated using the Total Nasal Polyp Score (TNPS) and Lund-Mackay scoring system. Serum CSF1R and CD206 levels were measured using the ELISA method. Statistical analyses were performed using IBM SPSS Statistics version 22.0, and statistical significance was set at $p < 0.05$.

RESULTS

There were no statistically significant differences between the case and control groups in terms of demographic characteristics (Table 1). The SNOT-22 score was significantly higher in the nasal polyp group compared with the control group ($p<0.001$, Table 2).Serum CSF1R and CD206 levels were significantly higher in the nasal polyp group compared with the control group ($p=0.001$ and $p=0.031$, respectively; Table 2).ROC analysis demonstrated that CSF1R and CD206 had statistically significant diagnostic performance in distinguishing CRSwNP patients from healthy controls (Table 3, Figure 1, Figure 2).

CONCLUSIONS

Our study provides important evidence supporting the role of M2 macrophage activation in the pathogenesis of CRSwNP. The significantly elevated serum levels of CSF1R and CD206 in patients with CRSwNP suggest that these molecules may serve as non-invasive biomarkers of disease activity. Our findings indicate that these serum markers may represent potential biomarker candidates for supporting the diagnosis of CRSwNP or for use as objective tools in patient follow-up. Future prospective studies are needed to clarify their clinical applicability by evaluating their relationship with disease course and treatment response.

KEYWORDS

Nasal polyp, Chronic rhinosinusitis with nasal polyps, Macrophage, CSF1R, CD206

OP-1036

Comparison Of The Therapeutic Efficacy Of Crosine And Desloratadine In An Ovalbumin-Induced Allergic Rhinitis Model In Rats

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BACKGROUND & AIM

Allergic rhinitis is a common disease with no definitive cure. Due to the high cost of treatment and the side effects of the medications used, alternative treatments are being investigated. Our aim is to evaluate the histopathological, biochemical, and clinical effects of crocin in an experimental allergic rhinitis model.

MATERIAL & METHODS

Twenty healthy, 8- to 12-week-old Sprague Dawley rats were randomized into five groups of four animals each. The first group served as the control group, and the other rats were administered ovalbumin and aluminum hydroxide intraperitoneally every other day for 14 days to induce allergic rhinitis. These animals received intranasal ovalbumin daily from day 14 onward. Desloratadine was administered by gavage to the third group, 50 mg/kg intraperitoneally to the fourth group, and 100 mg/kg intraperitoneally to the fifth group. The second group received no treatment. Before sacrifice on the 10th day, intracardiac blood was taken and IL4, IL13, IgE levels were examined. Histopathologically, goblet cell increase, cilia loss, vascular dilatation, lamina propria edema, cell infiltration and eosinophilic tissue increase were examined. Nasal symptom scores on the 1st, 14th, 21st and 28th days were evaluated clinically.

RESULTS

IL4-13 and IgE levels were found to be significantly decreased in the high-dose crocin group compared to the allergy and desloratadine groups ($p<0.05$). On day 28, symptoms of sneezing, nasal itching, and nasal discharge were found to be reduced in the high-dose crocin group compared to the allergy group. Goblet cell increase, cilia loss, and vascular dilatation were shown to be reduced in the high-dose crocin group compared to the allergy and desloratadine groups ($p<0.05$). Lamina propria edema, cell infiltration, and eosinophilic tissue increase were also found to be reduced in the 100 mg/kg crocin group compared to the allergy and desloratadine groups.

CONCLUSIONS

The effect of crocin on allergic rhinitis was investigated clinically, histopathologically, and biochemically. We demonstrated that it may be more effective than desloratadine, which is used in the treatment of allergic rhinitis. Our study is the first to use crocin in allergic rhinitis and is believed to be promising in the treatment of the disease.

KEYWORDS

Allergic rhinitis, desloratadine, interleukin, crocin

OP-1037

Sinonasal Presentation And Diagnostic Evaluation Of Chronic Rhinosinusitis In Eosinophilic Granulomatosis With Polyangiitis: A Scoping Review

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) is a common and morbid manifestation of eosinophilic granulomatosis with polyangiitis (EGPA). This scoping review summarizes treatment strategies and sinonasal outcomes for CRS with nasal polyps (CRSwNP) and without nasal polyps (CRSsNP) in EGPA.

MATERIAL & METHODS

We searched MEDLINE, Embase, CENTRAL, CINAHL, and Web of Science from inception to June 4, 2025, for studies reporting CRS in EGPA. Non-English studies without translation and articles without primary data were excluded. Outcomes included treatment, remission and recurrence, and quality of life measures.

RESULTS

109 studies comprising 1087 patients were included. Median age was 53 years (n=154) and 48% (n=390) were male. CRSwNP was more common than CRSsNP (69% vs 31%). Endoscopic sinus surgery (ESS) was reported in 87% (n=64) and always combined with medical therapy. Systemic regimens in all patients included steroids (91%), immunosuppressants (87%), and biologics (59%), primarily mepolizumab (73%), benralizumab (12%) and dupilumab (23%). CRS remission occurred in 68% of medically treated patients (n=156). In mepolizumab-treated patients (n=113), 89% (n=27) achieved CRS remission, with mean SNOT-22 reductions of 48.3 points (n=10) with medical therapy alone, and 64 points (n=2) with ESS plus medical therapy. In a dupilumab subgroup (n=28), 83% (n=6) achieved remission, with a 25.2-point mean SNOT-22 improvement (n=9), and eosinophilia occurred in 68% (n=34).

CONCLUSIONS

Management of CRS in EGPA is shifting toward biologics, particularly mepolizumab and benralizumab for systemic control and cautionary use of dupilumab for refractory sinonasal disease. Standardized outcome reporting and prospective studies are needed to optimize management.

KEYWORDS

EGPA, Chronic rhinosinusitis, biologics

OP-1038

Upper And Lower Airway Outcomes Of Dupilumab Versus Omalizumab In Patients With Severe Crswnp, Coexisting Asthma, And NSAID-ERD From EVEREST

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BACKGROUND & AIM

In the prospective, randomized, head-to-head EVEREST trial, dupilumab demonstrated rapid and sustained improvements over omalizumab in upper and lower airway outcomes in patients with severe chronic rhinosinusitis with nasal polyps (CRSwNP) with coexisting asthma. This post hoc analysis compared CRSwNP and asthma outcomes in the subgroup with non-steroidal anti-inflammatory drug (NSAID)-exacerbated respiratory disease (NSAID-ERD).

MATERIAL & METHODS

EVEREST (NCT04998604) randomized adults with severe CRSwNP and coexisting asthma to dupilumab 300 mg every 2 weeks or omalizumab 75–600 mg every 2 or 4 weeks for 24 weeks on background mometasone furoate nasal spray. NSAID-ERD was defined as a history of symptoms following aspirin and/or non-steroidal anti-inflammatory drug intake. Primary endpoints

were Week 24 change in nasal polyp score (NPS, range 0–8) and University of Pennsylvania Smell Identification Test (UPSIT, range 0–40). Other upper airway outcomes assessed were loss of smell (LoS, range 0–3) and the 22-item Sino-Nasal Outcome Test (SNOT-22, range 0–110). Lower airway outcomes assessed were pre-bronchodilator forced expiratory volume in 1 second (FEV1, L) and 7-item Asthma Control Questionnaire (ACQ-7, range 0–6). For each endpoint, we report the least squares mean difference [95% confidence interval] of dupilumab over omalizumab.

RESULTS

360 patients were randomized (dupilumab, n=181; omalizumab, n=179). At baseline, 153 patients had coexisting NSAID-ERD (dupilumab, n=76, 42%; omalizumab, n=77, 43%). Baseline patient characteristics and Week 24 safety events (any treatment emergent adverse events [TEAEs] and serious TEAEs) were comparable between treatment groups for patients with coexisting NSAID-ERD. Among patients with NSAID-ERD, at Week 24 the NPS least squares mean difference [95% confidence interval] was −1.71 [−2.25, −1.17], and for UPSIT, 8.0 [5.3, 10.6]. Improvements were greater with dupilumab than omalizumab for all upper and lower airway outcomes considered (Table 1).

CONCLUSIONS

Dupilumab showed greater improvement in both upper and lower airway outcomes than omalizumab in patients with severe CRSwNP with coexisting asthma and NSAID-ERD. These data support the efficacy of dupilumab in patients with multiple coexisting type 2 respiratory diseases vs an active biologic comparator.

KEYWORDS

Dupilumab; Omalizumab; Nonsteroidal anti-inflammatory drug-exacerbated respiratory disease; chronic rhinosinusitis with nasal polyps; asthma; upper airway outcomes; lower airway outcomes

OP-1039

Reduced Tissue IL-41 Levels In Chronic Rhinosinusitis With Nasal Polyps: Association With Disease Presence And Recurrence

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps (CRSwNP) is a heterogeneous inflammatory disease characterized by complex immune dysregulation. Interleukin-41 (IL-41), a recently identified cytokine, has been suggested to exert immunoregulatory and anti-inflammatory effects in various inflammatory conditions. This study aimed to evaluate tissue IL-41 levels in CRSwNP patients and investigate their association with disease presence and recurrence.

MATERIAL & METHODS

This retrospective case–control study included 70 patients with CRSwNP who underwent endoscopic sinus surgery and 20 control subjects who underwent nasal surgeries for non-inflammatory conditions. IL-41 levels were measured in tissue samples using enzyme-linked immunosorbent assay (ELISA). Disease severity was assessed using Lund–Mackay and SNOT-22 scores. Subgroup analyses were performed based on revision status, body mass index (BMI), and peripheral eosinophil and neutrophil levels. Receiver operating characteristic (ROC) curve analysis was used to evaluate the discriminative performance of IL-41. Multivariate logistic regression analysis was performed only within the CRSwNP group to assess factors associated with recurrence.

RESULTS

Tissue IL-41 levels were significantly lower in the CRSwNP group compared to controls (median: 91.69 vs. 108.11; p=0.030). Patients with revision surgery had significantly lower IL-41 levels than primary cases (median: 78.27 vs. 95.90; p=0.024). No significant correlation was found between IL-41 levels and SNOT-22, Lund–Mackay scores, or hematological parameters (p>0.05). ROC analysis demonstrated moderate discriminative ability of IL-41 for differentiating CRSwNP from controls (AUC: 0.66, p=0.015) and revision from primary cases (AUC: 0.67, p=0.029). In multivariate analysis performed within the patient group, IL-41 was not identified as an independent predictor of recurrence (p>0.05).

CONCLUSIONS

IL-41 levels are decreased in CRSwNP patients and further reduced in recurrent cases, suggesting a potential role in impaired anti-inflammatory regulation. Although IL-41 was not an independent predictor of recurrence, it may contribute to the inflammatory imbalance in CRSwNP. Further prospective studies with larger cohorts are needed to clarify its clinical significance.

KEYWORDS

nasal polyps, inflammation, cytokines, biomarkers

OP-1040

Comparison Of Histopathological Changes And Effects On Mucociliary Clearance Of Transseptal Suture Materials In A Rabbit Model

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BACKGROUND & AIM

The aim of this study was to compare the histopathological changes induced in the nasal mucoperichondrium and the effects on mucociliary clearance associated with different suture materials used in transseptal nasal suturing. The histopathological effects of polylactic acid (PLA) containing silver nanoparticles, septal staplers composed of polylactic-co-glycolic acid (PLGA), polyglactin 910 (Vicryl), and polydioxanone (PDS) were evaluated to determine the most appropriate suture material for septoplasty and septorhinoplasty procedures. Differences among these materials were objectively assessed using histopathological scoring and functional evaluations following standardized surgical techniques in an experimental rabbit model.

MATERIAL & METHODS

A total of 32 adult New Zealand rabbits were included in this study, which was conducted at the Selçuk University Experimental Medicine Research and Application Center. The animals were randomly allocated into four groups: septal stapler (Group 1), PDS (Group 2), Vicryl (Group 3), PLA produced with silver nanoparticles (Group 4). Silver nanoparticle-embedded PLA sutures were fabricated using the electrospinning technique and rendered biocompatible prior to application. All surgical procedures were conducted under general anesthesia. In all groups, the left nasal mucoperichondrium was elevated, and transseptal suturing was performed using the assigned material. Postoperative management included analgesia and infection prophylaxis. At the fourth postoperative week, mucociliary clearance measurements and macroscopic evaluations were performed prior to sacrifice. Subsequently, septal tissues were excised for histopathological examination.All surgical and laboratory procedures were performed by the same investigators in accordance with standardized protocols. The obtained data were analyzed using appropriate statistical methods.

RESULTS

Significant changes in mucociliary clearance were observed within all groups ($p < 0.05$), with median values increasing post-procedure in all groups. Fibrosis showed no significant intergroup difference ($p = 0.112$). Angiogenesis differed significantly among groups ($p < 0.05$), being lowest in Group 1, comparable in Groups 2 and 3, and highest in Group 4. Mononuclear cell infiltration demonstrated a significant difference ($p < 0.05$), with minimal infiltration in Group 1 and similar findings in the remaining groups. No eosinophils were detected in Group 1, whereas they were observed in Groups 2 through 4, with the difference reaching statistical significance ($p < 0.05$). Foreign body reaction varied significantly ($p < 0.05$), absent in Group 1 and most pronounced in Group 4. Epithelial organization also differed significantly, showing the best preservation in Group 1 and the poorest in Group 4 ($p < 0.05$).

CONCLUSIONS

The findings of this study demonstrate that the choice of suture material significantly influences mucosal healing outcomes. Mucociliary clearance time was prolonged in all groups, and notable differences were observed in histopathological parameters among the materials tested. These results suggest that appropriate suture selection plays a critical role in preserving mucosal integrity and optimizing postoperative healing following transseptal nasal procedures.

KEYWORDS

Animal Experimentation; Nasal Septum; Sutures; Wound Healing

OP-1041

THE EFFECTIVENESS OF COMPOSITE MESH, PRP, AND EGF IN THE REPAIR OF NASAL SEPTAL PERFORATION

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BACKGROUND & AIM

Nasal septal perforation (NSP) is a pathological condition characterized by the connection of both nasal passages due to bilateral loss of mucoperichondrium or mucoperiosteum, resulting in cartilage or bone necrosis and reduced quality of life. Although no fully effective treatment modality has yet been established for NSP, current management options include conservative treatments, septal button application, and surgical interventions. The aim of this study was to evaluate the contribution of epidermal growth factor (EGF), platelet-rich plasma (PRP), and composite mesh applications to the healing process in an experimental NSP model through macroscopic and histopathological assessment.

MATERIAL & METHODS

The study was conducted on 20 New Zealand albino rabbits weighing 3000–3500 g and aged 6–8 months. The animals were divided into four groups: Group 1 (perforation created, no treatment), Group 2 (composite mesh application), Group 3 (composite mesh + PRP injection), and Group 4 (composite mesh + EGF injection). On day 14, the animals were sacrificed under high-dose anesthesia, and the nasal septa were resected. The specimens were fixed in 10% formaldehyde, embedded in paraffin, and sectioned at 4–6 µm thickness. The sections were stained with Hematoxylin–Eosin, Masson's Trichrome, and Elastic fiber stains and examined under a Leica DM500 microscope. Statistical analysis was performed using SPSS version 22.0.

RESULTS

Compared with the control group, all treatment groups (Mesh, Mesh+PRP, and Mesh+EGF) demonstrated a significant reduction in hemorrhage and significant increases in epithelial regeneration, fibroblast density, collagen deposition, and elastic fiber parameters. No statistically significant differences were observed among the treatment groups for these parameters ($p > 0.05$). In terms of angiogenesis, mesh application alone produced results similar to the control group, whereas the addition of PRP or EGF to the mesh structure significantly enhanced the vascular response.

CONCLUSIONS

Although mesh application alone promoted histopathological healing, the addition of PRP or EGF provided superiority in stimulating angiogenesis.

KEYWORDS

Nasal Septum, Dual Mesh, PRP

OP-1042

Real-Life Outcomes Of Three Different Biologic Therapies In Patients With Chronic Rhinosinusitis With Nasal Polyps

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BACKGROUND & AIM

Biologic therapies have become an important treatment option for patients with severe chronic rhinosinusitis with nasal polyps (CRSwNP). However, real-life data comparing clinical, radiological, and laboratory outcomes across different biologic agents remain limited. This study aimed to evaluate real-world outcomes of three biologic therapies in a tertiary referral center cohort.

MATERIAL & METHODS

A total of 130 patients with CRSwNP treated with omalizumab (n=76), mepolizumab (n=29), or benralizumab (n=24) were retrospectively analyzed. The mean age was 46.1 years, and 60.8% of patients were female. Pre- and post-treatment assessments included SNOT-22 scores, modified Lund–Mackay scores (Zinreich modification), peripheral eosinophil count and percentage, total IgE levels, eosinophil cationic protein (ECP), and forced expiratory volume in one second (FEV_1). Statistical analysis was performed using the Wilcoxon signed-rank test.

RESULTS

Significant improvement was observed in radiological outcomes, with mean modified Lund–Mackay scores decreasing from 36.9 to 28.8 ($p<0.001$). SNOT-22 scores improved from 69.1 to 49.2. The mean eosinophil count decreased from 647/µL to 281/µL ($p<0.001$), and eosinophil percentage declined from 6.9% to 3.54% ($p<0.001$). Mean FEV_1 increased from 82% to 86% ($p=0.002$). Total IgE levels showed a significant reduction ($p<0.001$), whereas no significant change was observed in ECP levels ($p=0.623$). The mean treatment duration differed among biologics.

CONCLUSIONS

In real-life clinical practice, all three biologic therapies were associated with significant improvements in symptom burden, radiological disease extent, and hematological parameters in patients with CRSwNP. Biologic therapy appears to be an effective treatment option in severe CRSwNP. Further prospective comparative studies are warranted to better define differences among biologic agents.

KEYWORDS

Chronic rhinosinusitis with nasal polyps; Biologic therapy; Real-life study; Lund–Mackay score

OP-1043

CSF LEAKS- ANALYSING THE OPTIMAL SURGICAL APPROACHES

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BACKGROUND & AIM

A cerebrospinal fluid (CSF) leak is defined as the efflux of the CSF resulting from the disruption of the meningeal layers which creates a direct communication between the subarachnoid space and the external environment. Predominantly, they result from craniofacial trauma (80%), followed by iatrogenic causes (16%). The closing technique can be selected according to the characteristics of the fistula (the dimension and the site).

MATERIAL & METHODS

A 10 year-study was conducted in our clinic, including 35 male and female patients diagnosed with spontaneous, iatrogenic and post-traumatic CSF leaks located in the ethmoid; sphenoid and frontal sinuses. The study aimed to assess the viability of different types of endoscopic surgical techniques used to close the defect based on its location and dimension.

RESULTS

The quantitative statistical analysis revealed that Hadad flap was the most frequently used flap for ethmoidal and sphenoidal CSF leaks, with no associated ethmoidal recurrence. The multilayered technique that included fascia lata, Hadad and middle turbinate flap presented no recurrence in the sphenoidal and frontal site.

CONCLUSIONS

The endoscopic approach is the gold standard for large CSF leaks, while the surgical techniques can vary significantly depending on the location and the dimension of the defect. Autografts, namely the Hadad flap and a multilayer approach are associated with a higher degree of efficiency and lower rates of recurrency in large CSF leaks. Furthermore, usage of autologous biological tissue is both cost-effective and correlated with a lower rate of immune incompatibility.

KEYWORDS

CSF leaks, surgical techniques, fascia lata, Hadad flap

OP-1044

The Relationship Between IL-4 Receptor A Expression And Ectopic Lymphoid Tissue In Chronic Rhino Sinusitis

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BACKGROUND & AIM

Refractory cases of chronic sinusitis (CRS) exist not only in eosinophilic sinusitis (ECRS) but also in non-eosinophilic sinusitis (non-ECRS). The highly organized aggregation of lymphoid cells, which is termed ectopic lymphoid tissue (eLT), has been found in NPs and was correlated with poor disease control in patients with CRS with nasal polyps (CRSwNP). In the present study, we investigated the patterns of IL-4Rα positive cells infiltrating the sinonasal mucosa in CRS and their association with clinical findings.

MATERIAL & METHODS

Uncinate process (UP) tissue samples from 15 patients with CRS without NPs (CRSsNP) and NP tissues from 52 patients with CRSwNP (36 ECRS and 16 non- ECRS) were obtained during surgery. Immunostaining was performed using anti-IL-4Rα antibody, anti-CD19 antibody, and anti-CD20 antibody.

RESULTS

Immunohistochemical staining revealed that IL-4Rα was expressed in epithelial cells and infiltrating cells in the lamina propria. Twenty-four out of 28 clusters of IL4Rα positive cells coexpressed CD19 and CD20. The eLT formation was detected in UP tissue from one patient (6.7%) with CRSsNP, NP tissues from 6 patients (37.5%) with non-ECRSwNP, and NP tissues from 21 patients (58.3%) with ECRSwNP, showing a significant increase in patients with ECRSwNP. The number of IL4Rα positive cells in eLT was significantly, positively correlated with serum total IgE and Lund-Mackay computed tomography score in patients with CRSwNP.

CONCLUSIONS

The eLTs containing B cells are associated with eosinophilic inflammation in NPs and that eLT could be one of the targets for anti IL4Rα monoclonal antibody treatment for CRSwNP. B cells in NP tissues express IL4Rα and IL-4Rα signaling may contribute to the pathogenesis of CRSwNP with eLTs and IgE.

KEYWORDS

Chronic rhinosinusitis IL-4 receptor

OP-1045

Evaluation Of The Effects Of Intranasal LM22A-4 Administration On The Olfactory Epithelium In An Experimental Anosmia Model

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BACKGROUND & AIM

Olfactory dysfunction is a clinically relevant condition with limited therapeutic options. Experimental 3-methylindole-induced anosmia provides a reproducible model of olfactory epithelial injury. This study aims to evaluate whether intranasal LM22A-4, a TrkB agonist, alone or combined with dexamethasone, improves olfactory function and supports olfactory epithelial regeneration in a mouse anosmia model.

MATERIAL & METHODS

Forty male C57BL/6J mice, aged 9–10 weeks and weighing 18–20 g, will be randomly divided into five groups: control, anosmia, anosmia + LM22A-4, anosmia + LM22A-4 + dexamethasone, and anosmia + dexamethasone. Anosmia will be induced using intraperitoneal 3-methylindole. Olfactory function will be assessed with the food-finding test on days 1, 7, 14, 21, and 28. At the end of the experiment, olfactory epithelium samples will be evaluated by histopathology, immunohistochemistry for OMP and BDNF, and transmission electron microscopy.

RESULTS

The anosmia group demonstrated prolonged food-finding latency, epithelial thinning, increased inflammatory cell infiltration, vacuolization, and ciliary loss. LM22A-4-treated groups showed shorter latency times, better preservation of epithelial thickness, reduced histopathological injury scores, increased OMP-positive cell counts, and stronger BDNF expression compared with the untreated anosmia group. Ultrastructural analysis demonstrated better preservation of ciliary integrity and intracellular organelle organization in treated groups. Combined LM22A-4 and dexamethasone treatment showed the most prominent overall improvement.

CONCLUSIONS

Intranasal LM22A-4 improved functional and histological recovery in experimental anosmia and appeared to support olfactory epithelial regeneration through neurotrophic mechanisms. Combined administration with dexamethasone may further enhance this effect by reducing inflammatory injury. These findings suggest that LM22A-4 may represent a promising experimental therapeutic option for olfactory dysfunction.

KEYWORDS

Experimental anosmia, LM22A-4, olfactory regeneration, BDNF, TrkB signaling

OP-1046

The Different Clinical Presentations Of Allergic Fungal Sinusitis

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BACKGROUND & AIM

Allergic Fungal sinusitis is very common in saudi Arabia

To study the different clinical presentations of extensive allergic fungal sinusitis in the Eastern region of Saudi Arabia

MATERIAL & METHODS

A retrospective chart review to all allergic fungal sinusitis diagnosed and managed in a tertiary referral hospital at king fahad specialist hospital Dammam in the period from 2010 till 2024

RESULTS

The clinical presentations ranges from unilateral, bilateral ,unilateral proptosis ,bilateral proptosis, unilateral and bilateral mucoceles, mixed with invasive granuloma, blindness and 6th nerve palsy and cavernous sinus thrombosis

CONCLUSIONS

The different clinical presentations of allergic fungal sinusitis ranges from unilateral to the extensive intraorbital intracranial extensions with blindness and cavernous sinus thrombosis

KEYWORDS

Allergic Fungal sinusitis proptosis blindness

OP-1047

Surgical Success In Endoscopic Septal Perforation Repair With Double Layer Fascia Lata: Results Of CCCRC, NOSE, Saccharin Test VAS Score

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BACKGROUND & AIM

This study aims to evaluate the nasalphysiologic effects and surgical success of endoscopic septal perforation repair using a double-layer fascia lata technique.

MATERIAL & METHODS

The surgical method employed a double-layer fascia lata graft for closure. Patients wereevaluated pre-operatively and post-operatively usingthe Connecticut Chemosensory Clinical ResearchCenter (CCCRC) olfactory test for olfactory function, Nasal Obstruction Symptom Evaluation (NOSE)score for nasal obstruction, saccharin test formucociliary clearance, and Visual Analog Scale(VAS)for subjective well-being donor site pain. Statistical analyses were performed to assess thedifferences in pre- and postoperative outcomes.

RESULTS

The researchers conducted a retrospectiveanalysis involving 26 patients who underwent repairfor NSP from 2022 to 2024. Significantimprovements were observed in all evaluationmetrics post-surgery. The success rate of completeclosure was also high.

CONCLUSIONS

The double-layer fascia lata techniquefor septal perforation repair proved highly effectiveand safe. It significantly improved nasal function andpatient quality of life without causing serious cosmetic and functional problems in the donor area.This approach is a reliable option for the surgicaltreatment of large septal perforations.

KEYWORDS

nasal septum, septal perforation repair, fascia lata, rhinology, olfactory test

OP-1048

The Successful Endoscopic Endonasal Repair Of Large Skull Base Defect Using Polymax RAPID Plate

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BACKGROUND & AIM

Iatrogenic cerebrospinal fluid (CSF) rhinorrhea after functional endoscopic sinus surgery (FESS) is uncommon, but large bilateral cribriform plate defects with frontal encephaloceles are exceptionally rare and technically demanding

MATERIAL & METHODS

A 28-year-old man developed persistent bilateral watery rhinorrhea two months after bilateral FESS for nasal polyposis. CT/MRI demonstrated a large (2.4 x 2.7 cm) bilateral cribriform plate defect with herniation of the inferior frontal lobes into the nasal cavity. Endoscopic endonasal repair was performed using multilayer autologous grafting (fat and fascia lata), vascularized mucosal flaps (nasoseptal and middle turbinate), and an endonasally contoured poly(L-lactide-co-glycolide) bioresorbable plate as a buttress

RESULTS

CSF egress ceased intraoperatively and the postoperative course was uncomplicated. Serial endoscopic follow-up demonstrated progressive mucosalization and no recurrent CSF leak. At 12 months, CT confirmed stable reconstruction without recurrent encephalocele or pneumocephalus.

CONCLUSIONS

Frontal encephaloceles following FESS are an exceptionally rare complication, with bilateral involvement scarcely reported. This case underscores the efficacy and safety of a minimally invasive, multilayered endoscopic skull base reconstruction technique reinforced by a PolyMax RAPID bioresorbable plate. Such an approach may serve as a valuable alternative to craniotomy, particularly in high-flow CSF leak scenarios with large anterior cranial fossa defects [2,3].

KEYWORDS

• Encephalocele • Cerebrospinal Fluid Rhinorrhea • Endoscopic Skull Base Surgery • Functional Endoscopic Sinus Surgery • Frontal Lobe • PolyMax RAPID

OP-1049

Decoding The Surgical Mind: Can AI Predict Expert Preferences In Rhinoplasty?

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BACKGROUND & AIM

Background and Objective: Rhinoplasty is uniquely complex due to anatomical diversity, traditionally relying on subjective clinical intuition for technique selection. Integrating Artificial Intelligence (AI) offers a significant opportunity for objective, data-driven standardization. This study evaluates the reliability of an AI-driven model (Claude 4.6 Sonnet) in recommending

specific surgical techniques based on preoperative data, including nasal angles and skin thickness. By comparing AI-generated plans with the intraoperative preferences of experienced surgeons across 40 cases, we aim to determine the level of agreement and assess AI's potential as a clinical decision-support tool in aesthetic and functional nasal surgery.

MATERIAL & METHODS

Materials and Methods: This prospective study included 40 primary rhinoplasty patients. Preoperative data—including nasal angles, skin thickness, demographics, ethnicity, and presenting complaints—were systematically recorded. The Claude 4.6 Sonnet (Anthropic, PBC) model served as the analytical engine, utilizing a Retrieval-Augmented Generation (RAG)-like approach. This integrated the AI's pre-trained knowledge with curated evidence-based literature and expert-led clinical guidelines to ensure grounded recommendations.

For each patient profile, the AI suggested specific surgical techniques (e.g., grafts, sutures, osteotomies). Simultaneously, a panel of [Number] senior surgeons (>100 operations), blinded to AI outputs, performed the surgeries and recorded the actual intraoperative techniques utilized. The agreement level between AI-driven recommendations and the surgeons' choices was statistically analyzed using Cohen's Kappa coefficient (κ).

RESULTS

Across 40 primary rhinoplasty cases, the AI model (Claude 4.6 Sonnet) demonstrated substantial agreement with experienced surgeons across 10 surgical categories (mean κ=0.82, p<.001). The highest reliability was observed in selecting surgical approaches (κ=0.90) and graft sources.

AI showed significant accuracy in planning dorsal/bony pyramid management and tip support mechanisms (e.g., columellar strut vs. septal extension). While Tip-Shape and LLC modifications presented the most complex correlations, strong agreement remained for septal and turbinate interventions. Statistically, AI-proposed techniques matched intraoperative decisions in 87.5% of all parameters, with no significant difference found. These findings highlight the high reliability of AI-driven decision support, particularly in identifying foundational and structural surgical maneuvers in rhinoplasty.

CONCLUSIONS

Conclusion:

Claude 4.6 Sonnet successfully processed complex clinical data, achieving 82% agreement with senior surgeons in rhinoplasty planning. These findings establish AI as a reliable Clinical Decision Support System (CDSS), fostering standardization and providing valuable "expert-like" guidance for surgical education. While intraoperative judgment remains the gold standard for nuanced maneuvers, AI integration signifies a paradigm shift. We conclude that AI-assisted planning is a viable, contemporary tool for enhancing precision and consistency in facial plastic surgery, effectively bridging the gap between objective data and surgical expertise in modern clinical practice.

KEYWORDS

Rhinoplasty, Artificial Intelligence, LLM, Decision Support, Claude 4.6 Sonnet, Anthropometry.

OP-1050

Preoperative CT Hyperostosis As A Predictor Of Tumor Attachment And Recurrence Origin In Sinonasal Inverted Papilloma: A Single-Center Study

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BACKGROUND & AIM

Sinonasal inverted papilloma is characterized by a high recurrence rate, often related to incomplete identification of the tumor attachment site during surgery. Computed tomography (CT)-detected hyperostosis has been proposed as a radiologic marker of tumor origin; however, its reliability and relationship with recurrence remain controversial.This study aimed to investigate the relationship between preoperative CT hyperostosis, intraoperative tumor attachment, and recurrence origin in a single-center cohort of patients with sinonasal inverted papilloma.

MATERIAL & METHODS

This retrospective single-center study included patients with histopathologically confirmed sinonasal inverted papilloma who underwent surgical treatment between 2015 and 2025 . Preoperative CT scans were evaluated for hyperostotic bone changes and correlated with intraoperative tumor attachment sites documented in operative reports. Clinical and follow-up data, including tumor stage, surgical approach, recurrence, sex, age were analyzed. Revision cases presenting after surgery at outside institutions were evaluated separately. Categorical variables were analyzed using Chi-square and Fisher's exact tests.

RESULTS

Recurrence was observed in 6 of 32 patients (18.8%). Concordance between preoperative imaging and intraoperative localization was present in 16 patients (50%), while discordance was noted in 16 patients (50%).Recurrence occurred in 31.3% (5/16) of the discordant group compared to 6.3% (1/16) of the concordant group. This difference did not reach statistical

significance (Pearson χ^2 p=0.070; Fisher exact p=0.172). The calculated odds ratio for recurrence in the discordant group was 6.82.

CONCLUSIONS

Discordance between preoperative imaging and intraoperative tumor localization was associated with a higher observed recurrence rate in sinonasal inverted papilloma. Although this association did not reach statistical significance, the magnitude and direction of the effect suggest a potentially clinically relevant relationship. Careful assessment of preoperative imaging findings, particularly hyperostotic changes on CT, may assist in identifying the true tumor attachment site and improving surgical targeting. Larger prospective studies with standardized follow-up are required to further clarify the impact of imaging–surgical correlation on recurrence outcomes.

KEYWORDS

inverted papilloma, hyperostotic,recurrence, true tumor implantation site

OP-1051

Paranasal Sinus Fungus Ball: Clinical And Radiological Outcomes From A 15-Year Single-Centre Experience

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BACKGROUND & AIM

Paranasal sinus fungus ball is a non-invasive form of fungal rhinosinusitis characterized by fungal accumulation within the sinus cavity, predominantly affecting immunocompetent individuals. Although the maxillary sinus is the most commonly involved site, sphenoid sinus disease may present with nonspecific symptoms, leading to delayed diagnosis. Characteristic radiological findings and anatomical variations may contribute to disease development and diagnosis. This study aimed to evaluate the clinical, radiological, and surgical characteristics of patients with paranasal sinus fungus ball.

MATERIAL & METHODS

This retrospective single-center study included patients who underwent endoscopic surgical treatment for paranasal sinus fungus ball between January 2010 and December 2025. Fifty patients with sufficient clinical, radiological, and histopathological data were included. Demographic characteristics, presenting symptoms, symptom duration, comorbidities, involved sinus, examination findings, radiological characteristics, histopathological results, postoperative complications, and recurrence data were retrospectively reviewed from electronic medical records. Statistical significance was defined as p<0.05.

RESULTS

The mean patient age was 56.86±13.06 years, and 66.0% were female. Maxillary sinus (50.0%) and sphenoid sinus (48.0%) involvement represented the majority of cases(Table 1). The most common presenting symptoms were nasal obstruction (46.0%), headache (34.0%), and facial pain (30.0%). (Table 2).Complete sinus opacification (89.5%) and calcification (76.3%) were the most frequent CT findings (Table 3). Septal deviation and Haller cells were significantly more common on the affected side in maxillary sinus fungus ball patients (p=0.013 and p<0.001, respectively)(Table 5). Recurrence occurred in 6.0% of patients (Table 7).

CONCLUSIONS

Paranasal sinus fungus ball predominantly affects middle-aged female patients and commonly involves the maxillary and sphenoid sinuses. Characteristic CT findings facilitate diagnosis, while anatomical variations such as septal deviation and Haller cells may contribute to disease development. Endoscopic surgical treatment demonstrates favorable outcomes with low recurrence rates. Recognition of these features may improve early diagnosis and treatment planning.

KEYWORDS

Paranasal sinus fungus ball; Fungal rhinosinusitis; Endoscopic sinus surgery; Computed tomography; Maxillary sinus ;Sphenoid sinus

OP-1052

Olfactory And Gustatory Function Changes In Obese Patients Initiating Tirzepatide: A Prospective Pre-Post Study (Preliminary Results)

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BACKGROUND & AIM

Tirzepatide, a dual GIP/GLP-1 receptor agonist, has become a common choice for treating obesity, and reports from pharmacovigilance databases have pointed to taste and smell disturbances as possible side effects. Yet objective,

psychophysical evidence on this remains limited. We prospectively assessed olfactory and gustatory function using validated psychophysical tools before and after three months of tirzepatide treatment. Here, we report preliminary results from an ongoing recruitment.

MATERIAL & METHODS

Patients starting tirzepatide for obesity under endocrinology follow-up are being tested at baseline, before their first dose, with Sniffin' Sticks (Threshold, Discrimination, and Identification subtests, and the composite TDI score) and Odofin taste strips. Treatment consists of 2.5 mg during the first month and 5 mg during months two and three. Testing is repeated at three months, and baseline and follow-up scores are compared with paired t-tests and Wilcoxon signed-rank tests.

RESULTS

In this preliminary study (n=27), patients lost an average of 13 kg (109.5±15.6 kg to 96.6±14.8 kg). Olfactory threshold scores rose from 8.06±2.68 to 9.54±2.79 ($p=0.0002$, $d=0.82$), improving in 18 of 27 patients. Discrimination scores also increased (10.81±2.24 to 12.07±1.86, $p=0.002$), as did the composite TDI score (32.31±5.16 to 35.54±4.67, $p<0.0001$, $d=1.06$; improved in 23 of 27 patients). Identification scores trended upward without reaching significance (13.41±1.82 to 13.89±1.67, $p=0.068$) (Table 1.). Taste strip scores improved from 11.07±3.19 to 12.37±2.86 ($p=0.007$) (Table 1.). Threshold change did not correlate with weight change ($r=0.143$, $p=0.48$).

CONCLUSIONS

These preliminary findings suggest three months of tirzepatide treatment is followed by measurable gains in olfactory and gustatory sensitivity, most pronounced for odor threshold, which sits somewhat at odds with the dysosmia and dysgeusia reported in pharmacovigilance databases. Since the threshold improvement was unrelated to the degree of weight loss, a direct pharmacological effect on chemosensory pathways seems more likely than a weight-loss-mediated one, in line with animal data showing GLP-1 receptor expression in the olfactory bulb.

KEYWORDS

smell, taste, olfaction disorders, obesity

OP-1053

Predictors Of Stroke In Invasive Fungal Rhinosinusitis: Case Series And Systematic Review

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BACKGROUND & AIM

nvasive fungal rhinosinusitis (IFRS) is a life-threatening infection affecting immunocompromised patients, particularly those with uncontrolled diabetes. Its angioinvasive pathogens, including Aspergillus and Mucorales species, can infiltrate major cerebral vessels, causing thrombosis, aneurysm, or rupture that leads to stroke, with mortality rates exceeding 70% and approaching 100% in some reports. Diagnosis is challenging due to stroke-like presentations and overlapping imaging findings. Predictors may include extensive sinonasal disease, cavernous sinus involvement, vascular invasion, and poor glycemic control. This study aims to identify clinical, radiological, and pathological stroke predictors and evaluate whether early medical and surgical intervention reduces cerebrovascular complications and mortality.

MATERIAL & METHODS

Invasive fungal rhinosinusitis (IFRS) is a severe infection affecting immunocompromised patients, especially those with uncontrolled diabetes. Angioinvasive fungi such as Aspergillus and Mucorales can invade cerebral vessels, particularly the internal carotid artery, causing thrombosis, aneurysm, and ischemic or hemorrhagic stroke, with mortality exceeding 70%. Diagnosis is often delayed because symptoms mimic acute stroke. Predictors include extensive sinonasal disease, cavernous sinus thrombosis, vascular invasion, histopathological angioinvasion, and poor glycemic control. This systematic review, following PRISMA 2020 guidelines, will analyze studies from 1991–2025 to identify stroke predictors and assess whether early intervention reduces stroke incidence and mortality.

RESULTS

Anticipated Results

We hypothesize that the extent of surgical resection in chronic invasive fungal rhinosinusitis (CIFRS) significantly influences clinical outcomes. Specifically:

· Extensive sinonasal resection is expected to result in improved local disease control and overall survival due to more effective clearance of infected and necrotic tissue.

· In cases with orbital involvement, orbit-sparing limited resections may achieve comparable outcomes to more aggressive approaches, without increasing the risk of recurrence or mortality, while preserving ocular function.

We anticipate that a tailored surgical strategy, characterized by aggressive resection of sinonasal disease with selective preservation of critical structures such as the orbit and cranial nerves, will be associated with favorable survival outcomes and preservation of neurological and visual function.

The findings of this study are expected to offer practical, evidence-based recommendations for optimizing surgical management of CIFRS, particularly in resource-constrained or endemic settings where individualized decision-making is critical.

CONCLUSIONS

Invasive fungal rhinosinusitis (IFRS) is a life-threatening condition with a high risk of stroke due to fungal angioinvasion, particularly in immunocompromised patients. Stroke significantly increases mortality despite advances in diagnosis and treatment. This study seeks to identify key clinical, radiological, and pathological predictors of stroke and evaluate the role of early intervention. Improved risk stratification and timely multidisciplinary management may reduce stroke incidence, lower mortality, and enhance outcomes in patients with IFRS.

KEYWORDS

Aspergillosis; carotid artery; invasive fungal disease; mucormycosis.

OP-1054

The Clinical Effectiveness Of Clarithromycin Versus Endoscopic Sinus Surgery For Adults With Chronic Rhinosinusitis With And Without Nasal Polyps (MACRO)

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BACKGROUND & AIM

A paucity of evidence regarding use of endoscopic sinus surgery and antibiotics in managing chronicrhinosinusitis has contributed to a five-times variation in endoscopic sinus surgery (ESS) rates, as well as variation in theuse of antibiotics. The main aim of the present trial was to compare the clinical effectiveness of ESS or 3 months of clarithromycin treatment alongside intranasal medication (IM) in adults with chronic rhinosinusitis with or without nasal polyps.

MATERIAL & METHODS

In this pragmatic, three-arm, randomised, placebo-controlled phase 4 trial, participants were recruited from 20 secondary/tertiary care sites. Adults with chronic rhinosinusitis remaining symptomatic following appropriate medical therapy (intranasal corticosteroids and saline nasal irrigations (IM), and a short course of antibiotics) were randomly assigned (1:1:1) to receive ESS plus IM, clarithromycin (250 mg twice a day for 2 weeks then 250 mg once a day for 10 weeks) plus IM, or placebo plus IM. Participants were allocated with an automated, web-based secure randomisation system, stratified by the presence of polyps and trial site. Participants and site teams were masked to the clarithromycin and placebo allocations, including for outcome assessment. The primary outcome measure was the 22-item Sino-Nasal Outcome Test (SNOT-22) quality-of-life questionnaire at 6 months after randomisation, with analysis by intention to treat (ITT). Adverse reactions were assessed in the safety population and serious adverse events in the ITT population.

RESULTS

Between Nov 1, 2018, and Oct 13, 2023, 514 participants (181 [35%] female and 333 [65%] male), with chronic rhinosinusitis with nasal polyps (n=410) or chronic rhinosinusitis without nasal polyps (n=104), were recruited and randomly assigned to receive ESS (n=171), clarithromycin (n=172), or placebo (n=171), all with intranasal medication. SNOT-22 scores at 6 months after randomisation were significantly lower in the ESS group than in the clarithromycin group (adjusted mean difference −18·13 [98·33% CI −24·26 to −11·99], p<0·0001) and placebo group (−20·44 [−26·42 to −14·46], p<0·0001). 6-month SNOT-22 scores did not differ significantly between participants randomly assigned to clarithromycin versus placebo (−3·11 [−8·56 to 2·33], p=0·17). Ten serious adverse events occurred in nine participants (two events in two [1%] of 172 participants allocated to clarithromycin, three events in three [2%] of 171 allocated to placebo, and five events in four [2%] of 171 allocated to ESS); none were fatal.

CONCLUSIONS

The MACRO trial shows that endoscopic sinus surgery has clinical effectiveness in patients with chronic rhinosinusitis, providing significantly improved disease-specific quality of life at 6 months. Conversely, the trial findings do not support routine long-term use of low-dose clarithromycin. Endoscopic sinus surgery should be recommended if intranasal medication alone is unable to achieve symptom control.

KEYWORDS

chronic rhinosinusitis, endoscopic sinus surgery, clarithromycin

OP-1055

Vaping And Upper Airway Symptoms In Adult Otolaryngology Outpatients: A Cross- Sectional Study

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BACKGROUND & AIM

Vaping is increasingly encountered in otolaryngology practice, yet clinic-based data describing associated symptom phenotypes remain limited and are often confounded by smoking and pre-existing ENT disease. We hypothesised that vaping would be associated with a higher prevalence of upper airway irritative symptoms, particularly rhinitis/nasal congestion and sore throat, among adult ENT outpatients.

MATERIAL & METHODS

We conducted a cross-sectional questionnaire study of adult otolaryngology outpatients attending clinics within Mid and South Essex NHS Foundation Trust. Data collected included demographics, vaping and smoking history, allergy status, prior ENT disease or surgery, and patient-reported ENT symptoms. Vaping status was defined as current or previous use of e-cigarettes or vaping products (yes/no). The primary outcome was the presence of any ENT symptom. Pre-specified symptom categories included rhinitis/nasal congestion and sore throat. Group comparisons were performed using χ^2 tests. Adjusted prevalence ratios (aPRs) were estimated using robust Poisson regression controlling a priori for age, gender, smoking status, allergy history, and prior ENT disease (complete-case analysis).

RESULTS

A total of 549 respondents were included, with vaping status available for 546 participants. Of these, 98 (18.0%) reported current or previous vaping. Any ENT symptom was common in both groups (vapers 83.7% vs non-vapers 73.9%, p=0.055). In unadjusted analyses, vapers reported a higher prevalence of rhinitis/nasal congestion (28.6% vs 18.3%, p=0.031) and sore throat (17.3% vs 8.5%, p=0.014). However, in adjusted models (n=332), vaping was not independently associated with any ENT symptom (aPR 1.00, 95% CI 0.89–1.13; p=0.95), rhinitis/nasal congestion (aPR 1.12, 95% CI 0.71–1.78; p=0.62), or sore throat (aPR 0.86, 95% CI 0.46–1.63; p=0.65). Allergy (aPR 1.17, 95% CI 1.06–1.29; p=0.001) and prior ENT disease (aPR 1.15, 95% CI 1.04–1.27; p=0.005) were independent predictors of reporting any symptom.

CONCLUSIONS

ENT symptoms are highly prevalent among otolaryngology outpatients. Although vapers reported more nasal congestion and sore throat in crude analyses, these associations were not maintained after adjustment for confounding factors. Allergy and underlying ENT disease appear to be key drivers of symptom burden in this population. These findings highlight the importance of considering comorbidities and environmental exposures when evaluating vaping-related symptoms in clinical practice.

KEYWORDS

Vaping, E-cigarettes, ENT symptoms, Rhinology, Nasal congestion, Sore throat

OP-1056

The Effect Of Nasal Skin Thickness On Cosmetic Patient Satisfaction After Rhinoplasty

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BACKGROUND & AIM

Traditionally, rhinoplasty outcomes have been assessed by surgeon evaluations; however, the significance of patient-reported outcome measures (PROMs) has risen in recent years. Nasal skin thickness is considered a significant anatomical element affecting cosmetic outcomes. Thick skin may obscure structural alterations and restrict tip definition, whereas thin skin may enhance the visibility of contour imperfections. The clinical significance of nasal skin thickness concerning patient-perceived happiness remains ambiguous. This study sought to assess the correlation between objectively determined nasal skin

thickness and postoperative esthetic satisfaction following rhinoplasty, utilizing the cosmetic component of the Standardized Cosmesis and Health Nasal Outcomes Survey (cSCHNOS).

MATERIAL & METHODS

This retrospective analysis looked at patients who had primary rhinoplasty between June 2023 and June 2025. At least six months after surgery, examinations were done to make sure that the results were stable. After removing people with congenital nasal problems, past septorhinoplasty, or missing preoperative paranasal CT scans, 160 of the 263 cases that were first examined satisfied the eligibility requirements. Power analysis was used to choose the 42 patients with the thinnest and 42 patients with the thickest mean nasal skin thickness values for the comparison. We used preoperative CT scans to objectively assess the thickness of the nasal skin at three typical anatomical points: the radix, the K-point and the nasal tip. An expert radiologist take the measurements. We did postoperative assessments over the phone, and we figured out how much better things became by looking at the difference between the retrospective preoperative and present postoperative c-SCHNOS scores.

RESULTS

Eighty-four patients completed the postoperative assessment, including 42 with thin nasal skin and 42 with thick nasal skin. The mean nasal skin thickness in the entire cohort was 3.13 ± 0.65 mm. Male patients demonstrated greater average skin thickness compared with female patients. Both thin- and thick-skinned groups showed significant postoperative improvement in cosmetic SCHNOS scores. Median postoperative scores decreased markedly in both groups, indicating substantial improvement in patient-perceived nasal appearance. However, statistical analyses revealed no significant differences between thin- and thick-skinned groups in preoperative scores, postoperative scores, or the magnitude of cosmetic improvement ($p > 0.05$). Item-level analysis of the six cosmetic SCHNOS questions also demonstrated consistent improvement across all domains without significant differences between skin thickness groups. Furthermore, correlation analysis showed no significant association between nasal skin thickness and the degree of postoperative cosmetic improvement. Age and gender were not significantly associated with cosmetic outcome changes.

CONCLUSIONS

The results of this study demonstrate that nasal skin thickness does not markedly affect patient-reported cosmetic satisfaction following rhinoplasty. Patients with both thin and thick skin saw similar improvements in cosmetic outcomes, as shown by cSCHNOS scores. These findings indicate that anatomical features alone may not adequately forecast postoperative patient satisfaction. Instead, things like what the patient expects, how well the surgeon and patient communicate, and how well the patient adapts to the surgery may be more important in deciding how successful the surgery is regarded to be.

KEYWORDS

Rhinoplasty, Nasal Skin Thickness, Patient-Reported Outcome Measures, SCHNOS, Patient Satisfaction

OP-1057

Impact Of Uncinate Process Attachment And Concha Bullosa On Frontal Sinusitis: A CT Study

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BACKGROUND & AIM

Frontal sinus drainage depends on frontal recess anatomy and may be influenced by uncinate process (UP) attachment patterns and concha bullosa (CB). It is hypothesized that non–lamina papyracea UP attachment (Type B) increases the risk of frontal sinusitis, whereas CB has a limited or no independent effect.

MATERIAL & METHODS

This retrospective clinical study included 150 patients who underwent endoscopic sinus surgery for unilateral frontal sinusitis. Paranasal sinus computed tomography scans were analyzed. Each nasal cavity was evaluated as a separate side-based unit (total 300 sides). Frontal sinusitis was defined using the Lund–Mackay scoring system and dichotomized as absent (0) or present (1–2). UP attachment was classified as Type A (lamina papyracea) or Type B (skull base or middle turbinate). CB was categorized as absent (0) or present (types 1–3). Primary outcome was the presence of frontal sinusitis. Independent variables included UP type and CB presence. Chi-square test and odds ratios (OR) with 95% confidence intervals (CI) were calculated. Within-patient paired comparisons between diseased and contralateral sides were analyzed using McNemar test. A p value <0.05 was considered statistically significant.

RESULTS

Frontal sinusitis was present in 24.3% of sides. Type B UP attachment was significantly associated with frontal sinusitis ($p < 0.001$), increasing the risk approximately sevenfold (OR = 6.95; 95% CI: 3.5–13.8). In contrast, CB was not significantly associated with frontal sinusitis ($p = 0.91$; OR = 0.90; 95% CI: 0.45–1.78). No significant relationship was found between UP attachment patterns and CB presence ($p > 0.05$). Within-patient paired analysis demonstrated a significantly higher prevalence of Type B attachment on the diseased side compared to the contralateral side ($p < 0.001$).

CONCLUSIONS

Non–lamina papyracea UP attachment is a strong and independent risk factor for frontal sinusitis, whereas CB does not appear to contribute significantly. These findings highlight the dominant role of frontal recess anatomy in the pathophysiology of frontal sinusitis.

KEYWORDS

Frontal sinusitis; Uncinate process; Frontal recess; Concha bullosa; Computed tomography; Anatomical variations

OP-1058

Typical Vs Atypical Sinonasal Inverted Papillomas: Impact Of Tumor Localization On Surgical Strategy And Outcomes

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BACKGROUND & AIM

Sinonasal inverted papilloma (SNIP) is a benign but locally aggressive tumor with a propensity for recurrence and malignant transformation. While most arise from the lateral nasal wall atypical localizations are increasingly recognized. Atypical SNIPs are defined as lesions originating from frontal or sphenoid sinuses, or involving uncommon locations like the nasal septum or inferior turbinate.This study aimed to compare clinical characteristics, surgical management, and outcomes between typical and atypical SNIPs.

MATERIAL & METHODS

A retrospective analysis was performed on 74 patients who underwent surgery for SNIP between January 2017 and September 2025 at a tertiary referral center. Tumors were classified as typical or atypical based on localization. Clinical variables included tumor site, association with nasal polyposis, surgical approach (endonasal, external or combined), histopathological discordance, recurrence, and malignant transformation. Recurrence free interval (RFI) .

RESULTS

Fifty-seven patients (77%) had typical localization, and 17 (23%) had atypical localization (frontal sinus, n=3; sphenoid sinus, n=5; inferior turbinate, n=4; nasal septum, n=2; lamina papyracea, n=2; fovea ethmoidalis, n=1). Mean age was 57 years. Recurrence occurred in 8/57 (14.0%) of typical cases and 2/17 (11.8%) of atypical cases (p=1.0). Malignant transformation or dysplasia was observed in 12.3% of typical cases and in none of the atypical cases (p=0.192). Rates of nasal polyposis (10.5% vs. 11.8%, p=0.1) and preoperative–postoperative histopathological discordance (12.3% vs. 29.4%, p=0.131) were comparable; notably, all discordant atypical cases originated from the sphenoid sinus. Kaplan–Meier analysis showed no difference in recurrence-free interval between groups (log-rank p=0.525). Surgical approach differed significantly (p=0.048), with combined approaches more frequently used in atypical cases.

CONCLUSIONS

Atypical SNIPs more often require combined surgical approaches, reflecting greater technical complexity. However, tumor localization was not associated with increased recurrence, malignant transformation or worse recurrence-free interval. Despite differences in surgical strategy, clinical outcomes were comparable. Larger studies are needed to further clarify the impact of tumor localization.

KEYWORDS

Sinonasal inverted papilloma; Atypical localization; Surgical approach; Recurrence

OP-1059

The State Of AI In Rhinology: Gaps In Clinical Development, Risk Of Bias And Reporting

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BACKGROUND & AIM

Artificial intelligence (AI) and machine learning (ML) models are emerging for diagnostic and prognostic applications in rhinology. However, a gap exists in systematically evaluating their clinical relevance, methodological rigor, and reporting quality. This systematic review addresses these crucial aspects within the current landscape of AI/ML models in rhinology.

MATERIAL & METHODS

A systematic review was performed across MEDLINE, EMBASE, Cochrane CENTRAL, and Web of Science. Data were extracted on study characteristics, clinical development stage, risk of bias (assessed using PROBAST: Prediction model Risk of Bias Assessment Tool), and completeness of reporting (assessed with TRIPOD-AI: Transparent Reporting of a multivariable prediction model for Individual Prognosis Or Diagnosis).

RESULTS

Of 4,272 studies screened, 67 studies were included, primarily conducted in hospital/academic settings. All studies were exclusively in the pre-clinical evaluation phase (development and in silico testing); none had progressed to formal clinical evaluation or monitoring stages. Methodologically, 35 out of 67 studies exhibited a high or unclear risk of bias. Reporting quality was also poor, with a median adherence to the TRIPOD-AI checklist of only 48.1%. Critical items were systematically unreported across nearly all studies, including model calibration, assessments of fairness, patient and public involvement, and the public availability of the final model for independent validation.

CONCLUSIONS

The lack of development beyond the pre-clinical stage, high risk of bias and reporting deficiencies critically undermine the trustworthiness and clinical applicability of current AI/ML models in rhinology. Adopting and adhering to better standards is needed to improve the quality of these models for potential clinical application.

KEYWORDS

Artificial intelligence, rhinology, machine learning

OP-1060

Management Of Radicular Cysts Extending Into The Maxillary Sinus: A Multidisciplinary Case Series

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BACKGROUND & AIM

Radicular cyst are inflamatory odontogenic cysts and represent the most common cystic lesions of the jaws. They typically arise at the apex of a non-vital tooth following pulpal necrosis. Most of them are asymptomatic and remain small in size; however, in rare cases, they may enlarge significantly and extend into adjacent anatomic structures. In this study, we aimed to present our surgical experience in the management of radicular cysts with sinonasal extension using combined of endodontic, transoral, and endoscopic transnasal approaches, and to emphasize the importance of a multidisciplinary strategy in such cases.

MATERIAL & METHODS

A total of 7 patients who underwent multidisciplinary surgery for extensive odontogenic radicular cysts involving the maxillary sinus between April 2025 and April 2026 were retrospectively reviewed. The surgiries were performed through a collaborative approach between the Otorhinolaryngology and Oral & Maxillofacial Surgery departments. Demographic characteristics, clinical findings, surgical techniques, histopathological outcomes, and postoperative follow-up data were analyzed.

RESULTS

The study included 7 patients with a mean age of 46 years. Four patients were male and 3 were female. In all cases, the radicular cysts originated from the periapical region of the tooth and expanded into the maxillary sinus. A sulcular incision was preferred in 5 patients (71.4%), while a sublabial incision was performed in 2 patients (28.6%). Piezosurgery was used to remove the bone covering the cyst. Following apical resection of the involved teeth, retrograde root-end filling was performed using Mineral Trioxide Aggregate. In six cases (85.7%), transnasal endoscopic maxillary antrostomy was performed because of the communication between the cyst cavity and the sinus. One patient (14.3%) had previously undergone endoscopic sinus surgery. In 2 cases with extensive bone defects, a buccal fat pad flap was utilized to support the mucosa and prevent defective healing. During the follow-up period (2–12 months), no clinical or radiological recurrence was observed.

CONCLUSIONS

Extensive odontogenic cysts involving the maxillary sinus may require a combined surgical approach. Successful endodontic treatment, intraoral enucleation, endoscopic sinus control, and vascularized soft tissue support constitute an effective and safe treatment approach that enables preservation of the teeth and adjacent sinonasal structures. Although several case reports on radicular cysts have been reported in the literature, comprehensive case series focusing particularly on large radicular cysts extending into the maxillary sinus appear to be limited. This study presents a relatively large case series demonstrating a multidisciplinary approach in the management of extensive radicular cysts associated with the maxillary sinus.

KEYWORDS

jaw, maxillary sinus, radicular cyst, odontogenic cyst

OP-1061

Free Mucosal Grafting As A Rapid Technique To Achieve Re-Epitheliazation

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BACKGROUND & AIM

Mucosal grafting has become more established in rhinologic procedures such as frontal sinus surgery, in skull base surgery to cover naso-septal flap donor sites and as part of septal perforation repair. While it might be well accepted that free mucosal grafts take to bone and vascularized recipient beds, the use of mucosal grafting on the contralateral side during septal perforation repair with vascularized flaps is not well recognized but is an important adjunct to ensure healthy re-epithelization of the contralateral septum.

MATERIAL & METHODS

A retrospective case series of consecutive adult patients undergoing endoscopic nasal septal perforation (NSP) repair with application of a contralateral free mucosal graft was performed. The free grafts were simply placed on the defect, opposite to the flap and on collagen matrix, and covered with silastic sheeting. The primary outcome was the integration of the free graft and judged as complete, partial or failed. Secondary outcomes included the overall anatomical closure, Miglani endoscopic score and nasal symptoms assessed via the Sino-Nasal Outcome Test-22 (SNOT-22) Nasal Subdomain score.

RESULTS

Ninety patients (age 44.3±15.5 years; 56.7% female; 10.0% with a history of recreational drug use) were included. Most repairs utilized an anterior ethmoidal artery flap (95.6%). Free graft integration was complete in 85.6% of all cases (6.7% partial). Anatomical closure was achieved in 90.0% and free graft integration was complete in 92.6% of those patients. Endoscopic assessment improved significantly (Miglani 3.4±1.8 vs. 0.7±0.9; $p<0.001$) and nasal subdomain scores also improved (10.2±7.0 vs. 6.4±5.7; $p<0.001$).

CONCLUSIONS

Contralateral free mucosal grafts heal reliably in endoscopic NSP repair, with complete healing in over 92% of patients with successful closure. The technique is simple to perform and assists in achieving re-epithelization and avoids prolonged secondary healing.

KEYWORDS

Nasal septal perforation, Free mucosal graft, Endoscopic repair, Anterior ethmoidal artery flap

OP-1062

Extent Of Sinus Surgery Is Associated With Disease Control In Biologic Treated Type-2 Dominant CRS

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BACKGROUND & AIM

A greater benefit of biologics is observed after surgery in type-2 chronic rhinosinusitis with nasal polyps (CRSwNP). However, the extent of surgery remains undefined in many studies. This study evaluated the extent of surgery on disease control in patients receiving biologics for refractory type 2 dominant CRSwNP.

MATERIAL & METHODS

A cross-sectional study was performed on patients with CRSwNP treated with biologics for ≥6 months at a tertiary center. All patients had undergone prior sinus surgery which included a complete sphenoethmoidectomy and then extension via Draf I, IIa, IIb, IIc, or III. Disease control was defined as having a SNOT-22 ≤30, endoscopic modified Lund–Mackay ≤4, and absence of rescue therapy within 6 months. Comparisons were made across surgical and biologic groups, and logistic regression was used to identify factors associated with disease control.

RESULTS

159 patients were assessed (age 50.9±12.8yrs, 45.3% female). Disease control was achieved in 49.1%. Disease control was greater with extended surgery (Draf III 60.8%[49.7-70.8%] vs Draf IIc 68.3%[53.0-80.4%] vs Draf IIa 8.7%[2.4-26.8%] vs Draf I 0%[0.0-19.4%], p<0.001). Control was similar across biologic type (anti-IL-4αR 63.3%[45.5-78.1%] vs anti-IL-5/5R 45.7%[37.3-54.3%], p=0.105). On regression, extended surgery (Draf III + IIc) was associated with disease control (Draf III/IIc vs Draf IIa/I: OR 110.2 [12.7-14682.5]) but not biologic type (anti-IL-4αR vs anti-IL-5/5R OR 2.15 [0.7-7.2]). However, class switching had already occurred in 15.1% of patients initially treated with anti-IL-5/5R.

CONCLUSIONS

Disease control was greatest in CRSwNP patients who had both extended sinus surgery and had their biologic treatment optimized.

KEYWORDS

Endoscopic Sinus Surgery, CRSwNP, polyps, remission, dupilumab, benralizumab, mepolizumab, tezepelumab

OP-1063

Effectiveness Of A Vit-GNN-Based Deep Learning Model For The Classification Of Nasal Pathologies On Paranasal CT Images

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BACKGROUND & AIM

To evaluate the effectiveness of a ViT-GNN-based hybrid deep learning model in classifying chronic sinusitis, septal deviation, concha bullosa, antrochoanal polyp, and inverted papilloma on paranasal CT images.

MATERIAL & METHODS

This retrospective study included 250 patients who underwent paranasal CT examinations. Patients were categorized into five groups: chronic sinusitis, septal deviation, concha bullosa, antrochoanal polyp, and inverted papilloma (n=50 each). All pathology groups were confirmed based on postoperative histopathological diagnoses.Five representative coronal CT slices demonstrating the pathology most clearly were selected from each patient, yielding 1,250 images. The dataset was split on a patient basis into 70% training (175 patients, 875 images) and 30% testing (75 patients, 375 images).Images were resized during preprocessing to ensure standardization. A hybrid deep learning model combining Vision Transformer (ViT) and Graph Neural Network (GNN) components was used. The ViT extracted global image features, while the GNN modeled relationships between these features. Model performance was evaluated using accuracy, sensitivity, specificity, precision, F1-score, ROC-AUC, t-SNE visualization, and confusion matrix analysis.

RESULTS

The ViT-GNN-based hybrid deep learning model demonstrated high performance in classifying five different nasal/paranasal pathology groups. The overall accuracy on the test set was 93.6%. The macro-average sensitivity was 92.9%, specificity 98.2%, precision 93.1%, and F1-score 92.7%. The mean AUC value was 0.97.Class-wise evaluation showed the highest sensitivity in the septal deviation group (96.5%), followed by concha bullosa (95.2%) and chronic sinusitis (93.4%). Sensitivity was 91.4% for antrochoanal polyp and 88.9% for inverted papilloma.ROC-AUC analysis demonstrated high discriminative performance across all classes.

CONCLUSIONS

The ViT-GNN-based hybrid deep learning model demonstrated high performance in classifying nasal and paranasal pathologies on coronal CT images. This approach represents a promising decision support tool in radiological evaluation. However, further multicenter studies with external validation are required before clinical application.

KEYWORDS

Paranasal CT; Deep learning; Nasal pathologies; Artificial intelligence

OP-1064

OUTCOMES OF ENDOSCOPIC RESECTION OF INVERTED PAPILLOMA: RECURRENCE AND RISK FACTORS: A SYSTEMATIC REVIEW

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BACKGROUND & AIM

he present systematic review consolidated the existing research concerning the outcomes of endoscopic removal of inverted papilloma (IP), with an emphasis on recurrence and related risk factors.

MATERIAL & METHODS

The review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria. A comprehensive search of PubMed, Scopus, Web of Science, and Google Scholar was conducted for studies published from January 2016 to December 2025 that detail recurrence outcomes after endoscopic surgical therapy of IP. Two researchers impartially assessed the titles, abstracts, and whole texts of potentially eligible publications. Conflicts were resolved through interpersonal dialogue. The quality assessment was conducted by two investigators utilising the Methodological Index for Non-Randomised Studies (MINORS) tool for evaluating the reviewed studies.

RESULTS

The preliminary database search revealed 180 records. Following the elimination of duplicate records, 119 studies were screened for title and abstract evaluation. After a comprehensive evaluation of 24 articles, 10 studies satisfied the inclusion criteria. The Krouse classification method was the most frequently utilised for tumour staging. The follow-up duration ranged between 33 months and 66.2 months. In all studies reviewed, recurrence rates after endoscopic resection varied from 9.2% to 42.03%. The mean time to recurrence ranged between 11.4 months and 26.07 months. Increased recurrence is associated with tumour attachment to the frontal or maxillary sinus walls. Among the 10 studies included, three studies were regarded as comparative studies and the mean MINORS score was 20±2.64. Among the non-comparative investigations (n = 7), the mean MINORS score was 12.43±1.4.

CONCLUSIONS

Endoscopic excision should be regarded as the primary treatment for the majority of IPs. It is critical to completely remove the tumour and its underlying bone. Frontal sinus and multifocal conditions necessitate careful surgical planning. A minimum five-year long-term follow-up is advised.

KEYWORDS

Endoscopic sinus surgery, Inverted papilloma, risk factors, recurrence, sinonasal tumour

OP-1065

Anterior Ethmoidal Nerve Syndrome – An Under-Diagnosed Cause Of Headache And Its Relation To Migraine

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KEYWORDS

None

OP-1066

IMPACT OF NASAL OBSTRUCTION AND NASAL SURGERY ON DAYTIME SLEEPINESS AND SNORING

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BACKGROUND & AIM

Nasal obstruction increases upper airway resistance, promoting turbulent airflow and nighttime discomfort, which may contribute to snoring and daytime sleepiness. Nasal surgery may improve these symptoms. This study aims to evaluate the relationship between nasal obstruction, snoring and daytime somnolence as well as the impact of nasal surgery on these symptoms.

MATERIAL & METHODS

A prospective interventional study was conducted including patients who underwent septoplasty with or without turbinate surgery between july 2025 and february 2026. All patients were evaluated preoperatively and at 3 to 6 months postoperatively. Nasal obstruction was assessed using the Visual Analog Scale for nasal obstruction (VAS-NO) and the Nasal Obstruction Symptom Evaluation (NOSE) scale. Daytime sleepiness was measured using the Epworth Sleepiness Scale (ESS) and snoring was evaluated using the Visual Analog Scale for snoring (VAS-S). Spearman's correlation was used to assess the relationship between preoperative nasal obstruction scores and sleep related symptoms. Pre and postoperative scores were compared using the Wilcoxon signed rank test with statistical significance set at $p<0,05$.

RESULTS

36 patients were included. Preoperatively, a positive correlation was observed between NOSE and VAS-S (rho=0,792; $p<0,01$), as well as VAS-NO and VAS-S (rho=0,542; $p<0,01$). A significant correlation was also found between NOSE and ESS (rho=0,360; $p=0,025$), although no significant correlation was observed between VAS-NO and ESS (rho=0,308; $p=0,060$). Nasal obstruction improved significantly after surgery, with VAS-NO scores decreasing from 6,94±1,94 to 2,69±2,51 ($Z=4,887$, $p<0,001$) and NOSE from 59,44±22,42 to 21,25±20,51 ($Z=5,068$, $p<0,001$). Similarly, VAS-S decreased from 6,03±3,04 to 3,75±2,85 ($Z=3,829$, $p<0,001$) and ESS from 8,94±5,69 to 6,61±4,14 ($Z=2,189$, $p=0,029$).

CONCLUSIONS

Nasal obstruction is positively associated with snoring severity and daytime sleepiness. Nasal surgery leads to an improvement in nasal patency, snoring, and daytime somnolence, supporting its complementary role in the management of sleep related symptoms.

KEYWORDS

nasal obstruction; nasal surgery; septoplasty; snoring; daytime sleepiness; turbinate surgery

OP-1067

Chronic Granulomatous Invasive Fungal Sinusitis: Do We Need Extensive Surgery?

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BACKGROUND & AIM

Chronic granulomatous invasive fungal sinusitis (CGIFS) has been observed to occur in immunocompetent hosts and often present with nonspecific symptoms such as nasal obstruction, mucopurulent nasal discharge, epistaxis, headache, and facial pain, necessitating a high degree of clinical suspicion for timely diagnosis. Delayed diagnosis and management of CGIFS are associated with poor outcomes, including high morbidity and mortality rates, further underscoring the need for early detection and appropriate intervention.

MATERIAL & METHODS

The study was performed at tertiary care referral centre. Clinical records from five patients treated for histopathologically confirmed CGIFS from 2022 to 2025 were reviewed. We also presented a review of the relevant literature investigating this rare disease.

RESULTS

Five cases of histopathologically confirmed CGIFS diagnosed in our institution were included with different treatment plans and varying outcomes.

CONCLUSIONS

CGIFS is a serious and possibly fatal disease. Early diagnosis is an important factor in disease management. Our limited experience shows that extensive surgery may carry a major morbidity and unavoidable complications to the patient. Hence, treatment strategy should consist of conservative approach for significant intra-cranial and intra-orbital invasions together with long term antifungal therapy.

KEYWORDS

Fungal sinusitis, granulomatous invasive fungal sinusitis, Aspergillus, voriconazole

OP-1068

Efficacy Of Mepolizumab In Patients With Nasal Polyposis: Real-World Data

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BACKGROUND & AIM

The most common endotype of nasal polyposis is chronic local eosinophilic inflammation, in which interleukin (IL)-5 and type 2 inflammation play a central role in the pathophysiology. The aim of this study was to evaluate the real-world effectiveness of mepolizumab in patients with nasal polyposis, with or without accompanying chronic rhinosinusitis (CRS ± NP).

MATERIAL & METHODS

This single-center, observational, retrospective study included patients receiving mepolizumab therapy for asthma. Among 99 patients treated with mepolizumab, those with CRS ± NP were selected for analysis. Demographic characteristics, serum eosinophil counts, eosinophilic cationic protein (ECP), total IgE levels, Sinonasal Outcome Test-22 (SNOT-22), Asthma Control Test (ACT) scores, and systemic corticosteroid use were recorded at baseline and at months 1, 4, and 12 of treatment. CRS + NP severity was assessed using the Lund–Mackay (LM) score and the Nasal Polyp Score (NPS) at baseline and at month 12. Patients were classified as responders or non-responders based on clinical, radiological, and laboratory outcomes. Of 57 patients with nasal polyposis, 49 with complete data were included in the final analysis. All patients had comorbid asthma, and 27 patients (55.1%) had aspirin-exacerbated respiratory disease (AERD).

RESULTS

Of the patients, 63.3% were female, with a mean age of 46.2 ± 12.9 years. Significant improvements were observed at month 12 compared with baseline in systemic corticosteroid use, SNOT-22 scores, NPS, LM scores, ACT scores, and blood eosinophil counts and percentages ($p < 0.001$ for all parameters). According to predefined criteria, 29 patients (59.2%) were classified as

responders. Regression analysis revealed that aspirin sensitivity, baseline systemic corticosteroid dose, SNOT-22, NPS, and LM scores were significant factors associated with treatment response (p = 0.024, 0.005, 0.001, 0.002, and 0.049, respectively).

CONCLUSIONS

This real-world study supports the effectiveness of mepolizumab as a treatment strategy in patients with nasal polyposis, with or without accompanying chronic rhinosinusitis, and comorbid asthma. Biologic therapy was associated with significant reductions in polyp size and improvement in clinical symptoms. These findings suggest that type 2 inflammation-targeted therapies represent a valuable treatment option in CRS ± NP. Aspirin sensitivity, frequent systemic corticosteroid use, and disease severity may influence the effectiveness of mepolizumab in nasal polyposis.

KEYWORDS

Aspirin sensitivity; asthma; chronic rhinosinusitis; mepolizumab; nasal polyps

OP-1069

Structured Histopathological Comparison Of Allergic Fungal Rhinosinusitis And Eosinophilic Chronic Rhinosinusitis With Nasal Polyps In Saudi Arabia

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BACKGROUND & AIM

Allergic Fungal Rhinosinusitis (AFRS) and Eosinophilic Chronic Rhinosinusitis with Nasal Polyps (eCRSwNP) overlap clinically. Whether they represent distinct entities or points on the same spectrum is debated. We hypothesized that AFRS, compared with eCRSwNP, would show higher total serum Immunoglobulin E (IgE), higher unilateral disease rates on Computed Tomography (CT), and a distinct Structured Histopathological (SHP) profile.

MATERIAL & METHODS

We retrospectively reviewed 415 adults who underwent Functional Endoscopic Sinus Surgery (FESS) at a Saudi tertiary referral center (2017–2024). AFRS was defined by Bent and Kuhn criteria (n=50), and eCRSwNP by EPOS 2020 criteria plus more than 10 tissue eosinophils per high-power field (n=365). We compared 13-variable SHP (Rush protocol), clinical, radiographic, and laboratory features using Mann-Whitney U, chi-square tests, and age-adjusted logistic regression.

RESULTS

AFRS patients were significantly younger (median 27 vs 38 years; $p < 0.001$) and had higher total serum IgE (869 vs 191 IU/mL; $p < 0.001$). Unilateral disease on CT was nearly three times more common in AFRS (58.0% vs 19.6%; OR 5.66, 95% CI 3.05-10.51). SHP analysis showed AFRS had significantly less neutrophilic infiltration (OR 0.34, $p < 0.001$), less sub-epithelial edema (OR 0.02, $p < 0.001$), less hyperplastic or papillary change (OR 0.33, $p = 0.012$), and less squamous metaplasia (OR 0.34, $p = 0.028$). These differences remained significant after age adjustment.

CONCLUSIONS

AFRS and eCRSwNP differ across clinical, radiographic, laboratory, and SHP domains in this Saudi cohort, supporting AFRS as a distinct phenotype. Unilateral presentation and high IgE are strong discriminators. The distinct SHP signature suggests divergent inflammatory pathways, which may impact surgical planning and the selection of biologic therapies.

KEYWORDS

Allergic fungal rhinosinusitis; eosinophilic chronic rhinosinusitis; nasal polyps; structured histopathology; Saudi Arabia; functional endoscopic sinus surgery.

OP-1070

Osteoblastic Activity And Early Bone Remodeling Following Piezoelectric Versus Conventional Rhinoplasty: A Prospective Serological Study

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BACKGROUND & AIM

Piezoelectric osteotomy is recognized for its precision and reduced soft tissue trauma. While its clinical advantages in reducing postoperative morbidity are established, the biological mechanism regarding nasal bone remodeling remains poorly characterized. This study aimed to quantify the impact of piezoelectric versus conventional techniques on early bone remodeling using serum biomarkers.

MATERIAL & METHODS

Sixty female patients (18–50 years) were prospectively enrolled and divided into three groups (n=20 each): piezoelectric osteotomy, conventional osteotomy, and a control group (septoplasty without bone intervention). All procedures were performed by a single surgeon. Serum total alkaline phosphatase (ALP) and osteocalcin (OC) levels were measured preoperatively, immediately postoperatively, and at 2 weeks and 2 months postoperatively.

RESULTS

No significant between-group differences were found in ALP levels at any time point (p>0.05). At 2 months postoperatively, osteocalcin (OC), a marker of mature osteoblastic activity, was significantly higher in the piezoelectric group compared with both conventional and control groups (p=0.044). Within-group analyses showed significant postoperative increases in biomarkers over time in both osteotomy groups.

CONCLUSIONS

Piezoelectric osteotomy was associated with significantly higher osteoblastic activity 2 months postoperatively compared with conventional techniques. These findings suggest that the clinical advantages reported for ultrasonic surgery may partly reflect a more favorable biological remodeling environment, supporting a potential mechanistic explanation for postoperative tissue recovery in rhinoplasty.

KEYWORDS

Rhinoplasty; Piezoelectric Surgery; Bone Remodeling; Osteocalcin; Osteotomy

OP-1071

Organoleptic Examination Of Halitosis

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BACKGROUND & AIM

Organoleptic examination refers to the act of a clinician directly smelling the patient's breath to diagnose halitosis. Typically, the clinician leans in and instructs the patient to exhale towards their face, after which the clinician inhales and attempts to assess the odor

MATERIAL & METHODS

Various modifications have been proposed in the literature to reduce patient discomfort or to standardize the distance between the patient and the examiner, such as the use of tubes or barriers. Training programs and centers have also been established under the premise that an examiner trained in olfactory assessment could offer more accurate diagnoses. However, this assumption lacks robust scientific validation

Results: Despite its frequent mention in the literature, the organoleptic method is inherently flawed. It is inconsistent, rudimentary, highly subjective, potentially harmful for sniffer, and ultimately unreliable. Its major drawbacks include

Non-linear perception: According to psychophysical laws, odor perception does not increase linearly with gas concentration (Weber-Fechner law)

Discomfort and aversion: Patients often find the process repulsive, while clinicians may feel degraded while performing it.

Infection risk: Inhalation of exhaled breath poses a clear risk of respiratory pathogen transmission to the examiner.

RESULTS

Toxicity concern: Halitosis-related gases—such as sulfur compounds, nitrogenous volatiles, organics, and methane—are not biologically inert. Chronic exposure, even at low concentrations, has been linked to metabolic alterations in animal and human studies.

Lack of standardization: There is no consensus on scales (some use 0–6, others 0–10), fasting periods, or even inhalation protocols (nasal vs. oral). Gas mixing in the oro-nasal cavity further complicates breath-source differentiation.

Misdiagnosis of psychogenic halitosis: A weak odor can lead to a false diagnosis of psychological halitosis, even though such cases can coexist with measurable biological halitosis.

Misattribution of odor source: Odor character is often used to infer systemic origin (e.g., nitrogenous odors attributed to renal issues), yet olfactory interpretation varies greatly between individuals.

CONCLUSIONS

irreproducibility: Organoleptic scores are highly variable between repeated trials and across different examiners.

,Unreliable training standards: Training with butanol is irrelevant, as this compound is rarely present in real halitosis cases. Olfactory acuity naturally declines with age and fluctuates with sex, hormonal status, and even time of day. Moreover, the examiner may have undetected halitosis or a shifting odor threshold, both of which compromise accuracy.

Conclusions: Given the profound limitations listed above, organoleptic examination should be restricted in clinical halitosis practice. Its role may be limited to initial screening, but not relied upon for definitive diagnosis or follow-up.

KEYWORDS

Halitosis; examination; diagnosis; organoleptik examination; sniffing; Weber-Fechner law

OP-1072

Nasal Floor Augmentation After Total Inferior Turbinectomy – A Case Series

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BACKGROUND & AIM

Paradoxical nasal breathing sometimes witnessed as a result of total inferior turbinectomy can be temporarily relieved by nasal moisturisers and nasal irrigation.

However, surgery may be required for re establishing nasal resistance and physiological airflow. These procedures may be accompanied by procedural difficulties.

MATERIAL & METHODS

In this prospective study, the nasal floor of five patients diagnosed with symptoms of empty nose syndrome were augmented with pieces of auricular cartilage. Subjective symptoms were examined .

RESULTS

The nasal floor was successfully augmented in all five patients. At three months after surgery, the total questionnaire score reduced, and the nasal resistance increased.

CONCLUSIONS

The findings of this study suggest that nasal floor augmentation for paradoxical nasal breathing and Empty Nose Syndrome [ENS] is effective in increasing resistance and reducing the nasal symptoms usually casually related to ENS.

KEYWORDS

Auricular Cartilage, Empty Nose Syndrome [ENS], Turbinectomy

OP-1073

PREOPERATIVE SINUS MICROBIOME SIGNATURES PREDICT SURGICAL OUTCOMES IN CHRONIC RHINOSINUSITIS

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BACKGROUND & AIM

Variability in clinical outcomes after functional endoscopic sinus surgery (FESS) in patients with chronic rhinosinusitis (CRS) remains a significant challenge. Emerging evidence suggests that the baseline sinus microbiome may serve as a critical biomarker to predict surgical success and disease recurrence. In this context, we aimed to systematically evaluate the association between preoperative sinus microbiome composition and postoperative clinical outcomes in CRS patients undergoing FESS.

MATERIAL & METHODS

A systematic review was conducted across PubMed, Embase, and Cochrane Library (2015–2025) following PRISMA guidelines. Inclusion was restricted to studies utilizing Next-Generation Sequencing (NGS), including bacterial taxonomic profiling (16S rRNA and pyrosequencing) and host genomic analysis (Whole-Exome Sequencing - WES). Search descriptors included: 'Microbiota', 'Microbiome', 'Chronic Rhinosinusitis', and 'Endoscopic Sinus Surgery', combined with specific terms for genomic analysis (16S rRNA, NGS). Outcomes assessed included symptom improvement, endoscopic scores, and disease recurrence.

RESULTS

Seven studies comprising 281 CRS patients met inclusion criteria. Higher preoperative bacterial alpha diversity was consistently associated with greater symptom improvement and lower recurrence rates. Increased relative abundance of Corynebacterium spp. and other Actinobacteria correlated with favorable surgical outcomes. Conversely, reduced diversity and dominance of Staphylococcus aureus, Pseudomonas aeruginosa, or Enterobacteriaceae were associated with poorer postoperative improvement and higher recurrence. Integrative models combining microbiome and inflammatory data enhanced the ability to identify patients likely to experience favorable surgical outcomes.

CONCLUSIONS

Preoperative sinus microbiome composition is consistently associated with surgical outcomes in CRS, highlighting its potential to inform clinical decision-making and support personalized therapeutic strategies. Future multicenter and longitudinal studies are warranted to validate these findings and to further assess the clinical utility of microbiome-based predictive models in routine practice.

KEYWORDS

Chronic Rhinosinusitis; Functional Endoscopic Sinus Surgery; Sinus Microbiome; Next-Generation Sequencing; Surgical Outcomes.

OP-1074

Cerebrospinal Fluid Leakage Following Rhinoplasty, Septoplasty, And Septorhinoplasty: A Case Series

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BACKGROUND & AIM

Cerebrospinal fluid (CSF) leakage is a rare but potentially life-threatening complication of nasal surgeries such as rhinoplasty and septoplasty. It often results from improper handling of the ethmoid bone's perpendicular plate. If undiagnosed, it may lead to meningitis, pneumocephalus, intracranial abscess, or death.

MATERIAL & METHODS

We present a retrospective case series of seven patients who developed iatrogenic CSF leaks following rhinoplasty, septoplasty, or septorhinoplasty. The mean patient age was 31.8 years, with an average follow-up of 11 months. Clinical presentations included rhinorrhea (5 patients), generalized headache with fever (1 patient), and combined headache and rhinorrhea (1 patient). Computed tomography (CT) scans of the paranasal sinuses (CT PNS) and CT cisternography were utilized to localize the CSF leak.

RESULTS

Cribriform plate defects were identified in six patients. Three developed meningitis (cases 1, 4, and 6), and pneumocephalus occurred in two (cases 2 and 7). Management strategies included conservative therapy, intravenous antibiotics, and endoscopic CSF leak repair. Except for Case 6, five patients responded well to surgical treatment, and one patient was successfully managed with medical therapy alone, with no complications observed during the follow-up period.

CONCLUSIONS

Rhinoplasty, septoplasty, and septorhinoplasty are technically challenging procedures that require surgeons to employ appropriate techniques, thoroughly understand anatomical details, and carefully handle the perpendicular plate to prevent skull base damage and complications. Early recognition of symptoms such as unilateral rhinorrhea, fever, or severe headache is critical to prevent serious complications.

KEYWORDS

Cerebrospinal fluid leak; Cerebrospinal fluid (CSF); Rhinoplasty; Septoplasty; Septorhinoplasty, Rhinology

OP-1075

Microbiological Contamination Of Nasal Topical Preparations Used After Septoplasty: A Comparative Analysis

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BACKGROUND & AIM

The aim of this study was to determine microbiological contamination rates of nasal topical preparations (sprays, drops, and ointments) used by patients after septoplasty at the nozzle/tube tip and drug content level. The study also aimed to compare contamination levels in different formulations.

MATERIAL & METHODS

This prospective cross-sectional study included 110 patients (spray: n = 38; drop: n = 34; ointment: n = 38) who underwent septoplasty at the ENT clinic. Patients returned their preparations after at least two weeks of postoperative use. Two separate samples were obtained from each preparation: a swab of the nozzle/tube tip and the drug content. These specimens were inoculated onto blood agar, chocolate agar, and Sabouraud Dextrose Agar. Isolate identification was performed using the VITEK MS (MALDI-TOF MS) system.

RESULTS

Nozzle contamination was detected in 62.7% (n = 69) of the 110 preparations, and content contamination in 40.9% (n = 45). Nozzle contamination was significantly higher in the spray group (89.5%) than in the drop (44.1%) and ointment (52.6%) groups ($p < 0.001$). The most frequently isolated microorganisms were coagulase-negative staphylococci (particularly Staphylococcus epidermidis) and Staphylococcus aureus. Gram-negative bacteria (e.g. Klebsiella spp. and Pseudomonas aeruginosa) and yeast species (e.g. Candida parapsilosis and Candida haemulonii) were detected less frequently.

CONCLUSIONS

Spray formulations had the highest rate of nozzle contamination, while the level of contamination of the drug content was similar across all groups. These findings emphasize the importance of educating patients on the hygienic use of topical preparations during the postoperative period.

KEYWORDS
Nasal Surgical Procedures, Microbiology, Surgical Wound Infection, Staphylococcus

OP-1076

PREOPERATIVE NASAL ANALYSIS IN RHINOPLASTY: DEVELOPMENT AND EVALUATION OF AN ARTIFICIAL INTELLIGENCE-ASSISTED CLASSIFICATION SYSTEM

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BACKGROUND & AIM

The aim of this study was to develop deep learning-based artificial intelligence models capable of automatically classifying nasal morphology from standardized photographs, intended for use in preoperative evaluation of rhinoplasty candidates, and to assess their clinical applicability. Within the scope of this research, specialized classification models were developed for a total of 11 distinct anatomical parameters: brow-tip aesthetic line, nasal dorsum width, tip morphology, dorsal deviation, alar rim position, columella position, nasal projection, radix height, retrognathia status, tip rotation (evaluated separately for males and females), and dorsum profile.

MATERIAL & METHODS

This retrospective descriptive study utilized preoperative standardized photographs of 890 patients who underwent primary or revision rhinoplasty between January 2016 and December 2025. A total of 2,670 photographs captured in frontal, lateral, and superior views were analyzed. All photographs were evaluated and labeled by two independent otolaryngology specialists experienced in rhinoplasty. For image classification, the ResNet-18 (Residual Network-18) architecture, pre-trained on ImageNet, was employed. Through a transfer learning approach, the final layers of the model were retrained for nasal anatomy-specific features. The dataset was split into 70% training, 15% validation, and 15% test sets. Class imbalance was managed using weighted random sampling and weighted loss functions. Model performance was evaluated using accuracy, precision, recall, F1-score, ROC-AUC, Cohen's Kappa, and MCC metrics. The anatomical focus validity of the models was confirmed using the Grad-CAM technique.

RESULTS

All 12 developed models demonstrated accuracy rates ranging from 87% to 100%. The highest performance was achieved in the nasal projection (100%), retrognathia (100%), female tip rotation (100%), and male tip rotation (98.4%) models. The dorsum width model achieved 95.16% accuracy, the brow-tip aesthetic line model reached 94.94%, the superior axis deviation model attained 94.35%, the alar rim model scored 93.33%, the columella model reached 92.86%, the dorsum profile model achieved 92.5%, the radix model obtained 90.48%, and the tip morphology model reached 87.67% accuracy. Across all models, Cohen's Kappa values ranged from 0.795 to 1.00, indicating "substantial" to "almost perfect" agreement with expert decisions. ROC AUC values were found to be in the range of 0.945 to 1.00. Grad-CAM analyses confirmed that the models focused on anatomically meaningful regions such as the dorsum, tip, alar rim, and radix.

CONCLUSIONS

The deep learning-based artificial intelligence models developed in this study can classify nasal morphology with high accuracy in preoperative rhinoplasty evaluation. The system offers surgeons a decision support mechanism by analyzing photographs through a holistic approach without requiring manual marking or millimetric measurements. It holds particular potential as a training tool for inexperienced surgeons and as a "virtual assistant" that enhances standardization in clinical practice. In the future, the clinical integration of the system can be strengthened through multicenter validation studies and correlation analyses with postoperative outcomes.

KEYWORDS

Rhinoplasty, Artificial Intelligence, Deep Learning, ResNet-18, Nasal Analysis, Preoperative Evaluation, Image Classification, Grad-CAM

OP-1077

Biological Therapy For Extensive Allergic Fungal Rhinosinusitis: A Tertiary Hospital Experience

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BACKGROUND & AIM

Allergic fungal rhinosinusitis (AFRS) is a subtype of chronic rhinusinusitis which is charactarized as a localized inflammatory hypersensitivity reaction in the nasal cavity and sinuses leading to severe inflammation and accumulation of thick mucin rich with eosinophils and fungi hyphae. The high rates of surgical revisions and recurrences of AFRS have prompted the recent hypothesis and ongoing experimentation of an advancement in medical treatment by using biologics. However, the studies in

this aspect are very limited; hence, this study aimed to compare two biological agents with the standard therapy of this condition.

MATERIAL & METHODS

This is a prospective study that involved three groups (Dupilumab, Mepolizumab, and control groups). The patients were followed and assessed in their first presentation and after 12 months of their therapy. Multiple clinical (SNOT-22 and VAS), endoscopic (nasal polyp score), and radiological (Lund-Mackay score) variables were evaluated. SPSS was utilized to analyze the data and compare the groups.

RESULTS

A total of 36 patients participated in the study: nine received Dupilumab, nine received Mepolizumab, and 18 served as controls. The SNOT-22 scores significantly decreased in all groups following treatment, with greater improvements observed in the Dupilumab (70.13 ± 2.8) and Mepolizumab (53.78 ± 11.37) groups compared to controls (35.56 ± 7.25). Similarly, reductions in nasal polyp scores were significantly higher in both biologic groups versus the control group. Regarding olfactory function, the Dupilumab group showed a significant improvement compared with controls, while Mepolizumab showed a non-significant difference. The most common side effect of biological therapy was injection site reaction (seven patients), followed by hair loss, arthralgia, and myalgia (four patients). Only two patients in the control group experienced disease recurrence. Overall, both Dupilumab and Mepolizumab demonstrated superior clinical outcomes compared to standard treatment, with generally mild and manageable adverse effects.

CONCLUSIONS

The use of Dupilumab and Mepolizumab was effective and safe in treating patients with extensive AFRS in comparison to the standard therapy. This modality of treatment has been shown to reduce the rates of surgical revisions and recurrences of AFRS.

KEYWORDS

Dupilumab, Allergic fungal rhinosinusitis, biological agents, nasal polyp

OP-1078

Targeted Approach To Residual Septal Deviation: Effective And Safe Reseptoplasty Technique.

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BACKGROUND & AIM

Revision septoplasty is a challenging procedure due to the postoperative fibrosis and lack of the underlying bony-cartilaginous framework, psychological difficulties and fears of the patient due to an unsuccessful experience. The aim of the study is to introduce the novel minimally invasive approach for management of posterior residual septal perforations.

MATERIAL & METHODS

A prospective case series was conducted at the ENT Department, Sechenov University, from September 2024 to September 2025. Fifteen patients (n=15) undergoing revision surgery for symptomatic residual septal deviation were included. The surgical technique involved a targeted endoscopic approach to address the specific location and type of the residual deformity, minimizing mucosal disruption. Pre- and postoperative evaluations included anterior active rhinomanometry and the Sino-Nasal Outcome Test-22 (SNOT-22) questionnaire. The median postoperative follow-up period was 6 months.

RESULTS

All 15 patients completed the 6-month follow-up. Analysis of pre- and postoperative data demonstrated a significant improvement in nasal airway patency and disease-specific quality of life. Anterior active rhinomanometry showed enhanced nasal airflow, and total SNOT-22 scores exhibited a marked decrease, indicating positive symptomatic relief and functional improvement following the targeted procedure.

CONCLUSIONS

This preliminary study suggests that a targeted endoscopic approach for residual septal deviation is a safe and effective strategy, yielding significant functional improvements and high patient satisfaction in the short term. Further studies with larger cohorts and longer follow-up are warranted to validate these findings.

KEYWORDS

Residual septal deviation; revision septoplasty; endoscopic septoplasty; nasal obstruction; SNOT-22; rhinomanometry

OP-1079

Role Of Mirna-155 In Chronic Rhinosinusitis

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BACKGROUND & AIM

The pathogenesis of chronic rhinosinusitis (CRS) shows strong connections with microRNA-155 (miR-155) through its inflammatory pathways. Research has concentrated on determining miR-155 expression levels in patients who receive montelukast treatment as a leukotriene receptor antagonist for asthma and allergic conditions.The immune system depends on miR-155 for its regulation through its effects on T cells and macrophages. The elevated levels of miR-155 promote Th2-mediated inflammation through increased eosinophilic activity and elevated IL-4 and IL-13 pro-inflammatory cytokines.

MATERIAL & METHODS

This study examined 30 patients diagnosed with CRS who did not respond to medical treatment and therefore underwent surgery. Blood samples were taken from the patients before the operation to measure IL-1β and miR-155 levels. They were asked to answer the Sino-Nasal Outcome Test (SNOT-22) to evaluate sinonasal symptoms. After the operation, these patients were given a standard treatment and nasal irrigation with montelukast and saline for one month. One month later, IL-1β and miR-155 levels were measured in serum samples taken from the patients.

RESULTS

When the SNOT-22, miRNA155 and IL-1β values obtained after the operation were compared with the values before the operation, it was seen that they decreased and this difference was found to be statistically significant (p=0.0001, p=0.0030, p=0.0001; respectively). The disease severity and inflammatory status of patients could be monitored through elevated serum miR-155 levels.

CONCLUSIONS

Managing chronic sinusitis remains challenging due to disease heterogeneity, persistent inflammation, limitations in current therapies, and the presence of comorbid conditions. Overcoming these challenges requires a personalized treatment approach,improved diagnostic tools, patient education to enhance adherence, and the incorporation of novel therapies as they become more accessible.The disease severity and inflammatory status of patients could be monitored through elevated serum miR-155 levels. The significance of miR-155 in chronic rhinosinusitis makes it both a therapeutic target and a biomarker for disease management.

KEYWORDS

Chronic rhinosinusitis, miRNA-155, Montelukast, Micro RNA

OP-1080

Risk Factors For Malignant Transformation And Recurrence In Sinonasal Inverted Papilloma: A 20-Year Retrospective Analysis

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BACKGROUND & AIM

Sinonasal inverted papilloma (SNIP) is a benign but locally aggressive neoplasm with a recognized potential for malignant transformation (MT). Despite its benign classification, the high rate of recurrence and the risk of developing squamous cell carcinoma necessitate a deeper understanding of its clinical behavior.

The primary objective of this study was to identify specific clinical risk factors, such as gender and smoking, and anatomical localizations associated with increased rates of recurrence and malignancy. Furthermore, the study aimed to assess and compare the sensitivity of the Krus, Cannady, and Han classification systems in predicting these adverse outcomes to improve clinical decision-making

MATERIAL & METHODS

A retrospective analysis was conducted on 137 patients treated at Oslo University Hospital from 2000 to 2020. Variables analyzed included patient demographics, smoking status, and primary tumor localization. The predictive value of the Krus, Cannady, and Han staging systems was statistically evaluated against observed recurrence and MT rates.

RESULTS

Malignant transformation was observed in 11% (n=15) of the cohort, with a mean time to transformation of 40.3 months. Female patients demonstrated a significantly higher risk of MT (22% vs. 7%, p = 0.015). Smoking was identified as a major risk factor, present in 53% of all malignant cases. High rates of MT were noted in the orbit (100%), nasal vestibule (25%), and maxillary sinus (10%). The Cannady (Groups B & C) and Han (Group II) systems showed superior sensitivity for predicting MT compared to the Krus system. While findings regarding the maxillary sinus (N=58) and ethmoid (N=26) are robust, results for the orbit (n=3) and nasal septum (N= 6) should be interpreted with caution due to the limited number of cases representing these specific localizations

CONCLUSIONS

Female gender, smoking, and specific tumor localizations are significant indicators of malignant potential in SNIP. Utilizing the Cannady and Han classification systems allows for better identification of high-risk patients, facilitating more intensive post-operative surveillance.

KEYWORDS

Sinonasal inverted papilloma. Malignant transformation, Risk factors.

OP-1081

Does Septal Deviation Affect Uncinate Process Morphometry? A CT-Based Right–Left Comparative Study

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BACKGROUND & AIM

Nasal septal deviation (NSD) may alter the anatomy of the lateral nasal wall and osteomeatal complex through chronic asymmetric airflow changes. However, data regarding its effect on uncinate process morphometry are limited. This study aimed to compare uncinate process morphometry between the deviation side and the contralateral side in patients with NSD using computed tomography (CT).

MATERIAL & METHODS

This retrospective CT-based morphometric study included 170 adult patients with NSD. Uncinate process width, uncinate process–lamina papyracea distance, and infundibulum width were measured bilaterally. Measurements were subsequently reclassified as the deviation side and contralateral side according to the direction of septal deviation. Paired comparisons and correlation analyses with septal deviation angle were performed.

RESULTS

Among the 170 patients, 79 (46.5%) had right-sided and 91 (53.5%) had left-sided NSD. The mean septal deviation angle was 11.63±4.37°. Uncinate process width was significantly lower on the deviation side compared with the contralateral side (1.86±0.78 mm vs. 2.12±0.94 mm; $p<0.001$). Similarly, the uncinate process–lamina papyracea distance was significantly reduced on the deviation side (4.60±1.85 mm vs. 5.34±1.88 mm; $p<0.001$). No significant difference was observed in infundibulum width between the two sides ($p=0.128$). A significant negative correlation was found between septal deviation angle and the asymmetry index of the uncinate process–lamina papyracea distance (rho=-0.260; $p=0.001$), indicating that greater deviation severity was associated with more pronounced asymmetry.

CONCLUSIONS

NSD is associated with asymmetric morphometric changes in the uncinate process and adjacent osteomeatal complex anatomy. Reduced uncinate process width and uncinate process–lamina papyracea distance on the deviation side may be relevant during endoscopic sinus surgery and septoplasty planning. These findings suggest that the anatomical effects of NSD extend beyond the nasal septum itself.

KEYWORDS

nasal septal deviation, uncinate process, osteomeatal complex

OP-1082

Achieving 96% Success Without Intubation: A 21-Year Institutional Review Of Stentless Endoscopic Dacryocystorhinostomy

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BACKGROUND & AIM

Dacryocystorhinostomy (DCR) is traditionally performed via either an external or endoscopic approach, with or without stenting. While surgical techniques vary globally, our center in Malaysia has been performing stentless endoscopic approach for the management of nasolacrimal duct obstruction and chronic dacryocystitis. This presentation reviews our 21-year surgical experience, detailing our standardized operative technique and evaluating long-term clinical outcomes and success rates.

MATERIAL & METHODS

We present this retrospective study evaluating all 238 endoscopic stentless DCR procedures performed over two decades (2005–2025). The series includes 112 right-sided, 102 left-sided, and 24 bilateral cases. Our analysis focuses on clinical indications, success rates, and the primary drivers of surgical failure. By examining 20 years of longitudinal data, we provide evidence-based insights into the efficacy of the endoscopic stentless approach.

RESULTS

The primary surgical success rate was 96.21% (n=229), demonstrating clinical outcomes comparable to established benchmarks for both external (open) dacryocystorhinostomy and endoscopic techniques utilizing nasolacrimal stenting. Postoperative failure was limited mainly due to recurrent infections; nine patients (3.78%) required a primary revision procedure, while two patients (0.84%) necessitated a secondary revision to achieve functional patency.

CONCLUSIONS

Our two-decade experience suggests that the stentless endoscopic approach is a highly effective, minimally invasive alternative that yields success rates on par with traditional stented or open methods, while reducing stent-related morbidity.

KEYWORDS

endoscopic dacryocystorhinostomy, stentless DCR

OP-1083

Histopathological Effects Of Different Nasal Packing Materials On The Mucosa: An Experimental Study

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BACKGROUND & AIM

To investigate whether commonly used nasal packing materials differ in their ability to induce a rhinitis-like inflammatory response and associated mucosal alterations in a rabbit model.

MATERIAL & METHODS

This prospective experimental study included 32 New Zealand rabbits randomly allocated into four groups (control, silicone, Merocel, and gauze packing; n=8 each). Packing materials were placed in the right nasal cavity for 72 hours. Biopsy specimens were obtained from the inferior turbinate and septum, including both mucosal and cartilaginous tissues. Eosinophil and total inflammatory cell counts were assessed quantitatively, and mucosal and cartilaginous alterations were graded according to severity. Histopathological evaluation was performed by a blinded pathologist. Data were analyzed using non-parametric statistical tests, with $p<0.05$ considered significant.

RESULTS

Eosinophil counts differed significantly among groups in both turbinate and septal specimens ($p\leq0.001$), with significantly higher eosinophilic infiltration in the Merocel group compared to the control and silicone groups. Epithelial loss and ciliary damage were significantly increased in all packing groups compared to the control group ($p<0.001$). Subepithelial fibrosis was more pronounced in the Merocel and gauze groups ($p\leq0.002$). No significant differences were observed in cartilage degeneration or cartilage thickness ($p>0.05$).

CONCLUSIONS

Nasal packing materials demonstrate significant differences in early inflammatory response and mucosal injury. Merocel and gauze packing were associated with more pronounced eosinophilic infiltration and epithelial damage, whereas silicone packing showed a comparatively limited inflammatory response. These findings suggest that packing selection should account for the risk of rhinitis-like mucosal changes.

KEYWORDS

Nasal Packing, Nasal Mucosa, Inflammation, Histopathology, Rabbits

OP-1084

Peak Nasal Inspiratory Flow In Asymptomatic Spanish Adults: An Observational Prospective Study - Preliminary Data Presentation

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BACKGROUND & AIM

The prevalence of nasal obstruction in Spain is around 30 to 40%, which makes it impossible for our healthcare system to have all patients evaluated by the two main specialties dedicated to nasal obstruction: Allergology and Otorhinolaryngology. Therefore, seeking to leverage inexpensive and simple tools is a necessity in a healthcare environment characterized by increasing costs. This study aims to provide reference values for a fast, easy-to-use, in-office tool for clinical testing in the Spanish population. We report initial findings from the first 31 participants. As recruitment is still active, these data should be interpreted as preliminary trends.

MATERIAL & METHODS

This is an observational, descriptive and prospective study with a cross-sectional data collection design, without follow-up, conducted at a single national clinical center. We report initial findings from the first 31 of 96 planned participants. The study population consists of healthy Spanish adult volunteers with no history of nasal obstruction.

Inclusion Criteria: Subjects aged 18 to 80 years who provide signed informed consent and present a nasal obstruction visual analogue scale (NO-VAS) score ≤ 2.

Exclusion Criteria: Individuals under 18 or over 80 years old. Current pregnancy. Active smoking. History of asthma. Previous nasal surgery. Use of medications: hormonal contraceptives, topical or systemic corticosteroids, nasal decongestants, beta-blockers, Psychotropics: Chlorpromazine, Thioridazine, Amitriptyline, Gabapentin, Alprazolam, Reserpine.

After enrollment, age, gender, height, and weight were recorded, and Patient-Reported Outcome Measures were administered. Three Peak Nasal Inspiratory Flow measurements were performed following international recommendations, and the highest value was used for statistical analysis.

RESULTS

In this preliminary cut (N=31, 33.3% of target), subjective assessment scales demonstrated strict clinical uniformity. The NOSE questionnaire, Visual Analog Scale (VAS), and SNOT-22 all recorded a mode of 0, confirming a highly asymptomatic cohort. The observed ranges were correspondingly narrow, with NOSE ranging from 0 to 5, VAS from 0 to 2, and SNOT-22 from 0 to 29. Anthropometrically, males (n=11; age 37.7±8.0 years) averaged 91.6±23.0 kg in weight and 177.5±8.0 cm in height, registering a mean Body Mass Index (BMI) of 28.9±6.2 kg/m². Females (n=20; age 40.9±13.9 years) averaged 61.1±13.4 kg in weight and 162.2±4.7 cm in height, presenting a mean BMI of 23.2±4.9 kg/m². Maximum bilateral Peak Nasal Inspiratory Flow (PNIF) demonstrated medians by gender: 190.0 L/min (IQR: 157.5–217.5) in males and 147.5 L/min (IQR: 115.0–165.0) in females.

CONCLUSIONS

Given the preliminary nature of these findings, they should be interpreted as suggesting potential trends rather than definitive conclusions. This highly interpretable tool appears to offer practical utility across multiple healthcare tiers. In rhinologic assessment, its clinical value might be optimized when integrated with disease-specific Patient-Reported Outcome Measures (PROMs). In both primary and specialist settings, Peak Nasal Inspiratory Flow (PNIF) could potentially support diagnostic evaluations, referral decisions and tailored therapeutic approaches. Overall, PNIF seems to represent a cost-effective, accessible modality that may prove valuable for routine outpatient monitoring and comparative treatment assessments.

KEYWORDS

Rhinology; Peak Nasal Inspiratory Flow; Nasal Patency; Nasal Obstruction

OP-1085

Evaluating Post-Operative Analgesia And Safety Of NSAID-Containing Versus Opioid-Only Regimens After Sinonasal Surgery: A Randomized Controlled Trial

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BACKGROUND & AIM

Prescription opioids are widely used for post-operative pain after sinonasal surgery but carry risks such as respiratory depression, nausea, vomiting, and persistent use. NSAIDs effectively reduce pain and opioid needs, yet their use has been limited by concerns regarding bleeding and impaired mucosal healing.

MATERIAL & METHODS

This ongoing randomized controlled non-inferiority trial is enrolling 66 adult patients undergoing endoscopic sinus surgery, septoplasty, or septorhinoplasty. Participants are randomized to receive either: (1) acetaminophen with celecoxib, and oxycodone available only as a rescue analgesic (NSAID arm); or (2) acetaminophen and oxycodone alone (opioid-only arm). The primary outcomes are pain severity and pain interference scores on POD7, evaluated using the Brief Pain Inventory. Secondary outcomes include several complimentary pain scales applied from POD1 – POD30, adverse events attributable to NSAIDs or opioids, rescue opioid use, and quality of recovery (QoR-15).

RESULTS

Interim analysis of 55 participants demonstrated no significant differences between NSAIDs and opioid-only groups with respect to POD7 pain severity (mean 1.639 vs. 1.731, p=0.9880) or pain interference scores (mean 2.175 vs. 1.231, p=0.6769), respectively. Timepoint analysis from POD1 – POD7 using repeated-measures ANOVA showed no between-group differences in post-operative pain trajectories. Adverse events were comparable between study groups, with a nonsignificant trend toward fewer events in the NSAID group based on Fisher exact testing.

CONCLUSIONS

Trial recruitment is ongoing, but preliminary data are consistent with non-inferiority of the NSAID regimen. Final analyses will inform whether NSAIDs can be safely integrated into standard discharge protocols following sinonasal surgery, to reduce opioid exposure.

KEYWORDS

Randomized Controlled Trial, Opioid, NSAIDs, Sinonasal surgery

OP-1086

Biologics Are An Underutilised Therapeutic Option For Patients With Uncontrolled Crswnp In The US: A Real-World Study

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps (CRSwNP) is an inflammatory condition affecting the sinuses and nasal mucosa leading to symptoms such as nasal obstruction and impaired sense of smell. Despite the availability of effective biologic therapies, which target the underlying type 2 inflammation driving symptoms and disease progression, recent studies suggest initiation of biologics for patients with CRSwNP is suboptimal. This study aims to assess the cumulative incidence of biologic therapy initiation among biologic-eligible adult patients with inadequately controlled CRSwNP despite receiving intranasal corticosteroids (INCS).

MATERIAL & METHODS

This retrospective study used US claims data among patients with CRSwNP from the Komodo Research Database Plus (2016–2024). The index date was defined as the date when patients became eligible for biologic treatment (dupilumab, omalizumab or mepolizumab). The study population comprised adults with ≥3 INCS dispensings within a 12-month period, evidence of uncontrolled symptoms (i.e. index date) after the third INCS dispensing, ≥12 months of continuous insurance enrolment pre-index and ≥1 diagnosis of nasal polyps and chronic rhinosinusitis before or on the index date. Excluded patients had ≥1 dispensing/administration of any biologic pre-index or ≥1 diagnosis of a condition for which biologics are indicated (other than CRSwNP) within ±30 days of index. Demographics and clinical characteristics were described on the index date or during the 12 months pre-index (baseline period). Cumulative incidence of biologic initiation was assessed during follow-up (from index to insurance disenrollment, end of data or death).

RESULTS

A total of 13,140 biologic-eligible patients with CRSwNP were identified. The mean patient age was 51.8 years, 38.6% were female and 75.3% were seen by an otolaryngologist on the index date. During baseline, 20.8% of patients had comorbid asthma and 13.6% underwent functional endoscopic sinus surgery. In the first year post index, 7.0% of biologic-eligible patients initiated biologic therapy, rising to 10.4% and 13.5% by the end of the second and third years, respectively.

CONCLUSIONS

Among biologic-eligible patients with CRSwNP in the US, biologics remain an underutilised treatment option, with the majority of patients never being escalated to biologics despite evidence of uncontrolled symptoms with INCS treatment.

KEYWORDS

CRSwNP, Biologics, Real-world, United States

OP-1087

Diode Laser Turbinoplasty, A Hustle-Free Technique For Inferior Turbinate Reduction.

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BACKGROUND & AIM

Inferior turbinate hypertrophy is a common cause of chronic nasal obstruction and may require surgical intervention when conservative treatment fails. Various surgical techniques have been described, aiming to reduce turbinate size while preserving nasal function. This study aimed to compare the efficacy and safety of diode laser turbinoplasty with partial inferior turbinectomy in the management of hypertrophied inferior turbinates.

MATERIAL & METHODS

This prospective comparative clinical study included 30 patients suffering from symptomatic inferior turbinate hypertrophy refractory to medical treatment. Patients were randomly divided into two equal groups of 15 patients each. Group I underwent diode laser turbinoplasty, while Group II was treated with partial inferior turbinectomy. Patients were evaluated preoperatively and postoperatively using subjective assessment of nasal obstruction and clinical examination. Operative time, intraoperative bleeding, postoperative pain, crusting, and complications were recorded and compared between the two groups.

RESULTS

Both surgical techniques resulted in significant improvement in nasal obstruction. However, diode laser turbinoplasty demonstrated several advantages over partial inferior turbinectomy, including reduced intraoperative bleeding, shorter operative time, and minimal postoperative discomfort. Postoperative complications such as crusting and synechiae were less

frequent in the diode laser group. No major complications were reported in either group. Overall patient satisfaction was higher in the diode laser turbinoplasty group.

CONCLUSIONS

Diode laser turbinoplasty is a safe, effective, and minimally invasive surgical technique for the treatment of inferior turbinate hypertrophy, offering comparable or superior outcomes to partial inferior turbinectomy with fewer complications and improved patient comfort.

KEYWORDS

Turbinate, laser, turbinectomy, nasal obstruction

OP-1088

Integrated Multidisciplinary Biologic Therapy In Asthma And Chronic Rhinosinusitis With Nasal Polyps

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BACKGROUND & AIM

Asthma and Chronic rhinosinusitis with nasal polyps are closely related airway diseases driven by shared type 2 inflammatory pathways, characterised by overlapping cellular and cytokine profiles. These conditions frequently coexist and are associated with significant morbidity, impaired quality of life, and increased healthcare utilisation. Biologic therapies targeting key mediators of type 2 inflammation have emerged as effective treatment options in refractory disease, demonstrating improvements in symptom control, reductions in exacerbation frequency, and decreased reliance on systemic corticosteroids and antibiotics.

MATERIAL & METHODS

We report outcomes from a dedicated multidisciplinary “one-stop” clinic integrating respiratory and otolaryngology services. Within this model, patients with coexisting asthma and CRSwNP are jointly assessed and managed through a coordinated care pathway, with biologic therapy delivered in accordance with established severity-based guidelines and supported by longitudinal follow-up.

This retrospective cohort study included 41 adult patients with coexisting asthma and CRSwNP managed within a multidisciplinary respiratory ENT clinic. Patients were identified from clinic records and received biologic therapy based on disease severity and established eligibility criteria. Baseline data included demographics, asthma severity, and CRSwNP status. Outcome measures comprised asthma-related hospital admissions, exacerbation frequency, systemic corticosteroid and antibiotic use, and patient-reported nasal symptoms. Pre- and post-treatment outcomes were analysed descriptively.

RESULTS

Biologic therapy (including omalizumab, mepolizumab, dupilumab, benralizumab, and tezepelumab) was associated with a reduction in exacerbation frequency of up to 60%, with reductions of up to 70% observed with mepolizumab. Hospital admissions decreased by up to 90%, and corticosteroid use was reduced by 55–66%, with 30–40% of patients achieving complete cessation of exacerbations. A reduction in clinic presentations for CRSwNP was also observed, with no revision surgeries required in this cohort. Sustained clinical benefit was demonstrated on long-term follow-up of up to seven years, and switching between biologic agents was associated with improved outcomes in selected patients.

CONCLUSIONS

Biologic therapy confers sustained, real-world clinical benefit in severe asthma and CRSwNP, supporting the role of an integrated multidisciplinary, phenotype-driven management approach.

KEYWORDS

Asthma, Chronic rhinosinusitis with nasal polyps, Biologic therapy, Type 2 inflammation, Multidisciplinary care

OP-1089

Clinical, Radiological, And Pathological Evaluation Of Unilateral Sinonasal Masses: A Retrospective Analysis Of Predictors For Inverted Papilloma And Malignancy

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BACKGROUND & AIM

Unilateral sinonasal masses present a diagnostic challenge because nonspecific symptoms mimic chronic rhinosinusitis, and delayed identification of inverted papilloma (IP) or malignancy may compromise outcomes. We evaluated clinical, anatomical, and preoperative diagnostic predictors of IP and malignancy in surgical patients with unilateral sinonasal masses.

MATERIAL & METHODS

Retrospective cohort of 143 patients operated at a tertiary center. Final excisional pathology was classified as benign, inverted papilloma (IP), or malignant; three pairwise comparisons were performed (malignant vs. benign, IP vs. benign, IP vs. malignant). Age was compared by Mann–Whitney U test and categorical variables by Chi-square or Fisher's exact test. Diagnostic performance of preoperative biopsy, magnetic resonance imaging (MR), and computed tomography (CT) was calculated within the subset of patients in whom each modality was performed, using sensitivity, specificity, predictive values, and Cohen's kappa.

RESULTS

Final pathology: 113 benign (79.0%), 25 IP (17.5%), and 5 malignant (3.5%). Age increased progressively (benign 44.9±15.6, IP 52.9±10.1, malignant 54.6±15.5 years; Kruskal–Wallis p=0.021). Mean involved sinonasal subsites were higher in IP (3.00) than benign (2.12; p=0.013). IP was associated with sphenoid (p=0.007), posterior ethmoid (p=0.017), and frontal sinus involvement (p=0.026). For malignancy detection: CT (n=143) 40.0% sensitivity/100% specificity; MR (n=70) 80.0%/94.3%; preoperative biopsy (n=90) 100%/100%. For IP detection: CT 20.0%/86.7%; MR 50.0%/96.2%; biopsy 86.7%/85.7%. Three-category agreement of biopsy with final pathology was substantial (κ=0.681); MR–CT agreement was poor (κ=0.12).

CONCLUSIONS

Diagnostic performance differs sharply by target pathology. For malignancy, preoperative biopsy and MR perform reliably. For IP, however, no single preoperative modality is sufficient: CT misses approximately four of five, MR misses half, and even preoperative biopsy misses approximately one in seven. Because IP carries a risk of malignant transformation, this residual diagnostic gap is clinically relevant - a benign biopsy in a patient with IP-suspicious features still leaves a meaningful possibility of an undiagnosed malignancy. Clinical features identified in this study have the potential to aid the decision to proceed to complete surgical excision in suspected IP, regardless of biopsy or imaging findings.

KEYWORDS

Paranasal Sinus Neoplasms, Papilloma, Inverted, Predictive Value of Tests, Cancer Early Diagnosis

OP-1090

Computed Tomography Evaluation Of Nasal And Maxillofacial Anatomy In Nasal Obstruction Surgery

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BACKGROUND & AIM

Anatomical variations of the nasal cavity and maxillofacial structures may contribute to chronic nasal obstruction and influence surgical indications. This study aimed to compare radiological anatomical parameters among patients undergoing septoplasty, inferior turbinate radiofrequency ablation, and healthy controls, and to evaluate whether these differences may contribute to chronic nasal obstruction and indications for surgery.

MATERIAL & METHODS

This retrospective study included 240 patients evaluated between September 2023 and February 2024. Group 1 consisted of 80 patients who underwent septoplasty, Group 2 included 80 patients who underwent inferior turbinate radiofrequency ablation, and Group 3 consisted of 80 age-matched controls who underwent computed tomography (CT) imaging for non-rhinologic indications and had no history of nasal surgery or sinonasal pathology. CT measurements were performed by a single radiologist. Nasal floor dimensions, maxillary angles, palatal morphology, apertura piriformis dimensions, internal nasal valve (INV) angles, and inferior turbinate areas were analyzed. Statistical analyses were performed using SPSS version 25.0, and $p<0.05$ was considered statistically significant.

RESULTS

Demographic characteristics were comparable among the groups, with no significant differences in age or sex distribution. Compared with controls, the septoplasty group demonstrated significantly narrower anterior and middle maxillary angles ($p=0.001$ and $p<0.001$), reduced palatal width and arch height ($p<0.001$), and narrower apertura piriformis width ($p=0.006$). Bilateral INV angles were significantly wider in the septoplasty group ($p<0.001$). Patients undergoing inferior turbinate

radiofrequency ablation also exhibited significantly narrower anterior and middle maxillary angles (p<0.001 and p=0.008), reduced anterior nasal floor dimensions (p=0.007), and greater inferior turbinate areas compared with controls (p=0.006). Direct comparison between surgical groups revealed greater palatal arch height and wider total INV area in the septoplasty group (p<0.05).

CONCLUSIONS

Patients requiring septoplasty or inferior turbinate surgery demonstrate distinct radiological anatomical differences compared with healthy controls. Patients with narrower maxillary angles, higher palatal arches, and narrower pyriform aperture dimensions may have a greater need for nasal obstruction surgeries such as septoplasty and inferior turbinate radiofrequency ablation compared with the general population. Preoperative radiological evaluation may improve patient selection and surgical planning.

KEYWORDS

Pyriform aperture, Internal nasal valve, Computed tomography, Septoplasty, Nasal obstruction

OP-1091

The Great Escape: When Cerebrospinal Fluid Finds A Clival Exit

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BACKGROUND & AIM

Spontaneous cerebrospinal fluid (CSF) fistulas are uncommon, and those localized to the clivus are exceedingly rare. Since 1980, only 26 such cases have been documented in the literature. We present two new cases of spontaneous clival CSF fistulas, detailing their clinical presentation, radiographic findings, and successful endoscopic management, alongside a comprehensive literature review.

MATERIAL & METHODS

Case #1: A 67-year-old female presented with a one-year history of spontaneous right-sided clear rhinorrhea, headaches, and a persistent salty taste. Imaging identified a 6mm clival defect associated with a small meningocele. She underwent a successful endoscopic transsphenoidal repair using a meticulous multilayer technique involving temporalis fascia and abdominal fat.

· Case #2: A 60-year-old male with a history of recurrent meningitis presented with left-sided rhinorrhea. CT metrizamide confirmed a clival defect with active CSF seepage. The defect was repaired endoscopically using a composite fat plug, temporalis fascia onlay, and a secondary fat layer.

· Outcome: Both patients remain asymptomatic with no recurrence at long-term follow-up.

RESULTS

The pathophysiology of spontaneous CSF fistulas hinges on a triad: a bony defect, a dural tear, and a pressure gradient. Clival defects specifically may arise from sphenoid sinus hyperpneumatization, persistent embryological remnants, or reduced bone density (e.g., postmenopausal osteoporosis). Furthermore, Idiopathic Intracranial Hypertension (IIH) is a significant contributor; clinicians should look for radiographic hallmarks such as an empty sella or arachnoid pits.

The Endoscopic Endonasal Transsphenoidal (EET) approach has become the gold standard for management. Successful closure requires multilayer reconstruction—often utilizing free grafts or vascularized pedicled flaps. Crucially, addressing underlying intracranial pressure (ICP) is vital to prevent postoperative failure and recurrence.

CONCLUSIONS

: Spontaneous clival CSF leaks are rare but potentially life-threatening conditions that demand a high index of clinical suspicion. Given the anatomical complexity of the clivus, successful management requires advanced surgical expertise and a multidisciplinary approach to both the repair and the management of underlying intracranial hypertension.

KEYWORDS

Spontaneous cerebrospinal fluid fistula, Clivus CSF leak, Sphenoid sinus, Endonasal endoscopic transsphenoidal surgery, Skull base reconstruction

OP-1092

Beyond Trials: Real-Life Biologic Outcomes In Severe Crswnp From An ENT-Led Cohort

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BACKGROUND & AIM

Biologic therapies have transformed the management of severe chronic rhinosinusitis with nasal polyps (CRSwNP). However, real-life data are essential to evaluate effectiveness, disease control and safety outside clinical trials. Since July 2024, biologics have been prescribed from the ENT Department at our centre for selected patients with severe CRSwNP. This study aimed to assess 6- and 12-month outcomes and to explore potential differences between biologic treatments in our cohort.

MATERIAL & METHODS

We conducted a retrospective observational single-centre study of patients with severe CRSwNP treated with biologics. Demographic data, comorbidities, biologic prescribed, baseline disease burden and follow-up outcomes were collected. Outcomes included nasal obstruction, smell impairment and global severity assessed by visual analogue scale (VAS), Sinonasal Outcome Test-22 (SNOT-22), University of Pennsylvania Smell Identification Test (UPSIT), Asthma Control Test (ACT), total nasal polyp score (NPS), blood eosinophil count, adverse events, systemic corticosteroid use, surgery, biologic switch and disease control according to EUFOREA 2023 criteria. Paired comparisons used the Wilcoxon signed-rank test. Exploratory comparisons between dupilumab and mepolizumab used the Mann–Whitney U test and Fisher's exact test.

RESULTS

Thirty-four patients were included, with equal sex distribution. Dupilumab was prescribed in 16 patients, mepolizumab in 15 and tezepelumab in 3. Asthma was present in 30 patients (88.2%) and aspirin-exacerbated respiratory disease in 18 (52.9%). At 6 months, significant improvements were observed in all analysed outcomes: VAS obstruction improved by 4.03 points, VAS smell by 3.18, VAS global severity by 4.24, SNOT-22 by 37.25, UPSIT by 6.67, ACT by 4.22, total NPS by 1.91 and blood eosinophils by 299 cells/µL; all p values ranged from 0.008 to <0.001. Good or excellent EUFOREA control was achieved in 24 patients (72.7%). At 12 months, significant improvement persisted in VAS scores, SNOT-22, UPSIT, total NPS and blood eosinophils, although paired data were available for fewer patients. Exploratory analysis suggested greater sinonasal improvement with dupilumab and greater eosinophil reduction with mepolizumab.

CONCLUSIONS

In this real-life cohort, biologics provided significant clinical, endoscopic and quality-of-life improvement in severe CRSwNP. Comparative findings should be considered exploratory and do not establish treatment superiority.

KEYWORDS

Nasal Polyps, Biologic, SNOT-22, NPS

OP-1093

Role Of Inferior Turbinoplasty In Endoscopic Sinus Surgery

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BACKGROUND & AIM

Functional endoscopic sinus surgery (FESS) is the gold standard surgical treatment for chronic rhinosinusitis (CRS). Inferior turbinate hypertrophy commonly coexists in CRS and contributes significantly to nasal obstruction, leading many surgeons to perform concurrent inferior turbinoplasty to improve airflow and postoperative outcomes. However, the additional benefit of turbinoplasty remains controversial, with concerns regarding complications and unclear impact on quality of life and olfactory function. Given the lack of consensus and heterogeneity in existing studies, this systematic review aimed to evaluate the clinical outcomes of FESS performed with versus without inferior turbinoplasty.

MATERIAL & METHODS

A systematic review was conducted in accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A comprehensive literature search of MEDLINE, Embase, and Cochrane databases was performed to identify studies comparing FESS with and without inferior turbinoplasty. Studies were screened independently by two reviewers using predefined inclusion and exclusion criteria. Eligible studies included those reporting clinical outcomes such as quality of life (QoL), olfactory function, and readmission rates.

Data extraction was performed using a standardised form, and study quality was assessed using validated risk of bias tools. The primary outcomes assessed were postoperative QoL, olfactory outcomes, and surgical safety. Five studies comprising 4,619 patients met the inclusion criteria, including randomised controlled trials and cohort studies, allowing evaluation of both adult and paediatric populations undergoing FESS with or without concurrent turbinoplasty.

RESULTS

Five studies involving 4,619 patients were included in the analysis. All studies demonstrated significant postoperative improvement in QoL following FESS, regardless of whether inferior turbinoplasty was performed. However, only one study demonstrated a statistically significant additional QoL benefit with concurrent turbinoplasty, while the remaining studies found no clinically meaningful difference between groups.

Olfactory outcomes assessed in one study showed no significant improvement with the addition of turbinoplasty. Subgroup analysis suggested patients with chronic rhinosinusitis with nasal polyps may derive greater benefit from concurrent turbinoplasty, particularly in improving nasal obstruction symptoms. Importantly, turbinoplasty was not associated with increased complication rates or higher paediatric readmission risk, supporting its safety profile.

These findings highlight that while turbinoplasty is safe, its routine addition does not consistently provide superior clinical outcomes compared to FESS alone.

CONCLUSIONS

Concurrent inferior turbinoplasty during FESS appears safe and may provide additional benefit in select patient subgroups, particularly those with nasal polyps or significant turbinate hypertrophy. However, routine addition does not consistently improve quality of life or olfactory outcomes. These findings support a selective, individualised approach to performing turbinoplasty rather than routine use. Further high-quality randomised controlled trials are required to better define patient selection criteria and clarify the role of turbinoplasty in optimising outcomes following endoscopic sinus surgery.

KEYWORDS

Functional endoscopic sinus surgery; Inferior turbinoplasty; Chronic rhinosinusitis, Quality of life; Olfaction, Nasal obstruction, Sinonasal surgery, Rhinology

OP-1094

COMPARATIVE INFLAMMATORY ANALYSIS OF ANTROCHOANAL POLYPS AND CHRONIC RHINOSINUSITIS WITH NASAL POLYPS

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps (CRSwNP) is a chronic inflammatory sinonasal disorder associated with persistent eosinophilic and neutrophilic mucosal activation. In contrast, antrochoanal polyp (ACP) is generally considered a solitary benign lesion; however, whether ACP shares a similar systemic inflammatory background remains unclear. Hematologic inflammatory biomarkers derived from routine complete blood count, particularly systemic immune-inflammation index (SII) and eosinophil/neutrophil (E/N) ratio, may provide low-cost information regarding inflammatory burden and eosinophilic predominance. We hypothesized that these markers could differentiate ACP from CRSwNP and contribute to understanding their inflammatory etiopathogenesis

MATERIAL & METHODS

In this retrospective case-control study, 50 ACP patients, 50 CRSwNP patients, and 50 septoplasty patients without inflammatory sinonasal disease were included as controls. Preoperative neutrophil, lymphocyte, platelet, and eosinophil counts were recorded. SII was calculated as platelet x neutrophil/lymphocyte, and E/N ratio as eosinophil/neutrophil. Intergroup comparisons were performed using one-way ANOVA or Kruskal-Wallis test with post hoc analyses. Receiver operating characteristic analysis was used to evaluate the diagnostic performance of both parameters.

RESULTS

In this study, when eosinophil/neutrophil ratios were compared, the ratio was found to be significantly higher in patients with chronic rhinosinusitis with nasal polyps than in patients with antrochoanal polyps ($p < 0.001$). The eosinophil/neutrophil ratio in patients with chronic rhinosinusitis with nasal polyps was 1.8-fold higher than in patients with antrochoanal polyps and 2.2-fold higher than in healthy septoplasty controls. Regarding the systemic inflammatory index, a significant increase was observed in both patients with antrochoanal polyps and those with chronic rhinosinusitis with nasal polyps ($p = 0.003$).

CONCLUSIONS

The results demonstrate that both antrochoanal polyps and chronic rhinosinusitis with nasal polyps increase the inflammatory response. However, antrochoanal polyps appear to develop with a relatively lower inflammatory burden. These findings suggest that inflammation in antrochoanal polyps may be associated mainly with local mucosal factors, whereas systemic inflammatory processes may play a greater role in chronic rhinosinusitis with nasal polyps. Accordingly, local therapeutic approaches may be prioritized in antrochoanal polyps, while treatment strategies targeting systemic inflammation should be considered more prominently in chronic rhinosinusitis with nasal polyps.

KEYWORDS

antrochoanal polyps, systemic inflamatuary index, cronic rhinosinusites with polip, inflamation

OP-1095

EVALUATION OF ORBITAL AND CENTRAL COMPLICATIONS IN PATIENTS WITH SINUSITIS: A RETROSPECTIVE ANALYSIS

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BACKGROUND & AIM

Sinusitis-related orbital and central nervous system (CNS) complications are rare but potentially life-threatening conditions requiring rapid diagnosis and multidisciplinary management. To describe the clinical profile, complication patterns, inflammatory markers, intensive care unit (ICU) requirements, and surgical outcomes in patients with sinusitis complications, and to compare orbital versus central involvement and pediatric versus adult populations.

MATERIAL & METHODS

A single-center retrospective analysis of 41 consecutive patients admitted with sinusitis complications confirmed by CT or MRI imaging. Continuous variables were compared using the Mann–Whitney U test; categorical variables were compared using Fisher's exact test. To evaluate frontal sinus involvement as a predictor of central complications, Firth's penalized logistic regression was applied given the small number of outcome events (n = 5). Sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were calculated with exact 95% confidence intervals using the Clopper–Pearson method.

RESULTS

Mean age was 25.2 years; 61% were male. Orbital complications occurred in 39 patients (95.1%) and central complications in 5 (12.2%), with 3 patients having concurrent involvement. The mean Lund-Mackay score was 12.2 ± 4.9. C-reactive protein (CRP) was the only parameter to differ significantly between orbital and central groups (89.6 vs. 234.0 mg/L; p = 0.004). Three patients (60.0%) in the central complication group required ICU admission, whereas no patient in the orbital group required ICU care (p = 0.001). Frontal sinus involvement was identified as a clinically relevant predictor of central extension, present in 80% of patients with central complications versus 33% of those without (OR 8.0, p = 0.066). A negative predictive value of 96% suggests that absence of frontal disease may serve as a useful reassurance marker in clinical practice. All patients recovered (mortality 0%).

CONCLUSIONS

Markedly elevated CRP should prompt urgent neuroimaging to exclude intracranial extension. ICU admission was exclusive to the central complication group, underscoring the need for early neurosurgical consultation and multidisciplinary coordination in these patients. A negative predictive value of 96% suggests that absence of frontal disease may serve as a useful reassurance marker in clinical practice. These hypothesis-generating findings highlight the need for multicenter collaboration to validate frontal sinus involvement as a predictor of central complications in rhinosinusitis.

KEYWORDS

sinusitis complication, orbital complication, central nervous system complication, Chandler classification.

OP-1096

Association Between Mode Of Delivery And Nasal Septal Deviation Morphology In Children And Adolescents: A Retrospective Analysis Based On Mladina Classification And Caudal Septal Deviation Grading

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BACKGROUND & AIM

Nasal septal deviation is a multifactorial condition influenced by developmental, hereditary, traumatic, intrauterine, and perinatal factors. Mechanical forces during vaginal delivery may affect the anterior cartilaginous septum and caudal septal segment; however, their relationship with later septal morphology remains unclear. This study aimed to evaluate the association between delivery mode and septal deviation morphology in children and adolescents with clinically diagnosed nasal septal deviation, and to investigate whether the post-2015 increase in cesarean delivery rates was accompanied by changes in Mladina deviation patterns or caudal septal deviation severity.

MATERIAL & METHODS

This retrospective observational study included children and adolescents born between 2005 and 2026 who were evaluated at the Department of Otorhinolaryngology, Antalya City Hospital, between 2024 and 2026 and diagnosed with nasal septal deviation. Delivery mode was classified as vaginal delivery or cesarean section. Data on sex, birth-year cohort, Mladina septal deviation type, caudal septal deviation grade, and nasal trauma history were recorded. Patients with known nasal trauma were excluded from the primary trauma-free analysis. Mladina types 1–2 were grouped as anterior/trauma-associated patterns, types 3–4 as intermediate, types 5–6 as developmental/horizontal, and type 7 as combined deformity. Caudal septal deviation was graded using the İşlek–Ciğer classification. Categorical variables were compared using appropriate tests, and adjusted binary logistic regression was performed.

RESULTS

The primary trauma-free cohort included 387 patients: 182 in the vaginal delivery group and 205 in the cesarean section group. Female sex was observed in 43.4% of the vaginal delivery group and 52.2% of the cesarean section group. Mladina classification data were available for 411 patients, and caudal septal deviation grading for 119 patients. Delivery mode distribution differed significantly across birth-year cohorts (p=0.0136), indicating a temporal change in obstetric practice; however, no significant temporal trend was observed in Mladina type distribution or caudal septal deviation severity. Vaginal delivery was associated with lower odds of anterior/trauma-associated Mladina type 1–2 deviations compared with cesarean section (OR=0.575, 95% CI: 0.335–0.986, p=0.0445), remaining significant after adjustment for sex and birth cohort (adjusted OR=0.566, p=0.0414). CSD severity was not associated with delivery mode.

CONCLUSIONS

In children and adolescents with nasal septal deviation, delivery mode showed a weak but statistically significant association with anterior/trauma-associated Mladina type 1–2 patterns. Contrary to the initial mechanical stress hypothesis, vaginal delivery was associated with lower, rather than higher, odds of these deviations. Although delivery mode distribution changed significantly across birth-year cohorts, this temporal shift was not accompanied by measurable changes in Mladina patterns or caudal septal deviation severity. These findings support the multifactorial nature of septal morphology and suggest that delivery mode alone cannot explain septal deviation patterns.

KEYWORDS

Nasal septal deviation; Mladina classification; caudal septal deviation; cesarean section; vaginal delivery; pediatric otorhinolaryngology.

OP-1097

Objective And Subjective Evaluation Of Olfactory Function In Patients With Glaucoma: A Cross-Sectional Case–Control Study Using Sniffin's Sticks And Assessment Of Self-Reported Olfactory Functioning (ASOF)

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BACKGROUND & AIM

The aim of this study was to evaluate objective olfactory functions measured by the Sniffin' Sticks test, as well as Olfaction-Related Quality of Life (ORQ) and Subjective Rating of Olfactory Performance (SRP) scores reported by patients based on their own perception, in patients with glaucoma, and to investigate the relationship between these parameters.

MATERIAL & METHODS

This study included patients diagnosed with glaucoma and healthy control individuals matched for age and sex. Olfactory function was evaluated using the Sniffin' Sticks test. Subjective olfactory assessment was performed using the Assessment of Self-Reported Olfactory Functioning (ASOF) questionnaire, whose Turkish validity and reliability have been established. In the Sniffin' Sticks test, the total score normally consists of Threshold, Identification, and Discrimination components; however, only the Threshold and Identification components were included in the analysis. Statistical comparisons between groups and correlation analyses were performed.

RESULTS

A total of 50 patients with glaucoma and 50 age- and sex-matched healthy controls were included in the study. The mean total olfactory score (Threshold + Identification) was significantly lower in the glaucoma group (13.6 ± 2.3) compared to the control group (17.4 ± 1.7) ($p = 0.001$). Mean SRP scores were significantly higher in the glaucoma group (4.5 ± 0.7) than in controls (4.1 ± 0.7) ($p = 0.007$). Mean ORQ scores were 4.2 ± 1.2 in the glaucoma group and 4.9 ± 2.5 in the control group, with no statistically significant difference between groups ($p = 0.286$). Within the glaucoma group, correlation analysis demonstrated no significant association between SRP or ORQ scores and Sniffin' Sticks threshold, identification, or total scores (all $p > 0.05$).

CONCLUSIONS

Objective olfactory performance was reduced in patients with glaucoma, whereas subjective olfactory performance was not reduced and olfaction-related quality of life remained preserved. These findings suggest a dissociation between objective olfactory testing and patient perception in glaucoma.

KEYWORDS

Glaucoma, Smell, Assessment of Self-Reported Olfactory Functioning

OP-1098

Comparison Of HALP Score And Prognostic Nutritional Index In Patients With Antrochoanal Polyp

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BACKGROUND & AIM

Antrochoanal polyp (ACP) is a benign unilateral sinonasal lesion originating from the maxillary sinus; however, the contribution of systemic inflammatory and immunonutritional mechanisms to its pathogenesis remains unclear. The Hemoglobin, Albumin, Lymphocyte, and Platelet (HALP) score and Prognostic Nutritional Index (PNI) are novel biomarkers reflecting systemic inflammatory and immune status. We hypothesized that patients with ACP may exhibit altered HALP and PNI values compared to non-inflammatory septoplasty controls.

MATERIAL & METHODS

This retrospective case-control study included patients who underwent surgery for ACP and septal deviation between January 2020 and January 2026 at a tertiary referral center. Forty-seven patients with histopathologically confirmed ACP and fifty

septoplasty patients without sinonasal inflammatory disease were enrolled. Preoperative hemoglobin, albumin, lymphocyte, and platelet values were retrieved from hospital records. HALP score was calculated as hemoglobin × albumin × lymphocyte / platelet, and PNI as 10 × albumin + 0.005 × total lymphocyte count. Demographic data and laboratory indices were compared between groups. Statistical analyses were performed using independent samples t-test and Mann–Whitney U test according to data distribution. A p value <0.05 was considered statistically significant.

RESULTS

Mean HALP score was significantly lower in the ACP group than in the septoplasty group (5.34 ± 2.03 vs. 6.78 ± 1.84, p=0.00013). In contrast, mean PNI values were similar between the groups (463.84 ± 30.90 vs. 465.21 ± 24.26, p=0.809). The marked reduction in HALP score suggests an altered systemic inflammatory-immune balance in ACP patients, whereas the absence of significant difference in PNI indicates preserved overall nutritional status.

CONCLUSIONS

In patients who underwent ACP, HALP scores were found to be significantly lower compared to the control group that underwent septoplasty, while PNI values showed no significant difference. These findings suggest that ACP may be associated with mild systemic inflammatory changes rather than a pronounced immuno-nutritional disorder. It appears that HALP is a more sensitive biomarker than PNI in reflecting this relationship and may contribute to our understanding of the inflammatory background of ACP. Although ACP appears to be a localized disease, it affects subclinical systemic inflammation and immunity in the long term.

KEYWORDS

antrochoanal polyp, septoplasty, Prognostic Nutritional Index (PNI) he Hemoglobin, Albumin, Lymphocyte, and Platelet (HALP) score systemic inflamation

OP-1099

Modified Draf Iic Vs Draf III: A Retrospective Cohort Study Comparing Outcome In CRS Patients

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) is a common inflammatory condition affecting approximately 11% of the global population, with substantial impacts on quality of life. Endoscopic frontal sinus surgery is often indicated for patients with recalcitrant CRS. While the Draf III procedure is a well-established approach for managing severe or bilateral disease, it carries a high complication and revision burden due to its extensive nature. In response, a less invasive technique, the modified Draf IIc, has been proposed. This approach consists of bilateral Draf IIb procedures with anterior superior nasal septum resection and preservation of the interfrontal sinus septum and frontal beak.

MATERIAL & METHODS

This retrospective cohort study included adult patients (≥18 years) with CRS who underwent revision frontal sinus surgery at a tertiary sinus center. Patients underwent either a modified Draf IIc or Draf III procedure, all performed by a single senior surgeon to ensure procedural consistency. Demographic, clinical and radiologic data were collected. To evaluate surgical outcomes at one year postoperatively, SNOT-22 scores, Sinonasal New Endoscopic Staging (SiNES) and the need for a revision surgery (minor in the office or major in the operating room) were assessed. Only patients with a minimum postoperative follow-up of three months were included in the analysis.

RESULTS

The initial analysis demonstrated that in the 36 patients that were analyzed (18 per group), both groups had similar sex distribution (10 M, 8 F), and comparable rates of biologics use (39%). The modified Draf IIc group was younger (mean age 58.4 vs. 63.9 years) and had higher rates of asthma (78% vs. 50%) with lower rates of chronic rhinosinusitis with nasal polyps (CRSwNP) (72% vs. 78%). At 1-year follow-up, the modified Draf IIc group had a lower revision rate compared to the Draf III group (5.6% vs 11.1%). Additionally, the mean SNOT-22 score was lower in the modified Draf IIc group (33.55 vs. 39.93).

CONCLUSIONS

These findings suggest that modified Draf IIc provides comparable or better outcomes than Draf III, despite being less invasive.

KEYWORDS

Frontal sinus surgery, Draf 2C, Draf 3,revision

OP-1100

Practice Patterns Of Biologics Prescriptions And Surgery In Chronic Rhinosinusitis With Nasal Polyps

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps (CRSwNP) remains challenging to manage effectively, with high symptom recurrence rates and significant impacts on quality of life, prompting a need to evaluate the real-world use of biologics and optimize treatment strategies.

Our objective is to assess the real-world application and perspectives of American Rhinologic Society (ARS) members on biologic treatments and surgical interventions for CRSwNP, focusing on clinical practice patterns, adoption of biologics, and their impact on surgical practices.

MATERIAL & METHODS

A standardized questionnaire evaluated clinical practice patterns of biologics prescriptions and surgery in treating CRSwNP between July 2022 and August 2023. Data collected from 162 ARS members were analyzed.

RESULTS

Of 162 participants, a substantial majority (95.06%, n = 154) reported prescribing biologics in their practice. Notably, 45.45% (n = 70) found biologics easily accessible, although accessibility challenges remained for some. The impact of biologics on surgical practices was significant, with 36.36% (n = 56) observing a marked reduction in revision sinus surgeries. Among the participants, 47.16% (n = 71) agreed that aspirin-exacerbated respiratory disease (AERD) was the highest phenotype that tended to increase the possibility of biological treatment by more than 20%. Adopting Patient-Reported Outcome Measures (PROMs) was prevalent, with 57.79% (n = 89) utilizing them in patient management.

CONCLUSIONS

The study highlights the evolving landscape in managing CRSwNP, with a marked trend toward integrating biological treatments into clinical practice. It underscores the necessity for continued research, updates to clinical guidelines, and enhanced practitioner education to optimize treatment outcomes for CRSwNP patients.

KEYWORDS

biologics, chronic rhinosinusitis, nasal polyps, practice patterns, type 2 inflammation, sinus surgery, quality of life, clinical guidelines, patient outcomes, health burden

OP-1101

Investigation Of The Time-Dependent Dissolution Of Corticosteroids In Nasal Irrigation

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) is commonly treated with topical intranasal corticosteroid preparations. Large-volume saline irrigations containing corticosteroids are increasingly used to improve sinonasal drug distribution. However, this practice remains off-label, and the dissolution kinetics of corticosteroids in saline irrigation have been little studied. This study aimed to quantify the dissolution characteristics of commonly used intranasal corticosteroid formulations in large-volume saline irrigation systems under clinically relevant preparation conditions.

MATERIAL & METHODS

Budesonide, fluticasone propionate and mometasone furoate were prepared in 240 mL NeilMed Sinus Rinse bottles using a range of formulations including commercial nasal sprays, budesonide nebuliser ampoules, pure powder and compounded capsule formulations (with mannitol, xylitol and poloxamer 407 added as solubilising excipients in the capsule). Rinse bottles were shaken for 30 seconds to simulate patient preparation. Aliquots were sampled from the top and bottom of the bottle at 0, 2, 10, and 30 minutes, and immediately quenched in organic solvent to arrest further dissolution of the drug. Drug concentrations and distribution uniformity were quantified using validated HPLC-UV assays.

RESULTS

Across all corticosteroids, concentration recovery and within-bottle distribution were formulation-dependent. Commercial spray and ampoule preparations achieved concentrations approximating theoretical dosing but demonstrated suspension behaviour, with progressive bottom-layer concentrations exceeding top-layer concentrations over time, particularly for less soluble agents (fluticasone propionate and mometasone furoate). Budesonide spray demonstrated persistent bottom>top differences (all $p<0.05$). Fluticasone and mometasone sprays demonstrated progressive settling, with significant top-bottom differences at 10 and 30 minutes. Pure powder preparations demonstrated variable and inconsistent recovery, reflecting limited dissolution in saline. In contrast, compounded capsule formulations for budesonide and fluticasone propionate consistently achieved only ~70% of the expected concentration across all time points, with no time-dependent improvement, suggesting incomplete drug recovery rather than delayed dissolution.

CONCLUSIONS

This study presents the first systematic evaluation of formulation-dependent corticosteroid performance in large-volume saline irrigation systems. Intranasal sprays and budesonide ampoules most closely approximated theoretical dosing, delivering consistent and clinically reliable concentrations when adequately mixed and used promptly. Intranasal sprays represent the most affordable and accessible option in many settings and demonstrated reliable dissolution, supporting their recommendation in clinical practice. Compounded capsule formulations demonstrated consistently reduced drug recovery, indicating incomplete delivery and potential underdosing. These findings highlight the importance of formulation selection in optimising corticosteroid irrigation for CRS management.

KEYWORDS

Corticosteroids, Sinonasal Irrigation, Chronic Rhinosinusitis, Drug dissolution, Dose recovery, Drug delivery, Topical therapy, Budesonide, Fluticasone propionate, Mometasone furoate

OP-1102

High-Volume Budesonide Irrigation After Systemic Steroids In Non-Operated Crswnp: A Randomized Controlled Trial

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BACKGROUND & AIM

High-volume corticosteroid nasal irrigation has demonstrated benefits in postoperative chronic rhinosinusitis with nasal polyps (CRSwNP), but evidence in non-operated patients is limited. We hypothesized that adding high-volume budesonide irrigation to standard therapy after systemic corticosteroids would improve clinical outcomes and reduce disease severity in non-operated CRSwNP.

MATERIAL & METHODS

This was a double-blind, randomized, placebo-controlled trial conducted in adults with CRSwNP. Thirty-four patients were enrolled in tertiary care centers and randomized to receive high-volume saline irrigation with budesonide (2 mg/day) or placebo for 8 weeks. All participants received baseline intramuscular betamethasone and intranasal budesonide spray. The primary outcome was change in nasal polyp score (NPS). Secondary outcomes included olfactory function assessed by the University of Pennsylvania Smell Identification Test (UPSIT), symptom severity using the Sino-Nasal Outcome Test-22 (SNOT-22) and visual analogue scale (VAS), nasal airflow measured by peak nasal inspiratory flow (PNIF), and need for surgery. Data were analyzed using mixed-effects models for repeated measures.

RESULTS

Thirty patients completed the study (placebo n=16; budesonide n=14). Both groups showed improvement in NPS, with no significant difference between treatments (p=0.22). Olfactory function improved significantly in the placebo group compared to the budesonide group (mean difference 7.9 points; p=0.003). SNOT-22, VAS, and PNIF improved modestly in both groups without significant between-group differences. Most patients remained candidates for surgery, with no difference between groups (p=0.20). No adverse events were observed.

CONCLUSIONS

In non-operated CRSwNP patients receiving systemic and topical corticosteroids, high-volume budesonide irrigation did not provide additional clinical benefit over saline irrigation. These findings suggest limited incremental value of corticosteroid irrigation in this setting.

KEYWORDS

Chronic rhinosinusitis; nasal polyps; budesonide; nasal irrigation; randomized controlled trial.

OP-1103

Calcium Hydroxyapatite In Nonsurgical Rhinoplasty: A Systematic Review And Critical Appraisal Of Clinical Evidence

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BACKGROUND & AIM

The use of calcium hydroxyapatite (CaHA) for dorsal augmentation and structural support in nonsurgical rhinoplasty (NSR) is growing. CaHA is not enzymatically reversible like hyaluronic acid (HA), which raises safety concerns in the highly vascularized

nasal area. The purpose of this systematic review was to objectively assess existing clinical evidence on the effectiveness, patient satisfaction, complication rates, and methodological quality of trials evaluating CaHA in NSR.

MATERIAL & METHODS

A systematic review was performed following PRISMA guidelines and registered with PROSPERO. A comprehensive search was conducted on PubMed and Google Scholar for studies assessing nonsurgical rhinoplasty using calcium hydroxyapatite (CaHA) in adult patients. Eligible designs included randomized trials, cohort studies, and case series recording clinical outcomes or complications. Comparative studies were utilized for quantitative synthesis when applicable, whilst single-arm studies were integrated into qualitative analysis.

Two independent reviewer pairs conducted study screening and data extraction. Risk of bias was evaluated using the Methodological Index for Non-Randomized Studies (MINORS) and Modified Methodological Score (MMS) tools. Given the small number of studies and methodological heterogeneity, the data were predominantly synthesized narratively, and pooled complication estimates were interpreted with caution.

RESULTS

Out of 243 available records, three studies involving 93 patients fulfilled the inclusion criteria. Two were retrospective comparative studies, and one was a single-arm case series. Sample sizes were limited, and the follow-up periods ranged from 2 weeks to 14 months. Patient satisfaction was reported to range from 84% to 89%, with aesthetic longevity between 6 and 30 months where specified.

The majority of reported adverse effects were mild and transient, including edema, pain, hematoma, and filler displacement. Uncommon events such as infection and vascular compromise have been documented, although the reporting of injection technique, anatomical plane, and safety protocols has been inconsistent.

Limited quantitative comparison between CaHA and HA showed no statistically significant difference in overall complication rates; however, substantial methodological heterogeneity and small sample sizes limited interpretability. Overall, the evidence's certainty was low.

CONCLUSIONS

The existing literature on calcium hydroxyapatite in nonsurgical rhinoplasty is limited and methodologically weak. Despite existing research indicating positive short-term aesthetic outcomes and mostly mild complications, the evidence base remains limited, heterogeneous, and primarily retrospective. The clinical use of CaHA is increasing, yet it outpaces the strength of the available data. There is a notable lack of standardized outcome measures, consistent documentation of injection techniques, and comprehensive vascular safety reporting. High-quality prospective studies are urgently needed to better assess long-term efficacy and safety, thereby enhancing evidence-based guidelines.

KEYWORDS

Rhinoplasty, liquid rhinoplasty, nonsurgical rhinoplasty, injection rhinoplasty, calcium hydroxyapatite, CaHA.

OP-1104

Differentiating Neutrophils And Non-Neutrophils Crswnp In Chinese Children Using An Improved P2Pnet Cell Recognition System

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps in children (CRSwNP) is highly heterogeneous, and standardized criteria for endotype classification are currently lacking. This study aimed to establish a pathology-based endotyping framework for pediatric CRSwNP using an improved P2PNet cell recognition system and to explore inflammation-driven mechanisms beyond conventional clinical phenotypes.

MATERIAL & METHODS

An improved P2PNet cell recognition system was developed and validated for automated quantification of inflammatory cells in histopathological sections of pediatric nasal mucosa and nasal polyps. Objective abnormal thresholds for eosinophils and neutrophils were determined. Pediatric CRSwNP patients were classified into neutrophilic and non-neutrophilic subtypes based on the neutrophil threshold. Clinical characteristics were compared, and proteomic analyses were performed to investigate underlying inflammatory mechanisms.

RESULTS

The improved P2PNet cell recognition system achieved a mean F1 score of 0.8916 for inflammatory cell detection, with strong consistency between system-derived quantification and ELISA validation. A neutrophil proportion >23.74% defined neutrophilic CRSwNP, whereas eosinophilic CRSwNP was characterized by an eosinophil proportion >15.03%. Hierarchical clustering analysis demonstrated that the Neu cluster exhibited superior diagnostic efficacy. Despite similar clinical features, neutrophilic CRSwNP exhibited endotype–phenotype dissociation, with upregulation of ITGAM, MPO, MMP9, FCGR3B, and

CYBB. Proteomic analysis revealed enrichment of neutrophil extracellular traps, IL-17 signaling, complement/coagulation cascades, phagosome function, and Staphylococcus aureus infection pathways.

CONCLUSIONS

This study developed and validated an improved P2PNet-based cell recognition system and identifies neutrophilic inflammation as a clinically occult but biologically distinct disease subtype. These findings highlight the limitations of phenotype-based assessment and support the relevance of neutrophil-driven mechanisms for precision diagnosis and individualized management in pediatric CRSwNP.

KEYWORDS

Chronic rhinosinusitis with nasal polyps; Inflammatory endotypes; Neutrophilic inflammation

OP-1105

Evaluation Of Biofilm Layer With Nasal Swab And May-Grunwald Giemsa Staining In Patients Undergoing Adenoidectomy

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BACKGROUND & AIM

The aim of this study is to evaluate the presence of biofilms using May-Grunwald Giemsa (MGG) staining in pediatric patients indicated for adenoidectomy and to investigate the relationship between the biofilm layer (if present) and various clinical conditions.

MATERIAL & METHODS

This study was conducted prospectively at the Department of Otorhinolaryngology, Aydın Adnan Menderes University Faculty of Medicine. The patient group consisted of 152 patients aged between 2 and 15 years (males: 59.9%; females: 40.1%). Before the adenoidectomy procedure began, three nasal swab samples were taken from the middle portion of the bilateral inferior turbinates and the adenoid surface. The samples were smeared onto glass slides, air-dried, stained with MGG, and evaluated under 1000× magnification. The relationship between the presence or absence of a biofilm layer and clinical conditions such as the degree of adenoid hypertrophy, purulent discharge, snoring, frequent upper respiratory tract infections (URTI), acute otitis, otitis media with effusion (OME), nasal steroid use, enuresis, and attention deficit was statistically evaluated.

RESULTS

A statistically significant agreement was found between adenoid biofilm and right and/or left inferior turbinate biofilm ($P=0.012$). No significant relationship was found between the presence of purulent discharge and biofilm positivity ($P>0.05$). A significant difference was determined between the degree of adenoid hypertrophy and snoring, with snoring being more frequent in patients with 75–100% adenoid hypertrophy ($P<0.05$). No significant relationship was detected between recurrent ÜSYE, acute otitis, EOM, nasal steroid history, enuresis, and attention deficit and the presence of biofilm ($P>0.05$). Furthermore, no statistically significant difference was observed between adenoid hypertrophy and biofilm positivity.

CONCLUSIONS

The results of our study suggest that the evaluation of nasal swab samples stained with MGG for biofilm detection could be used in outpatient clinic conditions as an easy, applicable, and cost-effective method. Although no relationship was established between adenoid volume and biofilm presence, the coexistence of inferior turbinate and adenoid biofilms supports the concept of a shared microbial ecosystem in the upper respiratory tract mucosa. The fact that biofilms do not directly overlap with clinical findings such as URTI and otitis suggests that biofilms may be an independent factor in the maintenance of chronic inflammation.

KEYWORDS

Adenoid hypertrophy, biofilm, May-Grunwald Giemsa, nasal swab, nasal cytology.

OP-1106

Claiming The Storm: Macrolides As Biological Regulators In Chronic Rhinosinusitis

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BACKGROUND & AIM

Since their initial application in Japan in 1997, long-term, low-dose macrolide therapies have revolutionized the management of Chronic Rhinosinusitis (CRS). While traditionally classified as antibiotics, their clinical efficacy in CRS is driven primarily by potent immunomodulatory and anti-inflammatory properties rather than direct antibacterial action.

MATERIAL & METHODS

This presentation provides a comprehensive literature review tracking the evolution of macrolide therapy. We analyze current evidence to delineate specific CRS phenotypes and endotypes that benefit most from this intervention, offering evidence-based recommendations for clinical practice.

RESULTS

The clinical expression of CRS is highly heterogeneous, shaped by geography, genetics, and environmental factors. While Type 2 (eosinophilic) inflammation predominates in Western populations, non-Type 2 (neutrophilic) inflammation is more prevalent in Asian cohorts. Historically, macrolides were favored for their ability to inhibit neutrophil-induced inflammation, making them the gold standard for non-Type 2 CRS with nasal polyps. However, recent data suggests broader utility: macrolides have demonstrated significant efficacy in persistent, post-surgical CRS across both polyp and non-polyp subgroups. Emerging evidence even indicates a potential for macrolides to modulate eosinophil levels, suggesting a promising role in achieving disease control for Type 2 CRS patients who were previously considered poor candidates for this therapy.

CONCLUSIONS

While macrolides remain a cornerstone for refractory, neutrophilic (non-Type 2) CRS, their therapeutic horizon is expanding. Recent outcomes suggest significant potential in treating eosinophilic (Type 2) CRSwNP and even refractory Aspirin-Exacerbated Respiratory Disease (AERD). As we move toward personalized rhinology, macrolides may offer a versatile, cost-effective tool for difficult-to-treat endotypes.

KEYWORDS

macrolide, chronic sinusitis, type 2 and non type 2 sinusitis

OP-1107

Eosinophil–Mast Cell Interaction Drives The Cytolytic Inflammatory Pattern In Chronic Rhinosinusitis With Nasal Polyps: A Histopathological Predictive Model

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BACKGROUND & AIM

Eosinophilic inflammation represents a central mechanism in chronic rhinosinusitis with nasal polyps (CRSwNP). However, the histopathological determinants of the eosinophilic cytolytic pattern and the potential contribution of mast cells remain insufficiently characterized. We aimed to investigate the relationship between inflammatory cell infiltration and eosinophilic cytolysis and to evaluate the diagnostic performance of a combined eosinophil–mast cell model.

MATERIAL & METHODS

A prospective histopathological analysis was conducted in 51 patients undergoing endoscopic sinus surgery for CRSwNP. The eosinophilic cytolytic pattern was dichotomized (0 = non-cytolytic; 1 = cytolytic/mixed). Associations between cytolysis and inflammatory markers were analyzed using non-parametric tests and multivariable logistic regression. Clinical variables including asthma, aspirin-exacerbated respiratory disease (AERD), and previous surgery were also evaluated. Discriminative capacity was assessed through receiver operating characteristic (ROC) analysis.

RESULTS

Eosinophil quantification was significantly higher in cytolytic cases ($p < 0.001$) and showed strong discriminatory performance (AUC 0.896). In multivariable analysis, both eosinophil burden (OR 1.07; 95% CI 1.02–1.13; $p = 0.011$) and mast cell infiltration (OR 1.46; 95% CI 1.03–2.06; $p = 0.035$) independently predicted cytolytic inflammation. The combined model demonstrated excellent discrimination (AUC 0.970; 95% CI 0.924–1.000; $p < 0.001$). Asthma, AERD, and reintervention were not independently associated with cytolysis.

CONCLUSIONS

Eosinophilic cytolysis in CRSwNP is primarily driven by quantitative eosinophilic load and independently modulated by mast cell infiltration. A combined histopathological model achieves near-perfect discrimination, supporting refined inflammatory endotyping and advancing precision-based management strategies.

KEYWORDS

Chronic Rhinosinusitis with Nasal Polyps (CRSwNP); Eosinophilic Cytolysis; Mast Cells; Eosinophilic Inflammation; Histopathological Endotyping; Receiver operating Characterisc (ROC) Analysis

OP-1108

Bipolar Versus Monopolar Radiofrequency Reduction For Inferior Turbinate Hypertrophy: An Intra-Patient Comparison Of Clinical Efficacy And Complication Rates.

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BACKGROUND & AIM

Inferior turbinate hypertrophy is a common cause of nasal obstruction and may significantly reduce quality of life. Radiofrequency (RF) treatment is widely used, but direct comparisons between monopolar and bipolar techniques are limited. This study aimed to compare the clinical outcomes of monopolar and bipolar RF in the treatment of inferior turbinate hypertrophy.

MATERIAL & METHODS

This prospective observational study included adult patients with inferior turbinate hypertrophy who underwent RF treatment between May 2025 and June 2026. Patients were divided into two groups according to the RF technique used: monopolar RF (Group M) and bipolar RF (Group B). Clinical and endoscopic evaluations were performed preoperatively and at 1 week, 2 weeks, 1 month, 3 months, and 6 months postoperatively. Outcomes included NOSE and SNOT scores, postoperative crusting, mucosal healing, and patient satisfaction.

RESULTS

A total of 94 patients were included. Baseline demographic and clinical characteristics were similar between the groups. Both monopolar and bipolar RF significantly improved NOSE and SNOT scores compared with baseline ($p<0.001$). However, the bipolar RF group showed significantly earlier and greater improvement in symptom scores, particularly in the early postoperative period ($p<0.05$). Endoscopic examination demonstrated less crusting and faster mucosal healing in the bipolar group ($p<0.05$). Patient satisfaction was also significantly higher in patients treated with bipolar RF ($p<0.05$). Major complication rates were similar between groups.

CONCLUSIONS

Both monopolar and bipolar RF are safe and effective for inferior turbinate hypertrophy. However, bipolar RF appears to provide superior early postoperative recovery, with faster symptom relief, less crusting, and higher patient satisfaction

KEYWORDS

Inferior turbinate hypertrophy Radiofrequency ablation Bipolar radiofrequency Monopolar radiofrequency NOSE score SNOT score Mucosal healing Postoperative crusting

OP-1109

Quality Of Life In Patients With Septal Perforation After Surgical Treatment: Long-Term Outcomes Assessment.

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BACKGROUND & AIM

Nasal septal perforation (NSP) significantly impacts quality of life (QoL), but no validated Russian-language instrument existed for comprehensive symptom assessment. This study aimed to translate, culturally adapt, and validate the SEPEQoL questionnaire for Russian-speaking populations.

MATERIAL & METHODS

Following ISPOR guidelines, the SEPEQoL was translated into Russian and administered to 30 NSP patients and 30 matched controls. Psychometric properties were evaluated, including internal consistency (Cronbach's α), test-retest reliability (intraclass correlation coefficient [ICC]), and discriminant validity. Surgical outcomes were assessed using validated SEPEQoL in patients undergoing endoscopic septal perforation repair with bilateral mucosal flaps and interposition cartilaginous graft.

RESULTS

The Russian SEPEQoL demonstrated excellent reliability ($\alpha = 0.985$, ICC = 0.98) and strong discriminant validity (21.6 ± 6.4 vs. 4.4 ± 3.9 in controls, $p < 0.01$). Postoperative scores improved dramatically ($\Delta = 15.4$ points, $d = 2.23$, $p < 0.001$), with 100% resolution of whistling ($\delta = 0.95$) and 94% improvement in crusting. Esthetic concerns showed minimal change ($\delta = 0.08$, $p = 0.32$), underscoring the need for adjunct rhinoplasty in select cases. Patient age, gender, and perforation size did not impact outcomes.

CONCLUSIONS

The Russian SEPEQoL is a valid, reliable tool that captures both functional and esthetic outcomes of NSP repair. Its implementation facilitates standardized outcome assessment and highlights persistent challenges in managing external nasal deformities.

KEYWORDS

Septal perforation, quality of life, endoscopic septal surgery

OP-1110

Objective Assessment Of Nasal Valve Dysfunction: Rhinomanometric Looping And The Endoscopic Lateral Wall Insufficiency (LWI) Score.

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BACKGROUND & AIM

Nasal Valve Dysfunction(NVD) contributes to persistent nasal obstruction. However, validated objective assessment is lacking. Rhinomanometry looping and Lateral Wall Insufficiency(LWI) grading have been proposed. This study sought to validate these measures against perceived obstruction and nasal airflow.

MATERIAL & METHODS

A cross-sectional study of preoperative patients with nasal obstruction was performed. NVD was assessed by presence of looping on active anterior rhinomanometry and LWI grading on endoscopy. The LWI grade was defined in both internal(zone 1) and external(zone 2) nasal valve. Collapse was defined as static or dynamic and graded(0-3) on the percentage of valve width to septum (0=normal; 1≤33%; 2=33-66%; 3≥66%). Validation was against a 100point-Visual Analog Scale(VAS), 6-point ordinal score of nasal obstruction, and nasal airway resistance(NAR) in Pa/cm^3/s.

RESULTS

305 patients were assessed (age35.4±14.5years, 44.3% female). Looping was associated with greater symptoms(VAS:73±26 v 54±31, p<0.01) and higher resistance(0.46[0.37–0.71] v 0.35[0.23–0.58]Pa/cm^3/s, p<0.01). The static LWI grade was associated with increasing symptoms(zone 1 VAS:50±32 v 50±33 v 65±27 v 75±24, p<0.01; zone 2 VAS: 53±31 v 69±31 v 72±27 v 82±22, p<0.01) and higher resistance (zone 1: 0.32[0.21–0.47] v 0.34[0.23–0.56] v 0.43[0.26–0.80] v 0.84[0.38–1.98]Pa/cm^3/s, p<0.01; zone 2:0.33[0.22–0.51] v 0.47 [0.32–0.83] v 0.54[0.40–0.92] v 1.52[0.95–12.3]Pa/cm^3/s, p<0.01). Similar associations were seen with dynamic LWI grades.

CONCLUSIONS

Looping and LWI score define greater symptoms and worse nasal airflow. The LWI is easily performed and along with prior intra/inter-test validation, makes it ideal for assessment of severity and impact of interventions for NVD.

KEYWORDS

Nasal Valve Dysfunction, Nasal Valve Collapse, Looping, Rhinomanometry, Lateral Wall Insufficiency Score

OP-1111

CLINICAL AND PATHOGENETIC FEATURES OF CHRONIC TONSILLITIS ASSOCIATED WITH CHRONIC SINUSITIS

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BACKGROUND & AIM

Introduction: Chronic tonsillitis (CT) and chronic sinusitis (CS) are common chronic inflammatory diseases of the upper respiratory tract that frequently coexist and may aggravate each other's clinical course. As a result, chronic tonsillitis associated with chronic sinusitis tends to present with more severe and prolonged symptoms, making this combined pathology an important issue in modern otorhinolaryngology.

The purpose of the study: To evaluate the clinical manifestations and pathogenetic features of chronic tonsillitis associated with chronic sinusitis and to assess their interrelationship.

MATERIAL & METHODS

Material and research methods: A total of 30 patients aged between 18 and 65 years were enrolled in the study. Among them, 18 patients (60%) were female and 12 patients (40%) were male. The participants were divided into two equal groups: 15 patients (50%) were diagnosed with isolated chronic tonsillitis, while the remaining 15 patients (50%) had chronic tonsillitis associated with chronic sinusitis. According to the clinical classification of chronic tonsillitis, 11 patients (36.7%) presented with the toxic-allergic form, whereas 19 patients (63.3%) were diagnosed with the simple form of the disease.

All patients underwent a comprehensive clinical and laboratory examination. Pharyngoscopy was performed to assess the condition of the palatine tonsils and surrounding pharyngeal structures. The collected data were analyzed and expressed in numerical values and percentages.

RESULTS

Results Obtained: The findings of the study demonstrated that patients with chronic tonsillitis associated with chronic sinusitis exhibited a broader and more pronounced clinical symptom profile compared to those with isolated chronic tonsillitis. In the isolated chronic tonsillitis group, sore throat was present in all patients (100%), halitosis was observed in approximately 30% of cases, and general weakness was reported in about 50% of patients. In contrast, patients with combined chronic tonsillitis and chronic sinusitis showed a significant increase in both the frequency and severity of symptoms. Nasal obstruction and postnasal drip were reported in approximately 80% of patients in the combined group, representing a 70% increase compared

to the isolated tonsillitis group. Reflex cough associated with postnasal discharge occurred in approximately 78% of cases, reflecting a 70% increase. Halitosis was detected in around 50% of patients, which is 20% higher than in the isolated group.

CONCLUSIONS

Conclusion: Chronic tonsillitis associated with chronic sinusitis is characterized by a more severe and expanded clinical presentation compared to isolated chronic tonsillitis. In addition to typical tonsillar symptoms, rhino genic manifestations such as nasal obstruction, postnasal drip, facial pressure, and reflex cough are significantly more frequent. The combined pathology is associated with increased inflammatory activity and a higher probability of toxic-allergic forms, reflecting prolonged immune system involvement. These findings substantiate the necessity of comprehensive diagnostic evaluation and simultaneous management of both conditions in order to prevent complications and reduce recurrence rates.

KEYWORDS

Chronic tonsillitis, chronic sinusitis, management, diagnostic evaluation

OP-1112

Optimising Biopsy Yield In Sinonasal Lesions

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BACKGROUND & AIM

3% of Head and Neck malignancies are sinonasal. The clinical presentation resembles inflammatory disease. Reactive polypoid change makes it difficult to obtain a representative biopsy. Management depends upon an accurate tissue diagnosis. In 2021 we found a 16% discrepancy between our nasal biopsies and final histopathology. This is similar to the figures in the scientific literature.

MATERIAL & METHODS

We discussed various routes of biopsy in our Joint Head and Neck Clinic: transnasal endoscopic, endoscopic inferior meatal, endoscopic middle meatal and sublabial anterior meatal. The best route was selected based on imaging, and multiple deep biopsies were obtained

RESULTS

In the period from January 2023 to December 2024 , 15 patients underwent biopsy for unilateral sinonasal mass. There was only one discrepancy (6.67%) between a biopsy and the final histopathology. Our agreement rate improved from 83.8% to 93.3%

CONCLUSIONS

In unilateral sinonasal mass biopsy techniques should be tailored to the extent of the disease and imaging to improve diagnostic accuracy, reducing delay in treatment.

KEYWORDS

Sinonasal ; Cancer; Biopsy; Endoscopic

OP-1113

Evaluating The Added Diagnostic Value Of MRI In Allergic Fungal Rhinosinusitis: A Retrospective Comparative Study

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BACKGROUND & AIM

Allergic fungal rhinosinusitis (AFRS) is a non-invasive subtype of chronic rhinosinusitis characterized by intense inflammatory response, often associated with bony remodeling that may mimic orbital or intracranial extension on imaging. While computed tomography (CT) is the primary diagnostic modality, magnetic resonance imaging (MRI) is frequently recommended when complications are suspected. However, the clinical utility of routine MRI in AFRS remains uncertain. To evaluate the added diagnostic and surgical value of MRI compared to CT alone in the preoperative assessment of AFRS.

MATERIAL & METHODS

This retrospective cohort study included 21 patients diagnosed with AFRS at a tertiary care center between 2022 and 2024. Patients were divided into two groups: CT-only (n=11) and CT+MRI (n=10), all meeting established criteria for MRI. Preoperative imaging findings were compared with intraoperative findings during functional endoscopic sinus surgery (FESS). Primary outcomes included the detection of orbital or intracranial extension and the impact of MRI on surgical decision-making.

RESULTS

Radiologic findings from both CT and MRI suggested possible orbital or intracranial extension in all patients. However, intraoperative evaluation revealed no true extension in any case, with disease confined to the paranasal sinuses despite the presence of bony dehiscence. MRI did not provide additional diagnostic information beyond CT nor alter surgical management. Notably, patients undergoing MRI had a significantly longer preoperative follow-up period (p = 0.0083), indicating potential delays in care.

CONCLUSIONS

MRI did not demonstrate additional clinical or surgical value over CT in the evaluation of AFRS in this cohort. Routine use of MRI may be unnecessary when high-quality CT findings are available, and its selective use should be guided by clinical suspicion and ambiguous imaging findings to optimize resource utilization and patient care.

KEYWORDS

Rhinosinusitis, Allergic Fungal; Sinusitis; Tomography, X-Ray Computed; Magnetic Resonance Imaging; Paranasal Sinuses; Nasal Polyps; Endoscopy; Orbital Diseases; Intracranial Complications;

OP-1114

Stellate Ganglion Block With Lidocaine For The Treatment Of COVID-19-Induced Parosmia: Double-Blinded, Placebo-Controlled Randomized Clinical Trial. (STELLA)

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BACKGROUND & AIM

COVID-19-induced parosmia is estimated to affect 1.2 million people in the United States. Olfactory dysfunction impacts one's quality of life significantly and is an independent predictor of anxiety, depression, and even mortality. Studies prior to the COVID-19 pandemic have supported a beneficial effect of stellate ganglion blocks on olfactory dysfunction. This randomized clinical trial explores the efficacy and safety of ultrasound guided Stellate Ganglion Block (SGB), hypothesized to correct hyper-sympathetic activation associated with Long COVID.

MATERIAL & METHODS

This study was a prospective double-blinded, placebo-controlled, randomized clinical trial. Subjects were volunteers aged 18–70 with a COVID-19 diagnosis >= 6months prior. Of 44 planned participants, an interim analysis was performed on the first 23 randomized individuals (12 SGB; 10 placebo; 1 withdrawal). The primary outcome was improvement in parosmia-related quality of life via the Parosmia Olfactory Dysfunction Outcomes Rating (DisODOR) questionnaire (minimal clinically important difference (MCID) = 15) done pre-intervention and at 1, 3, and 12 months post. Secondary outcomes included other validated questionnaires including CGI-S, UPSIT, and HADS.

RESULTS

Median enrolment ages were similar. Majority of participants were female (83% in SGB and 100% in placebo). Compared to pre-intervention, DisODOR scores at one-month post-intervention decreased by a median of 7.0 (SGB) vs. 6.5 (placebo) [MD 0.5; 95% CI, -15.0 to 14.0]. At three months, scores decreased by 8.0 (SGB) vs. 12.5 (placebo) [MD -4.5; 95% CI, -21.0 to 14.5]. The response rate (reduction >= MCID) was 41.6% vs. 30.0% at one month [difference 11.7%; 95% CI, -26.7% to 48.3%], and 25.0% vs. 40.0% at three months [difference -15.0%; 95% CI, -53.3% to 23.3], for SGB and placebo, respectively. All other secondary outcome measures did not demonstrate a significant difference between groups. No serious adverse events were reported.

CONCLUSIONS

This RCT's interim analysis found that SGB is not superior to placebo in treating COVID-19 parosmia. However, both groups showed significant benefit from baseline, highlighting the need for further research into alternative mechanisms and future patient selection.

KEYWORDS

COVID-19 Parosmia Long COVID Olfactory Dysfunction Hyposmia Hyper-sympathetic activation Post-viral sequelae Dysosmia Stellate Ganglion Block (SGB) Ultrasound-guided injection Lidocaine Local Anesthetic Sympathetic block Placebo-controlled Autonomic nervous system

OP-1115

Surgery Of Sight-Threatening Graves' Orbitopathy

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BACKGROUND & AIM

The orbit is a multidisciplinary surgical field, however orbital laesions are not very common. We have an orbital-team in our university since 2018 due to this fact.

MATERIAL & METHODS

We would like to present our surgical cases, operated with sight-threatening Graves' orbitopathy (GO) between 2018-2026. The two main indications for surgery were disthyroid optic neuropathy (DON) and corneal breakdown. All DON patients received high-dose methylprednisolon therapy first, in our center according to the European Group on Graves' orbitopathy (EUGOGO) clinical practice guidelines. Patients with corneal breakdown underwent urgent surgery

RESULTS

We have operated 52 balanced orbital decompressions in 31 patients. The early postoperative improvement in visual acuity was significant compared to the preoperative one and stayed stable in most patient during follow-up.

The medial orbital decompressions were done by the transnasal endoscopic way, the lateral wall decompressions via lateral orbitotomy.

CONCLUSIONS

However the orbit is a relatively small anatomical space, we think, multidisciplinarity is the only way to treat it's pathologies.

KEYWORDS

orbital surgery, orbital decompression, vision loss, Graves' orbitopathy

OP-1116

Systemic Inflammatory Indices And Patient-Reported Outcomes In Antrochoanal Polyps

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BACKGROUND & AIM

Antrochoanal polyp (ACP) is a benign unilateral lesion originating from the maxillary sinus and extending into the choana. Although inflammatory mechanisms are thought to play a role in its pathogenesis, the clinical significance of systemic inflammatory markers remains unclear. This study aimed to compare preoperative Systemic Immune-Inflammation Index (SII) and Systemic Inflammatory Response Index (SIRI) values between pediatric and adult patients with ACP and to evaluate postoperative clinical outcomes using symptom-based questionnaires.

MATERIAL & METHODS

Patients who underwent surgery for ACP between January 2023 and December 2025 were retrospectively analyzed and categorized as pediatric (<18 years) or adult (≥18 years). Preoperative hemogram parameters were recorded and SII (P×N/L) and SIRI (N×M/L) were calculated. Pediatric patients were assessed using VAS and SN-5, while adult patients were evaluated using NOSE scores pre- and postoperatively. Non-parametric tests were used for statistical analysis.

RESULTS

A total of 47 patients were included (8 pediatric, 39 adult). Apart from age, demographic characteristics were similar between groups ($p>0.05$). Preoperative SII ($p=0.59$) and SIRI ($p=0.2$) values did not differ significantly between pediatric and adult patients.

In adult patients, NOSE scores showed a significant postoperative decrease ($p=0.0001$ This improvement remained significant within both low and high SII subgroups ($p=0.0001$ and $p=0.003$, respectively) and SIRI subgroups ($p=0.0001$ and $p=0.002$, respectively). However, percentage improvement in NOSE scores was not associated with SII ($p=0.643$) or SIRI levels ($p=0.275$). In pediatric patients, both VAS ($p=0.012$) and SN-5 ($p=0.017$) scores demonstrated significant postoperative improvement.

CONCLUSIONS

Surgical treatment of ACP resulted in significant symptomatic improvement in both pediatric and adult patients, as demonstrated by validated patient-reported outcome measures. Postoperative reductions in VAS and SN-5 scores in pediatric patients and NOSE scores in adults indicate substantial clinical benefit.

Preoperative SII and SIRI values were not associated with postoperative symptom improvement, which may partly reflect the relatively small sample size, particularly in the pediatric cohort. Nevertheless, patient-reported outcome measures consistently demonstrated meaningful clinical improvement and appear to be reliable indicators of surgical success in ACP.

KEYWORDS

Antrochoanal polyp,Systemic inflammatory indices,SII,SIRI,NOSE scale ,SN-5,Visual analog scale

OP-1117

The Relationship Between Septal Deviation Angle And Mandibular Retrognathia And Hyperdivergent Growth: A Radiological Cross-Sectional Analysis

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BACKGROUND & AIM

Septal deviation is not merely a local variation causing intranasal airflow impairment but a common anatomical condition associated with craniofacial development. The Takahashi theory proposes that cranial base flexion may predispose to both septal deviation and alterations in mandibular growth, suggesting a shared developmental origin. However, studies examining the quantitative relationship between septal deviation angle (SDA), mandibular sagittal position, and vertical growth patterns are limited. This study tests the hypothesis that increased SDA is associated with mandibular retrognathia and hyperdivergent growth, and aims to evaluate correlations with SNB and SN-GoGn angles while comparing these features across severity groups.

MATERIAL & METHODS

This retrospective cross-sectional radiological study included 221 patients over the age of 18 who presented with complaints of nasal obstruction and underwent paranasal sinus CT. SDA was measured on coronal CT sections utilizing the Lee method relative to the crista galli-spina nasalis anterior reference line. NSD severity was classified according to the criteria of Naaem/Ramirez-Barrios(<9°, 9–14,9°, ≥15°) and Paula (<10°, ≥10°).SNB angle was used to evaluate mandibular sagittal position on lateral scout images and SN-GoGn angle was utilized to assess the vertical growth pattern. Retrognathia was defined as SNB<78°, and hyperdivergence was defined as SN-GoGn ≥32°. Pearson/Spearman correlation, linear regression, ANOVA with Bonferroni correction, Pearson's chi-square test and logistic regression (OR, 95% CI) analyses were performed.

RESULTS

This study included 221 patients:118 males (53.4%) and 103 females (46.6%).The overall mean age was 29.49 ± 6.80 years(range: 18–45).Mean age was 30.15 ± 6.92 years for males (18–44) and 28.73 ± 6.62 years for females(18–45).The mean SDA was 11.21 ± 3.35°,mean SNB 78.90 ± 1.58°,and mean SN-GoGn 32.96 ± 3.68°.A significant negative correlation was observed between SDA and SNB(Pearson r =−0.181,p = 0.007),while a strong positive correlation was found between SDA and SN-GoGn (Spearman r=+0.711, p < 0.001).The prevalence of retrognathia was 34.8%, and hyperdivergent growth was present in 54.3% of patients.According to the Paula classification,retrognathia was significantly more frequent in the severe NSD group compared to the mild group (44.4%vs.8.5%; OR: 8.64; 95% CI: 3.22–23.21; p < 0.001).In the Naeem classification,SNB differed significantly between mild and moderate NSD groups (p = 0.002),but not between moderate and severe groups (p = 1.000),suggesting a threshold effect around 9°.

CONCLUSIONS

Increased SDA shows a significant association with mandibular retrognathia and hyperdivergent growth pattern. These changes are observed significantly more frequently in deviations exceeding approximately 9-10°. The findings suggest that NSD may be a part of broader craniofacial phenotype rather than an isolated nasal pathology. Paranasal sinus CT allows for the assesment of both sinonasal anatomy and mandibular morphology in a single setting. Prospective studies incorporation symptom scores and polysomnography are required to establish causality.

KEYWORDS

Nasal septal deviation, mandibular retrognathia , septal deviation angle, cephalometric analysis, Takahashi theory, computed tomography, paranasal sinus computed tomography, hyperdivergence, obstructive sleep apnea

OP-1118

Twice-Yearly Depemokimab Delivers Clinical Improvement In Patients With Crswnp With T2 Inflammation And One Prior Surgery: EPOS/EUFOREA Responder Analysis

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BACKGROUND & AIM

The ANCHOR-1/-2 Phase III trials in patients with chronic rhinosinusitis with nasal polyps (CRSwNP) demonstrated the safety and efficacy of depemokimab, the first ultra-long-acting biologic with enhanced interleukin-5 binding affinity, high potency and an extended half-life, enabling sustained suppression of type 2 (T2) inflammation with twice-yearly dosing. This post hoc

analysis evaluated responses to depemokimab in patients with one prior surgery for CRSwNP and ≥1 T2 inflammation feature (blood eosinophil count [BEC] ≥150 cells/µL, comorbid asthma, N-ERD/AERD).

MATERIAL & METHODS

ANCHOR-1/-2 randomised adults with inadequately controlled CRSwNP to subcutaneous depemokimab 100 mg or placebo, plus standard of care, once every 26 weeks for 52 weeks. This post hoc analysis compared depemokimab responses in two subsets of patients with one prior CRSwNP surgery: those with ≥1 T2 feature (Profile-1) and those with BEC ≥150 cells/µL plus ≥1 additional T2 feature (comorbid asthma, N-ERD/AERD; Profile-2). Patients were assessed using modified EPOS/EUFOREA response criteria at Week 26: reduced nasal polyp size (≥1-point improvement), no use of systemic corticosteroids (SCS) for CRSwNP/no surgery needed, improved quality of life and disease control (Sino-Nasal Outcome Test-22 [SNOT-22]: ≥8.9-point improvement and SNOT-22 <40), improved sense of smell (Verbal Response Scale: ≥0.9-point improvement) and reduced impact of T2 comorbidities (Asthma Control Questionnaire-5: ≥0.5-point improvement). Patients who met more criteria were considered to have a better response.

RESULTS

Of the 528 patients included in ANCHOR-1/-2, 154 met the definition for Profile-1 (depemokimab n=79, placebo n=75) and 98 for Profile-2 (depemokimab n=52, placebo n=46). Proportions of patients meeting 4/5 response criteria (good/excellent response) at Week 26 was greater with depemokimab versus placebo (Profile-1: 30%[n=24] vs 9%[n=7]; Profile-2: 35%[n=18] vs 13%[n=6]); fewer patients receiving depemokimab demonstrated no response (0 criteria) or met only 1 criterion than those receiving placebo (Profile-1: 29%[n=23] vs 45%[n=34]; Profile-2: 27%[n=14] vs 41%[n=19).

CONCLUSIONS

At the first EPOS/EUFOREA recommended 6-month evaluation of treatment response, a higher proportion of patients with CRSwNP with one prior surgery and features indicative of T2 inflammation had a good/excellent response to twice-yearly depemokimab compared with placebo, without requiring SCS or additional sinus surgery, supporting use of depemokimab in this patient population.

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KEYWORDS

biologics, type-2 inflammation, chronic rhinosinusitis with nasal polyps, treatment

OP-1119

Relationship Of The Infraorbital Canal And Vidian Nerve With Surrounding Anatomical Structures

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BACKGROUND & AIM

The infraorbital canal contains the infraorbital nerve, artery, and vein.Preoperative evaluation of the localization and wall continuity of the infraorbital canal may contribute to reducing the risk of neurovascular injury during maxillofacial surgeries. Anatomical variations of the Vidian canal and infraorbital canal have been evaluated in the literature.[1,2]However,the relationship between these two canals and their connections with surrounding surgical landmarks have not been sufficiently demonstrated.The aim of this study was to evaluate the relationship between the infraorbital canal and surgical landmarks, to investigate the relationship between the infraorbital canal and the Vidian canal, and to reveal a possible anatomical correlation.

MATERIAL & METHODS

Our study was designed as a retrospective cross-sectional study. A total of 850 infraorbital canals from 425 patients were evaluated on coronal and axial sections of paranasal sinus computed tomography scans obtained in the standard position using the same imaging device. Patients with maxillary or sphenoid sinus pathology were excluded from the study. Infraorbital canal type, presence of Haller cells and, if present, the distance between the canal and the Haller cell, the distance between the canal and the maxillary sinus ostium, the angle between the uncinate process and the sagittal plane, and the ipsilateral Vidian canal type were determined and recorded. Statistical analyses were performed using SPSS V.22 software. All data showed nonparametric distribution The Kruskal–Wallis test was used for quantitative variables, and the Chi-square test was used for qualitative variables. A p value of <0.05 was considered statistically significant.

RESULTS

Of the patients, 54.6% were male and 45.4% were female, with a mean age of 32.67 (19–83) years.The distribution of infraorbital canal types was 40.7% for type 1, 35.8% for type 2, and 22.9% for type 3. Haller cells were observed in 32.8% of cases, and their presence significantly differed among canal types (p=0.002), increasing progressively from type 1 to type 3. No significant difference was found regarding the distance between the canal and Haller cells (p=0.225)or the maxillary sinus ostium (p=0.122). A significant relationship was found between the uncinate process angle and infraorbital canal type

(p=0.009),with significantly greater angles in type 1 canals compared to type 3 canals. In addition, a significant relationship was identified between ipsilateral Vidian canal type and infraorbital canal type. Patients with infraorbital canal type 1 showed a significantly higher rate of ipsilateral Vidian canal type 3. Both nerves demonstrated similar intact intracanal patterns.

CONCLUSIONS

Abnormal localization or non-intact wall structure of the infraorbital canal increases the risk of surgical injury. This may result in permanent postoperative paresthesia or hypoesthesia. In addition, due to lower bony resistance at the canal level in infraorbital wall injuries, the canal may frequently be involved in the fracture line. In such cases, intraorbital arterial or venous bleeding may occur in addition to nerve injury caused either by the fracture itself or during reconstruction procedures. Therefore, preoperative evaluation of the localization and structure of the canal and its relationship with surrounding surgical landmarks is important for surgical planning.

KEYWORDS

Haller cell, infraorbital canal, infraorbital nerve, maxillofacial surgery, Vidian canal

OP-1120

Efficacy Of Prophylactic Pre-Operative Desmopressin Administration During FESS For CRS: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Intraoperative bleeding is a common complication during functional endoscopic sinus surgery (FESS) which can be progressively severe and subsequently culminate in an unfavourable wet surgical field. Desmopressin is an artificial derivative of vasopressin that plays crucial roles in haemostasis, and is widely employed in various operations to reduce perioperative blood loss and requirement for blood transfusion. So far, no meta-analysis of randomised controlled trials has been carried out to systematically aggregate evidence on the efficacy of prophylactic pre-operative desmopressin during FESS.

MATERIAL & METHODS

Design: Systematic review and meta-analysis of randomised controlled trials (RCTs).

Setting: The Cochrane Central Register of Controlled Trials (CENTRAL), PubMed, Embase, Scopus, and Web of Science databases were screened from inception until 18 March 2022.

Participants: Patients undergoing FESS.

Main outcome measures: Primary efficacy endpoints comprised intraoperative blood loss, visual clarity, and operation time. Secondary endpoints comprised side effects. The efficacy endpoints were summarised as risk ratio (RR) or mean difference (MD) with 95% confidence interval (CI).

RESULTS

Results: Five RCTs comprising 380 patients (desmopressin = 191 patients and placebo = 189 patients) were included. Collectively, the included RCTs had an overall low risk of bias. The pooled results showed that the mean intraoperative blood loss (n =5 RCTs, MD = −37.97ml, 95% CI [−56.97, −18.96], p < .001), 5-point Boezaart scores (n = 2 RCTs,MD = −.97, 95% CI [−1.21, −.74], p < .001), and 10-point Boezaart scores (n =2 RCTs, MD = −3.00, 95% CI [−3.61, −2.40], p < .001) were significantly reduced in favour of the desmopressin group compared with the placebo group. Operation time did not significantly differ between both groups (n =5 RCTs, MD = −3.73min, 95% CI [−14.65, 7.18], p =.50). No patient in both groups developed symptomatic hyponatremia (n =3 RCTs, 194 patients) or thromboembolic events (n = 2 RCTs, 150 patients).

CONCLUSIONS

Conclusions: Among patients undergoing FESS, prophylactic administration of desmopressin does not correlate with significant clinical benefits. Data on safety is limited. Future research may explore the synergistic antihaemorrhagic efficacy and safety of tranexamic acid (TXA) plus desmopressin versus TXA alone among patients undergoing FESS.

KEYWORDS

blood loss, chronic rhinosinusitis, desmopressin, functional endoscopic sinus surgery, surgical field

OP-1121

The Role Of Nasal Pathologies And Biomarkers In Recurrence After Endoscopic Dacryocystorhinostomy

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BACKGROUND & AIM

Dacryocystitis is the most common pathology of the lacrimal drainage system. Recurrent infections cause epithelial loss, lamina propria fibrosis, vascular injury, and subsequent luminal obstruction. This retrospective study evaluated whether preoperative inflammatory and immune biomarkers, including PNI, SIRI, SII, and PIV, predict recurrence after endoscopic dacryocystorhinostomy performed with a standardized technique in patients with chronic dacryocystitis at a tertiary care center. The study also investigated the impact of nasal pathologies and symptom scores on postoperative recurrence. To our knowledge, this is the first study assessing the prognostic value of PIV and systemic inflammatory indices in endoscopic DCR outcomes.

MATERIAL & METHODS

This retrospective cross-sectional study included patients aged 18–80 years who underwent endoscopic dacryocystorhinostomy for chronic dacryocystitis at the Ankara Bilkent City Hospital between 2019 and 2024 and completed at least 12 months of follow-up. Patients were categorized according to the need for revision surgery. Exclusion criteria were malignancy, irregular follow-up, previous external DCR, and punctal or canalicular obstruction. Demographic data, comorbidities, hospital stay, radiological findings, preoperative laboratory parameters, inflammatory indices, and prognostic nutritional index values were recorded. Preoperative and postoperative symptoms were assessed using a modified Lac-Q questionnaire. All procedures were performed using a standardized endoscopic technique with mucosal flap elevation, lacrimal bone removal, vertical sac incision, rhinostomy creation, and silicone tube placement. Tubes were removed after 3 months. Surgical success at 24 months was defined by epiphora resolution, absence of recurrent dacryocystitis, and patent rhinostomy. Data were analyzed using SPSS 25.0, with $p<0.05$ considered statistically significant.

RESULTS

A total of 69 patients aged between 18 and 80 years who underwent endoscopic dacryocystorhinostomy were included in the study. Of these, 50 patients were female (72.5%) and 19 were male (27.5%). The left eye was affected in 43 cases (62.3%), while the right eye was affected in 26 cases (37.7%). During the 24-month follow-up period, recurrence requiring revision surgery was observed in 12 patients (17.4%), whereas 57 patients (82.6%) remained recurrence-free.

The mean age was 54.33 ± 18.45 years in the revision group and 49.21 ± 14.64 years in the non-revision group, with no statistically significant difference between the groups ($p = 0.358$). Similarly, stent retention duration did not differ significantly between groups ($p = 0.986$). Smoking status, rhinitis, septal deviation, and conchal hypertrophy were not significantly associated with revision surgery.

CONCLUSIONS

A marked improvement was observed in symptom scores after surgery, decreasing from 6.49 ± 2.64 preoperatively to 1.43 ± 1.47 postoperatively. When revision and non-revision groups were compared, routine hematological and biochemical parameters, preoperative symptom scores, and inflammatory indices including PIV, PNI, SIRI, SII, PLR, and NLR showed no significant differences. However, postoperative symptom scores were significantly higher in patients who required revision surgery ($p = 0.047$). Spearman's analysis demonstrated a weak but significant positive correlation between revision status and postoperative symptom score ($r = 0.241$, $p = 0.046$).

KEYWORDS

Dacryocystitis; Endoscopic DCR; Recurrence; PIV; PNI; Inflammatory biomarkers.

OP-1122

Clinical Efficacy Of Tezepelumab In Moderate-To-Severe Uncontrolled Chronic Rhinosinusitis With Nasal Polyps: A Systematic Review Of Randomized Controlled Trials

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BACKGROUND & AIM

Background: Chronic rhinosinusitis with nasal polyps (CRSwNP) is a chronic inflammatory condition affecting the sinuses, resulting in the appearance of nasal polyps and is often associated with comorbidities. Many cases do not respond to corticosteroid treatment or surgery.

Objective: This study aimed to explore the role of tezepelumab in the treatment of CRSwNP.

MATERIAL & METHODS

Pubmed, Embase, Scopus, Web of Science and Cochrane Library were searched. Three randomized controlled trials (RCTs) comparing tezepelumab and placebo in 655 patients with CRSwNP were included. The main outcomes were nasal polyp size (nasal polyp score NPS), nasal congestion or obstruction (nasal congestion score NCS), and quality of life using the Sino-Nasal Outcome Test (SNOT-22).

RESULTS

Three RCTS were included, in which tezepelumab was used to treat CRSwNP. The mean age was 50.9 years, with 56.9% male patients and 75.6% of patients with coexisting asthma. The mean difference (MD) for NPS ranged from -0.9 to -2.0 compared to placebo. Consistent benefits were observed for NCS with MD between -0.8 and -1.0 compared to placebo and SNOT-22 with MD ranging from -10 to -28 points compared to placebo.

CONCLUSIONS

In conclusion, evidence supports the efficacy of tezepelumab for CRSwNP compared to placebo or standard care. In all trials, tezepelumab consistently demonstrated superiority over placebo in reducing NPS and NCS, improvements in SNOT-22, loss of sense of smell and clinically relevant endpoints (reduced need for surgery and corticosteroid use).

KEYWORDS

Biologic therapy, Chronic rhinosinusitis with nasal polyps, Tezepelumab, Thymic stromal lymphopoietin, Type 2 inflammation.

OP-1123

COMPARATIVE ANALYSIS OF HEMATOLOGICAL PARAMETERS IN CHRONIC RHINOSINUSITIS WITH NASAL POLYPS

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps (CRSwNP) involves chronic inflammatory lesions of the sinonasal mucosa, with an unclear etiology influenced by both genetic and environmental factors. Over time, these factors interact to drive the disease through various inflammatory mechanisms. Recently, routine hematological parameters have gained attention as markers of systemic inflammation in chronic inflammatory diseases. This study aimed to compare these parameters between patients with CRSwNP and healthy controls to evaluate their association with the disease.

MATERIAL & METHODS

This retrospective, comparative study reviewed patients who underwent functional endoscopic sinus surgery (FESS) for CRSwNP (n=50) at Mardin Training and Research Hospital over a three-year period. The control group consisted of patients who underwent septoplasty or rhinoplasty and had normal paranasal sinus computed tomography (CT) scans (n=50) over a two-year period. Complete blood count parameters—including white blood cell (WBC), neutrophil, lymphocyte, eosinophil, and platelet counts, as well as mean platelet volume (MPV), neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), and eosinophil-to-lymphocyte ratio (ELR)—were analyzed. Statistical analyses were performed to compare the groups, with a p-value <0.05 considered statistically significant.

RESULTS

Among the inflammatory hematological markers, eosinophil and neutrophil counts were statistically significantly higher in the CRSwNP group than in the control group (both $p < 0.05$). Although NLR and PLR values tended to be elevated in patients with CRSwNP, these differences did not reach statistical significance ($p > 0.05$). Eosinophilia was observed in 48% (n = 24/50) of the patients with CRSwNP, while neutrophilia was present in 18% (n = 9/50). In conclusion, these findings suggest a strong association between the systemic inflammatory response and the pathogenesis of CRSwNP.

CONCLUSIONS

Hematological parameters derived from routine blood tests, particularly preoperative eosinophil and neutrophil counts, may serve as useful, inexpensive, and easily accessible biomarkers in patients with CRSwNP. Furthermore, these preoperative inflammatory indices might contribute to predicting disease recurrence and evaluating inflammatory activity. While indices such as NLR and PLR showed an elevated trend in this study, further prospective studies with larger sample sizes are required to fully elucidate their clinical and prognostic utility.

KEYWORDS

Chronic Rhinosinusitis, Nasal Polyps, Eosinophils, Neutrophils, Disease Recurrence, Inflammatory Biomarkers.

OP-1124

Efficacy And Safety Of Image-Guided Endoscopic Repair For Sphenoid CSF Rhinorrhea: A Tertiary Hospital Experience .

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BACKGROUND & AIM

Cerebrospinal fluid rhinorrhea (CSFR) occurs due to communication between the sterile subarachnoid space and the nose and paranasal managing CSF rhinorrhea originating from the sphenoid sinuses. The sinuses pose unique difficulties with the vital structures of the carotid artery and optic nerve. We aimed to investigate the clinical applications of image-guided endoscopic surgery (IGES) on the endoscopic repair of different sphenoid CSF rhinorrhea.

MATERIAL & METHODS

This was a retrospective chart review of all sphenoid CSF rhinorrhea cases seen at King Fahad Specialist Hospital (KFSH) in Dammam, Saudi Arabia. Demographics, etiology, presentation, diagnostic tests, methods of endoscopic repair and outcome of surgery were described.

RESULTS

Fifteen cases of sphenoid CSF rhinorrhea were identified and managed by the image guided endoscopic repair approach. Ten (66.7%) were males. The mean age of all patients was 37.4 ± 4.1 years. All cases underwent plain high-resolution CT imaging and intraoperative cisternography. After four to five years of follow-up, none of the patients experienced any recurrences post-surgery. None of the patients had any serious side effects.

CONCLUSIONS

Our study demonstrates that image-guided endoscopic repair is a highly effective and safe modality for managing sphenoid CSF rhinorrhea. Intraoperative navigation significantly enhanced defect localization accuracy and minimized surgical morbidity. The high success rate of CSF leak closure, combined with low postoperative complications, supports this technique as a standard of care, particularly for complex or recurrent cases. A multidisciplinary approach, early diagnosis, and meticulous surgical planning are essential for optimizing outcomes. Future prospective studies with larger sample sizes and long-term follow-up are recommended to further validate these results and refine operative protocols.

KEYWORDS

Endoscopic repair, sphenoid sinuses, CSF rhinorrhea, image-guided surgery,

OP-1125

The Natural History Of Residual Advanced Juvenile Nasopharyngeal Angiofibroma

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BACKGROUND & AIM

Juvenile nasopharyngeal angiofibromas (JNAs) are rare, benign but locally aggressive vascular tumours predominantly affecting adolescent males. Advanced-stage disease, characterised by skull base, orbital and/or intracranial extension, presents significant treatment challenges. Following initial therapy, residual or recurrent disease is common in advanced JNAs. The optimal approach to managing such cases, intervention versus surveillance, remains controversial. This systematic review explores the natural history of residual and recurrent JNAs to inform clinical decision-making.

MATERIAL & METHODS

A systematic literature review was conducted according to PRISMA guidelines across PubMed, Embase, Scopus, and Web of Science from inception to 20th February 2025 and was re-run on 21st September 2025. Studies included patients with advanced JNA and documented follow-up of residual or recurrent disease. Descriptive statistics, chi-square analysis and analysis of variance were used to evaluate treatment outcomes across different modalities including surgery, radiotherapy, gamma knife surgery, and medical therapies.

RESULTS

Twenty-two studies encompassing 131 male patients (mean age 16.3 years) were included. Residual or recurrent disease demonstrated complete involution in 41%, stable disease in 29%, and reduction in size in 26% of cases. Only 2% of patients had progressive disease. A statistically significant association was observed between treatment modality and outcome ($p = 0.015$), with radiotherapy, either alone or as part of a multimodal approach, showing the highest rates of spontaneous involution.

CONCLUSIONS

Residual and recurrent JNAs often remain stable or regress without further intervention. Close surveillance with imaging is a safe and effective strategy for asymptomatic patients, minimising the risks of additional treatment in a young patient population with disease near critical anatomical structures.

KEYWORDS
juvenile nasopharyngeal angiofibroma, outcomes, residual

OP-1126

Diagnostic Accuracy Of Punch Biopsy In Unilateral Nasal Masses: A Retrospective Analysis

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BACKGROUND & AIM

Punch biopsy is widely utilized as an initial diagnostic modality in the evaluation of unilateral nasal masses; however, its diagnostic accuracy remains debated, particularly in histologically heterogeneous and malignant lesions

The aim of this study was to assess the diagnostic accuracy of punch biopsy in unilateral nasal masses and to analyze the impact of histopathological subtype, anatomical location, and biopsy specimen size on diagnostic performance.

MATERIAL & METHODS

Seventy-five patients with unilateral nasal masses who underwent punch biopsy followed by surgical excision were retrospectively analyzed. Demographic data, lesion laterality, histopathological subtype, anatomical origin, and biopsy specimen size were recorded. Diagnostic accuracy, Cohen's kappa coefficient, sensitivity, specificity, predictive values, and subgroup analyses were calculated.

RESULTS

The mean age was 47.8 ± 17.9 years; 64% were male. Right-sided lesions accounted for 54.7% of cases. Overall diagnostic accuracy was 60% (45/75) with weak-to-moderate agreement (κ = 0.331, p = 0.0026). Inflammatory polyps showed high diagnostic accuracy (90.2%), while inverted papillomas demonstrated moderate accuracy (61.5%). Diagnostic performance varied significantly according to anatomical origin (p = 0.0017). The median biopsy specimen size was 9 mm; larger specimens showed higher diagnostic accuracy (64.9% vs 55.3%), although this difference was not statistically significant (p = 0.482). Sensitivity for malignancy detection was 20%, specificity 100%, positive predictive value 100%, and negative predictive value 94.6%. Four of five malignant cases were missed on punch biopsy.

CONCLUSIONS

Punch biopsy demonstrates moderate overall diagnostic accuracy in unilateral nasal masses. Although highly specific for malignancy, it lacks sufficient sensitivity to reliably exclude malignant disease. Diagnostic discordance appears to be related to sampling limitations, tumor heterogeneity, and anatomical constraints affecting representative tissue acquisition.

KEYWORDS

Unilateral nasal mass; Punch biopsy; Diagnostic accuracy; Histopathology; Inverted papilloma; Sinonasal malignancy; Sensitivity and specificity

OP-1127

Relationship Between Adult Chronic Rhinosinusitis And A History Of Pediatric Tonsillectomy And Adenoidectomy

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BACKGROUND & AIM

Tonsillectomy and adenoidectomy improve pediatric obstructive sleep apnea (OSA) symptoms and recurrent infections. The procedure's long-term risks are still being investigated, and prior studies suggested potential alteration of life immunity pathways and subsequent impairment on adult health including higher risk of asthma, otitis media, and sinusitis. Given this debate, this study evaluated the epidemiological associations between the development of adult chronic rhinosinusitis (CRS) and treatment with surgery or biologic therapy following pediatric adenotonsillectomy.

MATERIAL & METHODS

This is a multicenter, retrospective cohort study utilizing data from 100 healthcare organizations in the United States. The TriNetX database identified adults (≥18 years) with or without prior childhood tonsillectomy and/or adenoidectomy. Outcomes included CRS without nasal polyposis (CRSsNP), with nasal polyposis (CRSwNP), sinus surgery, and biologic therapy. Subgroup analysis of patients with childhood obstructive sleep apnea (OSA), recurrent/chronic tonsillitis, adenoiditis, or middle ear disease was performed. Time-to-event analysis was conducted with Kaplan–Meier analysis and reporting of hazard ratios (HRs) with 95% CI for each outcome. A $p < 0.05$ was considered statistically significant.

RESULTS

There was no statistically significant difference in the rate of adult CRSsNP, CRSwNP, surgery, and treatment with biologics after pediatric adenotonsillectomy for childhood OSA (HR: 0.94 [0.87–1.02]; 1.07 [0.79–1.44]; 0.87 [0.59–1.28]; 0.85 [0.66–1.09]). Children who had an adenoidectomy alone had a higher rate of CRSsNP as adults (HR: 1.55 [1.30–1.85]). Surgery for tonsillitis and adenoiditis had a higher rate of CRSwNP and surgery (HR: 1.63 [1.21–2.32]; 1.97 [1.36–2.86]). Adenoidectomy for

adenoiditis was associated with CRSsNP (HR: 1.94 [1.73–2.19]). Adults with pediatric middle ear disease who had a childhood adenoidectomy alone had an increased rate of CRSsNP (HR: 1.47 [1.30–1.65]).

CONCLUSIONS

Tonsillectomy with adenoidectomy in the setting of specific childhood infectious diseases was associated with adult CRSwNP and the need for sinus surgery, whereas adenoidectomy was associated with CRSsNP. These findings may suggest that children with recurrent or chronic infections have a predisposition to other infections that persists later in life, and that surgical removal of the tonsils and adenoids for noninfectious reasons alone may not contribute to the development of adult CRS.

KEYWORDS

chronic rhinosinusitis, chronic rhinosinusitis without nasal polyposis, chronic rhinosinusitis with nasal polyposis, tonsillectomy, adenoidectomy

OP-1128

Inverted Papilloma: A Single-Center Demographic Study Of 60 Cases

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BACKGROUND & AIM

Inverted papilloma (IP) is a rare benign sinonasal tumor characterized by local aggressiveness, high recurrence rates, and a 5–15% risk of malignant transformation, most commonly to squamous cell carcinoma. It often presents with nonspecific symptoms and can mimic inflammatory polyps. Accurate identification of the tumor's attachment site and extent using imaging is crucial. Complete surgical excision, particularly via endoscopic approaches, is essential to reduce recurrence.To evaluate attachment sites, spread patterns, surgical approaches, recurrence, malignant transformation, and demographic factors in IP patients.

MATERIAL & METHODS

This study was approved by the Ethics Committee of Selçuk University and designed as a retrospective analysis of patients with histopathologically confirmed inverted papilloma (IP). A total of 60 patients who underwent surgical treatment between 2015 and 2026 were included.

Patient data were retrieved from the hospital information system and medical records. Demographic variables, including age at diagnosis, sex, and admission date, were recorded. Patients with incomplete data or histopathological diagnoses other than IP (e.g., fungal sinusitis, antrochoanal polyp) were excluded.

Statistical analyses were performed using standard software. The normality of continuous variables (age) was assessed with the Shapiro–Wilk test. As data were normally distributed ($p > 0.05$), the Independent Samples t-test was used to compare age between sexes. Categorical variables were expressed as frequency and percentage. A p-value < 0.05 was considered statistically significant.

RESULTS

A total of 60 patients with histopathologically confirmed inverted papilloma (IP) were included. The cohort demonstrated a marked male predominance, with 80% (n=48) males and 20% (n=12) females, corresponding to a 4:1 male-to-female ratio.

The overall mean age at diagnosis was 55.33 ± 12.23 years (range: 28–78). When stratified by sex, the mean age was 54.96 ± 12.94 years for males and 56.83 ± 9.05 years for females.

Independent Samples t-test analysis revealed no statistically significant difference in age at diagnosis between sexes ($p = 0.638$, $p > 0.05$). The median age at diagnosis was 57.0 years in both groups, indicating that IP most frequently presents in the sixth decade of life.

CONCLUSIONS

Inverted papilloma is a locally aggressive sinonasal tumor characterized by high recurrence rates and a potential for malignant transformation. The demographic findings of our study are largely consistent with the existing literature.

KEYWORDS

Inverted Papilloma , Sinonasal Tumors , Demographic Analysis

OP-1129

Septal Perforation Repair: Comparative Outcomes Of Flap Alone Versus Flap With Interposition Cartilage Graft

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BACKGROUND & AIM

The aim of this study was to compare the outcomes of septal perforation repair performed with flap alone versus flap combined with cartilage interposition graft. Specifically, we sought to evaluate differences in perforation closure rates, postoperative symptom scores, and complication profiles between the two surgical approaches, while also considering the influence of perforation characteristics such as size, location, and osteocartilaginous involvement.

MATERIAL & METHODS

This study was designed as a retrospective comparative clinical analysis of patients who underwent surgical repair for septal perforation. A total of 15 patients were included. Patients were divided into two groups according to the surgical technique used: Group 1: Flap alone (n=7), Group 2: Flap + cartilage interposition graft (n=8).

The following parameters were assessed from the dataset: Age, Sex, Perforation size (<10 mm / >10 mm), presence of osteocartilaginous unit involvement, perforation location (anterior/posterior), complete closure, partial closure, postoperative complication, postoperative symptom scores(dryness, crusting, epistaxis, whistling scores)

RESULTS

A total of 15 patients were included in the study. The flap group comprised 7 patients, whereas the flap + cartilage group comprised 8 patients. All patients were followed for a minimum of 3 months postoperatively. Complete closure was achieved in 5/7 patients (71.4%) in the flap group, 7/8 patients (87.5%) in the flap + cartilage group. Partial closure was not observed in the flap group, while it was observed in 1 patient (12.5%) in the flap + cartilage group. No postoperative complications were recorded in either group.

Among symptom scores parameters, dryness score appeared higher in the flap + cartilage group. Although complete closure was numerically higher in the flap + cartilage group, the limited sample size restricts strong statistical interpretation. In addition, the flap + cartilage group included a higher proportion of patients with osteocartilaginous involvement, suggesting that this group may have represented more complex cases.

CONCLUSIONS

Both flap-only repair and flap repair combined with cartilage interposition graft yielded satisfactory results in septal perforation surgery. The flap + cartilage technique demonstrated a numerically higher complete closure rate despite being used in a group with greater osteocartilaginous involvement. These findings suggest that cartilage augmentation may be a useful adjunct in more complex perforations. Nevertheless, larger controlled studies are required to establish its definitive superiority.

KEYWORDS

Septal perforation, flap repair, interposition graft

OP-1130

Evaluation Of Demographic Characteristics, Functional And Surgical Outcomes Of Patients Underwent Endoscopic Dacryocystorhinostomy Surgery

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BACKGROUND & AIM

Endoscopic dacryocystorhinostomy (DCR) is a minimally invasive surgical procedure used to treat epiphora, recurrent dacryocystitis, and tear drainage disorders caused by nasolacrimal duct obstruction. It was developed as an alternative to classic external DCR and is preferred, particularly for its cosmetic advantages. It was first described by McDonogh and Meiring in 1989. With advancements in endoscopic techniques and improved image quality, its use has become more widespread since the 2000s.

MATERIAL & METHODS

128 patients who underwent endoscopic DCR were included in the study. All intranasal procedures were performed by a single surgeon. Patient age, gender, surgical site, whether the cases were primary or revision, and complication rates were examined.

RESULTS

Total of the 128 patients, 50 were male (39.1%) and 78 were female (60.9%). The average age was 36.3 years, with the youngest patient being 17 months old and the oldest 89 years old. 45 (35.2%) of the patients were in the pediatric group. 16 cases were bilateral, 54 were right-sided, and 58 were left-sided. All bilateral cases were primary surgeries. Of the right-sided cases, 47 were primary (87%) and 7 were revisions (13%). Of the right-sided revision cases, 5 were female (4 adult, 1 pediatric) and 2 were male (both pediatric). Of the left-sided cases, 47 were primary (81%) and 11 were revisions (19%). Of the left-sided revision cases, 5 were female (3 adult, 2 pediatric) and 6 were male (4 adult, 2 pediatric).

CONCLUSIONS

In patients underwent endoscopic DCR, female gender predominance and a wide age range are noteworthy. The vast majority of cases are primary surgeries, and the need for revision is most frequently associated with the development of synechiae. Rarely, infection and lacrimal sac stones are also among the reasons for revision. It is noteworthy that all bilateral cases are primary. The endoscopic approach appears to be effective in both primary and revision cases, but the development of postoperative synechiae can be a significant cause of failure.

KEYWORDS

Endoscopic dacryocystorhinostomy, epiphora, recurrent dacryocystitis, bilateral DCR

OP-1131

Real-Life Outcomes Of Biological Therapy In Severe Chronic Rhinosinusitis With Nasal Polyps: Preliminary Results From A Prospective Cohort Study

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BACKGROUND & AIM

Chronic Rhinosinusitis with Nasal Polyps (CRSwNP) remains a challenging clinical entity, particularly in patients with comorbid asthma and recurrence despite Functional Endoscopic Sinus Surgery (FESS). While biological agents offer a targeted therapeutic approach, real-world data regarding their efficacy in "difficult-to-treat" populations is essential. This study aims to present updated real-world outcomes of biological therapy in a prospective cohort of patients with severe, recurrent CRSwNP and comorbid asthma.

MATERIAL & METHODS

In this ongoing prospective observational study, 168 patients with CRSwNP were screened. A total of 13 patients with severe CRSwNP initiated biological therapy (Mepolizumab (n=8), Omalizumab (n=3), and Benralizumab (n=2)) based on EPOS 2020 criteria. Comorbid asthma was present in 69% (9/13) of the total cohort. Six patients were excluded from the primary longitudinal analysis due to insufficient follow-up duration at the time of reporting. Consequently, the preliminary longitudinal results of 7 patients (mean age: 42.71±12.89, 57% male) with complete follow-up are presented. Baseline disease severity was high, as evidenced by a mean radiological Lund-Mackay (LM) score of 18.14±4.88(out of 24). Patients were evaluated at baseline (T0), 3 months (T1), and 6 months (T2). Primary clinical outcomes included the SNOT-22 score and the Endoscopic Nasal Polyp Score (NPS). Secondary outcomes included systemic corticosteroid requirement and FEV1 levels to assess asthma control.

RESULTS

The evaluable cohort (n=7) demonstrated significant clinical improvement across all primary endpoints. The mean SNOT-22 score decreased from 78.1±9.6 at baseline (T0) to 53.0±32.1 at 6 months (T2). This 25.1-point reduction represents a clinical impact nearly three times the established Minimal Clinically Important Difference (MCID) of 9 points. Endoscopic findings mirrored symptomatic relief, with the mean Nasal Polyp Score (NPS) regressing from 6.0±1.5 to 3.4±3.0 at T2. Regarding steroid dependency, a 100% reduction in systemic corticosteroid courses was observed at the 6-month mark compared to the preceding 12 months. Regarding surgical indications, 42% (3/7) of the evaluable patients no longer met the criteria for revision FESS after 6 months of therapy of biological agents. Pulmonary function remained stable, with a mean FEV1 of 2.80±0.89 L at T2.

CONCLUSIONS

Our real-world data suggest that biological therapy provides rapid and clinically superior improvement in both subjective and objective measures for patients with severe, recurrent CRSwNP and/or comorbid asthma. The magnitude of SNOT-22 improvement significantly exceeding the MCID, combined with the total elimination of systemic steroid need and a substantial reduction in revision surgery indications, underscores the transformative potential of biologics in this difficult-to-treat population. Further follow-up of the expanded cohort will clarify long-term sustainability.

KEYWORDS

CRSwNP, Biological Therapy, Asthma, SNOT-22, Real-world Outcomes.

OP-1132

Evaluation Of Olfactory Function And Olfactory Bulb Volume Before And After Endoscopic Sinus Surgery In Adult Patients With Nasal Polyps

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BACKGROUND & AIM

The aim of this study was to evaluate the effects of functional endoscopic sinus surgery (FESS) on olfactory function and olfactory bulb volume in patients with chronic rhinosinusitis with nasal polyposis, to compare preoperative and postoperative changes, and to investigate the relationship between olfactory function and radiological-endoscopic parameters.

MATERIAL & METHODS

This prospective, clinical, observational, and analytical study included 29 patients with chronic rhinosinusitis with nasal polyposis who underwent primary FESS between April 2025 and April 2026. Patients were evaluated preoperatively and at the postoperative thirth month. Olfactory functions were assessed using the Connecticut Chemosensory Clinical Research Center (CCCRC) test. Olfactory bulb volumes were measured on magnetic resonance imaging using manual segmentation with 3D Slicer software. Endoscopic evaluation was performed using the Lund–Kennedy scoring system, while radiological evaluation

was conducted using the Lund–Mackay scoring system. Statistical analyses included paired sample t-tests and appropriate parametric/non-parametric tests. Statistical significance was accepted as $p<0.05$.

RESULTS

The mean age of the patients was 36.62±10.81 years, and 72.4% of the participants were male. Preoperative CCCRC scores were 1.29±1.93 on the left side and 1.53±2.14 on the right side, whereas postoperative scores increased to 3.91±1.91 and 3.72±2.01, respectively. Significant postoperative improvements were observed in CCCRC scores on both sides (left: t=-7.710, p<0.001; right: t=-5.160, p<0.001). Preoperative olfactory bulb volumes were 27.32±11.90 mm^3 on the left and 26.92±13.16 mm^3 on the right, increasing postoperatively to 33.35±10.76 mm^3 and 34.18±13.23 mm^3, respectively. Significant increases in olfactory bulb volumes were observed bilaterally (left: t=-6.912, p<0.001; right: t=-6.977, p<0.001). No significant difference was found between right and left preoperative Lund–Kennedy scores (p=0.631), whereas Lund–Mackay scores were significantly higher on the right side (p=0.046).

CONCLUSIONS

Functional endoscopic sinus surgery not only relieves sinonasal obstruction in patients with chronic rhinosinusitis with nasal polyposis but also provides significant improvement in olfactory function and olfactory bulb volumes. These findings support FESS as an effective treatment option for olfactory dysfunction in patients with chronic rhinosinusitis.

KEYWORDS

Chronic rhinosinusitis, nasal polyposis, functional endoscopic sinus surgery, olfactory function, CCCRC, olfactory bulb volume

OP-1133

Improvement Of Patient´S Quality Of Live And Prescription Behavior Of Dupilumab, Mepolizumab Und Tezelumab In The Last Year

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BACKGROUND & AIM

since November 2025 patients with recurrent nasal polyps are treated with dupilumab 300mg or mepolizumab 100mg or tezelumab 210mg according to the AWMF-guidelines at the ENT-Centre Zentrum Mangfall-Inn in Rosenheim, Oberbayern. One of the most important patient related outcome measurements is the SNOT22 questionnaire. Every patient has to fulfil the questionnaire in unregularly intervals. We present the results of 365 questionnaires of n=102 patients from the last three years.

MATERIAL & METHODS

patients were requested to fulfill the SNOT22 digitally on an Ipad. The total score was automatically calculated by the ENTstatistics software, build by Innoforce, Liechtenstein. Our rhinologic database records previous surgeries, histopathologic findings, concomitant diseases and the beginning and end of the biological therapy

RESULTS

The total score before the biological therapy was 52,94 after 180 days of therapy 23,63 and after 270 days 26,90. Due to the early permission of dupilomab in the treatment of CRSwNP the dupilumab group is with 72 patients the strongest group, whereas mepolizumab with 21 patients and tezelumab with 9 patients are smaller groups. The drop in the SNOT22 score is almost the same in all groups. Adverse events were extremely rare.

CONCLUSIONS

The three Biologicals are highly effective drugs in Samter´s disease and CRS with polyps. However, these drugs are reserved for severe cases of nasal polyps, although not-severe cases with less previous surgeries would benefit from the biological therapy, too. Non-responders or adverse events are very rare. The cost effectiveness of biologicals will be a big issue for our health care system in the next years.

KEYWORDS

biologicals CRSwNP real wordl data mepolizumab dupilumab tezelumap

OP-1134

Histopathological Spectrum And Demographic Predictors Of Malignancy In Unilateral Sinonasal Disease

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BACKGROUND & AIM

The aim of this study is to evaluate the association between malignancy and demographic characteristics by analyzing the histopathological results of patients who underwent surgery for unilateral sinonasal disease at a tertiary care center.

MATERIAL & METHODS

In this retrospective study, 409 patients who underwent surgery for unilateral sinonasal disease at Cukurova University Faculty of Medicine Balcalı Hospital between January 2014 and January 2026 were included. Demographic characteristics, presenting symptoms and histopathological findings were reviewed. Histopathological diagnoses were classified into three groups: benign, malignant, and inverted papilloma. The relationship between patients age, sex, presenting symptoms, and histopathological outcomes was evaluated.

RESULTS

A total of 409 patients were included; 60% (n=244) were male and 40% (n=165) female, with a mean age of 41.8 years. The most common presenting symptom was nasal obstruction (73%, n=300), followed by headache (10%, n=42). Histopathological evaluation revealed benign lesions in 77% (n=313), malignant tumors in 11% (n=47), and inverted papilloma in 12% (n=49). Nasal polyp was the most frequent benign pathology (51%, n=159), while squamous cell carcinoma was the most common malignant tumor (23%, n=11). Patients with malignant lesions were older (mean 51.4 years) than those with benign lesions (37.9 years), and showed a male predominance (68%), similar to inverted papilloma (81% male). The benign group had a more balanced sex distribution (55% male). Among malignant cases, nasal obstruction was most common (53%), followed by epistaxis (12%).

CONCLUSIONS

In our study, the most frequently encountered histopathology following surgery for unilateral sinonasal disease was nasal polyp, while squamous cell carcinoma was the most common malignant lesion. Male patients exhibited a higher rate of malignancy compared to females. Additionally, patients with malignant histopathology were older than those with benign lesions or inverted papilloma. These findings indicate that advanced age and male sex are important factors associated with malignancy in unilateral sinonasal disease. The predominance of nasal polyps in this patient population underscores the importance of thorough preoperative imaging and targeted biopsy before considering extensive surgical intervention.

KEYWORDS

Sinonasal diseases, inverted papilloma, nazal polyps, unilateral.

OP-1135

Patient And Provider Satisfaction With Telemedicine In Otolaryngology: A Cross-Sectional Study Of First-Visit And Follow-Up Encounters In A Tertiary Care Centre

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BACKGROUND & AIM

Background

Telemedicine has become increasingly integrated into outpatient practice; however, its suitability in procedure-oriented specialities such as otolaryngology remains under evaluation. Differences between patient satisfaction and provider acceptance, particularly in first-visit versus follow-up settings, require further investigation. This study seeks to assess patient and provider satisfaction with telemedicine in otolaryngology, compare first-visit and follow-up encounters, and identify determinants influencing satisfaction.

MATERIAL & METHODS

Methods

A cross-sectional survey was conducted at a tertiary care center in Saudi Arabia. Adult patients who completed telemedicine consultations and otolaryngology providers participated in structured questionnaires. A composite satisfaction score was constructed from four domains. Non-parametric tests and multivariable linear regression with robust standard errors were used to identify independent predictors of satisfaction.

RESULTS

Results

A total of 250 patients (100 first-visit; 150 follow-up) and 19 providers were included. Overall, patient satisfaction was high, particularly among follow-up encounters. In first-visit consultations, perceived clinical adequacy was lower, and referral for in-person evaluation independently reduced satisfaction. In follow-up visits, communication quality and adequacy of discussion were the strongest predictors of satisfaction. Provider satisfaction was comparatively low, with major concerns related to limited physical examination, procedural constraints, and medico-legal risk.

CONCLUSIONS

Conclusion

Telemedicine in otolaryngology appears most effective for follow-up and triage purposes. While patients report high satisfaction driven by communication quality, provider concerns regarding diagnostic adequacy persist. Structured hybrid care models may optimize safe and sustainable telemedicine integration.

KEYWORDS
Telemedicine, otolaryngology, outpatient practice, satisfaction.

OP-1136

Clinicopathological Characteristics And Recurrence Patterns Of Olfactory Neuroblastoma: A 15-Year Tertiary Center Case Series

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BACKGROUND & AIM
Olfactory neuroblastoma (ONB) is a rare malignant tumor of the sinonasal tract with heterogeneous clinical behavior and recurrence potential. Due to its low incidence, prognostic factors and optimal treatment strategies remain incompletely defined. The objective of this study was to describe the clinicopathological characteristics, treatment approaches, and recurrence patterns of ONB over a 15-year period at a tertiary referral center.

MATERIAL & METHODS
A retrospective case series and literature review were performed. Medical records of nine patients with histologically confirmed ONB treated between 2007 and 2022 were reviewed. Demographic characteristics, presenting symptoms, imaging findings, Hyams histologic grade, treatment modalities, and follow-up outcomes were analyzed.

RESULTS
Patients ranged in age from 18 to 61 years (mean: 43-years), with a male predominance. The most common presenting symptoms were nasal congestion, headache, and nasal mass. All patients underwent endoscopic endonasal surgical resection followed by adjuvant chemoradiotherapy. During a mean follow-up of three years, tumor recurrence occurred in 44.4% of patients. Recurrence was observed across different Hyams grades without a statistically significant association between histologic grade, age, or gender and recurrence.

CONCLUSIONS
ONB demonstrates variable clinical presentation and recurrence patterns, even following multimodal treatment. Histologic grade alone may not reliably predict recurrence in small cohorts.

KEYWORDS
Olfactory neuroblastoma, esthesioneuroblastoma, recurrence, chemoradiotherapy.

OP-1137

Submucosal Leiomyoma Of The Nasal Cavity

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BACKGROUND & AIM
Leiomyomas are rare benign tumors of mesenchymal origin that arise from smooth muscle cells. They most often occur in the uterus, gastrointestinal tract and skin, while their appearance in the head and neck area is extremely rare due to the lack of smooth muscle in these regions, and the nasal cavity is one of the most unusual locations, accounting for less than 1% of all leiomyomas.

To show the specificity of the clinical picture, diagnostic protocol and therapeutic approach in patients with leiomyoma of the nasal cavity.

MATERIAL & METHODS
In this paper, we present the case of a 48-year-old patient who presented with progressive left-sided nasal obstruction, loss of smell, impaired hearing on the same side, which had been going on for a few months before the presentation. Anterior rhinoscopy and endoscopy of the nose revealed a solid, submucous, tumor mass, covered with physiological mucosa, similar to a polyp, which completely obstructs the left nasal cavity. Radiological processing (CT) showed a well-limited soft tissue mass starting from the left lower nasal concha, size 25x20x15mm without signs of infiltration of the surrounding bony structures.

RESULTS
Complete surgical excision of the tumor was performed using an endoscopic approach. Definitive diagnosis was established by pathohistological examination, with immunohistochemical positivity for smooth muscle actin (SMA) and vimetin, while markers of malignancy (S-100 protein) were negative. The postoperative course was uneventful.

CONCLUSIONS

Submucosal leiomyoma of the nasal cavity represents a diagnostic challenge due to its rarity and non-specific clinical picture that can mimic other benign tumors such as polyps or angiofibromas. Complete surgical resection is the method of choice, and the prognosis is excellent with a low rate of recurrence after complete removal of the lesion.

KEYWORDS

leiomyoma, nasal cavity, benign tumors, immunohistochemistry

OP-1138

PANE: Pneumosinus-Associated Neurogenic Endotype – Prevalence And Radiologic Phenotype In 500 Consecutive Non-Polyp CRS Patients

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BACKGROUND & AIM

Pneumatocele and pneumosinus dilatans are traditionally considered rare radiologic entities characterized by sinus enlargement and bony remodeling. Their prevalence in chronic rhinosinusitis without nasal polyps (CRSsNP) is unknown. We hypothesized that these findings may represent a distinct structural–neurogenic endotype.

MATERIAL & METHODS

In this prospective multicenter cohort study, 500 consecutive adults with persistent (>3 months) sinonasal symptoms were evaluated at three tertiary ENT clinics in the United States and Denmark. All patients underwent nasal endoscopy, validated symptom scoring (SNOT-22, ETDQ-7), and CT imaging. Patients with nasal polyposis were excluded. CT scans were assessed using predefined criteria: (1) sinus hyperpneumatization beyond expected anatomical boundaries and (2) associated bony remodeling or neural dehiscence. Natural ostium diameter was measured.

RESULTS

Forty-five patients (9%; 95% CI, 6.6–11.8%) met radiologic criteria for pneumatocele. The sphenoid sinus was most frequently involved (90%). Neural dehiscence was observed in the vidian nerve (83%), V2 (73%), anterior ethmoidal nerve (47%), infraorbital nerve (43%), and posterior ethmoidal nerve (17%). Ostial narrowing (<2 mm) was present in 92% of PANE cases. Mean sphenoid ostium diameter was significantly smaller in PANE patients compared to non-PANE patients ($p < 0.01$; 3.5 mm in non-PANE cohort). PANE patients demonstrated higher symptom burden, with SNOT-22 scores of 68 (95% CI, 60–78) versus 54 (48–61), and ETDQ-7 scores of 40 (34–44) versus 32 (24–37).

CONCLUSIONS

Pneumatocele-like radiologic changes were identified in 9% of symptomatic CRSsNP patients when systematically assessed. This phenotype is characterized by sinus enlargement, neural dehiscence, ostial narrowing, and increased symptom burden. These findings support the concept of a Pneumosinus-Associated Neurogenic Endotype (PANE) as a distinct structural–clinical phenotype warranting further validation

KEYWORDS

CRSsNP, Pneumatocele, SNOT22, Pneumosinus dilatans, PANE

OP-1139

The Canadian Experience With WAYPOINT - Tezepelumab In Adults With Severe Chronic Rhinosinusitis With Nasal Polyps Phase III Trial

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BACKGROUND & AIM

Tezepelumab has demonstrated efficacy for sinonasal symptoms in patients with severe, uncontrolled asthma and comorbid chronic rhinosinusitis with nasal polyps (CRSwNP). However, its efficacy and safety in adults with severe, uncontrolled CRSwNP independent of asthma remain uncertain. This study reports the Canadian experience from the WAYPOINT clinical trial, including 49 patients.

MATERIAL & METHODS

Adults with physician-diagnosed, symptomatic, severe CRSwNP were randomized to receive standard care plus either tezepelumab (210 mg) or placebo administered subcutaneously every 4 weeks for 52 weeks. The co-primary endpoints were change from baseline in total nasal polyp score (NPS) and mean nasal congestion score at Week 52. Key secondary endpoints included loss-of-smell score, total SNOT-22 score, Lund–Mackay score, and time to first nasal polyp surgery or systemic

glucocorticoid use. UPSIT scores and adverse events were also collected. Effect sizes were calculated using least squares mean differences.

RESULTS

Both co-primary endpoints were significantly reduced in the tezepelumab group, with an NPS reduction of −2.5 compared with −2.1 in the global trial. Secondary endpoints also demonstrated statistically significant improvements favoring tezepelumab, exceeding those observed in the global cohort, including UPSIT (+12.1 vs +9.5), SNOT-22 (−30.4 vs −27.4), and Lund–Mackay score on computed tomography (−6.7 vs −5.7).

CONCLUSIONS

Tezepelumab therapy resulted in significantly greater reductions in nasal polyp size, nasal congestion, and sinonasal symptom burden, along with improvements in objective olfactory function, compared with placebo in adults with severe, uncontrolled CRSwNP. Improvements in the Canadian cohort were greater than those observed in the overall WAYPOINT trial population.

KEYWORDS

tezepelumab, chronic rhinosinusitis with nasal polyposis, biologic, Canada

OP-1140

Outcomes Of Functional Endoscopic Sinus Surgery In Chronic Rhino Sinusitis In The Middle East, Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) is a prevalent inflammatory condition that significantly impacts quality of life (QOL) and may require surgical intervention when medical therapy fails. Functional endoscopic sinus surgery (FESS) is widely used as a minimally invasive approach for CRS management; however, region-specific evidence from the Middle East remains limited.

Our aim is to systematically review and meta-analyze the available literature assessing the effectiveness of FESS in improving outcomes of CRS patients in the Middle East.

MATERIAL & METHODS

This study was conducted in accordance with PRISMA guidelines and the Cochrane Handbook for Systematic Reviews. Electronic databases, including PubMed, Cochrane Library, and Scopus, were systematically searched. The primary outcome was postoperative quality of life, while secondary outcomes included CRS recurrence rates. A random-effects meta-analysis was performed, and sensitivity analyses were conducted to assess result robustness.

RESULTS

Six studies comprising 335 patients were included. Meta-analysis demonstrated a statistically significant improvement in quality of life following FESS ($p < 0.001$). Only two studies reported recurrence outcomes, with a pooled recurrence rate of 6%. Substantial heterogeneity was observed across studies.

CONCLUSIONS

FESS is associated with significant improvement in quality of life among CRS patients in the Middle East. However, the current evidence base is limited, with only six interventional studies identified in the region. This underscores a critical gap in the literature and highlights the need for more high-quality interventional studies to better evaluate long-term outcomes.

KEYWORDS

Rhinosinusitis; Chronic Disease; Endoscopy; Paranasal Sinus Surgery; Quality of Life; Treatment Outcome; Recurrence; Middle East;

OP-1141

Endoscopic Transnasal Resection Of Juvenile Nasopharyngeal Angiofibroma With Extended Medial Maxillectomy And Pterygopalatine Fossa Exposure – Technical Nuances And Clinical Experience

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BACKGROUND & AIM

Juvenile nasopharyngeal angiofibroma (JNA) is a rare, highly vascular, and locally aggressive tumor that primarily affects adolescent males. Complete surgical excision remains the preferred treatment. This article provides a detailed, stepwise endoscopic technique that emphasizes safe vascular control, radical tumor removal, and minimization of recurrence risk.

Aim: This study aims to present a detailed description of the surgical technique for the removal of JNA, with particular emphasis on anatomical considerations, the stages of the surgical procedure, and factors crucial to the safety and effectiveness of the operation.

MATERIAL & METHODS

This study aims to provide practical guidance applicable to daily clinical practice. The procedure is demonstrated through detailed clinical case presentations.

RESULTS

Preoperative angiography with selective embolization of tumor-feeding branches of the external carotid artery is performed 24 to 48 hours before surgery. Resection is conducted using image-guided navigation. The surgical approach includes middle turbinectomy, uncinectomy, complete ethmoidectomy, wide maxillary antrostomy, and extended medial maxillectomy with drilling of the posterior maxillary wall to expose the pterygopalatine fossa. The sphenopalatine artery is identified and controlled. Tumor attachment is dissected from the pterygopalatine fossa. The sphenoid sinus and Vidian canal are inspected to eliminate potential residual disease.

CONCLUSIONS

Endoscopic resection with wide posterior maxillary wall removal and direct visualization of the tumor attachment in the pterygopalatine fossa provides a safe, anatomically precise, and oncologically sound approach for JNA management. The use of a diamond burr in the endoscopic technique facilitates the precise removal of the bony walls of the pterygopalatine fossa and the skull base.

KEYWORDS

Juvenile nasopharyngeal angiofibroma, endoscopic approach, medial maxillectomy, operative technique, transnasal approach

OP-1142

Photodynamic Therapy As An Adjunct In The Management Of Inverted Papilloma: Preliminary Results

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BACKGROUND & AIM

Inverted papilloma (IP) is a benign, locally aggressive tumor of the sinonasal tract with a high recurrence rate after surgery. Adjuvant photodynamic therapy (PDT) offers the potential to selectively eliminate residual dysplastic tissue and reduce recurrence. Objective: to improve the treatment results of inverted papilloma

MATERIAL & METHODS

A prospective study included 10 patients (7 men, 3 women; mean age 52.4 years) with histologically confirmed IP (Krause staging T1-T2). All patients underwent functional endoscopic sinus surgery (FESS) followed by PDT. Radachlorin (1.0 mg/kg) was administered intravenously followed by irradiation of the surgical area with a 0.665 μm diode laser (power ≈100–240 V/200 W). Follow-up was performed at 1, 3, 6, and 12 months using nasal endoscopy and MRI.

RESULTS

No major complications were recorded. Four patients developed transient mucosal edema and crusting, resolving spontaneously within 7–10 days. During 12 months of follow-up, no recurrences were observed. Postoperative mucosal healing was favorable, with fewer granulations and less fibrosis compared to standard postoperative cases. Subjective assessment using the VAS scale demonstrated significant improvement in nasal breathing and reduction of discomfort.

CONCLUSIONS

PDT appears to be an effective and well-tolerated adjuvant therapy after surgical removal of IP. It may improve mucosal recovery and reduce recurrence. Further randomized controlled studies with larger cohorts and extended follow-up are required to validate these promising results.

KEYWORDS

Inverted papilloma, photodynamic therapy, mucosal recovery, reduce recurrence

OP-1143

Time To Surgery And Patient Outcomes In Sinogenic Intracranial Abscesses: A Retrospective Case Series

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BACKGROUND & AIM

Acute rhinosinusitis is a common outpatient diagnosis, accounting for approximately 2-10% of all primary care and otolaryngology visits. Although rare, sinogenic brain abscesses are associated with significant morbidity and mortality, with substantial health, economic and social impacts on patients and healthcare systems worldwide. While endoscopic sinus surgery is often advocated there is no guidance on timing. This study examined the relationship between time to surgery and patient outcomes.

MATERIAL & METHODS

A retrospective case series of patients with sinogenic brain abscesses admitted to our tertiary hospital between 01/01/2014-31/12/2025 was performed.

Primary outcomes were morbidity and mortality. Secondary outcomes included length of hospital stay, ITU admission, emergency readmission and radiological resolution. Patient demographics, comorbidities, disease pattern and details of medical and surgical management were also collected.

The Mann-Whitney U test compared time to surgery between binary outcomes, and Spearman's rank correlation assessed associations with ordinal outcomes. $p<0.05$ was considered significant.

RESULTS

Fourteen patients were identified. The mean age was 31.9 years (range 6-62), and 93% were male (13/14). The frontal (11/14), ethmoid (11/14) and maxillary (11/14) sinuses were most frequently involved. Radiological imaging commonly demonstrated mass effect (9/14) and extension to adjacent structures (9/14), including bony erosion and orbital involvement. All patients underwent surgery within 7 days. FESS was the first procedure in 50% (7/14), with three as part of combined neurosurgical and ENT operations. Other procedures included burr holes, craniotomies and craniectomies.

Increased time to surgery was associated with higher rates of long-term complications ($p=0.00$), mortality ($p=0.00$), ITU admission ($p=0.00$), emergency readmission ($p=0.00$) and further operations ($p=0.00$). There were no associations with length of stay, ITU duration, or radiological resolution.

CONCLUSIONS

Increased time to surgery was associated with poorer clinical outcomes. These findings support early surgical management and warrant validation in larger, multi-centre studies.

KEYWORDS

sinogenic brain abscess, intracranial complications, rhinosinusitis, brain abscess, rhinology, endoscopic sinus surgery, ESS

OP-1144

Relationship Between Nasal Septal Deviation Types And Sphenoid Sinus Anatomical Variations: A Computed Tomography Study

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BACKGROUND & AIM

Nasal septal deviation (NSD) and sphenoid sinus anatomical variations are frequently encountered findings in clinical practice. However, the relationship between NSD types and sphenoid sinus neurovascular variations has not been thoroughly investigated. This study aimed to evaluate the association between NSD types classified according to the Mladina classification and sphenoid sinus pneumatization patterns and neurovascular variations using computed tomography (CT).

MATERIAL & METHODS

Forty patients (27 male, 13 female; mean age 34.75±11.68 years; range 18–59) who underwent paranasal sinus CT at Prof. Dr. Cemil Taşcıoğlu City Hospital between 2025–2026 were retrospectively evaluated. Nasal septal deviations were classified according to the Mladina classification (Mladina et al., 2008). Sphenoid sinus pneumatization was assessed on sagittal CT images according to the Hamid classification (conchal, presellar, sellar, postsellar). The relationship between the optic nerve and sphenoid sinus was evaluated on coronal and axial images using the DeLano classification (Types 1–4). Additionally, intersphenoid septum (ISS) number and posterior insertion point, internal carotid artery (ICA) protrusion and dehiscence, Onodi cell presence, and anterior clinoid process pneumatization (ACPP) were assessed bilaterally. Pearson Chi-square test was used for statistical analysis; $p<0.05$ was considered statistically significant.

RESULTS

The most common NSD type was Mladina Type 3 (40.0%), followed by Type 5 (20.0%), Type 1 (12.5%), Type 4 (10.0%), Type 6 (10.0%), Type 2 (5.0%), and Type 7 (2.5%). Sellar pneumatization was the most frequent sphenoid sinus type (57.5%). Statistically significant associations were found between Mladina type and Onodi cell presence ($p=0.014$), left optic nerve type ($p<0.001$), and left ICA dehiscence ($p=0.033$). Onodi cells were most frequently observed in Type 5 (37.5%) and Type 7 (100%) deviations. DeLano Type 4 optic nerve configuration was detected in all Type 7 deviation cases. A trend toward significance was observed for right optic nerve type ($p=0.055$), ISS insertion point ($p=0.085$), and right ACPP ($p=0.109$). No significant association was found between Mladina type and pneumatization pattern, ISS number, or ICA protrusion.

CONCLUSIONS

Mladina classification of nasal septal deviation showed significant associations with Onodi cell presence, left optic nerve type, and left ICA dehiscence. These findings suggest that NSD type may serve as a useful predictor of high-risk sphenoid sinus anatomical variations in preoperative planning for endoscopic skull base surgery. Limitations include the retrospective design and limited sample size; larger prospective studies are warranted to confirm these preliminary findings.

KEYWORDS
Nasal septal deviation, Sphenoid sinus, Mladina classification, Skull base surgery, CT imaging

OP-1145

Surgical Management Of Sinonasal Mucormycosis - How Much Is Enough

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BACKGROUND & AIM

Sinonasal mucormycosis remains one of the most problematic invasive opportunistic fungal infections that challenges ENT surgeons and connected specialities. The progression of the disease is directly influenced by the patient's general condition and the time of diagnosis. However, taking into account the fact that the profile of the patient who will develop this ubicuitary infection will include multiple comorbidities and poor defence mechanisms, the prognosis is severe in most cases. Surgery is the treatment of choice, but specific antifungal medication and general supportive therapy are mandatory.

MATERIAL & METHODS

A series of cases of patients with confirmed sinonasal mucormycosis were admitted to our tertiary centre, the “Prof. Dr Dorin Hociotă” Institute of Phonoaudiology and Functional Surgery - ENT from Bucharest. The general status of the patients varied from severe, with a comatose patient, to an overall good general condition, the latter including patients who were able to tolerate the fungal infection. The surgical treatment for all these patients included wide resections of necrotic tissue, specific anti-fungal medication and the proper control of subjacent pathologies.

RESULTS

An overall good survival score was achieved, with just one death that occured one month after the surgical intervention. The rest of out patients recovered with good functional results, albeit important resections.

CONCLUSIONS

A multidisciplnary team management is crucial for these patients, where surgery plays a crucial role and requires experience, but apropriate antifungal therapy and the cpntrol of associated comorbidites are also mandatory. The general condition of the patient influences the outcome, but we must also keep in mind the without adequate surgery fatality is the most likely outcome.

KEYWORDS

sinonasal mucormycosis, antifungal therapy, FESS.

OP-1146

Clinical Predictors And Immunological Correlates Of Disease Control After Endoscopic Sinus Surgery In Chronic Rhinosinusitis With Nasal Polyps

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps (CRSwNP) is a heterogeneous inflammatory disease with variable postoperative disease control following endoscopic sinus surgery (ESS). Identifying clinical and immunological predictors of disease control may improve risk stratification. We hypothesized that uncontrolled disease is associated with distinct immune profiles characterized by altered T-cell polarization.

MATERIAL & METHODS

This study included 30 patients with CRSwNP who underwent EES at a tertiary referral center. Clinical variables included age, sex, asthma, atopy, Samter’s triad, smoking exposure, revision status, intranasal corticosteroid adherence, nasal polyp score (NPS) , Lund–Mackay score (LMS), SNOT-22, COSI score, peripheral blood eosinophil count, serum IgE level, and tissue eosinophil count. Immunological variables included peripheral blood and tissue $CD3^+$, $CD4^+$, $CD4^-$, regulatory T cells, and cytokine-producing subsets (IL-5, IL-10, IL-17, IFN-γ), quantified using multiparameter flow cytometry. Plasma and mucus cytokines were measured using multiplex immunoassay. Eight septoplasty patients without inflammatory disease served as healthy controls. The primary outcome was disease control status. Disease control status was assessed 12–24 months postoperatively and classified according to EPOS 2020 criteria. Logistic regression analyses were performed to identify independent clinical predictors and immunological correlates associated with uncontrolled disease.

RESULTS

Mean SNOT-22 score decreased from 45.77 to 30.46, mean LMS decreased from 15.79 to 10.97, and median NPS decreased from 6 to 3 postoperatively ($p<0.001$). Tissue immune profiling showed increased $CD4^+CD25^+$ T cells (Treg) ($p = 0.008$), IL-5–

producing $CD4^+$ T cells (p<0.001), IL-17–producing $CD4^+$ T cells (p = 0.004), and IL-5–producing $CD4^-$ T cells (p = 0.001), with decreased IFN-γ–producing $CD4^-$ T cells (p=0.041). Peripheral blood analyses demonstrated increased Treg (p=0.034), IL-10–producing $CD4^-$ T cells (p=0.028), and IL-10–producing Treg (p=0.038). Nasal mucus IL-5 levels were higher in patients than controls (p=0.002). Logistic regression identified higher Lund–Mackay score (OR 1.32, p = 0.012), lower peripheral $CD3^+$ T-cell proportion (OR 0.24, p=0.031), lower peripheral IFN-γ–producing $CD4^+$ T cells (OR 0.22, p=0.018), and higher tissue IL-17–producing $CD4^+$ T cells (OR 2.77, p=0.032) as significant factors associated with uncontrolled disease.

CONCLUSIONS

Postoperative clinical parameters demonstrated significant improvement compared with preoperative values. Higher preoperative radiologic disease burden, reflected by the LMS, was independently associated with uncontrolled disease. Compared with healthy controls, patients demonstrated altered immune profiles, including increased mucus IL-5 levels and increased tissue IL-5– and IL-17–producing T-cell subsets. Uncontrolled disease was specifically associated with reduced IFN-γ–producing $CD4^+$ T cells and increased IL-17–producing tissue $CD4^+$ T cells. These findings may suggest that uncontrolled disease is associated with mixed inflammatory endotypes, in which type 3 inflammatory signatures coexist with underlying type 2 inflammation.

KEYWORDS

CRSwNP, Endoscopic Sinus Surgery, Type 2 inflammation, Type 3 inflammation, T helper cells,

OP-1147

Evaluation Of Nasal Functions In Transfusion Dependent Beta-Thalassemia Major Patients

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BACKGROUND & AIM

Beta-Thalassemia Major (β-TM) is a common inherited congenital disorder of hemoglobin production, which results in hemolytic anemia as well as multi-organ involvement. Management strategies for patients with β-TM consists of regular blood transfusions and iron chelating agents as well as management of secondary complications resulting from iron overload. While regular blood transfusions and iron-chelating agents extend the life expectancy of patients with β-TM, prolonged survival increases the prevalence of disease-related organ damage and complications. This study aimed to evaluate nasal functions in transfusion dependent β-thalassemia major (TDβ-TM) patients and identify risk factors for nasal dysfunction.

MATERIAL & METHODS

This prospective, cross-sectional study included 132 patients with TDβ-TM and 91 controls. All patients underwent detailed physical examination, including nasal endoscopy. Data regarding demographic, clinical, and laboratory characteristics—specifically mean hemoglobin and ferritin levels—were documented for all participants. A quality of life (SNOT) test was used for subjective evaluation of nasal symptoms. The saccharin test, nasal Schirmer test, CCCRC olfactory test, and peak nasal inspiratory airflow (PNIF) were used for objective evaluation of nasal functions.

RESULTS

The patient group had a significantly lower hemoglobin level (p<0.05) and a significantly higher ferritin level (p<0.05) compared to the control group. Mean SNOT test scores were higher in the patient group compared to the controls (p<0.05). Mean Saccharin transit times and Schirmer test scores were higher, while PNIF and CCCRC olfactory test scores were lower in the patient group compared to the controls (p<0.05)). Hyposmia was also found to be significantly more frequent in patients with TDβ-TM than in controls.

CONCLUSIONS

Our study demonstrates that patients with TDβ-TM exhibit significant nasal dysfunction, and clinical parameters such as high serum ferritin levels should be closely monitored as potential risk factors for mucosal damage. Regular otorhinolaryngological evaluations should be integrated into the standard care protocol for TDβ-TM patients to ensure early detection and management of nasal complications associated with chronic iron overload.

KEYWORDS

β-thalassemia, Sinonasal, Blood transfusion, Iron overload, Schirmer test, Saccharin test, Olfactory

OP-1148

Assessment Of Frontal Sinus Pneumatization Patterns And Lateral Extension Of Frontal Sinus Lesions: A Comparative Analysis Of Healthy And Surgical Cohorts

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BACKGROUND & AIM

Accessing the lateral portion of the frontal sinus and skull base during endonasal endoscopic surgery remains a significant challenge due to anatomical constraints, particularly in cases of well-pneumatized frontal sinuses. The aim of this study is to compare certain preoperative radiological measurements and pneumatization patterns between the healthy adult population and patients who underwent surgery for various frontal sinus lesions, and to explore how different types of frontal sinus pathologies and the lateral extension of frontal sinus lesions may have influenced the surgical approach to address all part of frontal sinus including far lateral preoperatively.

MATERIAL & METHODS

The pneumatization of frontal sinuses on CT was classified into four zones (Z1: medial orbital wall, Z2: midway between medial orbital wall and Z3: midorbital point, Z4: midway between lateral orbital wall and midorbital point and lateral orbital wall) and were measured on 250 CT scan of randomly selected healthy patients. The same measurements were done on 121 patients that underwent surgery between January 2019 and December 2025 in our clinic for various frontal sinus pathologies. Both the pneumatization pattern and the lateral extension of pathology, as well as type of pathology and type of surgery performed were documented. The patients in which the extent of pathology differed from the total sinus length were noted and evaluated separately.

RESULTS

In the healthy cohort (n=250, mean age 44.46±16.07 years), frontal sinus pneumatization was most commonly Zone 1 in 109 patients (43.6%), followed by Zone 2 in 70 (28%), Zone 3 in 42 (16.8%), and Zone 4 in 29 (11.6%).

The surgical cohort included 121 patients (mean age 46.80±14.39 years), with bilateral disease in 88 patients (72.7%), yielding 209 analyzed sides. Pathologies were mainly allergic/inflammatory (76%), sinusitis complications (17.3%) and neoplasms (6.7%). Zone 2 pneumatization was most common (29.7%), followed by Zone 3 (23.9%), Zone 4 (19.6%), and Zone 1 (19.1%); while 15 sides lacked imaging.

Except for 17 patients (14.04%), pathologies extended to the most lateral aspect of the frontal sinus. These exceptions were mostly CRSwNP variants and neoplasms.

Most surgeries performed were revisions (113 cases - 93.3%). Frontal drillout was performed in 47 patients (36.3%), including 31 DRAF III; most commonly in Zone 3 (%54.76) and 4 (%50) lesions.

CONCLUSIONS

The surgical cohort showed slightly greater frontal sinus pneumatization than the healthy cohort. Regardless of pathology type (except osteomas) lesions almost always extended to the most lateral aspect. Thus, adequate visualization and access to far lateral frontal sinus must be achieved in all cases, albeit the correlation between pneumatization pattern and preferred surgical approach being loose. This highlights the importance of selecting the most suitable surgical approach preoperatively. Current literature provides limited data for planning EEA for frontal sinus pathologies, making preoperative assessment crucial to predict surgical extent and ensure complete treatment of all frontal sinus regions, including far lateral.

KEYWORDS

frontal sinus, DRAF, frontal drillout, FESS, frontal sinus pneumatization

OP-1149

Evaluation Of Treatment Responses Of Dupilumab Versus Omalizumab In Patients With Crswnp And Comorbid Asthma: EVEREST European Subgroup Analysis

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BACKGROUND & AIM

In the prospective, randomized, EVEREST head-to-head study, dupilumab demonstrated rapid and sustained improvements over omalizumab in upper and lower airway outcomes in patients with severe chronic rhinosinusitis with nasal polyps (CRSwNP) with coexisting asthma. This post hoc analysis compared severe CRSwNP and asthma outcomes in patients enrolled in European countries.

MATERIAL & METHODS

EVEREST (NCT04998604) randomized adults with severe CRSwNP and coexisting asthma to dupilumab 300 mg every 2 weeks or omalizumab 75–600 mg every 2 weeks or every 4 weeks for 24 weeks on background mometasone furoate nasal spray. We considered the following endpoints: Week 24 change in nasal polyp score (NPS, range 0–8, lower is better) and University of

Pennsylvania Smell Identification Test (UPSIT, range 0–40, higher is better). Other upper airway outcomes assessed were loss of smell (LoS, range 0–3, lower is better), nasal congestion (NC, range 0–3, lower is better) and the 22-item Sino-Nasal Outcome Test (SNOT-22, range 0–110, lower is better). Lower airway outcomes assessed were pre-bronchodilator forced expiratory volume in 1 second (FEV1, L, higher is better) and 7-item Asthma Control Questionnaire (ACQ-7, range 0–6, lower is better).

RESULTS

EVEREST randomized a total of 360 patients; 316 were from 14 European countries (dupilumab, n=161; omalizumab, n=155). Patient characteristics were comparable between treatment groups (Table 1). At Week 24 improvements were greater with dupilumab vs omalizumab for all upper and lower airway outcomes investigated (Table 2). For NPS and UPSIT, least squares mean difference comparing dupilumab to omalizumab [95% confidence interval] was −1.67 [−2.05, −1.29] and 8.21 [6.38, 10.05], respectively. Safety profiles of dupilumab and omalizumab were comparable.

CONCLUSIONS

Dupilumab showed nominally greater improvement in both upper and lower airway outcomes than omalizumab in patients from European countries with severe CRSwNP with coexisting asthma. These data support the efficacy of dupilumab in unified airway disease vs an active biologic comparator among European patients and support the known safety profiles of dupilumab and omalizumab.

KEYWORDS

Dupilumab, Omalizumab, chronic rhinosinusitis with nasal polyps, asthma, upper airway outcomes, lower airway outcomes, Europe

OP-1150

Modified Trans-Pterygoid Approach To Sphenoid Meningoencephaloceles: Short Steps For Long Gains

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BACKGROUND & AIM

Cerebrospinal fluid (CSF) leaks and meningoencephaloceles originating in the lateral recess of the sphenoid sinus can be challenging. The traditional trans-pterygoid approach through the pterygopalatine fossa (PPF) is time consuming and places important structures at risk, which can lead to significant morbidity. We report our experience using a simplified, endoscopic modified transpterygoid approach (MTPA), which spares the PPF contents in the management of lateral sphenoid sinus meningoencephaloceles and CSF leaks.

MATERIAL & METHODS

We report a series of lateral sphenoid recess CSF leaks and meningoencephaloceles evaluating the repair technique and outcome.

RESULTS

Different repair materials were used free septal mucosal graft, gasket seal with middle turbinate free mucosa and bone and vascularized naso-septal flap. There was 100% success rate with no recurrence of CSF leak.

CONCLUSIONS

The MTPA reduces morbidity and greatly simplifies access to the lateral sphenoid sinus for the management of CSF leaks and meningoencephaloceles, without compromising exposure. This technique avoids the need for extensive PPF dissection.

KEYWORDS

Endoscopic endonasal approach, skull base surgery, encephalocele, CSF leak, sphenoid lateral recess.

OP-1151

An Innovative Triple-Layer Sandwich Graft Technique For Medium-Sized Nasal Septal Perforations

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BACKGROUND & AIM

Nasal septal perforation (NSP) is a surgically challenging condition with limited potential for spontaneous healing. Various grafting techniques have been described to achieve reliable closure. This study presents an innovative repair technique using a triple-layer sandwich graft composed of costal cartilage, rectus abdominis muscle fascia, and perichondrium for the management of medium-sized NSPs.

MATERIAL & METHODS

A retrospective analysis was conducted on 22 patients who underwent NSP repair using an open septoplasty approach. All septal perforations were medium-sized, ranging from 1 to 1.5 cm in diameter. Following elevation of bilateral mucoperichondrial flaps, a sandwich graft was prepared with costal cartilage serving as the central structural layer, wrapped with rectus abdominis muscle fascia and perichondrium harvested from the same donor site. The graft was placed between opposing mucoperichondrial flaps to achieve complete defect coverage. Postoperative outcomes were evaluated during follow-up.

RESULTS

The study cohort consisted of 22 patients, including 13 males (59.1%) and 9 females (40.9%), with a mean age of 34.8 ± 6.2 years (range: 22–47). The mean horizontal and vertical diameters of the septal perforations were 12.8 ± 1.6 mm and 13.4 ± 1.9 mm, respectively. The mean follow-up period was 13.6 ± 2.1 months. Complete closure was achieved in 21 of 22 patients (95.5%). One patient (4.5%) experienced partial reperforation during follow-up. No major intraoperative or postoperative complications, including infection, graft resorption, or donor-site morbidity, were observed. All successfully treated patients demonstrated stable septal integrity and satisfactory nasal function at final follow-up.

CONCLUSIONS

The use of a triple-layer sandwich graft consisting of costal cartilage, rectus abdominis muscle fascia, and perichondrium provides a safe, reliable, and effective option for the repair of medium-sized nasal septal perforations. This technique offers strong structural support and favorable healing outcomes, representing a valuable addition to existing surgical methods.

KEYWORDS

nasal septal perforation, costal cartilage, rectus abdominis fascia, perichondrium, sandwich graft

OP-1152

Pott's Puffy Tumor Diagnosis And Management: A Systematic Review

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BACKGROUND & AIM

Pott's puffy tumor (PPT) is a rare disease process characterized by osteomyelitis of the frontal bone with subperiosteal abscess formation, often arising from the paranasal sinuses. Early diagnosis and aggressive management are fundamental in the management approach and necessary to decrease the risk of intracranial complications and long-term neurological sequelae. However, there is no formal consensus for the management of PPT. This review aims to synthesize and evaluate treatment approaches for PPT to elucidate an evidence-based approach to management of this rare clinical entity.

MATERIAL & METHODS

A systematic review of PubMed, Embase, and CINAHL was completed following PRISMA guidelines. The search strategy was developed in collaboration with a clinical librarian to identify articles examining diagnosis and treatment of PPT. A total of 2170 articles were screened, 286 included in our paper, with a total of 486 patient cases analyzed.

RESULTS

The 486 patients with PPT ranged in age from 4 months to 92 years (average 29.7 years, median 18 (IQR 49.3-12)), with the majority being male (67.3%). The most common etiology was sinusitis (70.0%), followed by trauma (11.5%). The most prevalent presenting symptoms included forehead swelling (68.1%), headache (51.4%) and fever (30.2%). CT and MRI were routinely used in diagnostic and post-treatment assessment. Common isolated pathogens included streptococcus (virdins and group A) and Staphylococcus (aureus and coagulase-negative). Management typically included intravenous antibiotics and surgery. Intracranial involvement was found in 40.9% of cases, with epidural abscess being the most common complication. Intervention varied on the disease extent and included endoscopic sinus surgery (ESS) with external drainage (21.4%), ESS (18.9%), ESS with neurosurgical approach (5.5%), external drainage (21.1%) and external drainage with neurosurgical approach (13.0%). The mortality rate was 1.6%, with a mean follow-up duration of 11 months.

CONCLUSIONS

This is largest systematic review of PPT, including both adult and pediatric patients. We identified the most common etiology, presenting symptoms, imaging modalities routinely employed, isolated pathogens, management approach, complications and outcomes. This review highlights the importance of multidisciplinary approach for management of this rare and clinically significant disease process.

KEYWORDS

Pott's puffy tumor, frontal bone osteomyelitis, frontal sinusitis, intracranial complication, acute sinusitis, subperiosteal abscess

OP-1153

Therapeutic Outcomes Of Biologic Switching In Chronic Rhinosinusitis With Nasal Polyps: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Biological therapy is a newer line of treatment that has been utilized in practice for patients with chronic rhinosinusitis with nasal polyps, showing excellent results. However, some patients with chronic rhinosinusitis with nasal polyposis (CRSwNP) do not respond to this therapy. Hence, this study aims to evaluate the efficacy and safety of biological switching in these patients.

MATERIAL & METHODS

Using the Web of Science, Cochrane, MEDLINE, and Embase databases, we analyzed studies involving biological switching in CRSwNP patients published up to June 2025. The studies were extracted, and data were pooled for meta-analysis.

RESULTS

Of 3,367 studies identified, eight studies (involving 470 patients) were included in the systematic review, four of which were included in the meta-analysis. The results showed that the most common reason for switching was insufficient CRS symptom control (59.7%), followed by undesirable side effects (10.8%). The findings demonstrated dramatic effects of biological switching in terms of the SNOT-22 score, with a mean improvement of 71.4%. In addition, studies that switched patients to dupilumab showed significant improvement after switching in both SNOT-22 and nasal polyp scores ($p = 0.006$ and 0.005, respectively). Overall, the success rate of biological switching ranged from 59.6% to 100%, with an average success rate of 79.2%.

CONCLUSIONS

This review demonstrated the effect of biological switching as an option for patients with refractory CRSwNP or those experiencing biological side effects. These findings highlight a new therapeutic alternative that can serve as a fundamental choice when managing CRSwNP patients.

KEYWORDS

Chronic Rhinosinusitis, Nasal Polyposis, Biological Therapy, Switching

OP-1154

Biologics In Rhinology

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KEYWORDS

None

OP-1155

Deep Learning-Assisted Nasal Endoscopy For The Evaluation Of Chronic Rhinosinusitis With And Without Nasal Polyps

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BACKGROUND & AIM

Nasal endoscopy (NE) is crucial for evaluating sinusitis, but assessment remains subjective. Deep learning can provide clinical decision support by reducing inter-rater variability and automating detection of key features across chronic rhinosinusitis (CRS) phenotypes, including with and without nasal polyposis (CRSwNP, CRSsNP). We developed a deep learning framework to identify mucus and polyps near the middle meatus (MM), providing objective assessment of diagnostic features for CRS in a novel approach to build upon clinical best practices.

MATERIAL & METHODS

6404 NE images from 974 patients were manually annotated for segmentation of middle turbinates, inferior turbinates, mucus, and polyps. A multi-class detection and segmentation model with a rule-based logic for MM localization was developed, implementing a clinical algorithm that applies anatomy IOU and conditional logic for sinusitis diagnosis. The system was validated on 300 images from 117 patients with confirmed CRSwNP or CRSsNP and benchmarked on real-time performance on an NVIDIA RTX 4090 GPU (87.7 fps).

RESULTS

The model achieved performance comparable to trained otolaryngologists with an inter-rater agreement F1-score of 86.0% (86.3% sensitivity, 87.4% precision). Moreover, our model achieved classification specificity of 99.1% for CRSwNP and 96.3% for CRSsNP. The resulting implementation ran faster than real-time performance, indicating suitability for integration into live clinical workflows.

CONCLUSIONS

Our novel deep learning-driven framework enhances decision-making for diagnosing CRS with NE by reducing inter-rater variability and enabling real-time processing. The model's results also validate its capability to perform at a level consistent with contemporary literature. This demonstrates the potential to improve workflow efficiency, patient outcomes, and access to specialist-level care.

KEYWORDS

Artificial Intelligence, Machine Learning, Deep Learning, Rhinology, Nasal Endoscopy, Nasal Polyposis, Chronic Rhinosinusitis, Sinusitis

OP-1156

Practice Variation In Topical Cocaine Use: Results From A UK-Wide ENT Survey

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BACKGROUND & AIM

Topical cocaine has historically been used in nasal surgery for its vasoconstrictive and local anaesthetic properties. Its use remains controversial due to potential systemic side effects and the lack of well-established evidence comparing its safety and efficacy with alternative agents. Additionally, postoperative detectability on urine drug screening may carry medicolegal implications. Given the absence of standardised guidance, this study aimed to assess current practice patterns and attitudes towards topical cocaine in nasal surgery amongst ENT doctors across the United Kingdom.

MATERIAL & METHODS

An online questionnaire evaluating the use of topical cocaine in nasal surgery was distributed to ENT clinicians in the UK across multiple centres, training grades and subspecialties. A total of 89 responses were analysed. The survey identified current use of topical nasal decongestants, preferred cocaine formulations and concentrations, reasons for use and perioperative counselling practices.

RESULTS

Responses were gained from 14 regions across the UK. Most respondents were ENT consultants (50.6%) or registrars (32.6%), with the majority (61.8%) practicing in rhinology. 58.4% of participants reported using a nasal decongestant containing cocaine, most frequently administered as 2 mL of a 5% solution. Phenylephrine was also frequently used, reported by 60.0% of respondents. The primary reason for cocaine use was perceived superior surgical outcomes (67.3%), followed by availability (32.7%). The most common reasons against using cocaine included concerns surrounding side effects, no local availability and perceived equivalent decongestant availability. Patient counselling regarding intra-operative cocaine was inconsistent amongst respondents who used cocaine-containing preparations: only 11.5% routinely inform patients and few consistently communicate the implications for drug testing (15.4%) or driving (9.6%). 12.4% of respondents reported cocaine-related intraoperative or postoperative complications during their careers, most commonly cardiac complications.

CONCLUSIONS

There is significant variability in the use of topical cocaine in nasal surgery across the UK, with inconsistent patient counselling and documentation. These findings highlight the need for clearer guidelines to support patient safety and informed consent. Further comparative research is required to clarify its risk profile and clinical advantage over alternative agents.

KEYWORDS

Rhinology, intranasal cocaine, informed consent, survey, nasal decongestants

OP-1157

Chronic Rhinosinusitis With Nasal Polyps Recurrence After Surgical Treatment : Prevalence And Risk Factors

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyposis (CRSwNP) is an inflammatory disease of sinonasal mucosa, surgery remains the most effective treatment for patients who are refractory to medical therapy; however postoperative recurrence remains frequent.

Our aim is to assess the prevalence of CRSwNP recurrence after surgical treatment and identify associated risk factors.

MATERIAL & METHODS

A descriptive and analytic retrospective study was conducted in the ENT department of Mohamed Lamine Debaghine University Hospital between 01/2020 and 08/2025. The study included 129 patients who underwent surgery for CRSwNP and had at least six months of postoperative follow-up. Patients lost to follow-up were excluded (n = 11).

Demographics, comorbidities, clinical presentation, CT findings, and surgical approach were the main variables studied. All results were analyzed using IBM SPSS version 31.

RESULTS

Among 129 patients, 62 (46%) experienced recurrence, with a mean time to recurrence of 17 months. Surgical revision was required in 23% of the population. Mean age was comparable between groups (≈46 years), with a sex ratio of 1.7. Smoking was significantly associated with recurrence, as 40% of recurrent patients were smokers compared with 8.6% in non-recurrence group (χ^2 = 10.3, p = 0.001). Although diabetes and hypertension were more frequent among recurrent patients, the association was not statistically significant. In contrast, Widal syndrome showed a significant association with recurrence, being present in 71.2% of recurrent cases versus 52.9% of non-recurrent cases (χ^2 = 4.4, p = 0.03). The mean Lund–Mackay CT score was higher in the recurrence group (21.11) compared with the non-recurrence group (17.75), with a statistically significant difference (p < 0.001). Endoscopic sinus surgery (ESS) was performed in most recurrent patients, whereas polypectomy alone was less frequent.

CONCLUSIONS

Smoking, Widal syndrome, higher CT scores, and limited surgical techniques are key predictors of recurrence, emphasizing the importance of risk stratification and tailored surgical management.

KEYWORDS

Chronic rhinosinusitis ; Nasal polyposis ; ESS ; Recurrence

OP-1158

Temporal Dynamics Of The Sinonasal Microbiome In Health And Disease

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BACKGROUND & AIM

The aim of our study was to characterize the poorly explored temporal dynamics of the sinonasal microbiome, particularly during acute rhinosinusitis (ARS) and exacerbations of chronic rhinosinusitis (AECRS). While current literature provides guidelines for the clinical diagnosis of bacterial versus non-bacterial ARS, there is no evidence for differentiating between bacterial and non-bacterial AECRS, and most episodes are treated with antibiotics. The aim of this study was to define the microbiological patterns of bacterial and non-bacterial ARS and AECRS.

MATERIAL & METHODS

In this longitudinal observational study, samples of the sinonasal microbiome were obtained from 55 subjects (36 patients with CRS and 19 healthy volunteers) at regular intervals at baseline, as well as during episodes of ARS, AECRS, and after antibiotic treatment. A total of 293 samples were collected. Microbiological analyses included bacterial culture and full-length 16S rRNA sequencing. To our knowledge, this is the largest longitudinal study of the sinonasal microbiome to date utilizing third-generation sequencing, which enables species-level identification of bacteria.

RESULTS

Bacterial ARS was characterized by “blooms” (marked dominance) of a single pathogen. Infections with a clinical presentation of viral or post-viral ARS were usually not associated with significant microbiome shifts; however, “blooms” of M. catarrhalis and H. influenzae were sometimes observed. Similar “blooms” were noted in 25% of AECRS cases, while in the remaining 75% no apparent shifts were observed. Interestingly, expansion of pathogens, including S. aureus, was frequently clinically silent.

CONCLUSIONS

Active bacterial infection in the sinuses is characterized by a significant expansion of a single pathogenic species. Some episodes of clinically “viral” or “post-viral” ARS follow the microbiological pattern of bacterial infection but remain self-limiting and do not require antibiotics. Sequencing may provide a valuable tool for differentiating between bacterial and non-bacterial AECRS and reducing the overuse of antibiotics in AECRS.

KEYWORDS

microbiome, rhinosinusitis, exacerbation, full-length 16S rRNA sequencing

OP-1159

Effect Of Bupivacaine With Epinephrine/Topical Vasoconstrictor Injection On Intraoperative Bleeding During Endoscopic Sinus Surgery: A Double-Blind, Randomized Controlled Trial

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BACKGROUND & AIM

Endoscopic sinus surgery (ESS) is widely used for chronic rhinosinusitis (CRS) and other sinonasal conditions. Intraoperative bleeding remains a major challenge, affecting visualization and operative efficiency.

Aim:To evaluate whether submucosal injection of 0.25% bupivacaine with epinephrine reduces intraoperative bleeding, blood loss, and operative time compared to sham injection during ESS.

MATERIAL & METHODS

This interim analysis includes 47 of 80 planned patients randomized to receive either bupivacaine with epinephrine or sham injection during ESS. The primary outcome was intraoperative bleeding using the Boezaart score, assessed separately for septoplasty and sinus surgery. Secondary outcomes included mean arterial pressure (MAP), total blood loss, operative time, and postoperative pain. Owing to limited sample size, results are reported descriptively without formal hypothesis testing.

RESULTS

Among 47 patients (23 Injection, 24 Sham), median Boezaart scores were lower in the Injection group for the septum (1.0 [IQR 0] vs 2.1 [1.1]) and sinus region (1.8 [1.06] vs 2.25 [0.46]). MAP was similar between groups. Mean blood loss was lower in the Injection group (125 ± 51 mL) compared to Sham (365 ± 144 mL). Operative time was comparable (131.7 ± 41.4 vs 139.4 ± 39.8 minutes). Postoperative pain scores were similar across time points. Final analyses will include the full sample and apply conventional hypothesis testing thresholds ($p < 0.05$).

CONCLUSIONS

Submucosal bupivacaine with epinephrine may reduce intraoperative bleeding and blood loss without affecting operative time, MAP, or pain. Final analysis with the full sample will determine statistical significance.

KEYWORDS

Endoscopic Sinus Surgery,Bleeding, Bupivacaine,Blood loss

OP-1160

Impact Of Endoscopic Endonasal Skull Base Surgery On Olfactory Function, Nasal Airway Resistance, And Quality Of Life: A Prospective Study

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BACKGROUND & AIM

In endoscopic transnasal skull base surgery, surgical success is commonly assessed by tumor resection rates and neurological outcomes, while sinonasal functions are often overlooked. The aim of this study was to evaluate postoperative rhinological outcomes in patients undergoing endoscopic transnasal skull base tumor surgery, with particular focus on changes in olfactory function, nasal airway resistance, and sinonasal quality of life. Additionally, the relationship of these parameters with surgical technique and postoperative sinonasal morbidities such as crusting and synechiae was investigated.

MATERIAL & METHODS

In this prospective single-center study, 106 patients who underwent primary endoscopic transnasal skull base tumor surgery for sellar, suprasellar, parasellar, and clival pathologies between February 2024 and June 2025 were included. All patients were evaluated preoperatively and at the 1st and 3rd postoperative months.

The assessment included nasal endoscopic examination, measurement of total inspiratory resistance (TIR) and total expiratory resistance (TER) using active anterior rhinomanometry, and evaluation of olfactory function with the Sniffin' Sticks test. Sinonasal symptoms and quality of life were assessed using the SNOT-22 questionnaire, nasal obstruction using the NOSE scale, and symptom severity using a visual analog scale (VAS). The presence of crusting and synechiae was recorded endoscopically.

According to the surgical extent, patients were classified into an extended surgery group (septal resection >2 cm) and a standard surgery group. Outcomes were also analyzed based on the use of a nasoseptal flap.

RESULTS

The mean age of the patients was 48.4 ± 15.0 years; 58.5% were female and 41.5% were male. The most common pathology was pituitary adenoma (PitNET), accounting for 67.9% of cases. At postoperative month 1, nasal airway resistance and olfactory function showed marked deterioration, accompanied by worsening NOSE, SNOT-22, and VAS scores. This impairment was more pronounced in patients undergoing extended surgery and in those with nasoseptal flap reconstruction.By postoperative month 3, nasal and olfactory functions generally improved and approached preoperative levels; however, in the extended surgery group, odor threshold and total olfactory scores remained lower than baseline values. In patients with nasoseptal flap reconstruction, parameters returned to baseline by the third month.Patients with crusting had worse NOSE scores, whereas those with synechiae demonstrated poorer olfactory function. Crusting and synechiae were more frequent in the extended surgery group, while early crusting in the nasoseptal flap group regressed during follow-up.

CONCLUSIONS

Endoscopic transnasal skull base surgery results in a temporary decline in olfactory function and an increase in nasal airway resistance during the early postoperative period; however, both objective and subjective parameters show significant recovery by the third month. Although an extended surgical field and nasoseptal flap reconstruction increase early nasal morbidity, appropriate surgical technique and effective postoperative nasal care allow olfactory function and nasal airflow to return close to preoperative levels. These findings underscore the importance of mucosa-preserving approaches and strategies aimed at minimizing crusting and synechiae formation during surgical planning.

KEYWORDS

skull base surgery; endoscopic surgery; olfactory function; airway resistance; Sniffin' Sticks test; rhinomanometry; SNOT-22; nasoseptal flap;NOSE;VAS

OP-1161

Title: Surgical Outcomes Of Nasal Septal Hematoma: A 15-Year Single-Center Experience

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BACKGROUND & AIM

Nasal septal hematoma (NSH) is a rare but potentially serious otolaryngologic emergency characterised by the accumulation of blood between the septal cartilage and perichondrium. If not diagnosed early, it may lead to septal abscess, cartilage necrosis, and long-term deformity. The primary treatment is timely surgical drainage. This study aimed to analyse the clinical characteristics, etiological factors, management, and surgical outcomes of NSH cases treated over a 15-year period in a tertiary centre.

MATERIAL & METHODS

This retrospective study included 24 patients who underwent surgical drainage for NSH between January 2010 and December 2024. Demographic characteristics, etiology, time to presentation, imaging findings, surgical approach, and complications were recorded. The time to presentation was categorised as early (≤48 hours) or delayed (>48 hours). In adult patients, SNOT-22 nasal domain scores were evaluated pre- and postoperatively. All patients were followed clinically for postoperative complications including septal abscess, deviation, perforation, and cosmetic deformity. Statistical analyses were performed to assess the relationship between delayed presentation and complication development.

RESULTS

Seventeen patients were male (71%) and seven were female (29%), with a mean age of 31.9 years (range: 1–82). Trauma was the most common etiology (14 patients, 58.3%), followed by iatrogenic causes (6 patients, 25%). The median presentation time was 3 days, and 10 patients (41.7%) presented late (>48 hours). CT was performed in 10 cases, all showing findings compatible with septal hematoma. The mean follow-up was 40 months. Complications occurred in 13 patients (54.2%): septal abscess (n=6), deviation (n=4), perforation (n=1), saddle-nose deformity (n=1), olfactory dysfunction (n=2), synechia (n=1), and revision surgery (n=1). No intracranial or orbital complications were observed. Adult SNOT-22 nasal domain scores improved from 16.2 preoperatively to 8.5 postoperatively. Delayed presentation significantly increased the complication rate ($p<0.05$).

CONCLUSIONS

NSH is an uncommon but clinically significant emergency, and early diagnosis with prompt surgical drainage is crucial to prevent severe complications. Delayed presentation markedly increases the risk of septal abscess and structural deformities. Long-term outcomes demonstrate that appropriate surgical management is effective, and timely intervention remains the key factor influencing prognosis.

KEYWORDS

Nasal septal hematoma; Septal abscess; Surgical drainage; Complications; SNOT-22

OP-1162

Air Quality In Jamaica's Main Urban Areas From 2010-2023

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BACKGROUND & AIM

Objectives: Air quality is measured by monitoring pollutants, including particulate matter (PM2.5 and PM10). This study aims to assess air quality in three urban areas from 2010-2023 to evaluate pollution patterns and potential health risks in Jamaican cities.

MATERIAL & METHODS

Methods: PM 2.5 data collected from 2015-2023, and PM10 data collected from 2010-2023 by NEPA monitoring stations in Spanish Town, Kingston & St. Andrew (KSA), and Montego Bay were analyzed and compared with annual WHO Air Quality Guidelines (AQG) to evaluate particulate matter concentrations across cities, considering industrial activity and weather.

RESULTS

Results: Eight-year average PM2.5 concentrations were highest in Spanish Town (22.3 ± 8.88 µg/m³), followed by Montego Bay (13.5 ± 6.23 µg/m³) then Constant Spring (KSA, 10.34 ± 6.79 µg/m³). Thirteen-year average PM10 concentration, averaged from multiple stations across KSA only, was 41.40 ± 25.16 µg/m³.

CONCLUSIONS

These results indicate that Jamaica's annual air quality levels are high in urban areas (PM2.5: >5 µg/m³ annually per WHO, >9 µg/m³ per US EPA; PM10: >15 µg/m³ annually per WHO, N/A for US EPA). Continued monitoring and validation against Air Quality measurements from international satellites are needed to inform pollution reduction efforts and mitigate public health risks. We acknowledge support from NEPA.

KEYWORDS

Air quality, PM10, PM2.5, respiratory health, public health

OP-1163

Dysfunction Of The Anterior Superior Alveolar Nerve In Lateral Nasal Wall Surgery - A Prospective Study

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BACKGROUND & AIM

Sensory disturbances involving the anterior superior alveolar nerve (ASAN) are frequently reported after lateral nasal wall surgery, particularly following extended anterior maxillary approaches. Prospective data comparing ASAN sensory dysfunction across lateral nasal wall surgical techniques are scarce.

MATERIAL & METHODS

A prospective cohort of 40 patients undergoing lateral nasal wall surgery was analysed. Procedures included Prelacrimal Window Approach (PLWA), Pyriform Turbinoplasty (PT), combined PT + PLWA, and Endoscopic Modified Medial Maxillectomy (EMMM). Outcomes included postoperative crusting, pain, and subjective sensory symptoms assessed by the Visual Analogue Scale (VAS), as well as objective sensory testing using sharp/blunt stimuli and Semmes–Weinstein monofilaments at 1 week, 1 month, and 3 months postoperatively.

RESULTS

Crusting and pain scores did not differ significantly between surgical techniques. Sensory disturbances were more frequent following extended procedures (PT + PLWA and EMMM), peaking at 1 week postoperatively ($p < 0.05$). Both subjective symptoms and objective sensory thresholds showed progressive improvement, with recovery in over 80% of patients by 3 months. No persistent sensory deficits were observed.

CONCLUSIONS

ASAN-related sensory dysfunction is common after extended lateral nasal wall surgery but is typically transient and reversible. ASAN dysfunction is common after extended anterior maxillary approaches but is transient and reversible, supporting neurapraxia rather than permanent nerve injury.

KEYWORDS

Anterior superior alveolar nerve, Lateral nasal wall surgery, Prelacrimal Window Approach, Endoscopic Medial Maxillectomy, Sensory dysfunction

OP-1164

ADIPOSE TISSUE DERİVED MICROVASCULAR FRAGMENTS ON NASAL SEPTAL PERFORATION REPAIR: EXPERIMENTAL RABBIT MODEL

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BACKGROUND & AIM

Nasal septal perforation is defined as a full-thickness tissue defect involving bilateral mucoperichondrium, septal bone, and/or cartilage. The objective of this study is to investigate the effect of adipose tissue-derived microvascular fragments (Ad-MVF) on surgical success during nasal septal perforation repair with a local flap technique, using macroscopic and histopathological evaluations.

MATERIAL & METHODS

This is a randomized, controlled, single-blind experimental animal study. Fourteen New Zealand white rabbits, each weighing 2–3 kg, were randomly assigned to two groups: the study group (n=7) and the control group (n=7). Under general anesthesia, iatrogenic full-thickness septal perforations measuring 10x10 mm were created in all animals. Septal perforations in all animals were repaired using a local advancement flap technique. Following flap closure, 1 ml of Ad-MVF was injected into the flap interface in the study group, whereas 1 ml of sterile saline (SF) was injected in the control group. After a two-week follow-up period, all animals were sacrificed. Macroscopic evaluations included perforation closure rates, residual defect sizes, and local

infection signs. Histopathological assessments included inflammation, congestion, and fibrovascular tissue formation, with intergroup comparisons performed.

RESULTS

At the end of the two-week observation period, perforation closure was achieved in 4 of 7 animals in the study group, whereas no perforations were closed in the control group. The perforation closure rate was significantly higher in the study group compared to the control group ($p = 0.035$). Analysis of residual perforation sizes revealed that the mean residual defect area in the study group was significantly smaller than in the control group ($p = 0.001$). Macroscopic evidence of purulent discharge suggestive of infection was observed in 1 animal in the study group and 2 animals in the control group, with no statistically significant difference between the groups regarding complication rates. Histopathological scoring of inflammation and congestion (0–3 scale) showed no significant difference between the groups. However, fibrovascular tissue formation at the surgical site was significantly greater in the study group compared to the control group ($p = 0.026$).

CONCLUSIONS

The use of autologous Ad-MVF in the surgical repair of nasal septal perforations was shown to significantly enhance perforation closure rates and reduce residual defect size. While no significant difference was observed in complication rates, histopathological analysis demonstrated a significant increase in fibrovascular tissue formation in the Ad-MVF-treated group. These findings suggest that the application of Ad-MVF during the surgical repair of iatrogenic or habitual septal perforations may improve surgical outcomes and tissue healing. Further large-scale, controlled experimental studies are warranted to confirm these results and support the potential clinical use of Ad-MVF in septal perforation repair.

KEYWORDS

Septal perforation, Adipose tissue deriveed microvascular fragments, Flap Healing, Surgical Repair, Stem cell, Stromal vascular fragments

OP-1165

Risk Factors For Intervention In Patients With Severe Epistaxis : A Multivariate Analysis

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BACKGROUND & AIM

Epistaxis is a common otorhinolaryngological emergency that may require invasive management. This study aims to identify risk factors for the failure of conservative treatment, thereby justifying early recourse to surgical arterial ligation or endovascular embolization.

MATERIAL & METHODS

This retrospective case-control study included 165 patients hospitalized for epistaxis between 2000 and 2024 in Hôtel Dieu de France Hospital. Patients were divided into two groups : a control group treated successfully with nasal packing and an intervention group requiring surgical or endovascular treatment following failure of nasal packing. Univariate and multivariate analyses were performed to identify predictive factors for invasive intervention and to guide therapeutic decision-making

RESULTS

Eighty-eight patients were successfully treated with nasal packing alone, whereas 77 underwent surgical or endovascular intervention. Multivariate logistic regression analysis showed that a history of prior nasal packing or intervention for epistaxis (OR = 4.8), the need for iterative nasal packing during the current episode (OR = 11), and bilateral nasal packing (OR = 6) were independently associated with the need for invasive treatment ($p \leq 0.05$).

Among patients requiring intervention, anticoagulant therapy (OR = 6.8) and bilateral epistaxis (OR = 8) were independently associated with endovascular embolization rather than surgical arterial ligation ($p \leq 0.05$).

CONCLUSIONS

Several clinical factors may help predict failure of conservative management in epistaxis. Patients with a history of prior epistaxis treatment and those requiring iterative and/or bilateral nasal packing may benefit from early escalation to invasive intervention. Furthermore, anticoagulated patients presenting with bilateral epistaxis appear to be better candidates for endovascular embolization than for surgical arterial ligation.

KEYWORDS

Epistaxis, Nasal packing, Endovascular embolization, Arterial ligation

OP-1166

Evaluation Of Pre-Diagnostic Inflammatory And Nutritional Indices In The Development Of Rhinocerebral Mucormycosis

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BACKGROUND & AIM

Rhinocerebral mucormycosis (RCM) is an invasive fungal infection characterized by rapid progression and high mortality. Therefore, easily accessible biomarkers capable of identifying high-risk patients in the pre-diagnostic period are needed. This study aimed to evaluate the association between inflammatory and nutritional indices derived from routine laboratory parameters and the development of RCM.

MATERIAL & METHODS

This retrospective, multicenter, individually matched case–control study included 35 patients with RCM and 82 controls between 2013 and 2026. Controls were matched for age, sex, primary etiology and active immunosuppressive therapy.To reduce temporal bias, laboratory values in the case group were obtained from a median of 10 days before diagnosis, while equivalent time points were used in the control group. Neutrophil-to-lymphocyte ratio (NLR), systemic immune-inflammation index (SII), prognostic nutritional index (PNI), and C-reactive protein-to-albumin ratio (CAR) were calculated.

RESULTS

The median CAR value was significantly higher in the RCM group compared with the control group (4.07 vs. 0.36; $p < 0.001$), whereas the median PNI value was significantly lower (31.0 vs. 38.0; $p < 0.001$). In ROC analysis, CAR demonstrated excellent discriminative performance (AUC = 0.91; 95% CI: 0.86–0.96), while PNI showed good performance (AUC = 0.79; 95% CI: 0.69–0.88). The optimal cutoff values were determined as 2.87 for CAR (sensitivity 82.9%, specificity 89.0%) and 34.0 for PNI (sensitivity 77.1%, specificity 76.8%). In multivariable logistic regression analysis, the combined model yielded an AUC of 0.916. CAR remained an independent and dominant predictor (OR = 1.45, 95% CI: 1.11–1.90), whereas PNI did not retain independent significance. In subgroup analyses according to primary etiology, both CAR and PNI maintained discriminative performance in diabetic and hematological subgroups.

CONCLUSIONS

CAR and PNI may serve as supportive indicators for identifying patients at risk of RCM. Rather than functioning as direct diagnostic tools, these indices may contribute to clinical monitoring strategies; however, larger studies are required before routine clinical use.

KEYWORDS

Rhinocerebral mucormycosis; Inflammatory biomarkers; CAR; PNI

OP-1167

The Sensory Frontier: Mapping The Evidence For Olfaction As A Window To The Recovering Frontal Lobe

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BACKGROUND & AIM

Post-traumatic olfactory dysfunction in Traumatic Brain Injury (TBI) is associated with poorer neurocognitive outcomes, yet its evolution in the sub-acute phase (first 30 days post-injury) remains poorly characterised. This scoping review maps the evidence for early olfactory assessment as both a prognostic tool and gateway for intervention. We evaluate whether early olfactory return serves as an isolated deficit or a “lead indicator” for global cognitive recovery, and its potential to guide rehabilitation and patient counselling.

MATERIAL & METHODS

A scoping review was conducted according to PRISMA-ScR guidelines. Systematic searches of MEDLINE, EMBASE, and PsycINFO were performed to identify studies using objective olfactory testing in adult TBI patients during the acute and sub-acute phases. We mapped relationships between olfactory recovery and executive function, radiological correlates of olfactory bulb/tract injury, and the feasibility of standardised bedside assessment.

RESULTS

Preliminary findings confirm that while chronic anosmia predicts poor functional outcomes, the sub-acute trajectory is rarely studied. Existing literature highlights that identifying early olfactory patterns (eg. mechanical shearing vs reversible oedema) is essential for realistic prognostic modelling, as well as for identifying patients who may benefit from early intervention. A key focus is the distinction between sensory restoration and broader cognitive gains in the existing literature, highlighting a significant gap in multi-domain recovery data.

CONCLUSIONS

The olfactory system offers an often-neglected but unique and accessible window into frontal lobe integrity and neuroplasticity. This review establishes the rationale for repositioning olfactory assessment from a peripheral sensory issue to a central prognostic marker. Defining the baseline is essential to determine if early olfactory stimulation (via traditional smell training or novel targeted delivery platforms) can catalyse global neuroplasticity rather than just sensory return. This review

provides a scientific foundation for a planned prospective trial evaluating early olfactory monitoring and stimulation as both a prognostic biomarker and therapeutic conduit for global neuro-recovery.

KEYWORDS

Olfaction; Smell; Traumatic Brain Injury; Neuroplasticity; Neuro-prognostication; Scoping Review; Frontal Lobe; Olfactory Training

OP-1168

The Extent Of Surgical Management In Chronic Invasive Fungal Rhinosinusitis: Case Series And Systematic Review

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BACKGROUND & AIM

Chronic invasive fungal rhinosinusitis (CIFRS) is a rare, serious condition with slow progression and challenging diagnosis, often confused with chronic sinusitis or malignancy, causing delays, especially in endemic regions like Saudi Arabia. Standard treatment involves surgical debridement with systemic antifungal therapy, but there is no consensus on the optimal extent of resection, particularly for orbital or skull base involvement. Outcomes vary widely and often rely on surgeon experience. This study evaluates surgical strategies, comparing conservative versus aggressive resections, and assesses survival, vision preservation, and neurological outcomes to provide evidence that may guide future management guidelines for CIFRS.

MATERIAL & METHODS

This study used a dual-arm design combining a retrospective case series from a tertiary center and a systematic review conducted وفق PRISMA guidelines. The retrospective arm analyzed clinical presentation, disease extent, surgical approach, and outcomes in CIFRS patients. The systematic review searched PubMed, Embase, Scopus, and Cochrane, identifying 14 eligible studies after screening 542 records. Included cases required histopathological confirmation and orbital and/or intracranial extension. Data extracted included demographics, surgical strategy (orbit-sparing vs. exenteration), antifungal therapy, survival, vision, and neurological outcomes. Due to heterogeneity, results were synthesized narratively, with descriptive statistics applied to institutional cases.

RESULTS

Anticipated Results

We hypothesize that the extent of surgical resection in chronic invasive fungal rhinosinusitis (CIFRS) significantly influences clinical outcomes. Specifically:

· Extensive sinonasal resection is expected to result in improved local disease control and overall survival due to more effective clearance of infected and necrotic tissue.

· In cases with orbital involvement, orbit-sparing limited resections may achieve comparable outcomes to more aggressive approaches, without increasing the risk of recurrence or mortality, while preserving ocular function.

We anticipate that a tailored surgical strategy, characterized by aggressive resection of sinonasal disease with selective preservation of critical structures such as the orbit and cranial nerves, will be associated with favorable survival outcomes and preservation of neurological and visual function.

The findings of this study are expected to offer practical, evidence-based recommendations for optimizing surgical management of CIFRS, particularly in resource-constrained or endemic settings where individualized decision-making is critical.

CONCLUSIONS

Chronic invasive fungal rhinosinusitis (CIFRS) is a challenging condition with no clear consensus on optimal surgical management, particularly in cases with orbital or intracranial extension. This study suggests that surgical approaches should be individualized, balancing adequate disease clearance with preservation of vision and neurological function. Orbit-sparing surgery may provide acceptable outcomes in selected patients, while aggressive resection may be necessary in advanced cases. Further multicenter and prospective studies are needed to establish standardized, evidence-based treatment guidelines to improve survival and functional outcomes.

KEYWORDS

Chronic invasive fungal rhinosinusitis; CIFRS; orbital involvement; intracranial extension; surgical management; orbit-sparing surgery; orbital exenteration; antifungal therapy; survival; visual outcomes.

OP-1169

Optimal Degree Of Reverse Trendelenburg Position In Patients Undergoing Endoscopic Sinus Surgery: A Double-Blind Randomized Controlled Trial

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BACKGROUND & AIM

The reverse Trendelenburg position (RTP) is an established approach to reduce intraoperative blood loss and improve visualization during functional endoscopic sinus surgery (FESS). However, the optimal angle that balances hemostatic control with cerebral perfusion remains uncertain.

MATERIAL & METHODS

A prospective, double-blind, randomized controlled trial was conducted involving 42 patients undergoing Full-House FESS were performed under a standardized anesthetic and medication protocol. Patients were randomized to either a 20° RTP (n=21) or 40° RTP (n=21). Primary outcomes were total intraoperative blood loss and blood loss rate. Secondary outcomes included operative time, hemodynamic parameters, cerebral desaturation events. An additional post-operative surgeon satisfaction was conducted in 40° group.

RESULTS

Baseline demographic and clinical characteristics were comparable between groups. There was no statistically significant difference in total blood loss (391.09 ± 231.29 mL vs. 345.69 ± 228.06 mL; p = 0.526), blood loss per minute or operative time between the 40° RTP and 20° RTP groups, respectively. Intraoperative hemodynamic monitoring revealed higher mean arterial pressure (MAP) and systolic blood pressure in the 40° RTP group ($p < 0.05$). One transient cerebral desaturation event occurred in the 40° RTP group. No other complications were observed in either group. Surgeon satisfaction with 40° RTP was neutral (3/5), citing ergonomic strain and procedural difficulty at the steeper angle.

CONCLUSIONS

Increasing the RTP angle beyond 20° did not improve hemostatic control and was associated with reduced surgeon comfort, possible risk of cerebral desaturation and potential hemodynamic instability. Therefore, the 20° RTP remains the optimal position for FESS.

KEYWORDS

Reverse Trendelenburg Position, Endoscopic Sinus Surgery, Intraoperative Blood Loss, Surgical Position, Cerebral Oximetry

OP-1170

Ostectomy Technique In Crooked Nose Deformity

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BACKGROUND & AIM

Crooked nose deformity may be driven by bony pyramid asymmetry, in which one nasal bone is longer than the contralateral side. We hypothesized that preoperative computed tomography (CT)–based quantification of nasal bone length discrepancy, followed by selective piezoelectric ostectomy of the longer side combined with standard osteotomies, would significantly improve objective nasal deviation and patient-reported outcomes.

MATERIAL & METHODS

This prospective clinical case series included 20 consecutive patients with crooked nose deformity undergoing primary open rhinoplasty at a tertiary referral center. On preoperative CT, nasal bone lengths were measured bilaterally at caudal and medial canthal levels, and side-to-side differences were calculated. Surgical correction consisted of piezo-assisted lateral, transverse, and median osteotomies, and ostectomy performed to the longer bony segment to equalize bony parts. Outcomes were assessed preoperatively and at postoperative 3 months using deviation angle and validated questionnaires. Deviation angle was defined as the angle between a line from the midpoint of the nasion to the midpoint of the upper lip and the other line from the midpoint of the nasion to the midpoint of the nasal tip. Patient-reported outcomes included Rhinoplasty Outcomes Evaluation (ROE) and Standardized Cosmesis and Health Nasal Outcomes Survey (SCHNOS). Normality was tested (Shapiro–Wilk), and paired-samples t-tests were used (α=0.05).

RESULTS

Preoperative CT confirmed significant bony asymmetry at both levels (caudal difference 2.82±1.79 mm; canthal difference 1.14±0.86 mm; both $p<0.001$) (Table 1). Mean deviation angle improved from 7.26±1.89° preoperatively to 1.08±0.65° (mean reduction 6.17°, 95% CI 5.35–7.00; $p<0.001$) (Table 2). ROE increased from 5.20±3.52 to 19.55±4.41 ($p<0.001$), and SCHNOS decreased from 36.00±9.50 to 8.60±7.90 at postoperative 3 months ($p<0.001$) (Table 2).

CONCLUSIONS

CT-guided identification of nasal bone length discrepancy and selective piezo-assisted equalization of the longer bony segment, combined with standard osteotomies, produced significant early improvement in nasal alignment and patient-

reported aesthetic/functional outcomes at 3 months. Longer follow-up and comparative studies are warranted to confirm durability and define optimal indications.

KEYWORDS

Rhinoplasty, Crooked nose, Ostectomy, Asymmetric nose

OP-1171

The Hidden Loop: Mucous Recirculation Syndrome In Refractory Chronic Rhinosinusitis

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BACKGROUND & AIM

Mucous recirculation syndrome is an underrecognized yet curable cause of persistent chronic rhinosinusitis (CRS), particularly in patients with persistent symptoms following functional endoscopic sinus surgery (FESS).

MATERIAL & METHODS

This study aims to describe the clinical presentation, diagnostic features, and surgical outcomes of mucous recirculation syndrome through a focused case series. A prospective case series of 14 patients presenting with CRS refractory to maximal medical therapy was conducted. All patients underwent detailed nasal endoscopy, which demonstrated active mucous recirculation between two or more sinonasal ostia, including natural maxillary ostia, accessory ostia, and surgically created antrostomies. Computed tomography was reviewed when available to identify anatomical features suggestive of recirculation. Surgical management consisted of endoscopic unification of involved ostia by removal of the intervening mucosal bridge to create a single common drainage pathway.

RESULTS

The most common presenting symptoms were persistent postnasal drainage and nasal obstruction (73%). Using methylene blue staining, endoscopic evaluation identified mucous recirculation most frequently between the natural maxillary ostium and a misplaced middle meatal antrostomy (47%), followed by recirculation involving accessory ostia and inferior meatal antrostomies (33%). All patients underwent targeted endoscopic correction. Postoperatively, elimination of visible mucous recirculation was achieved in all cases, with corresponding clinical improvement and resolution of refractory symptoms. No significant complications were observed.

CONCLUSIONS

Mucous recirculation syndrome is a surgically correctable and frequently overlooked cause of refractory chronic rhinosinusitis. Recognition of characteristic endoscopic findings and targeted surgical correction can result in symptom resolution and prevent unnecessary prolonged medical therapy or repeated revision sinus surgery.

KEYWORDS

Chronic rhinosinusitis; Endoscopic sinus surgery; Recirculation syndrome; Rhinology

OP-1172

Predictors Of Disease Recurrence In Frontal Sinus Following Endoscopic Sinus Surgery: A Retrospective Analysis

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BACKGROUND & AIM

Background: Endoscopic sinus surgery (ESS) is effective for chronic rhinosinusitis (CRS), but disease recurrence remains a challenge, especially after frontal sinus surgery. Identifying patients at high risk for recurrence is of great importance, but predictive models tailored to the Saudi population are lacking.

Objective: To identify independent predictors of disease recurrence in the frontal sinus following ESS.

MATERIAL & METHODS

Methods: This retrospective cohort study included 293 patients who underwent ESS by a single surgeon at a tertiary care center between 2018 and 2022. Data on demographics, clinical history (including primary vs. revision surgery), pre-existing diagnoses, and procedures performed were extracted. Univariate logistic regression was performed, followed by a multivariate logistic regression model including variables with $p < 0.3$ in the univariate analysis to identify independent predictors of recurrence.

RESULTS

Results: Disease recurrence occurred in 37 patients (12.6%). In the final multivariate model, significant independent predictors of recurrence were: revision surgery (adjusted Odds Ratio [aOR] 5.38, 95% CI 2.26-13.3, $p < 0.001$), a diagnosis of nasal polyps (aOR 3.41, 95% CI 1.23-10.5, p=0.018), and having undergone myringotomy with tube insertion (aOR 73.3, 95% CI 5.13-1,014, p=0.003). Factors significantly associated with decreased odds of recurrence were increasing age (aOR 0.94 per year, 95% CI

0.90-0.97, p < 0.001) and undergoing nasal polypectomy (aOR 0.26, 95% CI 0.08-0.71, p=0.008). The Frontal Ostium Grade (FOG) was not associated with recurrence.

CONCLUSIONS

Conclusion: Revision surgery, nasal polyps, and prior myringotomy were significant independent risk factors for recurrence in the frontal sinus after ESS, while increasing age and nasal polypectomy were protective. These findings can aid in risk stratification and patient counseling. The FOG system did not predict recurrence in this study.

KEYWORDS

Keywords: Chronic Rhinosinusitis; Frontal Sinus; Endoscopic Sinus Surgery; Disease Recurrence; Risk Factors; Revision Surgery; Nasal Polyps; Myringotomy; Retrospective Cohort Study.

OP-1173

Steroid-Sparing Effects Of Biologics In Chronic Rhinosinusitis With Nasal Polyps: Systematic Review And Meta-Analysis Of Randomized Control Trials

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps (CRSwNP) presents significant treatment challenges, particularly because patients rely on systemic corticosteroids (SCS) for symptom management. This systematic review and meta-analysis compare the Steroid-Sparing Effects of Biologics regarding efficacy and safety with other biologics or standard care in CRSwNP. Key outcomes include reducing SCS Use and drug safety.

MATERIAL & METHODS

We searched PubMed, Embase, Cochrane Library, Scopus, and the Web of Science. We included randomized controlled trials (RCTs) comparing biologics versus placebo/standard care in adults with CRSwNP. The primary outcomes were SCS reduction and safety. Meta-analyses, which use a statistical method called random-effects models, were employed.

RESULTS

This meta-analysis of seven randomized controlled trials (n=3,097) revealed that biologic therapies significantly reduce systemic corticosteroid use in CRSwNP patients (pooled proportion: 20.9%, 95% CI: 8.4%-37.0%), though with substantial heterogeneity (I^2=98.3%). Trial-level predictors included control-arm safety profiles (higher serious adverse effects (SAEs) reduced treatment effects) [OR 0.70]. In contrast, placebo-arm SAEs enhanced them [OR 1.81]) and sample size (larger trials showed diluted responses [OR 0.993 per patient]). These results highlight the role of trial design and baseline patient risk in determining the interest of the results. They further highlight the possibility for individualized strategies in terms of treatment and call for more in-depth studies with patient-level data to refine the steroid-sparing therapeutic strategy, providing an impetus for future work in this area.

CONCLUSIONS

The biologics, specifically dupilumab, represent a paradigm shift in treating CRSwNP , significantly decreasing the burden of SCS—their consistent safety and efficacy support integration into treatment algorithms for severe cases.

KEYWORDS

Chronic rhinosinusitis, nasal polyps, biologics, dupilumab, steroid-sparing, meta-analysis

OP-1174

Coblation Turbinoplasty: Our Experience In The Newer Wand Technology

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BACKGROUND & AIM

Turbinates reduction surgery is a commonly perform surgeries by ENT Surgeon. The surgery itself has undergone tremendous technological advancement. One of a newer technique which involve mucosal preservation surgery is coblation turbinoplasty. The coblation technology itself has evolved with introduction of a newer wand. The Aris coblator wand werewolf. This article attempts to discuss the use of this technology and sharing our experience. Retrospective review of 32 cases undergone coblation Turbinoplasty with Aris Coblator with or without other procedures in a period of 18 months

MATERIAL & METHODS

All cases adult and children that undergone Coblation Turbinoplasty using Aris Coblator were included in a period of 18 months and we emphasize on intraoperative or post operative morbidity. We monitored the intraoperative and postoperative bleeding and pain, nasal crusting formation and turbinate reduction size endoscopically.

RESULTS

In general the intraoperative bleeding was minimal, post operative pain was better, nasal crusting formation was less and turbinate reduction noticed within short period less than one week

CONCLUSIONS

The coblation turbinoplasty with Aris coblator looks promising and embracing newer technology for better patient care is encouraged

KEYWORDS

Turbinate, coblator, coblation turbinoplasty, nasal crusting,

OP-1175

Effectiveness Of Intranasal Insulin For The Treatment Of Olfactory Dysfunction: A Systematic Review

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BACKGROUND & AIM

Introduction: To assess the effectiveness and safety of Intranasal Insulin (INI) for the treatment of Olfactory Dysfunction (OD) in patients with anosmia and/or hyposmia compared to placebo or no treatment

MATERIAL & METHODS

Methods: We searched four databases: Medline, Scopus, Directory of Open Access Journals (DOAJ), and Springer Nature. The study protocol was registered in the International Prospective Register of Systematic Reviews (PROSPERO) (ID: CRD42023456891). The protocol design was in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Participants with hyposmia or anosmia aged ≥ 18 years were included. Patients with an altered sense of smell due to anatomical malformations, trauma, neurodegenerative diseases, surgery, or intranasal lesions were excluded from the study.

RESULTS

Results: Five studies with 131 participants were included. There were 131 participants, of whom 63 were men and 68 were women. The participants' ages ranged from 16 to 56 years. Almost all studies used a dose of 40 IU, except one that used different doses for different participants. Glycemic assessment was performed in three studies, which showed a very slight decrease in glucose, except in one study in which the drop in glucose reached 10.4 mg/dl. All studies agreed that olfactory function improved after INI administration.

CONCLUSIONS

Conclusion: This systematic review concluded that INI can be an effective treatment option for patients with OD. However, further well-designed clinical trials are required to establish robust clinical recommendations.

KEYWORDS

Intranasal insulin, Olfactory dysfunction, COVID-19, Anosmia, Smell.

OP-1176

COMPARISON OF ANKAFERD-CONTAINING PVA–PCL NANOFIBERS IN A RABBIT EPISTAXIS MODEL: SILVER NANOPARTICLE ENCAPSULATION AND SPRAY-COATING METHOD

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BACKGROUND & AIM

This study aimed to develop a novel nasal packing model for faster and more effective control of epistaxis. The hemostatic efficacy of PVA–PCL-based nanofiber mats modified with Ankaferd extract and Ankaferd-mediated silver nanoparticle encapsulation was investigated.

MATERIAL & METHODS

In this study, three different nanofiber mats were fabricated using the electrospinning technique: pure PVA–PCL nanofiber mat (PCV), PVA–PCL nanofiber mat coated with Ankaferd extract by spraying (AE/PCV), and PVA–PCL nanofiber mat containing silver nanoparticles encapsulated by green synthesis using Ankaferd extract (eAgNPs/PCV). The nanofiber structures were evaluated in terms of morphological, physicochemical, and mechanical properties using scanning electron microscopy, FTIR, XRD, tensile testing, water contact angle measurement, blood clotting analysis, and platelet activation analysis. In the in vivo phase, 30 New Zealand rabbits were divided into three groups (n=10). The epistaxis model was established by creating a standardized full-thickness mucosal defect at the same anatomical point in the anterior part of the left nasal septum of each

rabbit. The nasal packs were prepared using sterile eye spears covered with nanofiber mats. Time to hemostasis and blood loss were recorded, and the data were analyzed.

RESULTS

SEM showed regular fiber morphology in all groups, with eAgNPs/PCV displaying the thinnest, most homogeneous, and densely packed fibers. Mean fiber diameters were 497.34, 255.31, and 216.05 nm for PCV, AE/PCV, and eAgNPs/PCV, respectively. FTIR and XRD confirmed successful incorporation of active components while preserving the polymeric structure. Water contact angles decreased from PCV to AE/PCV and eAgNPs/PCV (57.08°, 46.02°, and 41.79°), indicating greater hydrophilicity in eAgNPs/PCV. Tensile strength was highest in eAgNPs/PCV (11.04 MPa), followed by PCV (6.46 MPa) and AE/PCV (2.87 MPa). In vitro, AE/PCV showed lower supernatant absorbance values. In vivo, eAgNPs/PCV achieved the shortest hemostasis time and lowest blood loss. Post-hoc analyses confirmed its significant superiority over PCV and AE/PCV for both parameters ($p<0.001$).

CONCLUSIONS

The PVA–PCL-based nanofiber mat containing silver nanoparticles encapsulated with Ankaferd extract demonstrated the highest hemostatic performance in the experimental epistaxis model by providing the shortest time to hemostasis and the lowest blood loss. These findings suggest that this composite structure may represent a potentially biocompatible and functional next-generation nasal packing candidate capable of providing rapid bleeding control in the treatment of epistaxis. In this respect, the developed material provides a promising basis for translational studies aimed at clinical use.

KEYWORDS

Epistaxis, Hemostasis, Nanofibers, Nanoparticles, Ankaferd Blood Stopper, Rabbit

OP-1177

Prediction Of Clinical Response To Full House Endoscopic Sinus Surgery For Crswnp Based On The Amsterdam Classification Of Completeness Of Endoscopic Sinus Surgery (ACCESS) Score And The Sinus Surgery Completeness Score (SSCS)

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BACKGROUND & AIM

Although Full House Endoscopic Sinus Surgery (Full House ESS) has demonstrated efficacy in Chronic Rhinosinusitis with Nasal Polyps (CRSwNP), objective predictors of response in revision cases remain unclear. We aimed to evaluate whether the extent of previous endoscopic sinus surgery, assessed using the Amsterdam Classification of Completeness of Endoscopic Sinus Surgery (ACCESS) score and the Sinus Surgery Completeness Score (SSCS), influences postoperative outcomes in refractory CRSwNP patients.

MATERIAL & METHODS

A consecutive series of previously operated patients undergoing revision Full House ESS for recalcitrant CRSwNP was prospectively evaluated. Baseline CT scans were analyzed to calculate ACCESS and SSCS scores. Clinical assessment included Nasal Polyp Score (NPS), active anterior rhinomanometry, acoustic rhinometry, Peak Nasal Inspiratory Flow (PNIF), 22-item Sinonasal Outcome Test (SNOT-22), and Visual Analog Scales (VAS). Favorable outcome was defined according to EPOS/EUFOREA criteria and achievement of normal functional nasal airflow values.

RESULTS

Overall favorable outcome was achieved in 88.89% (16/18) of patients, with a mean follow-up of 18.75 ± 7.02 months. Baseline ACCESS and SSCS scores were associated with postoperative response, with optimal predictive cut-offs of 13.78 ± 3.77 and 10.22 ± 3.92 points, respectively. Responders demonstrated marked improvement in both objective and subjective measures. PNIF increased from 133.03 L/min (95% CI 110.46–155.61) preoperatively to 202.99 L/min (95% CI 182.12–223.86) at 6 months ($p < 0.001$). Rhinomanometry showed significant and sustained airflow improvement ($p < 0.001$). SNOT-22 decreased from 48.67 to 9.41 and VAS from 7.57 to 0.72 (both $p < 0.001$). PNIF inversely correlated with SNOT-22 at early follow-up ($p \leq 0.032$).

CONCLUSIONS

Radiological completeness of previous surgery, as assessed by ACCESS and SSCS, appears to influence clinical outcomes after revision Full House ESS. CT-based scoring systems may serve as objective tools to support prognostic stratification and surgical planning in refractory CRSwNP.

KEYWORDS

ACCESS, SSCS, Radiology, CT Scan, CRSwNP, Full House ESS, PNIF, Rhinomanometry, SNOT-22, VAS CRSwNP

OP-1178

Biologics Impact The Volume Of Endoscopic Sinus Surgery And Referral Patterns

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BACKGROUND & AIM

Biologic therapies for chronic rhinosinusitis with nasal polyps (CRSwNP) may reduce the need for revision endoscopic sinus surgery (ESS). This study characterizes changes in ESS volumes and referral patterns in Ontario, Canada, following the introduction of biologics.

MATERIAL & METHODS

A population-based retrospective cohort study was conducted using Ontario administrative data from 2017 to 2024. Segmented linear regression was used to analyze monthly volumes, comparing pre-biologic (2017–2019) and post-biologic (2022–2024) trends while excluding active pandemic years to isolate the biologic signal from systemic recovery.

RESULTS

Among 17,873 patients, annual revision ESS volume declined 22.9% (p=0.04) in the post-biologic period. Time-series modeling revealed a permanent volume reset. While aggregate Complete ESS volume demonstrated a significant positive recovery trend (+0.73 cases/month, p=0.02), the Complete Revision ESS subset showed no significant recovery slope (p=0.80), confirming a "blunted recovery" specific to revision cases. Tertiary rhinologist referrals declined 27.9%, while Otolaryngology-to-Respirology/Allergy referrals increased 42.9% (p=0.01). Socioeconomic analysis indicated the proportion of low-income patients undergoing complete revision ESS increased by 22.2% (p=0.03).

CONCLUSIONS

The introduction of biologics is associated with a sustained reduction in revision ESS volume. The lack of surgical volume recovery for revision cases—despite data showing the system had the capacity to recover volume for extensive procedures—suggests a reduced demand for salvage intervention. Rising cross-specialty referrals confirm a shift toward multidisciplinary care.

KEYWORDS

Chronic rhinosinusitis, nasal polyps, biologics, endoscopic sinus surgery, multidisciplinary care

OP-1179

Glucose Dysregulation And Chronic Rhinosinusitis: A Scoping Review Of Metabolic And Mechanistic Evidence

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) affects over 134 million people globally, with rising prevalence paralleling epidemic increases in sugar consumption and diabetes mellitus. Emerging evidence suggests metabolic-inflammatory pathways may link glycaemic dysregulation to CRS pathophysiology, including glucose transporter-mediated epithelial effects and elevated local sinonasal glucose. However, the relationship between glucose dysregulation and CRS outcomes remains poorly characterised, and the role of modifiable dietary sugar intake is unclear. We aimed to systematically map and synthesise evidence examining relationships between glucose dysregulation and CRS across metabolic and mechanistic domains, and identify research priorities.

MATERIAL & METHODS

This scoping review followed PRISMA-ScR guidelines and Joanna Briggs Institute methodology. Five databases (PubMed/MEDLINE, Embase, Emcare, CINAHL, Cochrane) were searched from inception to 13 October 2025, using a structured concept-based strategy combining CRS terms with glucose, sugar, dietary and metabolic terms, supplemented by citation and grey-literature searching. Studies assessing systemic or local glucose dysregulation, glycaemic markers, or dietary sugar in relation to CRS outcomes were eligible. Quality was appraised using the Mixed Methods Appraisal Tool. Findings were synthesised narratively; quantitative pooling was not feasible.

RESULTS

Ten studies (2,879 participants, four countries, 1991-2025) met inclusion. Seven metabolic studies consistently associated hyperglycaemia or diabetes with adverse CRS outcomes, including higher post-operative recurrence at 1-3 years and less SNOT-22 improvement in diabetic patients. Three mechanistic studies demonstrated that sinonasal epithelial cells express functional glucose transporters (GLUT1, GLUT3), with elevated glucose enhancing pro-inflammatory cytokine production, compromising epithelial barrier integrity, and promoting bacterial biofilm formation. Two studies documented elevated glucose in nasal secretions of CRS patients. Critically, no study assessed dietary sugar or sugar-sweetened beverage consumption using validated dietary tools, a fundamental gap. Evidence derived predominantly from single-centre retrospective studies (China 40%, USA 40%), limiting generalisability. Overall quality was moderate.

CONCLUSIONS

This review identifies consistent metabolic and mechanistic evidence linking glucose dysregulation with adverse CRS outcomes, supported by biologically plausible pathways. This suggests glycaemic optimisation should be considered within comprehensive CRS management. However, the complete absence of validated dietary exposure assessment prevents translation to preventive strategies, leaving potentially the most modifiable risk factor unexplored. Priority research includes prospective cohort studies using validated dietary tools and randomised trials of sugar reduction, alongside multi-ethnic replication and dose-response mechanistic work.

KEYWORDS

chronic rhinosinusitis; diabetes; hyperglycaemia; glucose; dietary sugar; scoping review

OP-1180

Do Hematological Indices Predict Disease Severity In Nasal Polyposis? A Lund-Mackay CT-Based Study

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BACKGROUND & AIM

Nasal polyposis is a chronic inflammatory condition of the sinonasal mucosa driven predominantly by Th2-mediated eosinophilic inflammation. Although the Lund-Mackay CT scoring system remains the reference standard for objectively grading disease severity, imaging is not universally accessible and does not always reflect the systemic inflammatory burden. Hematological indices derived from routine complete blood count — including NLR, PLR, MLR, SII, SIRI, MPV, and peripheral eosinophil parameters — have been proposed as low-cost surrogates of systemic inflammation in oncological and cardiovascular diseases. Whether these indices meaningfully reflect radiological disease severity in nasal polyposis remains unclear.

MATERIAL & METHODS

We conducted a retrospective analysis of 129 patients who underwent functional endoscopic sinus surgery (FESS) for nasal polyposis in 2025 and 2026. Exclusion criteria included active infection at the time of blood sampling, systemic corticosteroid use within the preceding four weeks, age <18 or >70, hematological disease, immunosuppressive therapy, and known malignancy. Preoperative complete blood count values were retrieved, and the following indices were calculated: NLR (neutrophil/lymphocyte), PLR (platelet/lymphocyte), MLR (monocyte/lymphocyte), SII (platelet × neutrophil / lymphocyte), and SIRI (neutrophil × monocyte / lymphocyte). Eosinophil percentage, absolute eosinophil count, and MPV were also recorded. Preoperative CT scans were scored using the Lund-Mackay system, and patients were stratified into three groups: mild (0–7, n=43), moderate (8–18, n=50), and severe (19–24, n=35). Statistical analysis included Spearman rank correlation, Kruskal-Wallis test with Bonferroni-corrected post-hoc comparisons, and ROC curve analysis with bootstrap confidence intervals.

RESULTS

The cohort included 129 patients (median age 40 years, IQR 29–51). Of the eight hematological parameters evaluated, only eosinophil-related measures demonstrated a statistically significant and consistent association with Lund-Mackay severity. Eosinophil percentage correlated positively with CT score ($r=+0.393$, $p<0.001$), with median values rising progressively from 2.6% in mild to 3.8% in moderate and 6.6% in severe disease ($p<0.001$). Absolute eosinophil count followed the same pattern ($r=+0.349$, $p<0.001$). ROC analysis identified eosinophil percentage as the strongest predictor of severe polyposis (AUC=0.751, 95% CI: 0.650–0.842; optimal cutoff 5.6%, sensitivity 66.7%, specificity 79.1%). NLR, PLR, MLR, SII, SIRI, and MPV showed no significant correlation with disease severity in either Spearman or Kruskal-Wallis analyses (all $p>0.05$).

CONCLUSIONS

This study demonstrates that widely used hematological inflammatory indices including NLR, SII, and SIRI do not reflect radiological disease severity in nasal polyposis. They are predominantly neutrophil-driven, and nasal polyposis is a Th2-polarized, eosinophilic disease. Applying inflammation markers validated in oncology&sepsis to a disease with a distinct immunological profile may simply be asking the wrong question of the wrong cells. By contrast, an eosinophil percentage above 5.6% was associated with severe radiological disease. Clinicians should be cautious about over-interpreting routine inflammatory ratios in this context, and future work should focus on disease specific biomarkers of nasal polyposis.

KEYWORDS

nasal polyposis; Lund-Mackay score; eosinophil; NLR; SII; SIRI; hematological indices; inflammatory markers; rhinology; disease severity

OP-1181

Prospective Evaluation Of The Effects Of Inferior Turbinate Radiofrequency And Inferior Turbinate Lateralization On Nasolacrimal Duct Functions

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BACKGROUND & AIM

Inferior turbinate surgery is commonly performed during septoplasty in patients with septal deviation and turbinate hypertrophy. Due to the close relationship between the inferior turbinate and the nasolacrimal system, surgery may affect lacrimal function and cause postoperative epiphora. However, data on different techniques remain limited. This study prospectively compared radiofrequency and lateralization techniques on nasolacrimal duct function using subjective and objective assessments in septoplasty patients.

MATERIAL & METHODS

This prospective comparative clinical study included 42 patients who underwent septoplasty combined with inferior turbinate surgery for septal deviation and inferior turbinate hypertrophy between December 2025 and March 2026 at Başakşehir Çam and Sakura City Hospital. Patients were divided into two groups according to the surgical technique applied: inferior turbinate radiofrequency (RF) and inferior turbinate lateralization. Patients with previous nasal or lacrimal surgery, known nasolacrimal duct obstruction, dacryocystitis, or systemic connective tissue diseases were excluded from the study.

Nasolacrimal duct functions were evaluated preoperatively and at the first postoperative month using subjective and objective assessment methods, including Munk score, Fluorescein Dye Disappearance Test (FDDT), and fluorescein disappearance time. Demographic characteristics and postoperative epiphora complaints were also recorded. Statistical analyses were performed using SPSS software.

RESULTS

A total of 42 patients undergoing septoplasty with inferior turbinate surgery were analyzed, including 26 treated with radiofrequency (RF) ablation and 16 with lateralization. Groups were comparable at baseline regarding FDDT grade ($p = 0.366$) and clearance time ($p = 0.223$). No patient reported epiphora, and Munk scores remained zero pre- and post-operatively. Within-group analysis showed no significant changes in FDDT grade or clearance time after either procedure. Between-group comparisons also revealed no significant differences postoperatively (FDDT grade $p = 0.054$; clearance time $p = 0.142$). In a subgroup with prolonged preoperative FDDT (>5 min), RF ablation significantly improved clearance time (10.0 to 6.0 min; $p = 0.004$), while lateralization showed no change. Both procedures were safe for lacrimal drainage function.

CONCLUSIONS

Both inferior turbinate radiofrequency ablation and lateralization appear to be safe with respect to nasolacrimal duct function, as neither technique caused significant postoperative deterioration in subjective or objective lacrimal drainage parameters. Although radiofrequency ablation demonstrated a significant improvement in fluorescein clearance time among patients with prolonged preoperative drainage, no significant between-group differences were observed overall. Further prospective studies with larger cohorts, longer follow-up, and controlled designs are needed to evaluate both the long-term safety and potential therapeutic effects of inferior turbinate surgery on nasolacrimal drainage function.

KEYWORDS

Inferior turbinate surgery , Radiofrequency ablation ,Turbinate lateralization ,Nasolacrimal duct ,Epiphora ,Lacrimal drainage function

OP-1182

Absence Of Allergic Reaction To Shellfish-Derived Chitosan Nasal Packing In Shellfish Allergic Patients

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BACKGROUND & AIM

NOVAPAK® is a chitosan-based nasal packing commonly used following endoscopic sinus surgery. Because chitosan is derived from shellfish exoskeletons, its use is often avoided in patients with shellfish allergy despite the absence of protein allergens such as tropomyosin. Clinical data supporting the safety of intranasal NOVAPAK use in shellfish-allergic patients are limited.

The aim of this study was to evaluate the safety of NOVAPAK nasal packing in adults with confirmed shellfish allergy.

MATERIAL & METHODS

This prospective pilot safety study enrolled adults aged 18–60 years with a documented history of shellfish allergy confirmed by clinical history, prior oral challenge and skin prick testing. Participants underwent a staged provocation protocol in a monitored hospital setting. Initial cutaneous exposure to NOVAPAK was followed, in the absence of reaction, by intranasal application to the inferior turbinate. Vital signs, symptoms, and nasal congestion scores were assessed before and after exposure. Participants were observed for immediate reactions and followed by telephone at 48 hours. Allergic reactions were defined according to World Health Organization anaphylaxis criteria.

RESULTS

Ten participants with confirmed shellfish allergy were enrolled and completed the provocation protocol. No local or systemic allergic reactions were observed during cutaneous testing, intranasal challenge, post-procedure observation, or 48-hour

follow-up. No participants met criteria for anaphylaxis, required pharmacologic intervention, or demonstrated worsening nasal congestion attributable to NOVAPAK exposure.

CONCLUSIONS

In this pilot study, intranasal exposure to NOVAPAK was well tolerated in shellfish-allergic patients, with no observed allergic reactions. These findings support the preliminary safety of chitosan-based nasal packing in this patient population and justify further evaluation in clinical use for shellfish-allergic patients.

KEYWORDS

chitosan shellfish allergy, rhinosinusitis

OP-1183

Comparative Performance Analysis Of Four Artificial Intelligence Models In The Diagnosis Of Inverted Papilloma: A Retrospective Single Center Study With 60 Patients

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BACKGROUND & AIM

Inverted papilloma is a benign yet locally aggressive sinonasal tumor with a malignant transformation risk. Distinguishing these lesions from inflammatory nasal polyps radiologically remains challenging. Furthermore, comprehensive comparative evaluations of modern large language models for sinonasal pathology are currently lacking. Therefore, this study aims to compare the diagnostic performance of four artificial intelligence models (Gemini, ChatGPT/GPT-4, DeepSeek, and Abacus AI) in distinguishing inverted papilloma from nasal polyps using CT imaging.

MATERIAL & METHODS

This retrospective single-center study included 60 patients (30 with inverted papilloma, 30 with inflammatory nasal polyps) who underwent paranasal sinus CT between January 2020 and December 2024. Four artificial intelligence models (Gemini, ChatGPT/GPT-4, DeepSeek, and Abacus AI) independently evaluated the CT images using standardized prompts under blinded conditions to distinguish between the two pathologies. Diagnostic performance was assessed by calculating sensitivity, specificity, accuracy, positive/negative predictive values, and F1 scores, with 95% confidence intervals. Histopathological examination served as the gold standard for all comparisons.

RESULTS

Gemini achieved 91.67% accuracy (95% CI: 81.93-96.39%), 96.67% sensitivity, and 86.67% specificity with only 5 misclassifications. ChatGPT/GPT-4 reached 87.5% accuracy with 100% sensitivity but 75% specificity. DeepSeek showed 87.5% accuracy with 75% sensitivity and 100% specificity. Abacus AI produced 75% accuracy with 100% sensitivity and 50% specificity. Mean accuracy across models was 85.00%.

CONCLUSIONS

AI models, particularly Gemini, demonstrate high diagnostic accuracy in distinguishing inverted papilloma from nasal polyps on CT. Significant performance variations exist among models, reflecting distinct sensitivity-specificity trade-offs. AI serves as a valuable adjunct tool; however, integration with clinical judgment and histopathological confirmation remains essential.

KEYWORDS

Inverted papilloma, artificial intelligence, machine learning, computer-aided diagnosis, large language models, sinonasal tumors

OP-1184

Beyond The Sinuses: FESS And Biologic Therapy Are Associated With Reduced Depression In Chronic Rhinosinusitis

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) is associated with substantial symptom burden and impaired quality of life, with depression frequently reported among affected patients. However, the impact of surgical and biologic treatment strategies on depression risk in CRS remains incompletely defined. This study aimed to evaluate the association between functional endoscopic sinus surgery (FESS), with or without adjunct biologic therapy, and incident depression in patients with CRS.

MATERIAL & METHODS

A retrospective cohort study was conducted using de-identified electronic health record data from the TriNetX US Collaborative Network. Adult patients (≥18 years) diagnosed with CRS between January 2015 and December 2023 were included. Patients were categorized into three groups: medical management without surgery, FESS alone, and FESS with adjunct biologic therapy. Propensity score matching was performed to balance demographic and clinical characteristics across

cohorts. The primary outcome was incident depression within 24 months following the index date. Hazard ratios (HR) with 95% confidence intervals (CI) were calculated.

RESULTS

After propensity score matching, baseline demographic and clinical characteristics were well balanced across cohorts. At 24 months, patients undergoing FESS alone demonstrated a significantly lower incidence of depression compared with matched non-surgical controls (7.4% vs 10.2%; HR 0.73, 95% CI 0.69–0.77; p < 0.001). Patients treated with FESS plus biologic therapy exhibited an additional reduction in depression incidence compared with those undergoing FESS alone (5.1% vs 7.4%; HR 0.69, 95% CI 0.62–0.77; p < 0.001). Findings remained consistent across sensitivity analyses.

CONCLUSIONS

Functional endoscopic sinus surgery was associated with a reduced 24-month incidence of depression among adults with chronic rhinosinusitis, with further risk reduction observed when biologic therapy was incorporated. These findings suggest that effective CRS management may provide meaningful mental health benefits beyond sinonasal symptom control.

KEYWORDS

Functional Endoscopic Sinus Surgery, Mental Health, Depression, Chronic rhinosinusitis

OP-1185

Subjective And Objective Outcomes After Septoplasty: A Multidimensional Analysis Of Functional Improvement And Predictive Factors

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BACKGROUND & AIM

The relationship between patient-reported outcomes and objective measures of nasal patency after septoplasty remains controversial, with evidence suggesting a mismatch between symptom perception and airflow metrics. This study aimed to evaluate postoperative changes in subjective and objective parameters after septoplasty and to identify predictors of functional improvement using radiological and clinical variables.

MATERIAL & METHODS

In this retrospective cohort study, 37 adult patients undergoing septoplasty with or without turbinate surgery were analyzed. Preoperative and 6-month postoperative assessments included SNOT-22 and NOSE scores, anterior and posterior rhinomanometry, and evaluation of nasal asymmetry. Septal deviation angle was measured using computed tomography. Within-subject changes were analyzed using the Wilcoxon signed-rank test. Associations between changes (Δ values) were assessed with Spearman's correlation. Multivariable linear regression was used to identify independent predictors of improvement in SNOT-22 scores.

RESULTS

Preoperative NOSE and SNOT-22 scores were 60 (39.5–78) and 63 (31.5–78.5), respectively. Anterior and posterior rhinomanometry values were 0.237 (0.192–0.423) and 0.423 (0.324–0.543), and nasal asymmetry was 1.7 (1.35–1.9). The median septal deviation angle was 13 (8–16.5). At 6 months, NOSE and SNOT-22 scores decreased to 21 (13–29) and 21 (15.5–33), respectively (both p = 0.0001). Anterior rhinomanometry decreased to 0.213 (0.143–0.240) (p = 0.001), posterior rhinomanometry to 0.218 (0.171–0.306) (p = 0.0001), and asymmetry to 1.20 (1.10–1.25) (p = 0.0001). Changes in NOSE and SNOT-22 scores were strongly correlated (r = 0.86, p = 0.0001). Correlations between subjective and rhinomanometric changes were weak (r = 0.22–0.36) and not consistently significant (p = 0.02–0.17). Septal deviation angle correlated negatively with improvement (r = -0.431, p = 0.008) and was the only independent predictor in regression analysis (B = -2.59, p = 0.002).

CONCLUSIONS

Septoplasty significantly improves both subjective and objective outcomes; however, these domains are only weakly associated. Septal deviation angle may serve as a clinically relevant predictor of postoperative improvement.

KEYWORDS

Septoplasty; Nasal Obstruction; Patient-Reported Outcomes; Rhinomanometry; Septal Deviation Angle

OP-1186

Real-World Outcomes Of Dupilumab On Olfactory Function In Chronic Rhinosinusitis With Nasal Polyps Using The Sniffin' Sticks Test

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BACKGROUND & AIM

Background

Chronic rhinosinusitis with nasal polyps (CRSwNP) is commonly associated with loss of smell and reduced quality of life. Dupilumab has been shown to improve symptoms and olfaction in clinical trials, but most studies have measured smell using identification tests only. The Sniffin' Sticks test allows assessment of olfactory threshold, discrimination, and identification (TDI), providing a more complete evaluation of olfactory function.

Objective

To evaluate changes in olfactory function in patients with CRSwNP treated with dupilumab using the Sniffin' Sticks TDI score.

MATERIAL & METHODS

This prospective study included adult patients with recalcitrant CRSwNP who were started on dupilumab at a tertiary rhinology clinic. Patients were assessed at baseline and during follow-up with Sniffin' Sticks TDI scores (Threshold, Discrimination, and Identification), nasal polyp scores on endoscopy, and SNOT-22 symptom scores (Sino-nasal Outcome Test-22). The number of prior sinus surgeries was also recorded and analyzed in relation to olfactory outcomes. Long-term outcomes were assessed at 36 ± 6 months. Statistical analysis included paired comparisons, repeated-measures ANOVA, and correlation analysis between prior surgical burden and TDI scores.

RESULTS

Fifteen patients were enrolled and thirteen completed long-term follow-up. SNOT-22 scores showed a significant improvement compared with baseline, with a mean reduction of 42 points at 36 months ($p < 0.001$). Mean total TDI scores improved from 24.7 at 6 months to 29.6 at long-term assessment. Threshold scores also showed a gradual upward trend, increasing from a mean of 5.1 to 6.4. Six patients demonstrated an improvement of more than 3 points in threshold scores compared with their 6-month results. Among those considered responders, the average threshold improvement was 5.7 points after 6 months. Notably, three patients who had anosmic threshold scores at 6 months improved into the borderline normosmic range at the 3-year follow-up. Two patients showed some decline in threshold scores over time. Nasal polyp scores also improved over time. No relationship was found between the number of prior sinus surgeries and olfactory outcomes.

CONCLUSIONS

Dupilumab treatment in patients with CRSwNP was associated with sustained improvement in symptoms and quality of life, with gradual recovery of olfactory function in many patients over long-term follow-up.

KEYWORDS

Chronic rhinosinusitis with nasal polyps, Dupilumab, Olfactory function, Sniffin' Sticks, Biologic therapy

OP-1187

Comparison Between Steroidal Irrigation And Nasal Spray In The Treatment Of Chronic Rhinosinusitis: A Systematic Review

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) is a chronic inflammatory disease that significantly affects quality of life. Topical corticosteroids are a cornerstone of treatment, commonly administered as intranasal sprays; however, limited sinus penetration may reduce their efficacy, particularly in patients with nasal polyps or a history of previous surgery. High-volume corticosteroid irrigations may improve drug delivery and enhance outcomes. However, their comparative effectiveness versus conventional steroid sprays remains unclear. This systematic review aimed to evaluate the efficacy and safety of corticosteroid nasal irrigations compared with intranasal corticosteroid sprays in patients with CRS, considering symptom control, endoscopic outcomes, radiologic findings, and adverse events.

MATERIAL & METHODS

A systematic review was conducted following PRISMA 2020 guidelines. PubMed, BVS, and Cochrane Library databases were searched for studies published from October 2015 to October 2025. Search terms included chronic rhinosinusitis, nasal irrigation, corticosteroids, and intranasal spray. Randomized controlled trials and observational studies comparing high-volume corticosteroid nasal irrigations versus intranasal corticosteroid sprays in adult CRS patients were included. Eligible populations included patients with or without nasal polyps and with or without previous endoscopic sinus surgery. Outcomes assessed were symptom severity using SNOT-22, endoscopic findings, radiologic outcomes, adverse events, and treatment discontinuation. Data extracted included study design, patient characteristics, interventions, outcomes, and safety measures. Certainty of evidence was assessed using the GRADE approach. Four studies meeting inclusion criteria were included for qualitative synthesis

RESULTS

Four studies involving 368 patients were included, comprising three randomized controlled trials and one observational study. Both corticosteroid irrigations and intranasal sprays significantly improved symptoms, with no consistent differences in SNOT-

22 outcomes between groups. However, corticosteroid irrigations demonstrated greater improvement in objective endoscopic outcomes, including reduction of mucosal inflammation and polyp size, particularly in patients with chronic rhinosinusitis with nasal polyps and those with prior endoscopic sinus surgery. Limited radiologic evidence also favored corticosteroid irrigations. Safety profiles were favorable in both groups, with predominantly mild local adverse effects such as nasal irritation and transient discomfort. No significant systemic adverse effects or hypothalamic-pituitary-adrenal axis suppression were reported. GRADE assessment showed high-quality evidence supporting corticosteroid irrigations for postoperative patients and moderate-quality evidence in non-operated patients, with no significant safety concerns identified across studies.

CONCLUSIONS

Both corticosteroid nasal irrigations and intranasal corticosteroid sprays are effective and safe in CRS management. While symptom improvement appears comparable, corticosteroid irrigations may provide superior objective endoscopic outcomes, especially in patients with nasal polyps and previous sinus surgery. Corticosteroid irrigations may represent a preferred option in selected CRS subgroups. Further randomized trials with standardized protocols and larger populations are needed to better define their role across different CRS phenotypes.

KEYWORDS

Chronic rhinosinusitis; corticosteroid irrigation; intranasal spray; nasal polyps;systematic review

OP-1188

When Autoimmunity Meets The Sinuses: Insights From A Nationwide Study Of Chronic Rhinosinusitis Phenotypes

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) is a heterogeneous inflammatory condition of the paranasal sinuses, clinically categorized as CRS with nasal polyps (CRSwNP) and without nasal polyps (CRSsNP). While both forms share overlapping symptoms, they differ in clinical presentation, underlying pathophysiology, and treatment response. Emerging evidence suggests a potential association between autoimmune diseases and CRS, particularly CRSwNP. This is the first large-scale study to examine the relationship between autoimmune diseases and CRS phenotypes using a nationwide electronic health record database.

MATERIAL & METHODS

We conducted a retrospective cohort study using Epic Cosmos, a nationwide database aggregating de-identified electronic health records from over 200 million patients across U.S. health systems. Patients with documented diagnoses of autoimmune diseases were identified using structured queries within Epic Cosmos. The search included the following conditions: Inflammatory Bowel Disease, Rheumatoid Arthritis, Sarcoidosis, Psoriasis, Ankylosing Spondylitis, Systemic Lupus Erythematosus, Sjögren Syndrome, Scleroderma, Other Autoimmune Diseases.The primary outcomes were the diagnosis CRSsNP and CRSwNP. Patients with corresponding diagnostic codes were classified accordingly.

RESULTS

A total of 96,938 patients with autoimmune diseases were identified through Epic Cosmos. Among them, the overall prevalence of chronic sinusitis (including chronic sinusitis with and without nasal polyps) was 5.2%. The calculated risk ratio (RR) for chronic sinusitis in patients with autoimmune disease compared to those without autoimmune conditions was 0.959 (95% Confidence Interval: [0.904 , 1.017]), suggesting no significant increase in overall risk.

The prevalence of chronic sinusitis varied by autoimmune disease subtype. Sjögren syndrome (RR = 1.77, CI: 1.61–1.95) and ankylosing spondylitis (RR = 1.44, CI: 1.29–1.60) were associated with a significantly increased risk of chronic sinusitis compared to the non-autoimmune population and both had the highest prevalence of CRS patients with 9.1% and 7.4% respectively.

All other autoimmune conditions had no statistically significant increase in risk, and in some cases (e.g., psoriasis and IBD), showed a modestly decreased risk.

CONCLUSIONS

In this large, population-level cohort study using Epic Cosmos, the overall prevalence of chronic rhinosinusitis among patients with autoimmune diseases was 5.2%. While the overall risk of chronic sinusitis in patients with autoimmune diseases was not significantly increased, specific conditions, particularly Sjögren syndrome and ankylosing spondylitis, were associated with a markedly higher risk. These findings suggest that while autoimmune disease as a broad category may not confer increased overall risk for chronic sinusitis, specific autoimmune conditions may be more strongly associated with CRS and warrant further investigation.

KEYWORDS

Autoimmune, Chronic Sinusitis, Sjögren, nasal polyps

OP-1189

VIRTUAL REALITY ENHANCED OLFACTORY REHABILITATION THERAPY

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BACKGROUND & AIM

This study investigated the efficacy and safety of olfactory rehabilitation treatment aided by virtual reality technology, compared with conventional 12-week olfactory training with four different odors.

MATERIAL & METHODS

The study was conducted with 26 patients at Dokuz Eylül University Department of Otorhinolaryngology. Participants were randomly assigned to control (n=13) and study (n=13) groups based on inclusion and exclusion criteria. All patients underwent Sniffin' Sticks test before and after treatment. The control group received 12 weeks of olfactory rehabilitation with four odors (rose, lemon, peppermint, clove), while the study group was presented with a virtual reality video containing visual stimuli of the odors simultaneously with the odorants.

RESULTS

Age, gender, etiology, neurocognitive scores, and baseline Sniffin' Sticks total, threshold, discrimination, and identification scores were comparable between the groups, with no meaningful differences observed ($p > 0.05$ for all comparisons).

Following treatment, improvements were observed in Sniffin' Sticks total, threshold, and identification scores in both groups (p values 0.002, 0.003, and 0.002, respectively). No meaningful differences were identified between the groups ($p > 0.05$). No side effects were observed in either group, and treatment compliance was comparable.

CONCLUSIONS

Visual stimulus-assisted virtual reality-based olfactory rehabilitation is as effective and reliable as conventional 12-week olfactory training with four different odors.

KEYWORDS

Smell Loss, Olfactory Training, Neuroplasticity, Virtual Reality

OP-1190

Clinicopathological Characteristics, Surgical Management, And Oncologic Outcomes Of Sinonasal Inverted Papilloma: A Single-Center Retrospective Analysis

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BACKGROUND & AIM

Sinonasal inverted papilloma is a benign tumor characterized by locally aggressive behavior, a significant risk of recurrence, and a low but clinically meaningful potential for malignant transformation. This study aimed to evaluate the demographic characteristics, tumor localization, surgical approaches, histopathological findings, and recurrence rates of patients diagnosed with sinonasal inverted papilloma.m

MATERIAL & METHODS

The medical records of 73 patients diagnosed with sinonasal inverted papilloma between 2011 and 2025 at the Department of Otorhinolaryngology–Head and Neck Surgery, University of Health Sciences Haydarpaşa Numune Training and Research Hospital, were retrospectively reviewed. Demographic characteristics, computed tomography findings, tumor stage according to the Krouse classification, surgical methods performed, histopathological results (dysplasia/malignancy), and recurrence status were systematically analyzed.

RESULTS

Of the 73 patients, 63 (86.3%) were male and 10 (13.7%) female, with a mean age of 52.2 ± 13.2 years (range, 21–83). The most common sites were the nasal cavity and maxillary sinus. According to the Krouse system, 9 (12.3%) were stage I, 15 (20.5%) stage II, 46 (63%) stage III, and 3 (5.4%) stage IV. All underwent endoscopic tumor excision; 22 with extensive disease underwent endoscopic medial maxillectomy, 5 Caldwell–Luc, and 1 external frontal sinus surgery. Histopathology showed dysplasia in 10 (13.6%) and squamous cell carcinoma in 3 (4.1%). Among 43 patients followed >6 months, 10 (23%) had radiologic recurrence, with 5 (11.6%) confirmed histopathologically. One recurrence involved the soft palate. Well-differentiated squamous cell carcinoma developed in one patient at 95 months.

CONCLUSIONS

Sinonasal inverted papilloma is more common in middle-aged men and is frequently diagnosed at advanced stages. Endoscopic surgery is an effective and safe treatment modality for most cases; however, medial maxillectomy and other external surgical approaches should be considered in advanced-stage or extensively spreading disease. The tumor carries a low but clinically significant risk of recurrence and malignant transformation. Although rare, recurrence at atypical locations should be

considered, comprehensive head and neck examination should be performed at each follow-up visit, and long-term regular postoperative surveillance should be maintained.

KEYWORDS

Sinonasal Inverted Papilloma, Schneiderian Papilloma, Endoscopic Sinus Surgery, Krouse Staging System, Recurrence, Malignant Transformation, Squamous Cell Carcinoma

OP-1191

Surgical Outcomes And Evolution Of Vascular Management In Juvenile Nasopharyngeal Angiofibroma: A 17-Year Single-Center Experience

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BACKGROUND & AIM

Objectives: To evaluate the long-term outcomes of surgical management for Juvenile Nasopharyngeal Angiofibroma (JNA) at a tertiary referral center, focusing on the efficacy of different surgical approaches and the safety of preoperative vascular interventions

MATERIAL & METHODS

Methods: A retrospective review was conducted on 39 male patients (median age 17.8 years) treated for JNA between 2007 and 2024. Tumors were staged using the Radkowski classification (Stage I: 8; Stage II: 26; Stage III: 5). Surgical management included endonasal endoscopic resection (n=12) or an open sublabial approach (n=27). Postoperative surveillance utilized annual MRI until age 22–25 to monitor for late recurrence

RESULTS

Results: Complete resection was achieved in 56% of cases. Of the 17 patients (44%) with residual tumor, 12 remained stable or regressed spontaneously. Five progressive residuals required endoscopic re-intervention, with two requiring adjuvant proton beam radiotherapy for hemorrhage control. At the final follow-up (median 52 months), 90% of patients were disease-free. Notably, surgical morbidity was low with no major intraoperative complications. However, preoperative embolization was associated with a 7% major complication rate, including one TIA and one permanent blindness. This prompted a successful institutional shift to coiling as the primary devascularization method, after which no further vascular complications occurred.

CONCLUSIONS

Conclusion: Multidisciplinary management ensures excellent long-term control of JNA with a 90% cure rate. While endoscopic resection is highly effective for lower-stage disease, advanced cases still benefit from open or multimodal strategies. Given the inherent risks of embolization, coiling represents a safer vascular adjunct. Our findings emphasize that stable residuals can be safely observed, reserving aggressive intervention for progressive disease

KEYWORDS

Juvenile nasopharyngeal angiofibroma (JNA), Preoperative embolization, Midfacial degloving, Endovascular coiling

OP-1192

Atypical Fungal Mycetoma Coexisting With An Organized Hematoma In The Maxillary Sinus: A Rare Case Report

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BACKGROUND & AIM

Fungal mycetoma is a common condition in the maxillary sinus, predominantly caused by Aspergillus species; other fungal species are rarely identified. Organized hematoma is also a rare sinonasal lesion that frequently mimics a tumor. The concomitant occurrence of a non-Aspergillus fungal mycetoma and an organized hematoma in the maxillary sinus is an exceedingly rare phenomenon.

MATERIAL & METHODS

Case Presentation: A 61-year-old male with multiple comorbidities—including hypertension, coronary artery disease (status post-percutaneous coronary intervention one year prior), a history of old cerebrovascular accident (CVA), and end-stage renal disease (ESRD) on maintenance hemodialysis—presented with intermittent left-sided epistaxis. He was on daily antiplatelet therapy. Nasal endoscopy revealed a polypoid swelling at the left middle meatus, and an initial tissue biopsy showed only a nasal polyp. Preoperative computed tomography (CT) demonstrated total opacification of the left maxillary sinus with internal high-density content and fine punctate calcification, causing obstruction of the ostiomeatal unit (OMU), accompanied by sclerotic thickening of the maxillary sinus wall. Magnetic resonance imaging (MRI) revealed a T1-weighted (T1W) hypointense and T2-weighted (T2W) hyperintense lesion with peripheral enhancement in the middle meatus, causing OMU obstruction.

RESULTS

Management and Outcomes: The patient successfully underwent an endoscopic endonasal approach (endoscopic modified medial maxillectomy) to completely remove the mycetoma and hematoma. Intraoperative findings showed mild polypoid mucosa of the maxillary sinus without necrotic tissue. The histopathological report revealed an abundant accumulation of broad, pauciseptate, ribbon-like hyphae with irregular branching within the tissue, accompanied by neutrophils and necrotic tissue. This was intermixed with hemorrhage, dilated vessels, and fibrin exudation, consistent with an organized hematoma. Postoperatively, the patient achieved a satisfactory outcome, regaining normal sinus function with no recurrence of epistaxis.

CONCLUSIONS

Conclusion: The concomitant finding of a non-Aspergillus fungal mycetoma and an organized hematoma in the maxillary sinus is a very rare condition that clinicians should consider in patients presenting with unilateral nasal masses and epistaxis, especially those with multiple vascular risk factors and ESRD on antiplatelet therapy.

KEYWORDS

Atypical Fungal Mycetoma, Organized Hematoma, Epistaxis from sinus

OP-1193

Does Preoperative Blood Eosinophilia Predict Pathology And Revision In Unilateral Endoscopic Sinus Surgery? A 10-Year Single-Center Experience

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BACKGROUND & AIM

Peripheral blood eosinophil count has been incorporated into prognostic frameworks for bilateral chronic rhinosinusitis with nasal polyps (CRSwNP), where Type 2 inflammation dominates the endotype. Whether the same biomarker behaves comparably in unilateral sinonasal disease — a clinical category in which anatomic, infectious, and neoplastic processes frequently drive surgical indication — has received limited dedicated study, and Turkish surgical data on this question are scarce.

MATERIAL & METHODS

We reviewed 251 consecutive unilateral ESS procedures performed at the Otorhinolaryngology Department, Dr. Sadi Konuk Training and Research Hospital, Istanbul, between February 2016 and May 2026. After de-identification, we extracted age, sex, final pathology, revision status, and preoperative absolute eosinophil count ($\times 10^3/\mu L$) from hospital records. Free-text pathology reports were re-coded into nine standardized categories. Group comparisons used Mann-Whitney U or Kruskal-Wallis tests for continuous data and chi-square/Fisher exact for categorical data; the diagnostic performance of eosinophil count was assessed by ROC analysis with Youden-based cut-offs.

RESULTS

Median age was 37 years (IQR 22–51); the male-to-female ratio was 1.67. CRSwNP/inflammatory polyp (32.7%), polyp-free CRS (18.3%), and antrochoanal polyp (17.5%) were the leading diagnoses; inverted papilloma accounted for 7.2% and malignancy for 2.0%. Pathology distribution was strongly age-dependent ($p<0.001$): neoplastic lesions rose from 4.3% in pediatric to 22.4% in patients ≥60 years. Median preoperative eosinophil count was 160 cells/µL (IQR 100–270), with only 10% exceeding the 450 cells/µL threshold often quoted in bilateral CRSwNP literature. Eosinophil count did not separate neoplastic from non-neoplastic pathology (AUC 0.566, 95% CI 0.449–0.682) nor predict revision (AUC 0.485). Revision rate was 7.2% (16/222), concentrated in inverted papilloma (20.0%) and antrochoanal polyp (11.4%). Older age was associated with revision ($p=0.035$); eosinophil count was not ($p=0.838$).

CONCLUSIONS

In this Turkish cohort, the histopathological mix of unilateral ESS was broadly consistent with international reports, while malignancy was less frequent than some Western series. The most instructive finding is a negative one: preoperative blood eosinophilia neither separated pathology categories nor flagged revision risk. Biomarker frameworks built for bilateral CRSwNP should not be transposed uncritically to unilateral disease, whose endotype landscape appears to be substantially more heterogeneous.

KEYWORDS

unilateral sinonasal disease; endoscopic sinus surgery; antrochoanal polyp; inverted papilloma; blood eosinophilia; biomarker performance; revision surgery

OP-1194

Assesment Of The Impact Of Inflammatory Phenotype And Olfactory Dysfunction On Smell-Related Quality Of Life In Patients With Chronic Rinosinusitis

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BACKGROUND & AIM

Although an improvement in overall symptoms is generally expected after endoscopic sinus surgery in patients with chronic rhinosinusitis, changes in olfactory function and smell-related quality of life may vary among patients. The aim of this study was to evaluate the impact of inflammatory phenotype and olfactory dysfunction on smell-related quality of life in patients with chronic rhinosinusitis who underwent bilateral functional endoscopic sinus surgery (FESS).

MATERIAL & METHODS

This retrospective, observational, and analytical study included 30 patients who underwent bilateral FESS for bilateral nasal polyposis at the Department of Otorhinolaryngology of Kartal Dr. Lütfi Kırdar City Hospital between September 2024 and July 2025. Preoperative and postoperative 6th-month Visual Analog Scale (VAS), SNOT-22, and Questionnaire of Olfactory Disorders (QOD) scores, phenotypic characteristics, serum eosinophil percentage, total eosinophil count, and Lund-Mackay scores were evaluated. Delta scores were calculated by subtracting postoperative values from preoperative values in order to assess the magnitude of change. Correlation analyses and group comparisons were performed to investigate the effects of inflammatory phenotype on clinical improvement and smell-related quality of life.

RESULTS

The mean preoperative and postoperative total SNOT scores were 39.03±19.99 and 21.17±15.94, respectively, demonstrating a statistically significant postoperative reduction ($p<0.0001$). The mean preoperative and postoperative QOD scores were 36.30±18.00 and 34.30±14.46; however, the change in QOD scores was not statistically significant ($p=0.586$). A moderate positive and statistically significant correlation was found between delta SNOT-22 and delta VAS ($r=0.573$, $p=0.001$). In contrast, no significant correlation was found between delta SNOT-22 and delta QOD ($r=0.260$, $p=0.165$). There were no significant differences in delta scores according to asthma, allergic rhinitis, NSAID allergy, comorbidity, or smoking status. Serum eosinophil percentage showed a moderate positive and statistically significant correlation with delta VAS (rho=0.503, $p=0.0046$). Moreover, a weak-to-moderate positive and statistically significant correlation was found between serum eosinophil percentage and delta QOD (rho=0.362, $p=0.0496$). Total eosinophil count was significantly correlated with delta VAS (rho=0.543, $p=0.0019$), whereas its relationship with delta QOD remained borderline significant (rho=0.359, $p=0.0511$).

CONCLUSIONS

While bilateral FESS provides significant improvement in overall symptom burden in patients with chronic rhinosinusitis, changes in smell-related quality of life appear to be more heterogeneous. Classical clinical phenotypes did not significantly predict changes in QOD scores. In contrast, serum eosinophil percentage was significantly associated with improvement in smell-related quality of life. These findings suggest that postoperative improvement in olfactory quality of life may be more closely related to inflammatory burden than to conventional clinical phenotype labels.

KEYWORDS

Chronic rhinosinusitis, nasal polyposis, FESS, QOD, olfactory dysfunction, eosinophils, quality of life

OP-1195

The Role Of Paranasal Sinus Anomalies In Primary Acquired Nasolacrimal Duct Obstruction And Chronic Dacryocystitis

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BACKGROUND & AIM

The aim of this study is to evaluate the role of nasal and paranasal sinus anomalies in the development of primary acquired nasolacrimal duct obstruction (PANDO) and chronic dacryocystitis. Given the close anatomical relationship of the nasolacrimal duct with the maxillary sinus and nasal cavity, nasal and sinus-derived inflammatory processes may contribute to the pathogenesis of PANDO and dacryocystitis.

MATERIAL & METHODS

In this retrospective study, 30 patients diagnosed with PANDO, 24 patients diagnosed with chronic dacryocystitis, and 30 healthy controls were evaluated. All participants underwent paranasal sinus computed tomography (CT) imaging. Septal deviation, the Mladina classification, agger nasi cells, paradoxical middle turbinate, concha bullosa, accessory maxillary ostium (AMO), and maxillary sinus pathologies were analyzed.

RESULTS

No statistically significant differences were observed between the PANDO and chronic dacryocystitis groups regarding the Mladina classification, presence of septal deviation, localization of the deviation, or side of the deviation. However, when the control group was compared with the PANDO and chronic dacryocystitis groups, statistically significant differences were identified in terms of the presence and side of septal deviation. Nasal polyps were found to be located on the same side as chronic dacryocystitis. In addition, the presence of right-sided paradoxical middle turbinate was significantly higher in the chronic dacryocystitis group compared to the PANDO group. Comparisons between the control group and the PANDO/chronic dacryocystitis groups demonstrated statistically significant differences regarding right paradoxical middle turbinate, left

paradoxical middle turbinate, right concha bullosa, right accessory maxillary ostium (AMO), and left accessory maxillary ostium (AMO).

CONCLUSIONS

This study demonstrates that nasal polyps, paradoxical middle turbinates, and hypoplastic maxillary sinuses are significantly associated with chronic dacryocystitis. In particular, maxillary sinus hypoplasia may contribute to the development of dacryocystitis by altering the course of the nasolacrimal duct through the medial wall of the maxilla and by increasing persistent inflammation within the sinus. Comprehensive evaluation of the nasal cavity and paranasal sinuses in patients with chronic dacryocystitis may improve treatment outcomes.

KEYWORDS

PANDO,chronic dacryocystitis,nasolacrimal duct obstruction,paranasal sinus, septal deviation

OP-1196

Long-Term Systemic Antibiotic Therapy For Chronic Rhinosinusitis With And Without Nasal Polyposis: A Systematic Review And Network Meta-Analysis

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) affects 9% of adults and is categorized into phenotypes with or without nasal polyps. Treatment varies by inflammatory endotype, and the utility of systemic antibiotics in management remains unclear. Given conflicting data, this meta-analysis used only randomized clinical trials to evaluate the impact of systemic antibiotics on objective clinical markers and patient-reported outcomes in patients with CRS with or without nasal polyps.

MATERIAL & METHODS

We retrieved relevant articles up to December 2025 from PubMed, Scopus, Web of Science, and Cochrane Library. Data were extracted from eligible studies by two independent reviewers, including baseline information, Sino-Nasal Outcome Test (SNOT) scores, Lund-Mackay Scores (LMS), and Lund-Kennedy Scale (LKS). All analyses were conducted using R v. 4.3.3.

RESULTS

We collected 2,561 records from four databases, after excluding 695 duplicates. Eventually, 17 randomized controlled trials were included. Pooled data analysis revealed no statistically significant differences in patient-reported SNOT scores between systemic antibiotics (amoxicillin-clavulanate, azithromycin, clarithromycin, and doxycycline) and usual care (UC). However, significant improvements were found in objective measures. For LMS, all evaluated antibiotics outperformed UC, with the most substantial reduction seen in azithromycin (MD -7.27), followed by doxycycline (MD -2.13) and clarithromycin (MD -0.74). Regarding LKS, both clarithromycin (MD -0.67) and azithromycin (MD -0.32) significantly reduced scores compared to UC, whereas amoxicillin-clavulanate (MD 0.10) showed no significant benefit. While macrolides, specifically azithromycin and clarithromycin, demonstrated superior efficacy in improving radiographic and endoscopic outcomes, these objective improvements did not translate to significant changes in subjective symptom scores.

CONCLUSIONS

Antibiotics improve objective markers like radiographic and endoscopic findings, but these do not necessarily translate to patient-reported symptom relief.

KEYWORDS

CRS, Antibiotics, Long-term use

OP-1197

Correlation of intranasal Schirmer test to nasal symptoms score

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BACKGROUND & AIM

Chronic rhinitis is a prevalent respiratory condition characterized by nasal congestion, itching, sneezing, and rhinorrhea. Objective quantification of nasal secretion remains challenging. The intranasal Schirmer test, adapted from ophthalmologic tear testing, offers a simple, non-invasive method for measuring nasal mucosal secretion. However, its relationship with patient-reported symptom severity remains unclear.

This research is to evaluate correlations between intranasal Schirmer test measurements and symptom severity scores, assess agreement between septal and inferior turbinate measurements, and compare secretion values according to rhinitis subtype, medication use, and hydration status.

MATERIAL & METHODS

A cross-sectional study was conducted in Thai adults aged 18–65 years with chronic rhinitis, including allergic rhinitis and non-allergic rhinitis. Intranasal Schirmer testing was performed under controlled humidity conditions (40–60%), with Schirmer strips placed at the anterior nasal septum and inferior turbinate for 10 minutes. Symptom severity was assessed using visual analog scale and total nasal symptom score. Statistical analyses included paired comparisons, correlation analysis, subgroup analysis, Lin's concordance correlation coefficient, Bland–Altman analysis, and regression analysis.

RESULTS

Seventy-five participants were analyzed. Septal and inferior turbinate measurements demonstrated excellent agreement (Lin's concordance correlation coefficient = 0.89; mean difference 0.11 mm). Correlations between Schirmer measurements and VAS/TNSS domains were weak and predominantly non-significant. Allergic rhinitis patients demonstrated significantly higher septal secretion values than non-allergic rhinitis patients (p=0.012). Hydration status and medication use were not significantly associated with intranasal Schirmer measurements.

CONCLUSIONS

The intranasal Schirmer test demonstrated high reproducibility and consistency between septal and inferior turbinate measurements, supporting its reliability as an objective measure of nasal secretion. However, weak correlations with symptom severity suggest that intranasal Schirmer testing reflects objective mucosal secretory activity rather than subjective symptom perception in chronic rhinitis.

KEYWORDS

Intranasal Schirmer test; Chronic rhinitis; Nasal secretion; Allergic rhinitis; Non-allergic rhinitis; Nasal symptoms; Total Nasal Symptom Score (TNSS)

OP-1198

Primary Nasopharyngeal Chordoma: A Case Report And Literature Review

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BACKGROUND & AIM

Chordoma is a rare malignant tumor arising from embryonic notochordal remnants, with predilection for the axial skeleton, most commonly the sacrococcygeal region, followed by the cranio-cervical/spheno-occipital region, especially the clivus. Nasopharyngeal chordoma is exceptionally uncommon and may mimic other midline nasopharyngeal lesions, particularly nasopharyngeal carcinoma (NPC), causing diagnostic delay and inappropriate treatment. We report a case initially misdiagnosed as clear cell NPC and treated with chemoradiotherapy externally before referral to our tertiary care center, and systematically review reported primary nasopharyngeal chordoma cases from PubMed, Web of Science, Google Scholar, and additional sources, highlighting key clinicopathological features and major diagnostic pitfalls.

MATERIAL & METHODS

This study was designed as a case report combined with a literature review. Clinical, radiological, histopathological, and immunohistochemical data of a 64 year old woman referred after chemoradiotherapy for presumed clear-cell nasopharyngeal carcinoma were retrospectively reviewed. Revision pathology included hematoxylin–eosin assessment and an immunohistochemical panel, with particular emphasis on brachyury expression. A literature search was performed up to 30 April 2026 using PubMed/MEDLINE, Web of Science, Google Scholar, and reference-list screening, with combinations of "chordoma", "notochordal", "nasopharynx", "clivus", and "skull base". Case reports and case series describing histologically confirmed nasopharyngeal chordoma with extractable patient-level data were included. Duplicate reports, non-nasopharyngeal chordomas, clival chordomas, unconfirmed cases, and studies without usable clinical data were excluded. Demographic, clinical, imaging, pathological, treatment, and outcome variables were extracted independently by two reviewers and summarized descriptively.

RESULTS

Revision pathology of the index case demonstrated classical chordoma, with physaliphorous cells in a myxoid matrix and diffuse nuclear brachyury positivity. INI-1 was retained, while EBER, PAX-8, GATA-3, p40, p63, CK7, CK20, and CAIX were negative, excluding major mimickers including EBV-associated nasopharyngeal carcinoma and metastatic clear-cell carcinoma. The literature review identified 14 studies reporting 24 patients; together with the present case, 25 patients were analyzed. The mean age was 31.6 years, with a range of 5–66 years, and pediatric patients represented 34.8% of cases. A slight female predominance was observed. Nasal obstruction was the most frequent presenting symptom. Imaging commonly showed a midline nasopharyngeal mass, often T2-hyperintense, with variable clival association. Surgery was the main treatment in most evaluable cases, while adjuvant proton-beam radiotherapy was used selectively. Brachyury was positive in all tested cases.

CONCLUSIONS

Nasopharyngeal chordoma is an exceptionally rare midline tumor that may closely mimic benign lesions and NPC, leading to diagnostic delay and inappropriate treatment. This case shows that epithelial and S100 positivity may be misleading, especially

in clear cell or myxoid nasopharyngeal lesions. Therefore, brachyury immunohistochemistry should be routinely included when chordoma is considered. Early clinicopathological correlation, careful imaging assessment for clival or midline tract involvement, and multidisciplinary evaluation are essential. Maximal safe resection, with adjuvant particle-beam radiotherapy when appropriate, remains central to management. Recognition of this entity is crucial to avoid unnecessary chemoradiotherapy and improve patient outcomes.

KEYWORDS

Nasopharyngeal Chordoma, Notochord, Brachyury, Nasopharyngeal carcinoma, Skull base surgery

OP-1199

NEUROSCENT: Objective Olfactory Assessment Through Aiot Edge Classification Of Electroencephalographic Measurements (CUP: 53C23001300007), Funded By European Union – Next Generation EU

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BACKGROUND & AIM

Olfaction is one of the most evolutionarily ancient senses, strongly linked to emotional regulation and clinical pathologies such as Major Depressive Disorder (MDD). Despite its importance, objective systems for measuring olfactory perception remain limited. The Neuroscent project, financed by the National Recovery and Resilience Plan (PNRR), intends to establish the first objective system for interpreting neural activity during olfactory stimulation. We hypothesize that custom machine learning (ML) algorithms can identify unique "brain signatures" in electroencephalographic (EEG) traces to classify odor perception and intensity in real-time.

MATERIAL & METHODS

This non-randomized, parallel-assignment study (Open Label) involves 1,000 participants (>18 years old) divided into four groups: normosmics (n=550), hyposmics (n=150), tinnitus patients with hyposmia (n=150), and tinnitus patients without hyposmia (n=150). Participants get a thorough ENT and olfactory assessment, utilizing the Sniffin' Sticks test, yielding an encompassing Threshold-Discrimination-Identification (TDI) score (the maximum is 48). During olfactory assessment, 64-electrode EEG recordings are taken to capture unique brain wave patterns. Data analysis applies Random Forest methods and t-SNE dimensionality reduction to identify EEG signals and analyzes the association between olfactory disorders and tinnitus features.

RESULTS

Preliminary examination of Alpha and Theta power (μV^2) and Fourier transform features shows significant clusters between normosmic and hyposmic participants. The Random Forest model is currently being established, with performance measured via accuracy and Fleiss' Kappa against TDI values. Secondary outcomes incorporate Pure Tone Audiometry, Tinnitus Handicap Inventory (THI), and Auditory Brainstem Response (ABR) to connect olfactory brain processes with auditory impairment. Early modeling implies that, EEG characteristics can reliably predict odor categories across all groups.

CONCLUSIONS

The Neuroscent project provides a novel framework for the objective diagnosis of sensory disorders. By integrating high-density EEG with ML, this study aims to validate a high-precision diagnostic tool for hyposmia, even in complex clinical cases involving tinnitus. These "brain signatures" may offer new therapeutic targets and improve diagnostic paths for sensory dysfunction.

KEYWORDS

Electroencephalography (EEG), Machine Learning, Olfactory Disorders, Hyposmia, Neuroscent Project, Tinnitus, Brain Signatures, Random Forest, Sniffin' Sticks, Sensory Dysfunction, PNRR.

OP-1200

Evaluation Of Extended Dupilumab Dosing Intervals In Chronic Rhinosinusitis With Nasal Polyposis: A Real-World Study From Saudi Arabia

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyposis (CRSwNP), often associated with asthma, significantly impacts quality of life. Dupilumab 300 mg every two weeks (Q2W) is effective but costly. This Saudi real-world study assessed whether extending dosing to every four weeks (Q4W) maintains effectiveness in patients with CRSwNP with or without asthma.

MATERIAL & METHODS

In this retrospective cohort study, 42 adult patients with CRSwNP who had completed at least one year of stable treatment with Q2W dupilumab were transitioned to Q4W dosing and monitored for at least one additional year. Clinical, biomarker, and imaging outcomes were assessed.

RESULTS

Clinical outcomes between Q2W and Q4W were largely comparable. Median nasal polyp scores remained stable, and symptom scores for nasal congestion, discharge, smell loss, and fatigue showed no significant changes. Sino-Nasal Outcome Test (SNOT)-22 and Lund-Mackay scores trended lower in the Q4W group compared to Q2W group but were not statistically significant. Blood eosinophils were modestly reduced, while asthma control remained stable, with high asthma control test scores. Total IgE levels (IU/mL) were significantly lower in the Q4W group (32.5 [10.1–76.4] vs. 52.7 [19.8–215], p<0.001), suggesting immunologic benefit. Fractional exhaled nitric oxide (FeNO) levels were unchanged. Overall, 92.9% maintained symptom control on Q4W for one year; three reverted to Q2W due to worsening of asthma control symptoms.

CONCLUSIONS

Extending dupilumab dosing from Q2W to Q4W is a viable and effective option for most patients with CRSwNP and asthma after at least one year of stable treatment, offering a potential reduction in treatment burden without compromising clinical outcomes.

KEYWORDS

Chronic Rhinosinusitis, Nasal Polyposis, Asthma, Dupilumab, Dosing Intervals, Biologic Therapy

OP-1201

Determinants Of Revision Timing After Endoscopic Sinus Surgery: Disease Extent Vs. CT Findings

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BACKGROUND & AIM

Revision endoscopic sinus surgery (ESS) remains a significant clinical challenge. Although conservative surgical aproaches and anatomical obstructions are frequently implicated, the relative contribution of postoperative radiological findings and their affects of them to timing of revision remains unclear. We hypothesized that the higher amounts of anatomical landmarks that would cause obstruction and their computed tomography findings (CT) would be associated with early revision, whereas lesser CT findings would cause late revision.

MATERIAL & METHODS

This retrospective single-center study included 67 patients who underwent revision ESS in our clinic between the years 2019 to 2025. We separated patients into 2 groups such as early (n=11) and late (n=56) revision groups based on the time passed between revisions. Demographic variables such as age and sex were noted. Preoperative CT scans of Revision ESS's were searched for residual uncinate process, maxillary antrostomy obstruction, lateralized middle turbinate, osteitis, frontal recess obstruction, sphenoid ostium issues, suprabullar cells, and retained agger nasi cells. Extention levels of pathologies were evaluated using Lund-Mackay score. Statistical analyses were performed using appropriate parametric and non-parametric tests to find associations between independent variables and revision timing, with p<0.05 considered significant.

RESULTS

Late revision group were significantly older than early revision group (50.4±12.4 vs. 41.3±14.3 years, p=0.042). Males were significantly associated with delayed revision (89.3%, p=0.013). None of the evaluated CT findings demonstrated a statistically significant association with revision timing (p>0.05 for all comparisons). We found out that LM scores were higher in late revision group compared to early revision group (median 18.0 [interquartile range (IQR): 14.0–21.0] vs. 9.0 [IQR: 6.0–21.0], p=0.013).

CONCLUSIONS

Contrary to our hypothesis, preoperative CT findings did not have a contributing factor to the timing of revision. Instead, overall radiological disease burden, as reflected by LM score, was significantly associated with delayed revision. These findings suggest that global disease severity may play a more critical role than isolated anatomical factors in determining revision timing and should be considered in postoperative evaluation and follow-up strategies.

KEYWORDS

endoscopic sinus surgery , revision , ct findings , revision surgery time

OP-1202

Does The Use Of The Hammer Graft Reduce The Need For Additional Grafts In Rhinoplasty? A Retrospective Study

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BACKGROUND & AIM

Rhinoplasty aims to improve both functional and aesthetic aspects of the nose [1,2]. Structural support of the dorsum and caudal septum is commonly achieved using spreader grafts, septal extension grafts, and columellar struts [3–6]. The hammer graft, described by Soylu et al. in 2023, is a multifunctional graft that combines these three functions in a single structure [7,8].

To retrospectively evaluate whether the use of hammer grafts reduces the total number and types of additional grafts required in primary and revision rhinoplasty.

MATERIAL & METHODS

This retrospective study was approved by the İstanbul Medipol University Non-Interventional Clinical Research Ethics Committee (Decision No: 2025/478; Date: 21.08.2025). A total of 171 open rhinoplasty cases performed between June 2024 and April 2025 were analyzed. Patients aged 16–56 years who underwent primary or revision rhinoplasty were included. Cases with significant comorbidities, congenital nasal deformities, cleft lip and palate, or facial trauma history were excluded. Patients were divided into two groups: Group A (n=100), without hammer graft; Group B (n=71), with hammer graft. The number and types of grafts were compared using the Mann–Whitney U test ($p<0.05$).

RESULTS

The mean number of grafts per patient was significantly lower in Group B (2.60 ± 1.18) compared to Group A (3.68 ± 1.27) ($p=0.001$). Marked reductions were observed in septal extension grafts (25.4% vs 75%), spreader grafts (42.3% vs 57%), columellar strut grafts (15.5% vs 36%), and rim grafts (23.9% vs 98%). The reduction remained significant when primary and revision cases were analyzed separately ($p<0.01$).

CONCLUSIONS

The hammer graft is a multifunctional graft, and its use reduces the need for additional grafts. This feature is of great importance, as it allows the patient's own cartilage to be utilized efficiently while providing sufficient material for effective reconstruction.

KEYWORDS

rhinoplasty, tip support, hammer graft, septal extension graft, spreader graft, columellar strut graft

OP-1203

"Prevalence And Anatomical Distribution Of Onodi Cells On CT: Systematic Review And Meta-Analysis"

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BACKGROUND & AIM

The Onodi cell, also known as the sphenoethmoidal air cell, is a clinically important anatomical variation of the posterior ethmoid sinus because of its close relationship to the optic nerve and internal carotid artery. Failure to recognize this variation during preoperative evaluation may increase the risk of major complications during endoscopic sinonasal and skull base surgery. Reported prevalence rates vary considerably across radiological studies, and the anatomical characteristics of Onodi cells on computed tomography (CT) have not been comprehensively synthesized.

MATERIAL & METHODS

A systematic review and meta-analysis of radiological studies evaluating Onodi cells on CT imaging was performed. Only studies that clearly defined the Onodi cell, utilized CT-based imaging, and reported anatomical distribution data were included. Random-effects meta-analyses were conducted to estimate pooled prevalence proportions with corresponding 95% confidence intervals (CIs). Subgroup analyses were performed according to geographic region, population type, study design, imaging modality, and CT slice thickness. Secondary outcomes included bilateral occurrence, sex differences, optic nerve protrusion or dehiscence, and internal carotid artery (ICA) protrusion or dehiscence. Heterogeneity was assessed using the I^2 statistic, and publication bias was evaluated using funnel plot inspection and Egger's test.

RESULTS

Thirty-three studies comprising 9,983 patients were included. The pooled prevalence of Onodi cells was 29.95% (95% CI: 21.73–39.70), with substantial heterogeneity (I^2 = 97.1%). Asian studies demonstrated the highest prevalence (38.7%), whereas African studies reported the lowest prevalence (17.6%). Population type significantly influenced prevalence estimates ($p < 0.001$), with mixed-indication populations demonstrating the highest prevalence. The pooled prevalence of bilateral Onodi cells was 35.84% (95% CI: 25.95–47.11). No significant sex difference was identified between males and females (OR = 1.04, 95% CI: 0.85–1.28, $p = 0.695$). The pooled prevalence of optic nerve protrusion and dehiscence was 21.77% and 12.99%, respectively, while ICA protrusion and dehiscence were observed in 20.38% and 7.42% of cases. Sensitivity analyses confirmed the robustness of pooled estimates, although high heterogeneity persisted across most outcomes.

CONCLUSIONS

Onodi cells are common anatomical variations identified on CT imaging and frequently demonstrate clinically significant relationships with the optic nerve and internal carotid artery. Considerable heterogeneity exists across studies, likely related to differences in imaging methodology, population characteristics, and diagnostic criteria. Accurate preoperative recognition of Onodi cells and their anatomical variations remains essential for improving surgical planning and reducing the risk of complications during endoscopic sinonasal and skull base procedures.

KEYWORDS

Onodi cell; Sphenoethmoidal cell; Computed tomography; Sinonasal anatomical variations; Endoscopic sinus surgery; Optic nerve

OP-1204

Sphenopalatine Ganglion Block In Septorhinoplasty: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Postoperative pain is a common and clinically significant complication following septorhinoplasty. Effective pain control is essential for patient comfort and recovery. This study aimed to assess the analgesic efficacy of the sphenopalatine ganglion block (SPGB) in patients undergoing septorhinoplasty.

MATERIAL & METHODS

A systematic literature search was conducted across Web of Science, PubMed, Google Scholar, Scopus, and the Cochrane Central Register of Controlled Trials to identify randomized controlled trials and observational studies evaluating SPGB in septorhinoplasty. The primary outcome was postoperative pain intensity, while secondary outcomes included operative duration and intraoperative blood loss. Dichotomous and continuous data were pooled using relative risks (RRs) and standardized mean differences (SMDs), respectively, with corresponding 95% confidence intervals (CIs).

RESULTS

Five studies involving a total of 279 participants were included. SPGB significantly reduced postoperative pain at multiple time points: 1–2 hours (SMD −1.91, 95% CI −3.81 to −0.01; $p<0.05$), 4–6 hours (SMD −1.07, 95% CI −1.92 to −0.23; $p=0.01$), and 24 hours postoperatively (SMD −0.94, 95% CI −1.52 to −0.37; $p<0.001$). In addition, SPGB was associated with a significant reduction in intraoperative blood loss (SMD −3.11, 95% CI −5.06 to −1.15; $p<0.001$). No significant difference was observed in operative duration between the SPGB and control groups ($p=0.94$)

CONCLUSIONS

SPGB is an effective adjunct for postoperative analgesia in septorhinoplasty, providing significant pain reduction for up to 24 hours after surgery. It also significantly decreases intraoperative blood loss without increasing operative time, supporting its safe and beneficial role in perioperative management.

KEYWORDS

Analgesia; Anesthesia; Septorhinoplasty; Systematic review; SPGB

OP-1205

Drug-Induced Rhinitis, Treatment And Diagnosis

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BACKGROUND & AIM

Objective — to assess the feasibility of using laser reduction of the inferior turbinates in patients with drug-induced rhinitis during complex therapy due to the impossibility of self-refusal of nasal decongestants without medical assistance.

MATERIAL & METHODS

To confirm the clinical utility of 7-watt pulsed laser radiation, developed on pig head models (N=5), we continued the experiment on live rabbits (N=4). We decided to study the visual and morphological state of the nasal mucosa dynamically (0–1–2–3 months) after submucosal laser destruction of the rabbit nasal mucosa.

In 2021-2025, 100 patients with drug-induced rhinitis who had been abusing topical decongestants for more than one year underwent surgery in the ENT department of the 11th Clinical Hospital in Minsk. Age from 18 to 72 years. In addition to an otolaryngological examination, included endonasal endoscopy, the use of the SNOT-22, and the performance and analysis of CT scans of the paranasal sinuses, rhinomanometry, olfactory (Sniffin' Sticks test). For laser reduction of the inferior nasal

conchae, a laser device with the following settings was used: radiation wavelength - 1560 nm; radiation emission mode - continuous; power - up to 6-7 W.

RESULTS

Morphological changes in the nasal mucosa of rabbits after laser vaporization with a frequency of 1560 nm and 7 W at 0-1-2-3 months. Clinical resalts.When analyzing the results of the questionnaire, it was found that in the late postoperative period, 7 patients out of 100 returned to dependence on nasal decongestants within a year, which amounted to 7.%, 93 patients refused to use vasoconstrictor drops - 93% , which indicates the high effectiveness of this method in the fight against drug dependence.

CONCLUSIONS

The results of a clinical study showed that to eliminate nasal obstruction, it is advisable to use laser reduction of the inferior turbinates with a wavelength of 1560 nm (1.56 µm) and a power of up to 7 W in a pulsed mode. This method is effective in refusing the treatment of drug-induced rhinitis, effective in the form of reduction of the inferior turbinates with the elimination of nasal obstruction, safety (no complications), the possibility of performing the method in a cost-effective way on an outpatient or inpatient basis (with 1 bed-day).

KEYWORDS

Drug-induced rhinitis, laser reduction of the inferior turbinates

OP-1206

Nasosinusal Mucoceles : A 40-Case Analysis Of Surgical Outcomes And Recurrence Predictors

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BACKGROUND & AIM

Nasosinusal mucoceles represent a benign expansile pathology whose orbital and endocranial extension constitutes a major therapeutic challenge. The objective of this study was to analyze the clinical, radiological, and surgical characteristics of a single-center series of complex mucoceles, and to identify prognostic factors for recurrence using an improved data collection form integrating specific variables validated by international literature.

MATERIAL & METHODS

Single-center retrospective study including 40 patients operated for nasosinusal mucocele with orbital and/or cranial extension between 2015 and 2024. Epidemiological, clinical, radiological (CT and MRI), surgical, and follow-up data were collected using a standardized form. Radiological variables analyzed included: primary sinus involved, laterality, precise location of bone erosion (medial orbital wall, frontal anterior table, skull base), type of orbital extension (medial, lateral, superior), endocranial extension, presence of muopyocele, and estimated lesion size. Endoscopic surgical techniques (Draf classification for frontal sinusotomies, marsupialization width, intraoperative ostial patency) and combined approaches were documented. Mean follow-up was 12 to 24 months with endoscopic control of ostial patency and SNOT-22 score evaluation.

RESULTS

The cohort comprised 27 women (67.5%), mean age 51.4 years (range 12–87). Fronto-ethmoidal involvement was predominant (57.5%), followed by isolated frontal (22.5%). Orbital extension was documented in 82.5%, endocranial extension in 15%, and bone erosion in 80%. Leading symptoms included periorbital swelling, exophthalmos (40%), and headaches (30%). Prior endonasal surgery was identified in 30% of cases. Treatment was purely endoscopic in 72.5%. At final follow-up, 85% achieved satisfactory ostial patency on endoscopic control, , mean postoperative SNOT-22 was 16, and overall recurrence rate was 15% .

Prognostic Factors Analysis : Multivariate analysis identified several significant adverse factors. Young age was associated with increased recurrence. Prior functional endonasal surgery doubled recurrence risk. Orbital extension constituted a major prognostic factor: 100% of recurrent cases presented initial orbital extension. Presence of muopyocele was also adverse (25.0% vs 13.9%). Draf IIb type, associated with more complex mucoceles.

CONCLUSIONS

This series confirms the efficacy of endoscopic surgery in managing complex nasosinusal mucoceles with an 85% success rate. Identification of specific prognostic factors (young age, surgical history, orbital extension, muopyocele, technical complexity requiring Draf IIb) enables optimization of surgical strategy and postoperative follow-up. Wide marsupialization with intraoperative confirmation of ostial patency and rigorous endoscopic surveillance are essential to prevent recurrence. These results advocate for the use of mucocele-specific radiological and surgical variables, more relevant than generic chronic sinusitis scores, in prognostic evaluation and future clinical research.

KEYWORDS

Nasosinusal mucocele, orbital extension, endocranial extension, endoscopic surgery, Draf, prognostic factors, recurrence

OP-1207

Real World Data: Improvement Of Patient´S Quality Of Live With Dupilumab, Mepolizumab Und Tezelumab In Crswnp In The Last Year.

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BACKGROUND & AIM

Since November 2025 patients with recurrent nasal polyps are treated with dupilumab 300mg or mepolizumab 100mg or tezelumab 210mg according to the AWMF-guidelines at the ENT-Centre Zentrum Mangfall-Inn in Rosenheim, Oberbayern. One of the most important patient related outcome measurements is the SNOT22 questionnaire. Every patient has to fulfil the questionnaire in unregularly intervals. We present the results of 365 questionnaires of n=102 patients from the last three years.

MATERIAL & METHODS

Patients were requested to fulfill the SNOT22 digitally on an Ipad. The total score was automatically calculated by the ENTstatistics software, build by Innoforce, Liechtenstein. Our rhinologic database records previous surgeries, histopathologic findings, concomitant diseases and the beginning and end of the biological therapy.

RESULTS

The total score before the biological therapy was 52,94 after 180 days of therapy 23,63 and after 270 days 26,90. Due to the early permission of dupilomab in the treatment of CRSwNP the dupilumab group is with 72 patients the strongest group, whereas mepolizumab with 21 patients and tezelumab with 9 patients are smaller groups. The drop in the SNOT22 score is almost the same in all groups. Adverse events were extremely rare.

CONCLUSIONS

The three Biologicals are highly effective drugs in Samter´s disease and CRS with polyps. However, these drugs are reserved for severe cases of nasal polyps, although not-severe cases with less previous surgeries would benefit from the biological therapy, too. Non-responders or adverse events are very rare. The cost effectiveness of biologicals will be a big issue for our health care system in the next years.

KEYWORDS

CRSwNP Dupilomab Mepolizumab Tezelumab SNOT22 QoL

OP-1208

The Role Of Prophylaxis Antibiotics In The Prevention Of Meningitis In Endonasal Anterior Skull Base Surgery: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Anterior skull base surgery is commonly used for the treatment of a variety of skull base lesions. One serious postoperative complication of this procedure is meningitis. Prophylactic antibiotics are widely used but with considerable variability in duration and regimes due to lack of guidelines. This systematic review was carried out to determine the benet of prophylactic antibiotics in preventing meningitis in patients undergoing endonasal anterior skull base surgery.

MATERIAL & METHODS

The review was undertaken according to PRISMA guidelines. Online searches including PubMed, MEDLINE, EMBASE, Cochrane, and gray literature were performed up to May 2, 2024. Articles reporting on patients undergoing endoscopic anterior skull base surgery, the use or not of prophylactic antibiotics, and follow-up outcomes were included for selection. Data extracted included demographics, pathology, prophylactic antibiotic duration/type, nasal pack use, CSF leaks, meningitis rates, sinusitis rates, and other complications.

RESULTS

A total of 32 studies were included in this systematic review, totaling 26,477 patients published between 1981 and 2023. The overall rate of developing meningitis with any duration of use of antibiotics was 2%. Patients receiving intraoperative antibiotics alone had a higher rate of subsequent meningitis (3%) compared with patients receiving a postoperative course of 24 hours or a longer course (1%). Patients who had an intraoperative or postoperative CSF leak had a higher rate of meningitis (10%) than those without (0%).

CONCLUSIONS

This review indicates that postoperative antibiotic course may be more effective in preventing meningitis. Patients who develop a CSF leak have a higher risk of developing meningitis.

KEYWORDS
Anterior Skull base surgery, Endonasal, Meningitis, complications

OP-1209

Anterior Skull Base Pseudomeningoceles: A Scoping Review Of Skull Base Pseudomeningoceles

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BACKGROUND & AIM

The main sites, clinical symptoms, and causal elements linked with pseudomeningoceles at the cranial base are sought by this thorough study. Apart from organizing present data to support therapeutic decision-making, it aims to evaluate diagnostic techniques and the appropriate course of action.

MATERIAL & METHODS

Using the terms "skull base" AND/OR "pseudomeningocele," a thorough search was done in the MEDLINE, PubMed, and Cochrane databases. Articles offering explicit data on the localization and management of pseudomeningocele published in English, French, or Spanish were taken into consideration. Review papers, case studies, and case reports were taken under consideration; reviews, conference abstracts, and papers lacking enough or inaccessible data were turned away. Data gathered covered demographics, location, cause, presentation, diagnosis tools, management strategies, and results.

RESULTS

Twenty 29-person trials were examined. The primary location of pseudomeningocele development was the sphenoid bone (31%), followed by the posterior cerebral fossa (44.8%). At 42.9%, the main etiology was iatrogenic; traumatic reasons came second at 34.5%. Mostly post-surgical, these factors were blamed. MRI was the main imaging modality in 79.3% of cases; CT was used in 62.1% of those cases. Though for most individuals, surgical intervention proved to be the definitive cure, initial conservative treatment was tried. There was limited follow-up data; most patients showed neither morbidity nor mortality. Mostly, preventing problems depends on fast diagnosis and suitable intervention.

CONCLUSIONS

Skull base pseudomeningoceles are rare events that are sometimes missed due to their uncertain appearance and diagnostic difficulties. This study emphasizes how important quick imaging and improved clinical awareness are to guide management decisions. Although traditional methods are usually used, in complicated or unresolved cases, surgical intervention is usually justified. These findings highlight the need for raising awareness and thorough documentation in order to enhance the results for the impacted individuals.

KEYWORDS
skull base, cerebrospinal fluid rhinorrhea, cerebrospinal fluid leak, dura mater/injuries, dura mater/defect

OP-1210

Clinical Approach To Paranasal Sinus Osteomas: Towards Better Surgical Decision-Making

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BACKGROUND & AIM

INTRODUCTİON

Paranasal sinus osteomas are benign, slow-growing lesions most commonly arising from the frontal and ethmoid sinuses. Although frequently asymptomatic and incidentally detected, larger lesions or those in critical locations may require surgical intervention. The decision-making process depends on multiple factors, particularly lesion size and anatomical localization.

OBJECTİVE

To evaluate our clinical approach to paranasal sinus osteomas by analyzing:

- Indications for surgery
- Choice of surgical technique
- The relationship between lesion size, location, and management strategy

MATERIAL & METHODS

A retrospective review was conducted on 22 patients diagnosed with paranasal sinus osteomas. The following parameters were analyzed:

- Age and gender
- Lesion location
- Maximum lesion size
- Management strategy (surgical vs. follow-up)

• Type of surgical approach

RESULTS

A total of 22 patients were included (13 males, 9 females), with a mean age of approximately 45 years.

LOCALİZATİON

• Frontal sinus: 50%

• Ethmoid sinus: 36%

• Maxillary sinus: 9%

• Combined (fronto-ethmoidal): 5%

MANAGEMENT

• Surgical treatment: 50% (n=11)

• Conservative follow-up: 50% (n=11)

SURGİCAL APPROACHES

• Endoscopic: 27%

• External: 18%

• Combined: 55%

CONCLUSIONS

Management of paranasal sinus osteomas should be tailored to each patient. Lesion size and localization are the most critical factors influencing surgical decision-making. Endoscopic approaches are safe and effective for appropriately selected cases, whereas combined techniques remain essential for larger and more complex lesions.

KEYWORDS

Paranasal sinus osteoma, endoscopic surgery, frontal sinus, ethmoid sinus

OP-1211

Beyond Nasal Obstruction: The Overlooked Impact Of Septal Deviation Type On Eustachian Tube Function

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BACKGROUND & AIM

This study aimed to objectively and subjectively evaluate the effect of nasal septal deviation (NSD) types, classified according to the Baumann system, on Eustachian tube function.

MATERIAL & METHODS

A total of 107 NSD patients (78 males, 29 females; mean age: 35.39 ± 9.55 years) were included. NSD was categorized into six types based on the Baumann classification. All patients completed the NOSE (Nasal Obstruction Symptom Evaluation) scale and ETDQ-7 (Eustachian Tube Dysfunction Questionnaire). Eustachian tube function was evaluated using the ETF-1(Eustachian Tube Function-1) test, and correlations with NSD types were evaluated.

RESULTS

Advanced deviation types (Types 5–6) were associated with higher NOSE and ETDQ-7 scores and significantly reduced tympanometric pressure responses during both Toynbee and Valsalva maneuvers. Type 6 exhibited the highest ETDQ-7 scores and the lowest Pmax–Pmin values.

CONCLUSIONS

Eustachian tube dysfunction was more pronounced in advanced NSD types. Septoplasty indications should therefore consider not only nasal obstruction but also the potential impact of septal deviation on Eustachian tube dysfunction.

KEYWORDS

septal deviation, Eustachian tube, ETDQ-7, tympanometry

OP-1212

Side-Based Volumetric Analysis of Paranasal Sinuses and Mastoid Cells in Pediatric Unilateral Antrochoanal Polyps:A Retrospective Study

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BACKGROUND & AIM

Pediatric antrochoanal polyps (ACPs) are among the most common nasal polyps in childhood. They are benign, typically unilateral lesions originating from the maxillary sinus mucosa. This study aimed to quantitatively evaluate the association between unilateral ACPs and the development of the paranasal sinuses and mastoid air cell system in patients under 18 years of age. We also investigated whether side-specific volumetric differences were associated with accompanying anatomical factors, including septal deviation, concha bullosa, and adenoid hypertrophy. Finally, the potential relationship between these anatomical and volumetric characteristics and postoperative recurrence was explored.

MATERIAL & METHODS

This retrospective cohort study included patients aged <18 years with histopathologically confirmed antrochoanal polyps (ACPs) who underwent endoscopic sinus surgery at our clinic between 2015 and 2026. Bilateral volumes of the maxillary, sphenoid, and frontal sinuses and mastoid air cells were manually segmented on preoperative thin-section CT scans (≤1.25 mm) using a PACS workstation and classified as ipsilateral or contralateral to the ACP. Septal deviation, concha bullosa, middle-ear pathology, mastoid pneumatization, and adenoid hypertrophy (graded 1–4) were also evaluated. An exploratory cumulative ipsilateral anatomical burden score (0–4) incorporating ACP, septal deviation, concha bullosa, and adenoid hypertrophy was calculated. Paired and unpaired non-parametric tests were used as appropriate. Firth penalized logistic regression assessed recurrence after adjustment for age and sex, while linear mixed-effects models with patient-level random intercepts were used for bilateral mastoid analyses.

RESULTS

Among 27 patients (mean age, 13.3±3.5 years; 63.0% male), recurrence occurred in 5 (18.5%) during a median 82-month follow-up, all within 41 months. Recurrent patients were younger (median, 10.0 vs. 14.5 years; p=0.041) and had lower ipsilateral maxillary sinus volumes (8.60 vs. 15.70; p=0.011) and greater negative ipsilateral–contralateral maxillary volume differences (−1.90 vs. +0.65; p=0.039). Ipsilateral maxillary volume correlated with age (Spearman ρ=0.57; p=0.002); its association with recurrence was attenuated after age- and sex-adjustment (Firth OR=0.83; p=0.162). No significant ipsilateral–contralateral differences were observed in maxillary, sphenoid, frontal, or mastoid volumes, and sphenoid, frontal, and mastoid volumes were not associated with recurrence. Septal deviation showed no contralateral predominance (p=0.791). Increasing anatomical burden showed a nonsignificant trend toward lower mastoid volume (age-adjusted β=−0.97; p=0.116). Mastoid volume and pneumatization were unrelated to recurrence.

CONCLUSIONS

Younger age was associated with recurrence in pediatric ACP, whereas smaller ipsilateral maxillary sinus volume was not independently associated with recurrence after adjustment for age and sex. Developmental anatomy and potentially more conservative surgical approaches in younger children may contribute to recurrence risk. ACP laterality and associated sinonasal anatomical factors showed no significant relationship with septal displacement or mastoid development. Larger prospective studies incorporating detailed surgical variables are needed to clarify these developmental and recurrence-related interactions.

KEYWORDS

Antrochoanal polyp; Pediatric; Recurrence; Maxillary sinus volume; Mastoid pneumatization

OP-1213

Endoscopic Resection Of Juvenile Nasopharyngeal Angiofibroma Without Preoperative Embolization: Outcomes Of Intraoperative Internal Maxillary Artery Ligation Through A Modified Denker Approach In Uzbekistan

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BACKGROUND & AIM

Juvenile nasopharyngeal angiofibroma (JNA) is a rare, highly vascular tumor that primarily affects adolescent males. Preoperative embolization is commonly used to reduce intraoperative blood loss but increases treatment costs and carries a risk of complications, including stroke, visual impairment, and cranial nerve injury. Although endoscopic techniques have advanced considerably, evidence regarding the management of JNA without preoperative embolization remains limited, particularly in Central Asia. This study reports the experience of a tertiary referral center in Uzbekistan using intraoperative internal maxillary artery ligation through a modified Denker approach to achieve vascular control during endoscopic resection of JNA.

MATERIAL & METHODS

A retrospective review was conducted of 52 consecutive male patients with histologically confirmed JNA who were treated at a tertiary referral center in Uzbekistan between January 2023 and December 2025. The center receives referrals from across Uzbekistan and neighboring Central Asian countries. All patients underwent contrast-enhanced CT angiography for preoperative assessment and were staged according to the Radkowski classification. Endoscopic tumor resection was performed without preoperative embolization in all cases. Early vascular control was achieved through ligation of the IMAX via

a modified Denker approach. Surgical outcomes, complications, and recurrence rates were analyzed. A comprehensive surgical video was recorded to demonstrate the operative technique and key steps of vascular control.

RESULTS

The majority of tumors were intermediate- to advanced-stage lesions. Radkowski stages IIA, IIC, and IIIA accounted for 39 patients (75%), while stage IIIB disease was present in 9 patients (17%). Intraoperative IMAX ligation was successfully performed in all cases, providing effective vascular control and facilitating endoscopic tumor resection without embolization. Complete tumor removal was achieved in the majority of patients, including advanced-stage lesions. No major vascular, neurological, or orbital complications were encountered. During follow-up, recurrence was observed in 5 patients (9.6%). Recurrences occurred predominantly in tumors with extension toward the cavernous sinus, particularly Radkowski stage IIIB lesions, where complete resection was limited by proximity to critical neurovascular structures.

CONCLUSIONS

To our knowledge, this represents one of the largest reported single-center experiences with endoscopic JNA surgery from Central Asia and demonstrates that preoperative embolization may not be mandatory for successful management in experienced hands. Early ligation of the internal maxillary artery through a modified Denker approach provides reliable vascular control, enabling safe resection of intermediate- and advanced-stage tumors while avoiding the additional costs and potential complications associated with embolization. The accompanying surgical video further illustrates a reproducible technique that may be particularly valuable for surgeons practicing in resource-limited settings.

KEYWORDS

Juvenile nasopharyngeal angiofibroma, Internal maxillary artery ligation, Modified Denker approach, Preoperative embolization, Central Asia

OP-1214

Development And Validation Of An LDW Grading System For Surgical Management Of Radiation-Induced Nasopharyngeal Skull Base Necrosis

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BACKGROUND & AIM

Surgery is a cornerstone in the management of radiation-induced nasopharyngeal skull base necrosis. The key surgical principles are thorough debridement, reliable reconstruction, and prevention of major complications. Successful reconstruction is central to favorable outcomes, whereas reconstructive failure remains a major cause of mortality. However, a reconstruction-oriented grading system to guide surgical decision-making in nasopharyngeal skull base necrosis is still lacking. This study aimed to develop and validate a grading system for radiation-induced nasopharyngeal skull base tissue necrosis, guide salvage surgery and reconstructive strategy based on necrosis severity, and evaluate postoperative outcomes.

MATERIAL & METHODS

Patients diagnosed with radiation-induced nasopharyngeal skull base tissue necrosis who underwent surgical treatment at the Third Affiliated Hospital of Sun Yat-sen University between September 2023 and September 2025 were prospectively enrolled. Patients with recurrent nasopharyngeal carcinoma were excluded. A novel LDW grading system was established based on three dimensions of necrotic extent: length, depth, and width. Necrosis was graded according to the LDW system, and the reconstructive method was selected accordingly. Postoperative follow-up was continued until March 2026. Survival analysis was performed across different necrosis grades, and Cox regression was used to identify prognostic risk factors and validate the clinical utility of the grading system.

RESULTS

A total of 101 patients were screened. Seventeen were excluded, including 16 with recurrent nasopharyngeal malignancy and 1 with maxillary osteonecrosis. The final cohort consisted of 84 patients, with a mean age of 53.80 years (range, 28-73 years). Of these, 61 were male and 23 female. The median follow-up period was 12.07 months (range, 5.32-28.9 months). The average time after radiotherapy for necrosis development was 60.02 months (range, 2-276 months). During follow-up, 6 patients died: 4 from internal carotid artery rupture and 2 from pneumonia. The surgical success rate for radiation-induced nasopharyngeal skull base necrosis was 93.1%. Based on the LDW grading system, reconstructive strategies included: 17 patients received pedicled intranasal mucosal flaps (20%), 42 received temporalis muscle flaps (49.4%), 19 received free anterolateral thigh myocutaneous flaps (22.4%), and 5 received radial forearm free flaps (5.9%). One patient didn‘t undergo reconstruction (1.2%). Postoperative effectiveness exceeded that of published grading systems.

CONCLUSIONS

Radiation-induced nasopharyngeal skull base necrosis presents a high mortality rate and significant treatment challenges. This study proposes a novel grading system to guide the selection of reconstructive methods and demonstrates its effectiveness in clinical practice. The LDW grading system aids in the clinical decision-making process, helping to identify appropriate surgical candidates for different types of flap reconstruction and supporting standardization of treatment approaches across centers.

KEYWORDS
Radiation-induced nasopharyngeal skull base tissue necrosis, salvage surgery, skull base reconstruction

OP-1215

A Convnext Based Model With Coordinate Attention And Multi-Pooling For Sinonasal Pathology Classification From CT Images

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BACKGROUND & AIM

Background: Sinonasal pathologies are diagnostically challenging because benign and malignant lesions often present with similar nonspecific symptoms and complex radiologic findings. Artificial intelligence (AI) integrated with computed tomography and radiyomik analysis shows high potential in differentiating between benign and malignant pathologies in sinonasal tumors. The aim of this study is to investigate the effectiveness of integrating artificial intelligence and emerging multimodal imaging models with clinical practice in the early diagnosis and treatment of malignant sinonasal tumors.

MATERIAL & METHODS

Methods: This retrospective study includes 200 patients who underwent functional endoscopic sinus surgery for sinonasal pathology over a 15-year period at a single tertiary center. ConvNeXt-Tiny is a hybrid model developed for the classification of sinonasal pathologies based on deep learning. Model performance was evaluated using accuracy, precision, recall, and F1-score metrics, and the results were analyzed in detail using confusion matrices. Pretrained CNN architectures including ResNet50, DenseNet121, EfficientNet-B0, and RegNetY-032 were compared to determine the optimal backbone architecture. The dataset consisted of benign, malignant, and normal sinonasal CT images collected retrospectively.

RESULTS

Results: Among the pre-trained CNN architectures evaluated, ConvNeXt-Tiny demonstrated the best overall performance. ConvNeXt-Tiny, a hybrid model developed by integrating Coordinate Attention and Multi-Pooling, achieved 96.81% test accuracy, 96.80% sensitivity, recall, and F1 score. This hybrid model correctly classified 607 out of 627 test images. 199 out of 209 images in the benign group were correctly classified, while 203 out of 213 images in the malignant group were correctly identified. All 205 normal CT images were correctly classified. Compared to other architectures, the proposed model demonstrated superior discrimination ability for benign, malignant, and normal sinonasal pathologies, outperforming RegNetY-032 (95.53%), EfficientNet-B0 (95.06%), DenseNet121 (94.58%), and ResNet50 (88.84%).

CONCLUSIONS

Conclusion: The study findings demonstrates the superiority of entegrated hybrid model in terms of backbone selection and the combined use of attention and multi-pooling strategies. The entegrated AI-assisted CT classification hybrid model demonstrated high diagnostic performance in sinonasal pathology classification. This model is highly beneficial for radiologists and surgeons in non-invasive differentiation between benign and malignant sinonasal pathologies.

KEYWORDS
ConvNeXt, Coordinate Attention, Deep learning, Sinonasal tumors, Multi-Pooling

OP-1216

The Role And Efficacy Of Magnesium Sulfate Administration During Functional Endoscopic Sinus Surgery On Surgical Field Clearance And Surgery Outcomes: A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

Functional Endoscopic Sinus Surgery (FESS) is a minimally invasive procedure to treat various sinus condition. Magnesium sulfate ($MgSO_4$) has been investigated as an adjunct to anesthesia, but its efficacy compared to other agents remains uncertain; therefore, this research aimed to explore its effectiveness in improving key surgical outcomes.

MATERIAL & METHODS

Data were collected from multiple sources including Pubmed, Medline, OpenAIRE, and Cochrane. Studies focused on sinus management other than FESS were excluded.

RESULTS

This review included a total of 13 well-designed randomized control trials with a total number of 1075 patients. Our network-analysis indicated that $MgSO_4$ was effective in reducing surgery duration, with a SUCRA ranking of 62.7, followed by dexmedetomidine and BB. Dexmedetomidine ranked highest for reducing anesthesia time (SUCRA 88.62), while BB showed

the longest time to first rescue analgesia (SUCRA 97.88). $MgSO_4$ demonstrated a significant advantage in post-operative recovery time, with a mean difference of -0.77 (95% CI: -1.12, -0.42). Meta-analysis of MAP stability post-induction also favored dexmedetomidine.

CONCLUSIONS

Our meta-analysis suggests that $MgSO_4$ could be a valuable anesthetic adjunct in FESS, primarily for enhancing post-operative recovery and reducing surgery duration. However, studies are needed to standardize protocols and further explore $MgSO_4$'s efficacy across varied clinical settings.

KEYWORDS

Functional Endoscopic Sinus Surgery; FESS; Magnesium sulfate; MgSO4

OP-1217

THE EFFECTIVENESS OF THE PROPEL DEVICE IN DACRYSTORHINOSTOMY

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BACKGROUND & AIM

Dacryocystorhinostomy (DCR) is an effective surgical method performed in obstructive conditions of the lacrimal canal. One of the most common complications after the operation is scarring of the rhinolacrimal ducts and, as a result, recurrent lacrimal canal obstruction. Modern biodegradable implants, including the PROPEL device, are of great importance in solving this problem.

The aim of the study was to evaluate the clinical effectiveness of the PROPEL device in preventing recurrence of the disease after dacryocystorhinostomy.

MATERIAL & METHODS

During 2024–2025, 30 patients underwent endoscopic dacryocystorhinostomy. They were divided into two groups: Group 1 (Comparison group, n=15) underwent standard DCR surgery, while Group 2 (Main group, n=15) underwent PROPEL placement along with DCR. All patients were followed for 6 months. The effectiveness of the operation was assessed based on the results of a comprehensive examination, including changes in clinical symptoms, endoscopic examination of the nasal cavity, and wound healing.

RESULTS

During the 6-month follow-up, the postoperative status of both groups was analyzed. In the main group, the stoma remained open in 28 (93.3%) patients, and complete obstruction was observed in only 2 patients. In the comparison group, the stoma remained open in 22 (73.3%) patients, and re-obstruction was noted in 8 (26.7%). In the statistical analysis, the results of the χ^2 test showed a significant difference in maintaining stoma patency in the PROPEL group ($p<0.05$). When analyzing nasal function, respiratory function was fully restored in patients who used the PROPEL device after the procedure. The PROPEL device acted as a temporary structure without blocking the airflow and was absorbed naturally within 30-45 days. PROPEL reduced inflammation by releasing a local steroid (mometasone furoate) and led to rapid healing of the mucosa.

CONCLUSIONS

The use of PROPEL in dacryocystorhinostomy has been shown to be highly effective in maintaining stoma patency in the postoperative period, restoring nasal breathing function, ensuring rapid and complete healing of the mucosa, reducing the risk of granulation formation, and increasing patient satisfaction. This method is a highly effective innovative approach to the treatment of lacrimal outflow disorders.

KEYWORDS

dacryocystorhinostomy, PROPEL, recurrence, nasal cavity

OP-1218

Neural Dissimilarity: A Promising New Fmri-Based Measure Of Smell? Changes In The Olfactory System Following Treatment For Severe Crswnp With Monoclonal Antibodies

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BACKGROUND & AIM

This study investigates rehabilitation of olfactory dysfunction (OD) in patients with chronic rhinosinusitis with nasal polyps (CRSwNP) treated with biologics.

OD is the symptom with greatest negative effect on health-related quality of life in patients with CRSwNP and remains difficult to treat. Recently, monoclonal antibody therapy have shown substantial patient-reported improvements in smell and quality

of life. However, predicting and monitoring recovery remains challenging. Clinicians largely depend on subjective reports and psychophysical tests with limited objectivity.

We aim to develop an accurat and consistent, brain-based biomarker of olfactory function using functional MRI, behavioral testing and Representation Similarity Analysis before and after biologics.

MATERIAL & METHODS

A longitudinal, observational study recruiting approximately 20 patients with OD due to CRSwNP before or shortly after they receive the first injection with monoclonal antibodies. Patients will undergo nasal endoscopy and a validated olfactory test (Threshold, Identification and Discrimination test (TDI). fMRI will be obtained along while three different odorants presented to the participants. Odorant presentation will be synchronized with inhalation. A group of age-adjusted, normosmic controls will undergo the same examinations. Testing will be repeated in both groups after 24 weeks.

Representation Similarity Analyses will be conducted to compare functional changes in the brain before and after treatment with biologics.

RESULTS

We expect olfactory function to increase in the majority of participants after 24 weeks of treatment with monoclonal antibodies. We expect to be able to show increases in behavioral and neural representational dissimilarity matrices between the two scan sessions in the participants as the smell score improves. Furthermore, we plan to use measurement from the baseline and follow-up to predict outcome.

CONCLUSIONS

The objective of this study is to establish an imaging biomarker for the alterations in the central olfactory system to enable MRI-based assessment and monitoring, and to serve as a potential predictor of treatment efficacy and recovery of olfaction.

Moreover, as OD is a common early manifestation in various neurodegenerative conditions such as Parkinson's disease, Alzheimer's disease, Lewy body dementia and multiple sclerosis, this project has potential beyond CRSwNP.

KEYWORDS

Chronic Rhinosinusitis with Nasal Polyps, Olfaction, Biologics, functional Magnetic Resonance Imaging

OP-1219

Efficacy Of The Latera Implant In Nasal Valve Collapse: A Prospective Study Using The Functional Rhinoplasty Outcome Inventory-17

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BACKGROUND & AIM

Background: Nasal valve collapse (NVC) is a common cause of nasal obstruction that significantly impairs quality of life (QoL). The absorbable Latera implant provides structural support to the lateral nasal wall, but prospective data on its impact using validated, procedurespecific QoL measures are limited.

Aim: To evaluate the efficacy and safety of the Latera implant in patients with NVC using the Functional Rhinoplasty Outcome Inventory-17 (FROI-17), a comprehensive functional rhinoplasty-specific QoL instrument.

MATERIAL & METHODS

A prospective cohort study was conducted between 2022 and 2025. Twenty-two adults with isolated NVC refractory to medical therapy underwent Latera implant placement. The primary outcome was the change in FROI-17 scores from baseline to 6 months postprocedure. Secondary endpoints included complicat

RESULTS

A significant improvement in FROI-17 scores was observed in 90.9% of patients (20/22), with a mean score increase of +43.2 points ($p<0.01$). One patient reported no change, and one worsened due to an unrelated septal issue requiring revision. No major complications, such as infection or implant extrusion, were recorded.

CONCLUSIONS

The absorbable Latera implant is a safe and effective intervention for NVC, demonstrating a high success rate in significantly improving procedure-specific quality of life as measured by the FROI-17. These findings support its role as a valuable minimally invasive option, though further comparative studies with long-term follow-up are warranted

KEYWORDS

Nasal Valve Collapse, Latera Implant, Functional Rhinoplasty Outcome Inventory-17 (FROI-17), Quality of Life, Nasal Obstruction

OP-1220

Reversibility Of Mucociliary Function After Radiofrequency Treatment Of Inferior Turbinate

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BACKGROUND & AIM

Radiofrequency ablation is a widely used treatment for inferior turbinate hypertrophy. However, its short-term effects on mucociliary function remain unclear. This study aims to evaluate early changes and the reversibility of mucociliary clearance following radiofrequency treatment using the saccharin test.

MATERIAL & METHODS

This is an ongoing prospective clinical study planned to include 50 patients with inferior turbinate hypertrophy undergoing radiofrequency ablation. Mucociliary clearance was assessed using the saccharin transit test preoperatively, at postoperative week 1, and week 3.A ~1 mm saccharin particle was placed on the anterior portion of the inferior turbinate, approximately 1 cm posterior to its anterior end. Patients were instructed not to speak, sneeze, cough, or sniff. Time to perception of a sweet taste was recorded.Patients aged ≥18 years with no prior nasal surgery were included. Those with previous turbinate procedures, active infection, chronic rhinosinusitis, or smoking were excluded.

RESULTS

Preliminary analysis of the first 5 patients (mean age: 34.2 years) showed a mean saccharin transit time of 12.4 ± 2.1 minutes preoperatively, increasing to 18.6 ± 3.2 minutes at postoperative week 1, and decreasing to 13.1 ± 2.4 minutes at week 3. A transient prolongation in mucociliary clearance time was observed in the early postoperative period, followed by recovery toward baseline values.

CONCLUSIONS

Radiofrequency ablation of the inferior turbinate appears to cause a temporary impairment in mucociliary function in the early postoperative period, with recovery observed by the third postoperative week. These findings suggest that mucociliary dysfunction is reversible. Further data will help to confirm these results.

KEYWORDS

Inferior turbinate, radiofrequency ablation, mucociliary clearance, saccharin test, rhinology

OP-1221

An Overview Of Switching Biological Therapies For Chronic Rhinosinusitis With Nasal Polyposis (Crswnp)

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyposis (CRSwNP) is a type 2 inflammatory disease, which can lead to significant impact on quality of life due to symptoms of local and systemic inflammation and has a high recurrence rate despite optimal medical or surgical treatment. Recalcitrant CRSwNP can be treated with biological therapies with specific immunological targets, such asIgE (Omalizumab), IL4α receptors (Dupilumab), or IL-5(Mepolizumab), which have been approved for this use. The purpose of this narrative review was to review the currently available literature on biological therapies for CRSwNP and their switching in cases of inadequate disease control.

MATERIAL & METHODS

Keywords such as 'biologic'; 'anti-IgE'; 'anti-IL5'; 'anti-IL4'; 'sinusitis'; 'chronic rhinosinusitis'; 'nasal polyps'; 'switch'; and 'recurrence' were combined using the 'AND' or 'OR' Boolean operators to search databases including Google Scholar, Medline, and EMBASE; free-text search was also utilized for this purpose.

RESULTS

While there is sufficient evidence to support the use of biological therapies for recurrent and refractory CRSwNP despite the use of nasal corticosteroids as an add-on or adjunctive therapy, there is paucity of evidence regarding switching from one biologic to another. Evidence on biologic switching for recurrent CRSwNP supported the use of Dupilumab while switching from anti-IgE or anti-IL5 biologics, due to better symptom control and improved quality of life outcomes.

CONCLUSIONS

Biological treatments for CRSwNP have good real-life efficacy in managing nasal symptoms and improving quality of life.Multidisciplinary consensus from immunologists or allergists, otorhinolaryngologists, and pulmonologists is essential for aiding decision-making regarding switching biologics.

KEYWORDS

biologics; chronic rhinosinusitis with nasal polyps; real-life studies; drug efficacy; drug switching

OP-1222

Nasal Mucociliary Clearance And Quality Of Life In Pregnancy

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BACKGROUND & AIM

Pregnancy induces hormonal and systemic changes affecting the upper respiratory tract. Although pregnancy rhinitis impacts 20–30% of pregnant women, alterations in nasal mucociliary clearance (MCC) and their relationship with clinical symptoms and hematological markers remain unclear. While hormonal shifts may reduce mucociliary transport speed, the clinical impact measured by SNOT-22 and correlations with inflammatory markers like the neutrophil-to-lymphocyte ratio (NLR) are not fully elucidated. This study evaluates MCC time and sinonasal quality of life differences between pregnant and non-pregnant women, investigating correlations between clearance time, gestational age, and hematological profiles.

MATERIAL & METHODS

This prospective cross-sectional study was conducted at Izmir Bakircay University Cigli Training and Research Hospital, following approval from the Izmir Bakircay University Ethics Committee. A total of 62 women (31 pregnant, 31 non-pregnant controls) were enrolled. All participants in the pregnant group were in their third trimester of pregnancy. Nasal mucociliary clearance was evaluated using the saccharin transit test. Subjective sinonasal symptoms were assessed via the SNOT-22 questionnaire. Hemogram parameters (Hb, Hct, eosinophil count, and neutrophil-to-lymphocyte ratio), age, gestational age and BMI were recorded. Data were analyzed using independent t-tests, Mann-Whitney U tests, and Pearson correlation analysis.

RESULTS

The study included 62 participants (31 pregnant, 31 controls). Hematological parameters, including Hb, Hct, and eosinophil counts, were significantly lower in the pregnant group, while the neutrophil-to-lymphocyte ratio (NLR) was significantly higher ($p < 0.001$). Regarding mucociliary clearance, the saccharin transit time (STT) was shorter in the pregnant group (8.45 ± 5.53 min) than in controls (13.23 ± 12.82 min), though this was not statistically significant ($p = 0.103$). However, a significant positive correlation was found between STT and gestational age ($r = 0.387$, $p = 0.031$), suggesting clearance slows as pregnancy progresses. Interestingly, SNOT-22 scores were significantly lower in the pregnant group (17.00 ± 9.68 vs. 28.45 ± 15.11, $p < 0.001$). SNOT-22 scores correlated positively with Hb ($r = 0.288$, $p = 0.023$) and Hct levels ($r = 0.365$, $p = 0.004$). No significant correlation was observed between STT and SNOT-22 scores.

CONCLUSIONS

In conclusion, although nasal mucociliary clearance (MCC) time shows no significant difference between pregnant and non-pregnant women, it correlates positively with gestational age ($r = 0.387$, $p = 0.031$). This suggests that mucociliary transport slows as pregnancy progresses, likely due to hormonal changes and mucosal edema. Interestingly, pregnant women reported significantly lower SNOT-22 scores, indicating better perceived sinonasal quality of life. Correlations between SNOT-22 and hematological parameters suggest that systemic adaptations influence subjective symptoms. Further longitudinal studies with larger cohorts are needed to elucidate these mechanisms across all trimesters.

KEYWORDS

Nasal mucociliary clearance, Saccharin transit test, SNOT-22, Pregnancy rhinitis, Neutrophil-to-lymphocyte ratio.

OP-1223

Association Of Antrochoanal Polyp Extension With Neutrophil-To-Lymphocyte Ratio And Eosinophil Percentage

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BACKGROUND & AIM

Antrochoanal polyps are benign inflammatory lesions originating from the maxillary sinus. Although inflammatory mechanisms may contribute to their development, the relationship between polyp extension and systemic inflammatory markers remains unclear. This study aimed to investigate the association between antrochoanal polyp extension length and inflammatory parameters including neutrophil-to-lymphocyte ratio and eosinophil percentage.

MATERIAL & METHODS

This retrospective study included 48 patients diagnosed with Antrochoanal Polyp who underwent endoscopic sinus surgery between 2011 and 2026. Demographic characteristics including age and sex were recorded for all patients. Preoperative hematologic parameters, including eosinophil, neutrophil, and lymphocyte percentages, were obtained from complete blood count analyses performed prior to surgery. Neutrophil-to-lymphocyte ratio (NLR) values were calculated using neutrophil and lymphocyte percentages.

Radiologic evaluation was performed using paranasal sinus computed tomography scans. Polyp extension length was measured in the sagittal plane as the maximal distance between the point where the polyp exited the maxillary sinus and its extension into the choana. The association between polyp extension length and inflammatory parameters was analyzed using Spearman correlation analysis.

RESULTS

A total of 48 patients were included in the study, comprising 25 males and 23 females, with a mean age of 30.25 years (range: 9–65 years). Correlation analysis demonstrated no statistically significant association between antrochoanal polyp extension

length and NLR, eosinophil percentage, neutrophil percentage, or lymphocyte percentage. Although elevated NLR values were observed in some patients with larger polyps, no significant correlation was identified between radiologic polyp extension and systemic inflammatory markers overall.

CONCLUSIONS

The extent of Antrochoanal Polyp extension was not significantly associated with systemic inflammatory markers, including neutrophil-to-lymphocyte ratio and eosinophil percentage. These findings suggest that systemic inflammatory parameters may have limited value in reflecting radiologic polyp extension, and that local inflammatory or anatomical factors may play a more prominent role in the growth pattern of antrochoanal polyps.

KEYWORDS

Antrochoanal polyp; neutrophil-to-lymphocyte ratio; eosinophil; inflammation; computed tomography; choana; paranasal sinus CT

OP-1224

Missed Dehiscence Of Lamina Papyracea: Orbital Herniation Mimicking Sinusitis And Potential Complications.

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BACKGROUND & AIM

•FESS has become the gold standard for treating chronic rhinosinusitis and it is regarded as a relatively safe and effective technique.

• Orbital complications of FESS have been reported for many years owing to the close anatomical relationship between the paranasal sinuses and the orbit.

•Accidental injury of the lamina papyracea during FESS, has been described in up to 5% of cases.

•Preventing complications begins with preoperative planning and careful review of CT scans.

•To identify cases where LPD (Dehiscence) was present but not reported by radiologists.

•To Emphasize the critical need for surgeons to perform an independent, thorough pre-operative review of CT images.

MATERIAL & METHODS

•A multicentric national survey across Saudi Arabia (Riyadh, Jeddah, Makkah).

•Data gathered from fellowship-trained Rhinologists and Skull Base surgeons

•January 2021 – December 2023.

•Required high-resolution CT scans (<0.6 mm thickness) with axial and coronal views.

•Identifying LPD cases missed in initial radiology documentation.

RESULTS

•16 patients (11 Male / 5 Female).

•Median Age: 37 years (Range: 19–53).

•Distribution:

•Right side: 8 patients (Most prevalent).

•Left side: 5 patients.

•Bilateral: 3 patients.

•12 out of 16 patients had no history of trauma or prior sinus surgery. LPD is often a silent anatomical variant.

CONCLUSIONS

•Injury to the LP is a well-known avoidable complication of FESS. Rarely, radiologists might miss a dehiscent lamina papyracea; thus, surgeons should not rely completely on radiologists during the interpretation of a CT scan.

•It is crucial for surgeons to perform a careful and attentive review of CT scan images pre-operatively.

KEYWORDS

Functional endoscopic sinus surgery, Orbital complications, lamina papyracea dehiscence, computed tomographic.

OP-1225

The Role Of Narrow Band Imaging (NBI) In Diagnosing Nasal Manifestations Of Vasculitis And Arthritis: A 2-Year Retrospective Study

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BACKGROUND & AIM

Nasal involvement in vasculitis and arthritis presents diagnostic challenges. Narrow Band Imaging (NBI) enhances mucosal vascular pattern visualization, but its diagnostic value in this context is underexplored.

MATERIAL & METHODS

Methods:

- Design: Retrospective analysis (2022–2024) of 15 patients with suspected vasculitis/arthritis-related nasal pathology.
- Investigations:
- NBI endoscopy (all patients). - Biopsy (all patients; 3 positive). - Blood tests (9 positive for vasculitis/arthritis markers).
- Outcome: Correlation between NBI findings, histopathology, and serology.

RESULTS

- NBI Findings: All 15 patients showed abnormal vascular patterns (e.g., twisted capillaries, microerosions).
- Biopsy vs. NBI: Only 3/15 biopsies confirmed vasculitis, but NBI detected mucosal changes in all cases.
- Serology: 9/15 had positive blood tests; NBI abnormalities were more pronounced in these patients.

CONCLUSIONS

Conclusion: NBI is a sensitive tool for detecting mucosal changes in vasculitis/arthritis, even when biopsies are negative. It may serve as a non-invasive adjunct to biopsy and serology, aiding early diagnosis.

KEYWORDS

Keywords: Nasal vasculitis, narrow band imaging, biopsy, arthritis, diagnostic accuracy.

OP-1226

Investigation On The Factors Associated With The Persistence Of Anosmia And Ageusia In COVID-19 Patients

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BACKGROUND & AIM

The Coronavirus Disease 2019 (COVID-19) outbreak caused by the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) resulted in a worldwide pandemic of a highly infectious disease. The difficulty of dealing with COVID-19 is the broad spectrum of clinical manifestations that involves various pathophysiological mechanisms, severities, duration, and complications.

This study aims to help emphasize the factors related to the persistence and duration of anosmia (loss of smell) and ageusia (loss of taste) as part of post-acute COVID-19 syndrome in COVID-19 patients via a retrospective cross-sectional design.

MATERIAL & METHODS

Eight hundred and eighty-one participants were recruited between March and April 2021. Those participants were 18 years or older, recovered from the COVID-19 infection, and completed 14 days after the onset of the acute phase of the disease. Among the 881 recruited participants, 808 have submitted eligible responses and were included in data analyses.

RESULTS

The most common persistent symptoms in post-acute COVID-19 syndrome were anosmia (33.8%) and ageusia (26.4%). The data also showed a significant association between female sex and the incidence and the persistence of anosmia and ageusia. In multivariable analysis, anosmia during the acute phase was associated with BMI, asthma and shortness of breath, while anosmia during the post-acute phase was associated with sex. Ageusia during the acute phase was associated with sex, myalgia and arthralgia, while ageusia in the post-acute phase was associated with sex.

CONCLUSIONS

The most prevalent symptoms during the acute and subacute phase of COVID-19 infection were anosmia and ageusia. A significant association was found between female sex with both the incidence and the persistence of anosmia and ageusia. Hopefully, these findings will enrich our understanding of the nature of those two symptoms and encourage further studies to enhance the knowledge toward post-acute COVID-19 syndrome.

KEYWORDS

SARS-CoV-2; post-acute COVID-19 syndrome; anosmia; ageusia; COVID-19;

OP-1227

Prevalence And Demographic Characteristics Of Tornwaldt And Mucous Retention Cysts In The Nasopharynx

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BACKGROUND & AIM

Nasopharyngeal cysts are uncommon lesions that are usually detected incidentally during nasopharyngoscopy or imaging studies. Tornwaldt cysts (TC) and mucous retention cysts (MRC) are the most common cystic lesions in this region. This study aimed to determine the prevalence and demographic characteristics of these lesions in a large patient population.

MATERIAL & METHODS

Following ethics committee approval, magnetic resonance imaging (MRI) examinations including the head and neck region performed between January 1, 2024, and June 30, 2025, at hospitals affiliated with Lokman Hekim University Faculty of Medicine were retrospectively reviewed. A total of 5,360 patients were evaluated for the presence of TC and/or MRC, lesion size measured on axial sections, and age and sex distribution. Patients who underwent surgery for TC during the same period were also analyzed.

RESULTS

At least one lesion was detected in 14.81% (n=794) of cases. MRCs constituted the majority of lesions (9.63%), whereas TCs were observed in 5.75% of patients. Both lesions coexisted in 0.56% of cases.

The overall lesion prevalence was significantly higher in males than in females (16.74% vs. 13.43%, p=0.003). MRC prevalence was 10.80% in males and 8.78% in females, while TC prevalence was 6.52% and 5.19%, respectively. TC size was significantly larger in males (5.49 mm vs. 4.43 mm), whereas MRC size did not differ significantly between sexes.

MRC prevalence was higher in younger age groups and declined progressively with age. The MRC rate, which reached its highest level in the 20–39-year age group (12.29–12.50%), decreased to 3.85% in patients aged ≥80 years. In contrast, TC prevalence remained relatively stable across all age groups.

Five patients underwent surgery for TC during the study period. Indications included serous otitis media, nasal obstruction, and halitosis.

CONCLUSIONS

The prevalence rates of TC and MRC were consistent with those reported in the literature. Both lesions are generally incidental findings with limited clinical significance. However, the higher prevalence of MRC in males and younger patients may warrant greater clinical awareness in these populations.

KEYWORDS

Tornwaldt cyst, Mucous retention cyst, Nasopharynx, Magnetic resonance imaging

OP-1228

Predictive Biomarkers Of Recurrence In Chronic Rhinosinusitis With Nasal Polyps

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BACKGROUND & AIM

More than 50% of patients with chronic rhinosinusitis with nasal polyps (CRSwNP) experience recurrence within 3 years after functional endoscopic sinus surgery. Biomarkers can provide means to monitor treatment response, assess efficacy of novel biologic therapies, and evaluate disease severity. Some biomarkers extensively studied in CRS are associated with a Th2 inflammatory endotype that predicts poor prognosis. The aim of this study was to investigate periostin, procalcitonin, eotaxin-3 and SPARC expression in recurrent CRSwNP.

MATERIAL & METHODS

This prospective study enrolled 69 patients with CRSwNP who underwent surgical treatment. Preoperative blood samples were collected and periostin, procalcitonin, eotaxin-3 and SPARC expression patterns were assessed using immunohistochemistry and enzyme-linked immunosorbent assay (ELISA). Postoperative endoscopic findings, POSE score, symptom scores (SNOT-22) at 1, 3, 4 and 5 years, osteitis score on computed tomography (CT), and miR-125 and miR-203 values were analyzed and compared with serum biomarkers.

RESULTS

Serum periostin and SPARC levels were significantly higher in CRSwNP patients. A strong correlation was found between periostin, procalcitonin, eotaxin-3, SPARC and high nasal endoscopy score conclusive for recurrence of CRSwNP ($p < 0.05$). Only eotaxin-3 showed a weak correlation with SNOT-22 ($p < 0.05$), but this result was influenced by depression scores. A weak correlation between eotaxin-3 and osteitis score was also observed. Higher miR-125 levels were corelated with high biomarkers levels as well ($p < 0.05$).

CONCLUSIONS

Periostin, eotaxin-3, procalcitonin and SPARC may serve as predictive factors for postoperative recurrence. They could be potential biomarkers for assessing disease severity and prognosis. Further research on biomarkers is needed to advance precision therapy in chronic rhinosinusitis.

KEYWORDS
Periostin, eotaxin-3, procalcitonin, SPARC, Chronic rhinosinusitis with nasal polyps

OP-1229

Objective Comparison Of Spreader Grafts, Otospreader Flaps, And Combination Techniques In Rhinoplasty: A Side-Specific PNIF Analysis Of 160 Sides

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BACKGROUND & AIM

The aim of this study is to objectively evaluate the functional efficacy of different internal nasal valve interventions, including spreader grafts, otospreader flaps, and their combinations, using Peak Nasal Inspiratory Flow (PNIF) measurements in patients undergoing rhinoplasty.

MATERIAL & METHODS

A total of 160 sides from 80 patients were analyzed prospectively. The surgical interventions were categorized into four groups based on the technique applied to each side: Spreader Graft (SG), Otospreader Flap (OF), Spreader + Otospreader (SGF), Dorsal Preservation (DP). PNIF measurements were performed preoperatively and at the 6th month postoperatively. Statistical analysis was conducted using the Wilcoxon signed-rank test for intra-group comparisons and the Kruskal-Wallis H test for inter-group comparisons.

RESULTS

The distribution of the 160 sides was as follows: 107 SG, 35 OF, 12 SGF, and 6 DP.

· In the SG group, PNIF scores significantly increased from 64.25 ± 23.0 to 82.62 ± 21.91 (p=0.001).

· In the OF group, PNIF scores significantly increased from 58.29 ±18.39 to 75.57 ± 16.75 (p=0.001). · Although improvements were observed in the SGF group (60.83 ±42.52 to 77.92 ± 30.11; p=0.105) and the DP group (79.17 ± 24.17 to 99.17 ± 17.15; p=0.072), they did not reach statistical significance. · There was no statistically significant difference between the groups regarding the mean change in PNIF scores (p=0.855).

CONCLUSIONS

Both spreader grafts and otospreader flaps are highly effective in improving nasal inspiratory flow. Since no single technique showed statistical superiority over the others in terms of PNIF improvement, the choice of technique should be tailored to the specific anatomical needs of each side of the nose to optimize functional outcomes.

KEYWORDS
Rhinoplasty, Spreader graft, Otospreader flap, Internal nasal valve, PNIF (Peak Nasal Inspiratory Flow), Functional outcomes.

OP-1230

Symptom And Quality Of Life Improvement After Endoscopic Sinus Surgery In Patients With Different Phenotypes Of Chronic Rhinosinusitis

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) affects approximately 3–6.4% of the population in Taiwan. While medical therapy remains the first-line treatment, endoscopic sinus surgery (ESS) is an important option for patients with refractory disease or with complications. CRS includes multiple phenotypes with potentially different responses to surgery. This study investigates symptom and quality-of-life improvement after ESS across various CRS phenotypes using the Sinonasal Outcome Test-22 (SNOT-22).

MATERIAL & METHODS

This retrospective study reviewed patients who underwent ESS at our institution between 2015 and 2020. Patients were classified into five phenotypes: (1) CRSwNP-eCRS, (2) CRSwNP-non-eCRS, (3) Isolated sinusitis, (4) Central compartment atopic disease (CCAD), and (5) Allergic fungal rhinosinusitis (AFRS). SNOT-22 scores were collected preoperatively and at 2 weeks, 1 month, and 3 months postoperatively to evaluate symptom changes.

RESULTS

A total of 523 patients (mean age 47.2 years) were included: 198 CRSwNP-eCRS (37.86%), 134 CRSwNP-non-eCRS (25.62%), 88 isolated sinusitis (16.83%), 75 CCAD (14.34%), and 28 AFRS (5.35%).Baseline SNOT-22 scores were similar across groups (30.48–35.98).Postoperative improvement (Δ SNOT-22) showed varying degrees of symptom reduction among phenotypes:At 2 weeks: CRSwNP-eCRS (−15.14), CRSwNP-non-eCRS (−8.75), isolated sinusitis (−7.54), CCAD (−8.23), AFRS (−10.24).At 1 month: CRSwNP-eCRS (−15.03), CRSwNP-non-eCRS (−6.25), isolated sinusitis (−9.64), CCAD (−4.86), AFRS (−8.55).At 3 months: CRSwNP-eCRS (−19.57), CRSwNP-non-eCRS (−6.86), isolated sinusitis (−6.74), CCAD (−3.22), AFRS (−5.50).Several groups showed statistically significant improvements at specific postoperative time points.

CONCLUSIONS

FESS resulted in significant symptom and quality-of-life improvement as measured by SNOT-22. The CRSwNP-eCRS, isolated sinusitis, and AFRS phenotypes demonstrated the most substantial postoperative improvement. These findings highlight the importance of CRS phenotype classification for predicting surgical outcomes and guiding individualized treatment strategies.

KEYWORDS

Chronic Rhinosinusitis, endoscopic sinus surgery (ESS), Sinonasal Outcome Test-22 (SNOT-22)

OP-1231

Transphenoidal Pituitary Endoscopic Approach: The Rationale To Go Transeptal Rather Than Transnasal

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BACKGROUND & AIM

Historically, Neurosurgeons used to go translabial to do pituitary surgeries. This is too invasive and carries painful consequences for the patients. With the advent of advanced endoscopic sinus surgeries, and with teamwork between neurosurgeons and otolaryngologists, we are turning minimally invasive. Two approaches are commonly used, the transnasal and the transeptal. After doing a big number of these surgeries, We believe the transeptal approach to be much less invasive than the transnasal approach for our patients

MATERIAL & METHODS

Experience from live hands-on surgeries carried out with the neurosurgery team

RESULTS

the transeptal approach offers lots of advantages when compared to the transnasal approach: more reliable anatomical landmarks, no nasal septal mucosal breach and thus preserving the intergrity of the sphenoid sinus in case of CSF leak, less or virtually no nasal blood oozing post operatively, and no need to pack the nose postoperatively, in addition to the added benefit of better nasal breathing after fixing the septal deviation.

CONCLUSIONS

Transeptal pituitary endoscopic approach should be the gold standard main approach to the pituitary gland surgeries

KEYWORDS

pituitary, adenoma, transeptal, transnasal, endoscopy

OP-1232

Free Mucosal Graft For Endoscopic Septal Perforation Repair Using The Pocket Technique: A Comparative Study

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BACKGROUND & AIM

Septal perforation repair remains a challenging procedure. Many surgical techniques and reconstruction options have been utilized with variable degrees of complexity and outcomes. We aimed to describe and evaluate the outcome of a single layer free mucosal graft using the Pocket technique.

MATERIAL & METHODS

Patients undergoing endoscopic repair of septal perforation between 2022 and 2025 were identified by a retrospective review of medical records. Demographic and clinical data were collected and compared between patients having surgery with a free mucosal graft using the Pocket Technique and those with the AEA-based pedicled flap using the tunnel technique. Statistical analyses were preformed to determine if any differences in the patient demographics, perforation characteristics, complications, and repair outcomes at the 3-months follow up.

RESULTS

A total of 23 patients were identified; 7 of 23 (30%) patients underwent free mucosal graft repair using the Pocket Technique, and 16 patients underwent AEA-based pedicled flap repair using the tunnel technique. The AEA flap was used for significantly larger defects compared to the free mucosal graft group (1.24±0.53 cm vs. 0.68±0.38 cm; p=0.022). Successful perforation repair was achieved in 86% (6/7) of the free mucosal graft group and 94% (15/16) of the AEA flap group (p=0.53).

CONCLUSIONS

The free mucosal graft using the Pocket Technique is a reliable alternative for the repair of small (≤1 cm) septal perforations. The Pocket Technique provides an effective support and secures the graft, preventing mobilization during the early healing phase. The vascularized AEA flap remains the preferred option for larger defects That require axial blood supply.

KEYWORDS

Nasal septal perforation; Pocket Technique; Free mucosal graft; Anterior ethmoidal artery flap; Endoscopic sinus surgery.

OP-1233

Periostitis Of The Maxilla With Oroantral Fistula As The Initial Manifestation Of Denosumab-Associated Osteonecrosis Of The Jaw

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BACKGROUND & AIM

Denosumab is a RANKL inhibitor used for the prevention of skeletal-related events in solid tumors, such as prostate cancer. A known complication is medication-related osteonecrosis of the jaw (MRONJ). We report a case in which the CT image of an apparent maxillary sinusitis led to the diagnosis of denosumab-induced irregular-type periostitis of the maxilla.

MATERIAL & METHODS

A male patient with osseous metastatic prostate cancer and a history of ongoing denosumab treatment for the last 6 years presented with a foul-smelling, secreting oroantral fistula in the edentulous region 17 and 18, purulent rhinorrhea from the middle nasal meatus, jaw lock, and right-sided facial pain after FESS (functional endoscopic sinus surgery) in October 2025. In addition, a tubotympanic transudate was clinically evident. An interdisciplinary case discussion was carried out with urology, microbiology, and oncology. The literature was systematically reviewed.

RESULTS

CT scans showed no typical sinusitis but a periosteal reaction of the right maxilla with involvement of the pterygoid process as a sign of MRONJ stage 3. The diagnosis was established clinically and radiologically according to the AAOMS criteria (2022). Denosumab therapy was discontinued; conservative therapy with systemic antibiotics (amoxicillin/clavulanate + metronidazole) and antiseptic rinses was initiated. The literature documents a cumulative MRONJ incidence of more than 13 % after three years of high-dose denosumab as well as a close association between periosteal reaction and a prognostically unfavorable course. Debridement surgery is considered after improvement of infection.

CONCLUSIONS

In patients on long-term denosumab therapy, patients should be screened for MRONJ when maxillary sinusitis is the presenting feature. Early interdisciplinary cooperation is crucial to prevent sequestration and progression to advanced stages with maxillary sinus involvement and spread to adjacent structures.

KEYWORDS

MRONJ, denosumab, oroantral fistula, sinusitis

OP-1234

Sinonasal Malignancies In Sudan: Incidence And Clinicopathological Insights

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BACKGROUND & AIM

Sinonasal malignancies are uncommon neoplasms with several histopathological subtypes. These malignancies have a poor prognosis, and because of the nonspecific nature of the symptoms, most patients are diagnosed late when the disease is already at an advanced stage.

This study aims to determine the incidence and clinicopathological correlations of sinonasal malignancies among Sudanese patients.

MATERIAL & METHODS

This is a descriptive prospective hospital-based study. All Ear, nose, and throat hospitals in Khartoum state,

Sudan, were included. Data were collected using a structured interviewer questionnaire and analyzed using the statistical package for social sciences (SPSS) from 01/09/2020 to 30/09/2023.

RESULTS

In Khartoum state, the study encompassed all patients diagnosed with sinonasal malignancies who willingly participated. Out of the consenting participants, 44 were enrolled, with males constituting 61.4% of the cohort and females representing 38.6%. Noteworthy is the observation that 38.6% of the patients fell within the age range of 50–60 years old.

The estimated incidence of sinonasal malignancies is 0.6 per 1000 individuals. Unilateral nasal obstruction emerged as the most frequent presentation (72.7%), followed by epistaxis in 56.8%. In terms of risk factors, 18.2% were identified as smokers, and 6.8% were woodworkers; however, a notable proportion (63.6%) did not exhibit any of the known risk factors.

CONCLUSIONS

Sinonasal malignant tumors have non-specific symptoms in the nose and paranasal sinus, including nose obstruction and epistaxis. Furthermore, the greatest frequency of sinonasal malignant tumors occurs in elder males

KEYWORDS
Sino-nasal malignancy, Squamous Cell Carcinoma, Nose and Para-nasal sinuses

OP-1235

Evaluation Of Serum Cell Division Cycle 42 (CDC42) Levels In Patients With Nasal Polyps

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps (CRSwNP) is an inflammatory disease with incompletely understood pathogenesis. Type 2 inflammation plays a central role in both asthma and CRSwNP and is primarily regulated by Th2 lymphocytes, which mediate humoral immunity and allergic responses. Cell Division Cycle 42 (CDC42) is a small guanosine triphosphate–binding and hydrolyzing enzyme (GTPase) involved in cytoskeletal organization, cell polarity, and inflammatory cell migration, and it promotes Th2 differentiation while inhibiting Th1 and Th17 pathways. Serum CDC42 levels correlate positively with Th2 lymphocytes in asthmatic children. This study aimed to evaluate the biomarker potential of CDC42 in CRSwNP.

MATERIAL & METHODS

This prospective study included 42 adults with CRSwNP diagnosed according to the European Position Paper on Rhinosinusitis and Nasal Polyps (EPOS) 2020 criteria, 42 healthy controls without nasal pathology, and 42 adults with CRSsNP. Individuals meeting EPOS 2020 exclusion criteria were excluded. Sociodemographic data were recorded, and symptom severity was assessed using the Sino-Nasal Outcome Test-22 (SNOT-22). Patients were evaluated using the Lund-Kennedy and Lund-Mackay scoring systems. Serum CDC42 levels were measured by ELISA. Statistical analyses were conducted using IBM SPSS version 31.0, with $p < 0.05$ considered statistically significant.

RESULTS

No statistically significant differences were observed between the case and control groups in terms of age and sex (Table 1). SNOT-22, Lund-Kennedy, and Lund-Mackay scores were significantly higher in the CRSwNP group compared with the control group ($p < 0.001$, Table 2).Serum CDC42 levels were significantly higher in the CRSwNP group compared with the control group and the CRSsNP group ($p = 0.001$, Table 2). ROC analysis demonstrated that CDC42 levels had significant diagnostic performance in distinguishing CRSwNP patients from healthy controls ($p < 0.001$, Table 3, Figure 1).

CONCLUSIONS

Our study provides important evidence supporting the role of type 2 inflammation in the pathogenesis of CRSwNP. The significantly elevated serum CDC42 levels in patients with CRSwNP suggest that this molecule may serve as a non-invasive biomarker of disease activity. Our findings indicate that CDC42 may represent a potential biomarker candidate to support the diagnosis of CRSwNP or to be used as an objective tool in patient follow-up. Future studies should clarify its clinical applicability by evaluating its relationship with disease course and treatment response.

KEYWORDS

Nasal polyp, Chronic rhinosinusitis with nasal polyps, Chronic rhinosinusitis without nasal polyps, Type 2 inflammation, Th2 lymphocyte , CDC42

OP-1236

Comparison Of Piezoelectric And High-Speed Drills For Frontal Beak Osteotomy In Endoscopic Sinus Surgery

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BACKGROUND & AIM

Frontal beak reduction is a critical and challenging step in endoscopic sinus surgery (ESS) for chronic rhinosinusitis (CRS). Traditional high-speed drills can risk thermal injury and soft tissue trauma, whereas piezoelectric surgery uses ultrasonic vibrations for selective bone cutting and may improve surgical precision. This study compared piezoelectric devices with conventional drills for frontal beak reduction.

MATERIAL & METHODS

A double-blind exploratory study with randomization was conducted during the years 2019-2022. Adult CRS patients (n=43) with prominent nasofrontal beak undergoing ESS were randomized to piezoelectric knife (n=22) or high-speed drill (n=21). Exclusion criteria included prior sinus surgery, septoplasty, neoplasms, or systemic contraindications. Outcomes included Lund–Kennedy, Lund–Mackay, Sino-Nasal Outcomes Test (SNOT-22), visual analogue scale (VAS) scores, and frontal sinus ostium dilatation, measured preoperatively and at 1, 4, and 24 weeks postoperatively.

RESULTS

Both groups showed significant postoperative improvements in Lund–Mackay and SNOT-22 scores ($p<0.05$). At 1 week, the piezo group had significantly lower Lund–Kennedy scores ($p=0.022$), suggesting better mucosal healing. Correlations in the piezo group were observed between ostium dilatation and improved Lund–Mackay ($R=-0.527$; $p=0.008$) and SNOT-22 ($R=-0.405$; $p=0.049$) at 24 weeks. No significant differences were found in ostium width gain, VAS scores or complications. With piezo devices, median time of surgery was increased.

CONCLUSIONS

Piezoelectric instrumentation represents a feasible and safe adjunct to traditional high-speed drills for frontal beak reduction, particularly in complex anterior skull base anatomy. In this study, piezoelectric instruments demonstrated some early postoperative advantages—such as reduced discomfort and favorable short-term mucosal healing—while long-term clinical, endoscopic, and radiological outcomes were comparable between both techniques. Presented findings support the role of piezoelectric devices as a complementary option that may enhance surgical control and perioperative patient experience in selected cases. Larger, prospective randomized studies are required to more definitively establish the clinical value and optimal indications for piezoelectric instrumentation in endoscopic frontal sinus surgery.

KEYWORDS

Chronic rhinosinusitis, endoscopic sinus surgery, frontal beak reduction, piezoelectric surgery, high-speed drill, mucosal healing, frontal sinus

OP-1237

SINGLE-LAYER VERSUS DOUBLE-LAYER NASAL SEPTAL PERFORATION CLOSURE COMBINED WITH RHINOPLASTY: A COMPARATIVE STUDY

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BACKGROUND & AIM

Nasal septal perforation (NSP) is associated with symptoms that may significantly impair quality of life. Surgical closure remains technically challenging, particularly in large defects and in patients requiring simultaneous correction of external nasal deformity. Vascularized flap techniques are considered the standard approach due to their reliable blood supply and favorable healing outcomes. However, the optimal number of reconstructive layers remains controversial, especially when combined with rhinoplasty. The aim of this study was to compare the effectiveness of single-layer and double-layer NSP closure using vascularized flaps performed concomitantly with rhinoplasty and to evaluate patient satisfaction with surgical outcomes.

MATERIAL & METHODS

A retrospective comparative analysis included 100 patients presenting with combined NSP and external nasal deformity. Patients were allocated into two groups: Group 1 (n=50) underwent single-layer NSP closure with a vascularized flap; Group 2 (n=50) underwent double-layer closure using vascularized flaps. All patients simultaneously underwent rhinoplasty. Outcomes were assessed by nasal endoscopy with measurement of perforation size and by patient-reported outcome measures using the SNOT-25 and ROE questionnaires preoperatively and at 14 days, 1 month, 6 months, and 12 months postoperatively. Statistical analysis compared anatomical closure rates and quality-of-life outcomes between groups.

RESULTS

Complete anatomical closure was achieved in 80% of patients in Group 1 and 94% in Group 2 ($p=0.034$). For perforations <20 mm, intergroup differences were not statistically significant (84.6% in Group 1 vs. 92% in Group 2, $p>0.05$). However, for defects ≥20 mm, the double-layer technique demonstrated significantly higher efficacy (75% in Group 1 vs. 96% in Group 2, $p<0.05$). Both groups showed significant postoperative improvement in SNOT-25 and ROE scores ($p<0.001$), with no significant differences between groups.

CONCLUSIONS

When combined with rhinoplasty, double-layer vascularized flap closure is preferable for NSP ≥20 mm, whereas both techniques are equally effective for smaller defects. Patient satisfaction with aesthetic outcomes did not correlate with the closure technique. These findings support the feasibility and effectiveness of simultaneous NSP repair and rhinoplasty.

KEYWORDS

nasal septal perforation, rhinoplasty, vascularized flap, SNOT-25, ROE

OP-1238

Spontaneous Cerebrospinal Fluid Rhinorrhea: Clinical And Radiologic Correlates With Intracranial Hypertension And Transverse Venous Sinus Stenosis

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BACKGROUND & AIM

Objective: To analyze the clinical presentation, radiologic features including transverse venous sinus stenosis (TVSS), and intracranial pressure (ICP) parameters in adult patients with spontaneous cerebrospinal fluid (CSF) rhinorrhea.

MATERIAL & METHODS

Methods: A prospective observational study was conducted involving 30 adult Egyptian patients presenting with spontaneous CSF rhinorrhea. Clinical data, imaging findings (HRCT, CT cisternography, MRI, MRV), and intraoperative ICP measurements were analyzed.

RESULTS

Results: The majority of patients were 28 obese females (93.3%), with 26 (86.7 %) being of reproductive age. Common symptoms included headache (100%) and pulsatile tinnitus pulsatile tinnitus, 24 (80) % meningitis: 2 cases (6.6%)

. HRCT and CT cisternography revealed unilateral cribriform plate defect 25 patients (83.3%), bilateral in 2 (6.6%) and defect in the roof of the ethmoid in 3 (10%). Beside the site of the leaks MRI showed features of elevated ICP including empty sella (either complete or partial) in 28 (93.3%) and optic nerve sheath enlargement 4 (13.3) and optic nerve sheath dilation in 25 (8.3)%. MRV revealed bilateral TVSS in 25 (83.3%) of patients. All patients had elevated opening pressures (>25 cm H_2O), but no correlation was found between pressure and degree of TVSS.

CONCLUSIONS

Conclusion: Spontaneous CSF rhinorrhea is strongly associated with features of elevated ICP and venous sinus stenosis. Recognition of these patterns is essential for diagnosis, surgical planning, and long-term management. To our knowledge, this is the first prospective Egyptian cohort linking spontaneous CSF rhinorrhea with bilateral TVSS

KEYWORDS

Spontaneous CSF rhinorrhea, transverse venous sinus stenosis, intracranial pressure

OP-1239

The Second Haemostatic Hit: A Scoping Review Of Serotonin Reuptake Inhibitors And Bleeding Risk In HHT

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BACKGROUND & AIM

Hereditary Haemorrhagic Telangiectasia (HHT) is characterised by structural vascular fragility, resulting in chronic, life-altering epistaxis. Management typically focuses on surgical and anti-angiogenic interventions, however common modifiable pharmacological triggers may remain overlooked. Serotonin Reuptake Inhibitors (SRIs), including SSRIs and SNRIs, inhibit the serotonin transporter, depleting intra-platelet serotonin - a critical co-factor for aggregation. We hypothesise that SRIs act as a "second haemostatic hit", imposing a functional platelet defect upon structural vascular vulnerability. This scoping review aims to map the literature on SRI-induced epistaxis exacerbation and identify safety gaps.

MATERIAL & METHODS

A systematic scoping review was conducted according to PRISMA-ScR guidelines. Searches were performed in MEDLINE, Embase, and the Cochrane Library (inception to April 2026). Inclusion criteria focused on HHT clinical outcomes and pharmacological studies addressing serotonin-mediated bleeding.

RESULTS

Preliminary mapping reveals a stark evidence desert. No prospective studies currently quantify SRI risk in HHT. Pharmacological synthesis confirms, however, that serotonin transporter inhibition by SRIs significantly impairs the primary haemostatic plug, essential for managing high-flow telangiectasia. Anecdotal signals froma high-volume HHT centre suggest a correlation between SRI use and potential increased epsitaxis severity scores.

CONCLUSIONS

SRIs represent a theoretically potent but clinically overlooked risk factor in HHT. This review highlights a major unrecognised safety gap and advocates for baseline monitoring when initiating such antidepressants in HHT patients. Further prospective multi-centre sudies are required

KEYWORDS

Hereditary Haemorrhagic Telangiectasia; HHT; Epistaxis; Serotonin Reuptake Inhibitors; Scoping Review; Venlafaxine; Platelet Dysfunction

OP-1240

Technical, Clinical, And Safety Effects Of Brief Standardized Education On Smartphone IMU-Measured Intranasal Corticosteroid Spray Technique: A Prospective Observational Cohort Study

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BACKGROUND & AIM

The efficacy and local tolerability of intranasal corticosteroid (INCS) sprays depend on directing the nozzle away from the septum and toward the lateral nasal wall. This study aimed to objectively quantify natural-use technique with a smartphone-based inertial measurement unit (IMU), determine whether brief standardized education improves technique, and explore whether technical change is associated with short-term clinical outcomes and adverse effects.

MATERIAL & METHODS

This manuscript reports the first locked analysis of an ongoing prospective cohort and includes 29 adults starting INCS therapy. At baseline, a 10-second IMU recording was obtained for each nostril during natural use; a brief standardized education session was then delivered and the recording was repeated at the same visit. Head position was standardized in neutral gaze with the chin kept parallel to the ground. Right and left technical change were analyzed separately using nostril-specific lateral-positive recoded signed Z. The primary clinical endpoint was change in TNSS at day 14–28. Adverse effects were captured as epistaxis, dryness, burning/irritation, and oral taste/throat symptoms.

RESULTS

: Median TNSS improved from 8 to 3 (median change -4; p<0.001). Median change in right recoded Z was +6.28° (p=0.010), in left recoded Z +10.12° (p=0.011), and in mean recoded Z +9.00° (p<0.001); all three key technical endpoints remained significant after Holm correction. The number of patients within the 15–45° lateral corridor increased from 1 to 7 on the right and from 0 to 9 on the left. Epistaxis occurred in 6 patients (20.7%), dryness in 4 (13.8%), oral taste/throat symptoms in 3 (10.3%), and burning/irritation in 1 (3.4%). In this cohort, technical lateralization metrics were not independent predictors of TNSS change or epistaxis.

CONCLUSIONS

Brief standardized education produced a measurable bilateral lateral shift in nozzle orientation on smartphone IMU and was accompanied by clinically meaningful improvement. This framework offers a practical way to quantify patient technique in routine care.

KEYWORDS

intranasal corticosteroid; nasal spray technique; gyroscope; inertial measurement unit; patient education; epistaxis.

OP-1241

Comparison Of AI Models For Detecting Concha Bullosa On Paranasal Sinus CT Images

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BACKGROUND & AIM

Concha bullosa is a common sinonasal anatomical variation defined by pneumatization of the middle turbinate. It may contribute to nasal obstruction and influence endoscopic sinus surgery planning. However, it is not consistently reported on paranasal sinus computed tomography (CT) scans. Artificial intelligence (AI), particularly convolutional neural networks (CNNs), has demonstrated promising performance in radiological diagnostics and sinonasal image classification. This study aimed to evaluate the diagnostic performance of AI models for detecting concha bullosa on coronal paranasal sinus CT images and to compare Microsoft Azure Custom Vision with an EfficientNetV2-S- CNN model.

MATERIAL & METHODS

This retrospective diagnostic study included anonymized CT images obtained from an institutional radiology archive with ethical approval. A total of 838 independent coronal CT images were analyzed. Images were converted from Digital Imaging and Communications in Medicine (DICOM) format to JPEG and standardized to 250 × 250 pixels. Each image was labeled as “concha bullosa present” or “concha bullosa absent” by otolaryngology reviewers. The dataset was randomly divided into training (80%, n = 670) and testing (20%, n = 168) subsets. Two models were evaluated: Microsoft Azure Custom Vision and EfficientNetV2-S. Accuracy, sensitivity, specificity, Cohen’s kappa coefficient, and the area under the receiver operating characteristic curve (AUC) were calculated for model performance. Model comparison was performed using McNemar’s test.

RESULTS

In the test set, concha bullosa was present in 91 images (54.17%) and absent in 77 images (45.83%). Accuracy, sensitivity, specificity, and AUC were 95.83%, 95.60%, 96.10%, and 0.973 for Azure, and 94.64%, 95.60%, 93.51%, and 0.987 for EfficientNetV2-S. Both models showed excellent agreement with expert annotation (Azure κ = 0.916; EfficientNetV2-S κ = 0.892). Model performance did not differ significantly according to McNemar’s test (p = 0.724).

CONCLUSIONS

AI models identified concha bullosa on coronal paranasal sinus CT scans with significant accuracy. Microsoft Azure Custom Vision and EfficientNetV2-S exhibited comparable diagnostic performance. These data indicate that AI may serve as an assisting instrument for radiological assessment and preoperative planning. Further studies with larger datasets and external validation are required.

KEYWORDS
concha bullosa, computed tomography, artificial intelligence, deep learning, medical image analysis

OP-1242

Beyond Thrombosis: Clinical Review Of The Risk Of Epistaxis With Oral Contraceptives

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BACKGROUND & AIM

Background: A common ENT manifestation, epistaxis has a complex etiology that includes coagulopathies, hypertension, and trauma. Oral contraceptive pills affect nasal mucosal physiology, coagulation profiles, and vascular tone, especially when they contain estrogen.OCPs have been shown to raise the risk of thrombosis, little is known about their possible correlation with bleeding symptoms like epistaxis. The nasal mucosa has estrogen receptors, and changes in hormone levels can affect mucosal engorgement and vascular permeability. Aim: To evaluate the possible association between oral contraceptive pill use and the occurrence of epistaxis. To explore plausible physiological mechanisms linking hormonal contraception to nasal bleeding.

MATERIAL & METHODS

Method: A study was conducted at the department of ENT, Head and Neck Surgery, with female patients visiting on OPD and emergency basis with complaints of nasal bleed from 2025 to 2026. Data on patient demographics, OCP formulations, duration of use, epistaxis characteristics, and mechanisms were extracted. Three groups of women on the database were created, who were and were not consuming oral contraceptive pills.

RESULTS

The consumption of oral contraceptive pills reduces the beta receptors present in lamina propria cells. The predominance of beta receptors was seen in the groups having rhinitis symptoms and the normal population.

CONCLUSIONS

There was a significant reduction in the beta receptors in lamina propria cells of the nasal mucosa among women who consumed oral contraceptive formulations, especially those containing estrogen. There were significant effects on inflammatory cells like fibroblasts, mast cells, plasmocytes, etc.

KEYWORDS
Oral Contraceptives, epistaxis, fibroblasts, estrogen receptors, mast cells

OP-1243

The Great Mimic: Navigating The Complex Interplay Between Allergic Rhinitis And Chronic Rhinosinusitis

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BACKGROUND & AIM

Distinguishing between Allergic Rhinitis (AR) and Chronic Rhinosinusitis (CRS) remains a diagnostic challenge, even for experienced clinicians, due to their significant symptomatic overlap. Beyond the clinical diagnostic hurdle, the socioeconomic burden is staggering: AR affects 10–40% of adults globally with an annual treatment cost of up to $7.9 billion, while CRS affects 5% of the US population, accounting for $8.6 billion in yearly healthcare expenditure.

MATERIAL & METHODS

This presentation provides a targeted literature review focused on the differential diagnosis of AR and CRS. We synthesize current evidence to provide a framework for distinguishing these two entities and examine the strength of the physiological link between them.

RESULTS

The correlation between CRS and AR remains a subject of intense debate, with the literature offering fragmented and often diverging interpretations. One prevailing theory suggests a direct inflammatory link: inhaled allergens processed by nasal immune cells trigger an inflammatory cascade. In CRS patients, an overexpression of cell-surface adhesion molecules may further recruit inflammatory mediators, resulting in a potent cytokine "outburst" within the sinonasal mucosa. Conversely, opposing data challenge this correlation. Studies utilizing radiolabeled allergens demonstrate that particles frequently remain sequestered in the nasal cavity and oropharynx, failing to permeate the paranasal sinuses. This suggests a physical limitation that may prevent allergens from directly exacerbating sinus disease, pointing toward independent rather than interdependent pathologies.

CONCLUSIONS

Both AR and CRS profoundly impact patient quality of life and carry immense economic weight. Understanding whether these conditions are parallel diseases or a continuous inflammatory spectrum is vital. Mastery of the diagnostic nuances between them remains the mainstay of effective management and personalized patient care.

KEYWORDS
allergic rhinitis, chronic rhinosinusitis,

OP-1244

Real-World Biologics For Chronic Rhinosinusitis With Nasal Polyps (Crswnp): Efficacy, Treatment Interruption, And Comorbidity Impact

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BACKGROUND & AIM

To evaluate biologics effectiveness in for Chronic Rhinosinusitis with Nasal Polyps (CRSwNP) in real-world settings, analyzing comorbidity impact, treatment interruption causes, and outcomes

MATERIAL & METHODS

Prospective study of 313 CRSwNP patients; 261 (83.4%) had T2- comorbidities (asthma/others). Assessment included SNOT-22, NOSE, ACT, endoscopy (Nasal Polyp Score, NPS), and CT (Lund-Mackay). Biologics: dupilumab (93.4%), mepolizumab (5.4%), omalizumab (0.6%), tezepelumab (0.6%).

RESULTS

1.Symptom Improvement: NOSE scores decreased by 72.7% at 1 year (60.5→16.5) and 82.6% at 2 years (60.5→10.5). SNOT-22: 50% reported significant improvement at Year 1; only 4% showed no improvement by Year 2.

Asthma Control: Achieved in 98.5% of comorbid patients (ACT: 19.7±0.2→23.7±0.3).

Objective Outcomes: - CT scores decreased from 19.8±0.5 to 5.1 (Year 1) and 3.5 (Year 2). 84% exhibited polyp reduction (NPS) within 6 months; complete regression in 14% (Year 1) and 13% (Year 2).

- Non-response: 3.4% (n≈11) required agent switch.

- Treatment Interruption:38 patients (12.1%) discontinued due to temporary drug unavailability at the institution.

- Rapid relapse occurred in 94% (36/38), with comorbid patients recurring within 2.7±0.8 months.

- 55% (21/38) showed significant NPS worsening (2.5±0.7→5.6±0.3).

- Sustained remission post-discontinuation was rare(4 patients: 1 dupilumab responder at Year 1; 2 at Year 3; 1 at Year 5).

CONCLUSIONS

Biologics (primarily dupilumab) demonstrate high real-world efficacy for CRSwNP with T2 comorbidities. Treatment interruption due to drug unavailability (12.1%) triggered rapid relapse in 94% of patients, especially comorbid cases (mean 2.7 months), underscoring the necessity of consistent therapy access.

KEYWORDS
Biologics, nasal polyps, nasal obstraction, remission, breathing,Dupilumab, Omalizumab, Tezepilumab, SNOT, AST, astma

OP-1245

Breathing Easier, Worrying Less? The Impact Of Septoplasty On Anxiety

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BACKGROUND & AIM

Nasal obstruction is one of the most frequent complaints in Otorhinolaryngology and shows a bidirectional relationship with anxiety. Anxiety can amplify the subjective perception of nasal obstruction, while chronic nasal inflammation may independently promote anxiety via neural, inflammatory, and sleep-related mechanisms. Preoperative anxiety has also been associated with poorer subjective recovery after septoplasty. However, whether surgical correction translates into measurable improvement of anxiety symptoms remains unclear. This study aims to evaluate the impact of septoplasty on nasal obstruction and anxiety scores, and to assess whether preoperative anxiety influences postoperative improvement in nasal obstruction.

MATERIAL & METHODS

A prospective observational cohort study including patients who underwent septoplasty with or without turbinate surgery between July 2025 and February 2026. Patients completed the Visual Analogue Scale (VAS) for nasal obstruction, the NOSE scale, and the Beck Anxiety Inventory (BAI) preoperatively and postoperatively. A BAI score ≥16 was considered positive for clinically significant anxiety. Correlations were assessed using Spearman's test.

RESULTS

36 patients were included, with a mean age of 42.5 (± 13.5) years; 19 were men (52.8%). Mean VAS decreased from 6.94 (± 1.94) preoperatively to 2.69 (± 2.51) postoperatively, and mean NOSE from 59.44 (± 22.42) to 21.25 (± 20.51). Mean BAI decreased from 15.22 (± 12.43) to 9.06 (± 10.08). A moderate positive correlation was observed between preoperative NOSE and BAI scores (ρ=0.438; p=0.008), while the correlation between VAS and BAI was not significant (ρ=0.230; p=0.177). Postoperatively, improvement in NOSE scores showed a weak positive correlation with improvement in BAI scores, without

reaching significance (ρ=0.316; p=0.061). No significant correlation was found between improvements in VAS and BAI (ρ=0.189; p=0.271). Preoperative BAI scores did not significantly correlate with postoperative improvements in VAS (ρ=0.146; p=0.395) or NOSE (ρ=0.177; p=0.302). The proportion of patients meeting criteria for anxiety decreased from 16 (44.4%) preoperatively to 10 (27.8%) postoperatively.

CONCLUSIONS

Nasal surgery was associated with marked improvement in nasal obstruction and lower postoperative anxiety scores, although improvements in nasal obstruction were not significantly correlated with improvements in anxiety.

KEYWORDS

Nasal Obstruction Septoplasty Anxiety NOSE Beck Anxiety Inventory

OP-1246

Comparative Study Between Local Anaesthesia And General Anaesthesia In Coblation Turbinoplasty

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BACKGROUND & AIM

AIM:

Coblation turbinoplasty is an efficient and minimally invasive treatment for hypertrophic inferior turbinates (IT) that cause nasal congestion and obstruction. The procedure is mostly performed under general anaesthesia (GA), but local anaesthesia (LA) is rapidly gaining popularity as it enables the procedure to be performed in the outpatient setting.

We hypothesised it would reduce operating time by performing this in the outpatient setting. Secondary objectives included determining the impact on symptom burden, comparing costs, postoperative pain, length of stay and waiting times of the two anaesthetic procedures.

MATERIAL & METHODS

METHOD:

A total of 42 patients were identified, with 22 treated under LA and 20 treated under GA.

All 42 patients completed the study and were followed up in outpatient clinic 3 months after discharge. We measured these outcomes between studied groups: change in overall NOSE scores between pre-operative visit and 3 months postoperatively, pain scores, waiting times for procedure and costs.

RESULTS

RESULTS:

A total of 42 patients with non-allergic rhinitis who underwent turbinoplasty were included in our study. Median waiting time for surgery in the LA group was significantly shorter than in the GA group. There was no difference in change in the NOSE scores after interventions between the LA group and the GA group.

CONCLUSIONS

CONCLUSION:

Turbinoplasty in LA is safe, efficacious and cheap. The main benefits in clinical use could be the financial effectiveness. Additionally we observed no increase in complication rates and pain scores compared to the GA technique.

KEYWORDS

turbinoplasty, inferior turbinates, coblation, local anaesthetic

OP-1247

Multidimensional Assessment Of Psychosocial Effects Following Septorhinoplasty

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BACKGROUND & AIM

The aim of this study was to evaluate the psychosocial status of septorhinoplasty candidates by assessing their levels of subjective well-being, social appearance anxiety, and self-objectification, and to investigate the impact of sociodemographic characteristics and psychiatric history on these parameters.

MATERIAL & METHODS

A total of 103 septorhinoplasty candidates participated in the study. Sociodemographic data including age, gender, education, marital status, parental status, employment status, household composition, monthly income, and perceived income were collected. For psychosocial assessment, the Social Appearance Anxiety Scale (SAAS), Subjective Well-Being Scale (SWBS), and Self-Objectification Questionnaire (SOQ) were administered. Descriptive statistics (mean, standard deviation, minimum,

maximum) were calculated. Binomial tests were used for categorical variables, and the chi-square goodness-of-fit test was applied for the distribution of variables with multiple categories.

RESULTS

The mean age of participants was 27.5 ± 9.15 years (median: 25). The mean scores were 35.9 ± 11.7 for the Social Appearance Anxiety Scale (SAAS), 141.1 ± 24.6 for the Subjective Well-Being Scale (SWBS), and 28.8 ± 11.1 for the Self-Objectification Questionnaire (SOQ). The gender distribution was 61.2% female and 38.8% male, showing a statistically significant difference ($p = 0.030$).

Regarding education, 41.7% of participants were university graduates, and 35.9% were high school graduates. In terms of marital status, 59.2% were single, 32.0% married, 5.8% divorced, and 2.9% widowed. Regarding employment status, 54.4% were unemployed, and 45.6% were employed.

A total of 81.4% of participants reported receiving positive feedback from their social environment regarding their appearance. The mean duration of desire for surgery was 35.1 ± 44.4 months (median: 15 months). Psychiatric diagnosis was present in 13.7% of participants, and 17.6% were using psychiatric medication.

CONCLUSIONS

The study cohort predominantly consisted of young, single individuals with a high level of education. Heterogeneity was observed among participants in terms of psychosocial variables, highlighting the need to consider the influence of sociodemographic characteristics and psychiatric history. These findings underscore the importance of a comprehensive assessment of the psychosocial status of septorhinoplasty candidates.

KEYWORDS

Septorhinoplasty,Social Appearance Anxiety Scale (SAAS),Subjective Well-Being Scale (SWBS),Self-Objectification Questionnaire (SOQ)

OP-1248

Effect Of Medical Versus Surgical Therapy On Cognitive Dysfunction In Chronic Sinusitis Patients: A Systematic Review And Meta-Analysis Of SNOT-22 Scores

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BACKGROUND & AIM

Chronic rhinosinusitis has a high impact on quality of life and has been shown to affect cognitive function in patients. The aim of this systematic review and meta-analysis is to determine the impact of medical vs surgical therapy in improving cognitive dysfunction in CRS patients.

MATERIAL & METHODS

Our study included papers evaluating cognitive dysfunction in patients with CRS treated either medically or surgically, with post-treatment evaluation via the patient reported outcome measure SNOT-22.

RESULTS

Our study included a total of 8 articles, with the pooled surgery cohort comprising of 1,243 patients, and the pooled medical therapy cohort comprising 158 patients. Statistical analysis was conducted focusing primarily on the variation in SNOT-22 scores from baseline to follow-up. Our results indicated a significant improvement in the surgical cohort compared to the medical cohort post treatment.

CONCLUSIONS

Our results lean towards ESS playing a significant role in improving cognitive dysfunction in CRS patients compared to continued medical therapy. Large prospective long-term trials are required to truly elucidate the difference between the two treatment methods.

KEYWORDS

Chronic Rhinosinusitis, Rhinosinusitis, Sinusitis, Quality of Life

OP-1249

Hemostasis In FESS: A Split-Nose Comparison Of Ankaferd Blood Stopper® And Adrenaline Pledgets

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BACKGROUND & AIM

In functional endoscopic sinus surgery (FESS), intraoperative bleeding may impair surgical visualization, prolong dissection, and affect postoperative mucosal healing. Adrenaline-soaked pledgets are widely used for hemostasis; however, their effect may

be limited in some cases and may be associated with systemic hemodynamic changes. Ankaferd Blood Stopper® (ABS) is a topical hemostatic agent used in various otorhinolaryngologic procedures. We hypothesized that ABS would provide comparable intraoperative hemostasis to adrenaline pledgets and superior postoperative mucosal healing in a split-nose model.

MATERIAL & METHODS

This single-center, prospective, randomized, split-nose clinical study included 30 adult patients undergoing primary bilateral functional endoscopic sinus surgery (FESS) for chronic rhinosinusitis. Each nasal cavity was evaluated separately. According to randomization, Ankaferd Blood Stopper® was applied to one side and an adrenaline-soaked pledget to the contralateral side. Intraoperative hemostatic efficacy was assessed by surgical field bleeding scores, need for additional hemostatic intervention, and hemodynamic parameters. Surgical videos were blinded for side allocation and evaluated by two independent otorhinolaryngologists using the Fromme–Boezaart scale. At the end of surgery, Ankaferd-soaked Spongostan® was placed on the Ankaferd side, while standard Spongostan® was placed on the opposite side. Postoperative follow-up was performed at weeks 1 and 4 with endoscopic evaluation and patient/physician visual analogue scale scores. Paired analyses were used for within-patient comparisons.

RESULTS

Intraoperatively, Ankaferd Blood Stopper® (ABS) demonstrated hemostatic efficacy comparable to adrenaline-soaked pledgets. However, ABS was observed to cause dark discoloration depending on its retention time in the surgical field. Therefore, standardization of application time, amount, and surgical field cleaning was considered important when using ABS. Postoperatively, the ABS-soaked Spongostan® side showed lower edema, crusting, and synechia scores, along with more favorable patient and physician visual analogue scale scores. No serious ABS-related adverse event was observed.

CONCLUSIONS

Ankaferd Blood Stopper® (ABS) demonstrated intraoperative hemostatic efficacy comparable to adrenaline-soaked pledgets in functional endoscopic sinus surgery. The more favorable postoperative findings on the ABS-soaked Spongostan® side suggest that ABS may contribute to improved early mucosal healing. No serious ABS-related adverse event was observed. ABS may be considered a safe and effective alternative in functional endoscopic sinus surgery, provided that application time, amount, and surgical field cleaning are standardized.

KEYWORDS

Functional endoscopic sinus surgery; Ankaferd Blood Stopper; adrenaline pledget; hemostasis; split-nose study.

OP-1250

Complications Of Functional Endoscopic Sinus Surgery And Associated Risk Factors: A Retrospective Study

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BACKGROUND & AIM

Functional endoscopic sinus surgery (FESS) is a widely used minimally invasive technique for treating chronic rhinosinusitis, nasal polyposis, fungal sinusitis, mucoceles, and sinus tumors. By enlarging the natural sinus ostia, it restores ventilation and drainage while preserving mucosal function. Compared to traditional methods, FESS is associated with less trauma, faster recovery, and lower complication rates. However, anatomical variations and patient-related factors may influence outcomes. Recently, the role of perioperative steroid use has gained attention. This study aimed to evaluate factors affecting complications in FESS and to investigate whether steroid use reduces complication risk.

MATERIAL & METHODS

A total of 208 patients who underwent endoscopic sinus surgery for sinusitis, nasal polyposis, mucocele, or paranasal sinus tumors at Uşak Training and Research Hospital between 2023 and 2025 were included in this study. Preoperative CT scans of the patients were reviewed to evaluate anatomical variations, and Keros classification was assessed. Preoperative use of oral or topical steroids was recorded. Complications occurring intraoperatively or within the first postoperative month were evaluated.

RESULTS

A total of 208 patients were included in the study. The mean age was 37.9±10.0 years, with a median of 38 (range: 14–71). Of the participants, 59.6% were male (n=124). The most common indication was nasal polyposis (57.2%). The overall complication rate was 19.7% (n=41). No significant association was found between complications and gender (p=0.843), age (p=0.481), or indication (p=0.935). Analysis of radiological findings revealed no statistically significant relationship between anatomical variations and complications (all p>0.05), although a borderline significance was observed for concha bullosa (p=0.062). The complication rate was significantly lower in patients receiving steroids (12.4%) compared to those who did not (27.2%) (p=0.012). In logistic regression analysis, steroid use was independently associated with a reduced risk of complications (OR: 0.38, 95% CI: 0.18–0.78, p=0.009).

CONCLUSIONS

Steroid use was significantly associated with a reduced risk of complications in patients undergoing FESS. These findings suggest that perioperative steroid administration may have a protective effect against postoperative complications.

KEYWORDS

endoscopic sinus surgery, steroid, complication, CT variation

OP-1251

Features Of Endoscopic Dacryocystorhinostomy In Patients With Consolidated Nasolacrimal Duct Trauma

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BACKGROUND & AIM

Lacrimal drainage disorders after nasal and midface trauma remain a challenge for otorhinolaryngologists, maxillofacial surgeons, and ophthalmologists. Midface fractures are commonly associated with nasolacrimal pathway injury, lacrimal drainage impairment reported in 32.9% of patients. Powered Endoscopic DCR offers advantages over external approaches, including no facial scarring, preservation of the lacrimal pump mechanism, improved endonasal access, and simultaneous correction of intranasal pathology. However, it requires advanced surgical skill due to the narrow operative field and proximity to vital structures. This study aimed to assess the features and outcomes of Powered Endoscopic DCR in patients with consolidated traumatic NLD Types II–III injuries

MATERIAL & METHODS

A total of 45 patients with distal NLD injuries were observed by a multidisciplinary team (ENT surgeon, ophthalmologist, and maxillofacial surgeon). Preoperative assessment included history, complaints, dacryocystography, probing and irrigation tests, MSCT with contrast, 3D reconstruction of cranial bones, and nasal endoscopy.All patients underwent Powered Endoscopic DCR with stenting of the nasolacrimal duct and mucosal flap reconstruction, depending on the injury site

RESULTS

The most frequent clinical manifestation was persistent epiphora, observed in 60% of patients, followed by intermittent tearing in 35% and tearing during functional load or exposure to environmental triggers in 26%. Tear stagnation was recorded in 27 patients, while mucopurulent discharge from the conjunctival sac occurred in 87%. Swelling or hyperemia of the medial canthus with pulsating pain was present in 47% of cases. Injuries were localized at the level of the lacrimal sac in 37% of patients. Nasolacrimal duct lesions included wall fracture with narrowing in 17%, obstruction in 24%, defect in 5%, and combined lesions in 17%. Endoscopic examination revealed concomitant intranasal pathology in 65% of patients, including synechiae, osteomeatal complex deformities, and septal deviation. Postoperatively, lacrimal drainage was restored, fistula healing occurred rapidly, and no recurrence of chronic dacryocystitis was observed.

CONCLUSIONS

1. Powered Endoscopic DCR with nasal burrs and mucosal flap reconstruction is a highly effective method for treating patients with consolidated NLD trauma (Types II–III).

2. Further study is needed to optimize flap placement techniques to minimize postoperative synechiae and granulation formation.

KEYWORDS

Powered Endoscopic Dacryocystorhinostomy; Endoscopic DCR; Nasolacrimal duct trauma; Lacrimal drainage disorders; Midface fractures; Epiphora; Nasolacrimal duct obstruction; Mucosal flap reconstruction; Lacrimal stenting; Nasolacrimal pathway injury.

OP-1252

The FRONTIER Procedure: A Novel Reversed Draf III Approach For Advanced And Complex Frontal Sinus Pathology

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BACKGROUND & AIM

The endoscopic modified Lothrop procedure (Draf III) is the gold standard for advanced frontal sinus surgery, unifying both sinuses via an inside-out endonasal approach. However, far-lateral disease, extensive supraorbital cells, or multiple inter-sinus septations can render even the most extended endoscopic techniques inadequate, risking incomplete clearance and persistent disease.

MATERIAL & METHODS

Through a concealed bicoronal incision, an osteoplastic flap is elevated for panoramic exposure of the entire frontal sinus. Under direct visualization, lateral and medial bony partitions are removed. Drilling proceeds medially toward the contralateral sinus to create a single, capacious cavity with a wide inferior outflow tract. The endoscope is then introduced to confirm

complete removal of disease, assess the frontal recess, and ensure unobstructed drainage. The technique preserves neurovascular structures and avoids unnecessary cranialization or obliteration, maintaining natural sinus physiology.

RESULTS

Early application of the FRONTIER procedure in patients with extreme lateral osteomas, complex post-surgical anatomy, and revision cases demonstrated complete disease clearance in a single stage. Endoscopic assistance enhanced intraoperative verification, ensuring anatomical completeness. All patients achieved favorable cosmetic outcomes, rapid recovery, and no recurrence during short-term follow-up. Morbidity was minimal, with scars hidden within the hairline.

CONCLUSIONS

The FRONTIER procedure represents a paradigm shift in frontal sinus surgery. By reversing the Draf III concept to an outside-in approach and integrating endoscopic verification, it enables safe, definitive, and aesthetically discreet management of the most challenging frontal sinus cases. This novel technique broadens the surgical armamentarium for advanced pathology, combining maximal exposure with minimal morbidity.

KEYWORDS

: Reversed Draf III, frontal sinus surgery, bicoronal osteoplastic flap, frontal sinus unification, far-lateral disease, novel surgical technique, endoscopic-assisted, FRONTIER

OP-1253

Management Of Antrochoanal Polyps: A Single-Institution Experience

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BACKGROUND & AIM

Antrochoanal polyps (ACPs) are benign lesions of the sinonasal cavity, commonly originating from the maxillary sinus and extending into the choana. Although surgery is considered the standard treatment, postoperative recurrence remains a relevant challenge, particularly in pediatric populations. While incomplete excision of the antral attachment has traditionally been considered the principal cause of recurrence, the contribution of patient-related and radiological factors remains incompletely understood. This study aimed to evaluate clinical, surgical, and radiological characteristics associated with recurrence.

MATERIAL & METHODS

A retrospective analysis was conducted on 54 patients who underwent primary surgical treatment for ACP at a tertiary referral center between January 2014 and January 2025. Patients who underwent revision procedures or lacked preoperative computed tomography (CT) imaging were excluded. Demographic characteristics, clinical variables, surgical details, postoperative findings, and radiological data were reviewed. Patients were stratified into pediatric (<16 years) and adult (≥16 years) groups. Surgical treatment consisted of middle meatal antrostomy (MMA) alone or a combined approach incorporating Caldwell–Luc surgery when complete visualization of the lesion origin was not achievable through MMA. Potential predictors of recurrence were evaluated using univariate analysis with calculation of odds ratios and 95% confidence intervals.

RESULTS

Among 54 patients, recurrence was observed in 5 cases, corresponding to an overall recurrence rate of 9.3%. Pediatric patients demonstrated a significantly higher recurrence rate than adults (20.0% vs. 2.9%, p=0.048). Ipsilateral non-maxillary mucosal thickening was strongly associated with recurrence (OR: 16.5, p=0.02), while postoperative synechiae also significantly increased recurrence risk (OR: 9.71, p=0.049). Although recurrence occurred more frequently in patients treated with the combined approach compared with MMA alone (17.4% vs. 3.2%), this difference did not reach statistical significance.

CONCLUSIONS

Recurrence of ACP appears to be multifactorial and may be influenced by both disease-related and postoperative factors. Pediatric age, ipsilateral mucosal disease, and postoperative synechiae were identified as important factors associated with recurrence. Careful preoperative assessment and meticulous surgical technique aimed at minimizing mucosal injury may help reduce recurrence risk. Closer postoperative surveillance should be considered in patients with high-risk features.

KEYWORDS

Antrochoanal polyp, Endoscopic sinus surgery, Recurrence, Middle meatal antrostomy, Caldwell–Luc Approach

OP-1254

The Long-Term Outcomes Of Surgical Approaches For Managing Cerebrospinal Fluid Rhinorrhea: A Systematic Review And Single-Arm Meta-Analysis.

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BACKGROUND & AIM

Background: Cerebrospinal fluid (CSF) rhinorrhea is a significant health disorder caused by abnormal communication between the subarachnoid space and the nasal cavity. Although several surgical approaches are available, their long-term outcomes are not well-established. Our systematic review and meta-analysis aim to evaluate the long-term efficacy and safety of surgical interventions utilized for managing CSF rhinorrhea.

MATERIAL & METHODS

Methods: An extensive digital search of PubMed, Scopus, Web of Science, and Cochrane Library was executed from inception until March 2025. Studies evaluating any surgical interventions for managing CSF rhinorrhea and following the patients for at least one year were included. Our study outcomes were success, recurrence, and complication rates. All the statistical analysis was conducted using STATA 18 BE.

RESULTS

Results: Our review encompassed 114 studies involving 4187 patients with CSF rhinorrhea. The endoscopic repair showed a high primary success rate estimated at 93% (1-2 years), 92% (2-5 years), and 91% (> 5 years). The recurrence rate following endoscopic repair was low, varying from 7% to 11%. Furthermore, there were minimal complications after endoscopic repair, with meningitis ranging from 1% to 2%, sinusitis estimated at 1%, and headache from 1% to 3%. The craniotomy approach showed a high primary success, reaching 95% at 1-2 years, then dropping to 75% at 2 to 5 years, and increasing again to 98% at > 5 years. Additionally, the risk of recurrence (5% to 22%) and complications were generally high after craniotomy (3% to 6%).

CONCLUSIONS

Conclusion: Endoscopic repair demonstrated excellent long-term results with minimal morbidity, favoring it as the standard approach for most CSF rhinorrhea cases. Although craniotomy was associated with a higher risk of recurrence and complications, it remains an option for complex or frontal defects. Individualized surgical approaches depending on defect site, CSF flow, and patient-specific factors are mandatory for optimizing surgical outcomes.

KEYWORDS

CSF Rhinorrhea, CSF Repair

OP-1255

Cysteine Test For Assessing Halitosis Production Capacity

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BACKGROUND & AIM

In some patients, halitosis may not be detectable at the moment of examination, leading to normal halitometer readings despite the presence of a chronic malodor problem due to temporary fluctuations in oral conditions. For this reason, assessing a patient's halitosis production capacity—rather than relying solely on instantaneous measurements—may offer a more reliable diagnostic approach. This study aims to evaluate the use of a cysteine challenge test to determine the oral malodor production potential of individuals.

MATERIAL & METHODS

Patients with oral halitosis (n=305) or non-oral halitosis (n=191) and healthy individuals (n=102) were compared with each other to identify any possible relationship between before and after 5 ml of 20 mmol L-cysteine mouth rinse for 30 seconds induced oral H2S concentrations.

RESULTS

Initial H2S concentrations were >0.8ppm in 75.1% of oral group but less than <0.8 ppm of non-oral and controls. After cysteine rinse, oral H2S concentrations exceeded 12 ppm in 72% of oral halitosis patients but were lower in 88% of non-oral group and 99% of controls. While increasing ratio was >12 in 74.5% of oral group, it was <12 in 81.7% of non-oral and 83.4% of controls.

CONCLUSIONS

The cysteine challenge test appears to be a valuable diagnostic tool for assessing a patient's potential to generate oral malodor, even when halitosis is not detectable at the time of examination. It offers a means of identifying cryptic halitosis cases that may otherwise be missed by standard halitometry.

KEYWORDS

Halitosis, differential diagnosis, oral malodor, bad breath, hydrogen sulfide

OP-1256

Perceptions Of Artificial Intelligence Among Otolaryngologists In Saudi Arabia: A Cross-Sectional Study

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BACKGROUND & AIM

Otolaryngology has experienced notable advancements and growth in the application of artificial intelligence (AI). However, otolaryngologists' perception of these tools are lacking. This study aims to assess the knowledge and attitudes of otolaryngologists toward AI.

MATERIAL & METHODS

A cross-sectional study was conducted among 110 otolaryngologists in the Eastern Province of Saudi Arabia. A piloted questionnaire was used to gather information on knowledge, attitude, and opinions regarding AI. Data analysis was conducted using SPSS version 26.

RESULTS

Of the sample, 60% indicated average perceived knowledge of AI, while approximately 44.5% perceived their AI knowledge in the field of otolaryngology to be below average. A significant positive correlation was identified between knowledge and attitude scores. It was found that a higher knowledge score was more closely associated with seeing more than 15 patients per day, while a higher attitude score was more closely associated with being older, being a consultant, and having more years of professional experience. Of the sample, 38.2% strongly agreed that the application of AI in scientific research should be included in the residency training program.

CONCLUSIONS

These findings underscore the importance of incorporating AI tools into certain aspects of the otolaryngology residency training program, highlighting their significance.

KEYWORDS

otolaryngology, artificial intelligence, machine learning, knowledge, attitude

OP-1257

Balloon Sinuplasty Vs Functional Endoscopic Sinus Surgery (FESS) In Chronic Rhinosinusitis: Systematic Review And Meta Analysis

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) substantially impairs quality of life and very often necessitates surgical intervention when pharmacological treatment is ineffective. Functional endoscopic sinus surgery (FESS) continues to be the standard approach, though balloon sinuplasty (BSD) has emerged as a minimally invasive option. Despite its growing adoption, comparative data remains heterogeneous, especially when it comes to long-term safety and effectiveness. This systematic review and meta-analysis aimed to assess and compare clinical outcomes, complication rates, revision rates, radiologic control, and patient satisfaction between BSD and FESS in adult patients with CRS.

MATERIAL & METHODS

A systematic, comprehensive literature search was conducted across PubMed, Cochrane Library, Google Scholar, Web of Science, and EMBASE for studies published between 2005 and 2025. Following PRISMA 2020 and PICO guidelines, 23 studies meeting predefined inclusion criteria were systematically reviewed and analyzed. Randomized controlled trials and comparative observational studies evaluating BSD versus FESS in adults with CRS were included. Primary outcomes included symptom improvement (SNOT-22 score), complications, revision rates, Lund–Mackay radiologic scores, and patient satisfaction. Random-effects meta-analysis was used; heterogeneity and publication bias were assessed via the I^2 statistic and funnel plot, respectively.

RESULTS

23 studies were included, comprising 1,884 individuals (BSD: 940; FESS: 944). Both procedures produced clinically significant symptom relief, with pooled SNOT score reductions exceeding the minimal clinically important difference. Subgroup analysis revealed comparable mean improvement between BSD (27.24; 95% CI: 19.83–34.65) and FESS (25.18; 95% CI: 20.05–30.31), with no statistically significant difference (p=0.65). The complication rates were lower in BSD (4.56%) compared to FESS (10.84%), although this difference was not statistically significant (p=0.20). The revision rates were similar (BSD 3.21% vs. FESS 2.97%; p=0.87). Radiologic and satisfaction outcomes numerically favored BSD; however, they did not achieve statistical

significance. Most pooled analyses exhibited substantial heterogeneity (I^2 >90%), and funnel plot asymmetry indicated possible publication bias.

CONCLUSIONS

Both BSD and FESS yield similar improvements in symptoms for adult chronic rhinosinusitis (CRS). Although BSD revealed quantitatively lower complication rates and higher satisfaction, those variations were not statistically significant and were accompanied by substantial heterogeneity. The variation in study design, disease severity, and reporting limits definitive comparative conclusions. BSD may represent an effective minimally invasive option for some patients, whereas FESS is still necessary for more severe cases. Further high-quality, sufficiently powered randomized controlled trials with standardized outcome reporting are necessary to more precisely characterize patient selection and long-term comparative effectiveness.

KEYWORDS

Balloon Sinuplasty (BS), Functional Endoscopic Sinus Surgery (FESS), Chronic Rhinosinusitis (CRS), Systematic Review, Meta-Analysis, SNOT-22

OP-1258

Coblation In Management Of Nasal Meningoencephalocele In Yemen

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BACKGROUND & AIM

To present our experience of managing Nasal Meningoencephalocele using trans-nasal endoscopy with coblation and comparing it with bipolar diathermy as a minimally invasive surgery.

MATERIAL & METHODS

Endoscopic excision of nasal meningoencephalocele under general anesthesia. Excision of the mass and coagulation of its base with coblation. The skull base defect was repaired with a free fat graft and septal cartilage.

RESULTS

All the patients healed successfully without complications. No recurrence occurred with follow up for 1 year.

CONCLUSIONS

Endoscopic management of Nasal Meningoencephalocele offered better lightening and exposure of the field, less bleeding, and shortening the time of surgery. Also, the device gave three functions simultaneously: ablation, suction and irrigation thus it saves the 4-hand technique needed in other methods, shortens the time needed for surgery.

KEYWORDS

Nasal Meningoencephalocele , coblation , endoscopic management for meningoencephalocele

OP-1259

“Clinical Characteristics And Surgical Outcomes Of Sinonasal Angiofibromas: An 8-Year Single-Center Experience”

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BACKGROUND & AIM

Sinonasal angiofibroma is a rare, highly vascular tumor predominantly affecting adolescent males, characterized by locally aggressive growth and a risk of significant intraoperative bleeding. Recent advances in endoscopic techniques and preoperative embolization have improved surgical management; however, the optimal approach and the clinical relevance of different staging systems remain controversial. This study aims to present an 8-year single-center experience by evaluating the clinical features, tumor staging, surgical approaches, and outcomes of patients with sinonasal angiofibroma, with a focus on the effectiveness and safety of endoscopic surgery and the impact of embolization on perioperative management.

MATERIAL & METHODS

This retrospective study included patients diagnosed with sinonasal angiofibroma and treated at a tertiary referral center between 2018 and 2026. Demographic characteristics, presenting symptoms, and radiological findings were reviewed. Tumors were staged according to the UPMC and Onerci classification systems. Data regarding preoperative embolization, surgical approach, intraoperative findings, and postoperative outcomes were collected from medical records. All patients underwent preoperative imaging with contrast-enhanced MRI and/or CT to assess tumor extent. Hematocrit levels measured before and after surgery were used as indirect indicators of intraoperative blood loss. Length of hospital stay and postoperative complications were recorded. Patients were followed regularly with clinical and radiological evaluation to detect residual or recurrent disease. Statistical analysis was performed descriptively due to the limited sample size.

RESULTS

A total of 14 male patients with a mean age of 16.4 years (range: 10–28) were included. Nasal obstruction was present in all patients, while epistaxis was reported in 64%. According to staging systems, the majority of tumors were classified as Stage II, and advanced-stage disease was observed in 14% of cases. Preoperative embolization was performed in 78.6% of patients. Endoscopic surgery was the primary treatment modality in nearly all cases, with no need for open approaches. The mean hematocrit level decreased from 40.4% preoperatively to 30.1% postoperatively, indicating manageable intraoperative blood loss. The average length of hospital stay was 5.5 days. Postoperative outcomes were favorable overall, with low morbidity and no major complications reported. Residual or recurrent disease occurred in 2 patients (14.3%). One patient showed disease progression during follow-up and required referral for radiotherapy, highlighting the importance of close postoperative surveillance.

CONCLUSIONS

Endoscopic surgery was demonstrated to be a safe and effective treatment modality for sinonasal angiofibroma, including selected advanced-stage cases. The widespread use of preoperative embolization contributed to acceptable intraoperative blood loss and facilitated surgical resection. Low rates of recurrence and morbidity support the reliability of minimally invasive approaches. However, the occurrence of disease progression in one patient underscores the importance of long-term follow-up and individualized management strategies. While staging systems provide valuable information on tumor extent, their role in guiding treatment decisions remains limited. Overall, a multidisciplinary approach and careful postoperative surveillance are essential to optimize patient outcomes.

KEYWORDS

Sinonasal angiofibroma; Endoscopic surgery; Preoperative embolization; Tumor staging; Surgical outcomes

OP-1260

Halitosis Examination Methods

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BACKGROUND & AIM

Halitosis emissions originate from three distinct sources: the oral cavity, nasal passages, and exhaled breath. Therefore, any halitosis assessment that does not comprehensively evaluate all three sources is inherently incomplete. In the literature, five principal methods of halitosis examination have been identified

MATERIAL & METHODS

Although methods for examining halitosis appear in various contexts throughout the literature, when systematically categorized, they can be grouped into five distinct diagnostic protocols.

RESULTS

The main clinical methods for evaluating halitosis are as follows:

- Self-assessment: If an individual perceives that they have halitosis, this alone is sufficient to categorize them as a halitosis patient.
- Social feedback: If individuals in the person's environment confirm the presence of malodor, this too is sufficient to support diagnosis of halitosis.
- Organoleptic assessment: Based on the clinician’s direct smelling is subjective and potentially misleading.
- Chemical and enzymatic tests: These tests rely on enzyme indicators that detect bacterial enzyme activity within the oral cavity, rather than halitosis itself.
- Halitometry: The use of gas-detecting devices (halitometers) to measure volatile compounds associated with halitosis. However, there is significant debate in the literature regarding which gases should be measured, how they should be measured, and what threshold values are considered clinically relevant.

CONCLUSIONS

The first two methods are subjective, yet show convincing correlation with objective clinical assessments. Organoleptic testing is also subjective, and while commonly used, it lacks rationality, reproducibility, sustainability, and standardization. Chemical and enzymatic tests fail to measure actual malodor and instead reflect bacterial activities, rendering them diagnostically questionable. Halitometry is the most reasonable, practical, and reliable method; however, it does not allow for a definitive diagnosis based on a single measurement. A more accurate diagnosis may be achieved when several maneuver-based measurements are conducted.

KEYWORDS

Halitosis; bad breath; examination; halitometry; enzymatic tests, halitometer; BANA;

OP-1261

The Impact Of E-Cigarette Vaping On Mucociliary Clearance: New Insights Into Early Respiratory Damage

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BACKGROUND & AIM

Background

The consumption of tobacco and nicotine-containing products is one of the most significant problems in modern society. Currently, the impact of alternative smoking methods on the ENT organs is poorly understood.

Aim

The aim is to assess the impact of vaping on the mucociliary system of the nasal cavity.

MATERIAL & METHODS

The study included 14 vapers and 10 healthy volunteers. Mucociliary clearance was assessed using the saccharin test. In vapers the saccharin test was performed three times: against the background of the usual regime of using e-cigarettes (base line), immediately after vaping, and an hour after vaping. The functional state of the nasal epithelial cilia was assessed using high-speed video microscopy of inferior turbinate scrapings at baseline and immediately after vaping.

RESULTS

Saccharin test time in vapers at baseline was significantly longer than that of healthy volunteers (mean±SD) (14±3minutes vs.10±3 minutes, $p<0.001$). Immediately after vaping, saccharin test time accelerated to 12±3 minutes, and after an hour slowed down to 17±4 minutes. Ciliary beat frequency in vapers was significantly lower compared to controls (median [IQR]) (5.5[5.0-6.5] Hz vs. 7.75[7.5-9.06] Hz, $p=0.0016$) and increased immediately after vaping, but the difference did not reach statistical significance (5.5[5.0-6.5] Hz vs. 6.5[6.03-7.5] Hz, $p=0.075$). The proportion of cells with motile cilia in the epithelial layer of vapers was significantly lower compared to controls (45[30-50]% vs. 80[70-80]%, $p=0.0018$). Furthermore 85.7% of vapers had a marked disruption in the synchronicity of their cilia, 28.6% had a decrease in the activity and amplitude of cilia movement, and 64.3% had a large number of exfoliated epithelial cells with immotile cilia and exfoliated cilia.

CONCLUSIONS

Preliminary study results show that vapers exhibit significant violations in mucociliary clearance and impairments in ciliary motility.

KEYWORDS

E-Cigarette, Mucociliary Clearance, ENT organs

OP-1262

Nasal Septal Swell Body Morphology Across Septal Deviation Types: A CBCT-Based Study

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BACKGROUND & AIM

Nasal obstruction is commonly associated with septal deviation, inferior turbinate hypertrophy, middle turbinate variations and other anatomical factors affecting nasal airflow. In addition to cartilaginous and bony septal deformities, the nasal septal swell body (NSSB) has increasingly been recognized as a soft-tissue structure potentially contributing to nasal airway resistance. Septal deviation can be classified according to the system proposed by Mladina Ranko, one of the most widely cited morphological classifications in rhinology literature. This study aimed to investigate the relationship between NSSB morphology and Mladina septal deviation types, with particular focus on side-to-side asymmetry.

MATERIAL & METHODS

A retrospective CBCT-based observational study was performed in adult patients with septal deviation. Deformities were classified according to Mladina (Types I–VII). NSSB thickness was measured bilaterally at its maximal dimension on standardized coronal images. Ipsilateral and contralateral measurements were compared, and NSSB morphology was analyzed across deviation patterns. Measurements were analyzed as continuous variables without predefined cutoff values.

RESULTS

NSSB morphology demonstrated variability among different Mladina deviation types. Previous imaging studies have suggested an association between septal deviation and contralateral NSSB prominence; similar asymmetry patterns were observed in our cohort. More pronounced asymmetry appeared to be associated with deviation patterns demonstrating greater anatomical asymmetry.

CONCLUSIONS

NSSB morphology varies across septal deviation types and demonstrates measurable side-to-side asymmetry. These findings suggest that septal deviation should be considered not only as a structural deformity of cartilage and bone, but also in relation to adjacent soft-tissue structures influencing nasal airflow.

KEYWORDS
Nasal septal swell body; septal deviation; CBCT; nasal obstruction

OP-1263

Radiologic–Pathologic Correlation Of Sinonasal Lesions In Clinical Practice: A Retrospective Study

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BACKGROUND & AIM

Accurate preoperative characterization of sinonasal lesions remains challenging due to overlapping radiological features between inflammatory, benign and malignant entities. Imaging with computed tomography (CT) and magnetic resonance imaging (MRI) are central to clinical decision-making, however, their diagnostic reliability compared to histopathology is uncertain. This study aimed to evaluate the concordance between imaging-based diagnosis and histopathological findings in sinonasal lesions. Secondary objectives included assessing the diagnostic performance of imaging for malignancy and identifying clinically relevant discordances.

MATERIAL & METHODS

A retrospective single-center study was conducted including 74 patients with sinonasal lesions who underwent preoperative CT and/or MRI followed by biopsy or surgical resection between 2020 and 2025. Imaging reports were reviewed for the primary diagnostic impression and categorized as non-neoplastic, benign neoplasm or malignant neoplasm. Histopathological diagnosis was considered the reference standard. Primary outcomes included agreement for neoplastic versus non-neoplastic disease and malignant versus non-malignant disease. Secondary outcomes included specific diagnostic concordance and clinically relevant diagnostic errors. Concordance was assessed using Cohen's kappa (κ). Diagnostic performance was evaluated using sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV). Clinically relevant discordances were defined as mismatches with potential impact on management.

RESULTS

Overall agreement between imaging and histopathology for neoplastic classification was 71.6%, with moderate concordance (κ = 0.42). Sensitivity and specificity for neoplasia were 57.1% (95% confidence interval [CI] 40.9–72.0) and 84.6% (95% CI 70.3–92.8), respectively. For malignancy, agreement remained moderate (κ = 0.50), with sensitivity of 60.0% (95% CI 40.7–76.6), specificity of 87.8% (95% CI 75.8–94.3), PPV of 71.4%, and NPV of 81.1%. Clinically relevant discordances were observed in 29.7% of cases, including 10 malignant lesions misclassified as benign or inflammatory and 6 benign lesions misinterpreted as malignant. Inverted papillomas were among the lesions most frequently mistaken for inflammatory disease.

CONCLUSIONS

Preoperative imaging showed high specificity but limited sensitivity in the evaluation of sinonasal lesions, with only moderate agreement with histopathology. The substantial rate of clinically relevant discordance highlights the limitations of imaging alone and reinforces the critical role of histopathological confirmation, particularly in atypical or suspicious cases.

KEYWORDS
Sinonasal lesions; Histopathology; Diagnostic concordance; Computed tomography; Magnetic resonance imaging

OP-1264

Piezoelectric-Assisted External Approach for Excision of Frontal Sinus Osteoma

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BACKGROUND & AIM

Frontal sinus osteomas are the most common benign tumours of the paranasal sinuses. Large, midline-crossing lesions with posterior table involvement often exceed the limits of endoscopic access, requiring external resection. Conventional open techniques, however, carry recognised drawbacks — imprecise intraoperative boundary localisation and thermal or mechanical mucosal injury during high-speed osteotomy.

To describe a piezoelectric-assisted external technique, combined with fluoroscopy-guided radiopaque boundary marking, for the safe and precise resection of large frontal sinus osteomas.

MATERIAL & METHODS

This report describes a five-stage technique for the external resection of large frontal sinus osteomas using a piezoelectric device. Boundaries are first marked using radiopaque gauze threads positioned according to preoperative CT landmarks and verified with intraoperative fluoroscopy, projecting the lesion margins directly onto the skin without neuronavigation. Through a transeyebrow incision, the anterior table is osteotomised along these markings with a piezoelectric device and elevated en bloc, exposing the underlying lesion while preserving the mucosa. The osteoma is then debulked using interchangeable piezoelectric tips, with a high-speed diamond burr reserved for releasing the base adherent to the posterior table. Finally, the

anterior table is repositioned and secured with titanium microplates, restoring anatomical continuity and forehead contour. Each stage is designed to minimise soft-tissue trauma while providing safe access in an anatomically confined surgical field.

RESULTS

This piezoelectric-assisted external technique achieves complete resection of large, midline-crossing frontal sinus osteomas through fluoroscopy-guided radiopaque boundary marking, which projects lesion margins onto the skin for precise osteotomy planning. En-bloc piezoelectric elevation of the anterior table preserves mucosal integrity and provides direct access for debulking, while selective cutting minimises thermal and mechanical trauma near the posterior table; only brief high-speed drilling is required to free the adherent osteoma base. Anatomical reconstruction with titanium microplates restores forehead contour without residual deformity. The technique is associated with an uncomplicated intraoperative and postoperative course, same-day discharge, and complete radiological and symptomatic resolution at short-term follow-up, confirming its safety and effectiveness for large, complex frontal sinus osteomas.

CONCLUSIONS

This piezoelectric-assisted external technique offers a safe, reproducible approach for excising large frontal sinus osteomas that exceed the limits of endoscopic access. Fluoroscopy-guided radiopaque boundary marking provides a practical, low-cost alternative to neuronavigation, while piezoelectric osteotomy enables precise, mucosa-sparing bone work in anatomically constrained fields. Combined with en-bloc anterior table elevation and titanium microplate reconstruction, the technique minimises soft-tissue trauma and preserves forehead contour. These findings support its adoption as a reliable option for complex frontal sinus osteomas requiring external resection.

KEYWORDS

Frontal sinus osteoma; Piezoelectric surgery; External approach; Paranasal sinus neoplasms; Fluoroscopy-guided surgery

OP-1265

Digital Workflow Implementation To Enhance Patient Reported Outcome Measures (Proms) Collection In Rhinologic Surgery

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BACKGROUND & AIM

Patient Reported Outcome Measures (PROMs) quantify disease impact from a patient perspective, facilitating shared decision-making, evaluation of treatment effect and measurement of clinical outcomes. In rhinology, PROMs are especially important as symptom burden and the impact on quality of life are unrealiably captured by objective measures alone. Although the value of PROMs are recognised internationally, routine application remains inconsistent. Digital platforms offer a solution for scalable and consistent PROMs collection. In our department, resident doctors use a digital platform to collect PROMs pre- and post-operatively via email.

MATERIAL & METHODS

A two-cycle Quality Improvement Project was completed from 1/10/25-30/11/25 and 1/12/25-31/1/26. Theatre lists were retrospectively reviewed to identify eligible rhinology patients and compared with PROM records.

After identifying unsatisfactory completion rates, a new workflow was designed, assigning specific residents to each operating list, alongside a handbook on platform use and procedure-specific PROMs. PROMs distribution and completion were analysed using the chi-square test. Statistical significance was set at $p<0.05$. The association between patient demographics and completion was analysed using logistic regression.

RESULTS

127 and 117 patients were captured in cycles one and two, respectively. The most frequently collected PROM was NOSE (74%). Others included SNOT-22, FACE-Q Rhinoplasty and Nose Bleeds Grading Scale. Introducing the allocation system increased PROMs distribution from 43% to 79% ($\chi2=34.22$, $p<0.0001$) and completion from 30% to 48% ($\chi2=8.61$, $p=0.003$). Patient age did not impact completion rates (cycle one OR 1.01, 95% CI, 0.97-1.05, cycle two OR 1.02, 95% CI, 0.99-1.05).

CONCLUSIONS

Digital PROMs collection is a scalable and accessible approach to reliably capture PROMs that is not limited by demographics such as patient age. Simple workflow changes, including a resident allocation system, can significantly improve PROM uptake and overall data capture to support integration into routine practice in rhinologic surgery.

KEYWORDS

Rhinology; Patient-Reported Outcome Measures (PROMs); Digital Health; Quality Improvement; Audit; Outcome Measurement; Nasal Obstruction; Sinonasal Disease; NOSE Score; SNOT-22; Workflow Redesign; Implementation Science; Patient-Centred Care; Digital Platforms; Outcomes; Healthcare Delivery

OP-1266

Comprehensive Internal Carotid Artery Management In Endoscopic Surgery For Nasopharyngeal Skull Base Radionecrosis

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BACKGROUND & AIM

Nasopharyngeal skull base radionecrosis is a major cause of poor quality of life and treatment-related mortality after radiotherapy for nasopharyngeal carcinoma. Internal carotid artery (ICA) rupture is the most common fatal event. Accurate preoperative ICA risk stratification, individualized contingency planning, an appropriate surgical strategy, suitable reconstruction, and structured postoperative management are all critical to surgical success. This study summarizes the experience of the Third Affiliated Hospital of Sun Yat-sen University with a comprehensive ICA management strategy and evaluates its clinical value in endoscopic surgery for skull base radionecrosis.

MATERIAL & METHODS

We retrospectively reviewed 167 patients with nasopharyngeal skull base radionecrosis treated between January 2023 and February 2026. Among them, 89 had preoperative ICA involvement. ICA risk was stratified as low, intermediate, or high based on computed tomography angiography and contrast-enhanced magnetic resonance imaging, and individualized preoperative plans were developed accordingly. All patients underwent an endoscopic endonasal approach. According to risk grade, surgery included debridement of necrotic tissue, ICA exposure and protection, and reconstruction using pedicled mucosal flaps, temporalis muscle flaps, or free tissue flaps. Postoperative protocols included strict blood pressure control, anti-infective therapy, imaging surveillance, and prompt management of complications. Outcome measures included intraoperative ICA rupture, postoperative hemorrhage, flap survival, infection control, healing, quality of life, and survival.

RESULTS

Among the 89 patients with ICA involvement, 15 were classified as low risk, 20 as intermediate risk, and 54 as high risk. Intraoperative ICA rupture occurred in 4 patients. Delayed postoperative hemorrhage occurred in 6 patients and was fatal in 4. Three patients died within 1 year after surgery. The flap survival rate was 92.13%, and the postoperative infection control rate was 97.6% (41/42). After a median follow-up of 18 months, the healing rate of nasopharyngeal skull base radionecrosis was 92.9%, ICA-related mortality was 4.5%, and quality-of-life scores improved significantly ($P<0.01$).

CONCLUSIONS

A comprehensive ICA management strategy integrating preoperative risk stratification, individualized contingency planning, tailored surgical intervention, structured postoperative care, and timely complication management may reduce the risk of ICA rupture, lower mortality, and improve surgical safety and outcomes in endoscopic treatment of nasopharyngeal skull base radionecrosis. This approach has important clinical value and may be applicable in other centers.

KEYWORDS

Nasopharyngeal skull base radionecrosis, Internal carotid artery, Risk stratification, Endoscopic endonasal surgery, Skull base reconstruction

OP-1267

Relationship Between Septal Deviation Angle, Mladina Classification, And Paranasal Sinus Opacification In Patients With Septal Deviation

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BACKGROUND & AIM

The relationship between septal deviation and paranasal sinus disease has long been debated in the literature. Although septal deviation is thought to impair nasal airflow and sinus drainage, its role in the development of sinus opacification remains unclear. Recent studies suggest that the morphological characteristics of septal deviation may be more important than its severity. This study aimed to evaluate the relationship between septal deviation angle, Mladina classification, and paranasal sinus opacification in patients with septal deviation. We hypothesized that deviation morphology is more strongly associated with sinus opacification than deviation angle.

MATERIAL & METHODS

This retrospective study included 100 adult patients with septal deviation who underwent paranasal sinus computed tomography. Patients were divided into two groups according to the Lund-Mackay score: Group 0 (score = 0) and Group 1 (score > 0). Septal deviation angle was measured in all patients, and deviation type was classified according to the Mladina classification. Demographic data were recorded. Patients with a history of sinonasal surgery, nasal polyposis, sinonasal tumors, findings of acute infection, fungal sinusitis, maxillary sinus retention cysts, or prior trauma were excluded. Statistical analyses were performed using appropriate parametric and non-parametric tests, and $p < 0.05$ was considered statistically significant.

RESULTS

A total of 100 patients (50 in each group) were analyzed. The mean age was significantly higher in the opacification group ($p < 0.05$). There was no significant difference in septal deviation angle between the groups (13.93° vs 13.71°, $p > 0.05$). However, a significant difference was observed in the distribution of Mladina types between the groups ($p < 0.01$). Types 3 and 5 were more frequently observed in the opacification group.

CONCLUSIONS

No significant relationship was found between septal deviation angle and paranasal sinus opacification, whereas deviation morphology showed a significant association with opacification. These findings suggest that the morphological characteristics of septal deviation may play a more important role than its severity in the development of sinus disease.

KEYWORDS

Septal deviation, Mladina classification, Paranasal sinus opacification, Lund-Mackay score, Computed tomography

OP-1268

Effect Of U-Shaped Costal Cartilage Harvesting On Donor-Site Morbidity In Rhinoplasty: A Prospective Comparative Study

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BACKGROUND & AIM

Autologous costal cartilage provides abundant and versatile graft material in rhinoplasty; however, harvesting may result in donor-site morbidity, particularly postoperative pain. A U-shaped harvesting technique has been described to preserve the inferior cartilage border and potentially reduce donor-site morbidity. This study aimed to compare early postoperative donor-site pain between U-shaped and conventional full-thickness costal cartilage harvesting techniques during the first seven postoperative days.

MATERIAL & METHODS

This prospective comparative study included 81 patients undergoing open rhinoplasty with autologous cartilage harvesting from the seventh rib. Forty-four patients underwent U-shaped harvesting and 37 underwent conventional full-thickness harvesting. All procedures were performed by the same surgeon using standardized muscle-preserving surgical and perioperative analgesia protocols, with preservation of the posterior perichondrium in all patients. Donor-site pain was assessed daily on postoperative days 1–7 using a 0–10 visual analog scale in four domains: at rest, coughing, movement, and deep inspiration. Separate repeated-measures mixed models were used for each pain domain. Estimated marginal means, mean differences with 95% confidence intervals, and Holm-adjusted p values were calculated.

RESULTS

U-shaped harvesting was associated with significantly lower donor-site pain across all four domains. Compared with conventional harvesting, the mean differences (U-shaped − conventional) were −1.19 at rest (95% CI, −1.96 to −0.42; p=0.006), −1.06 during coughing (95% CI, −1.77 to −0.35; p=0.006), −1.22 during movement (95% CI, −1.90 to −0.54; p=0.002), and −1.88 during deep inspiration (95% CI, −2.56 to −1.21; p<0.001). The largest overall difference was observed during deep inspiration. Pain decreased over time in both groups, with a significant technique × day interaction for deep inspiration after Holm correction (p=0.044).

CONCLUSIONS

U-shaped costal cartilage harvesting was associated with significantly lower donor-site pain than conventional full-thickness harvesting across all four pain domains during the first postoperative week. The largest difference was observed during deep inspiration. U-shaped harvesting may offer a less painful approach to costal cartilage harvest in rhinoplasty. Further randomized and multicenter studies are required to confirm these finding

KEYWORDS

Rhinoplasty, U-shaped harvesting, costal cartilage, donor-site morbidity, rib graft

OP-1269

Peak Nasal Inspiratory Flow In The Assessment Of Patients With Severe Chronic Rhinosinusitis With Nasal Polyps Treated With Full House Endoscopic Sinus Surgery.

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BACKGROUND & AIM

To evaluate Peak Nasal Inspiratory Flow (PNIF) in patients with severe chronic rhinosinusitis with nasal polyps (CRSwNP) undergoing Full-House Endoscopic Sinus Surgery (ESS) and to analyze its correlation with objective measurements and patient-reported outcomes.

MATERIAL & METHODS

Thirty adults with severe CRSwNP were prospectively followed at baseline and 1, 3, and 6 months after surgery. PNIF, active anterior rhinomanometry, acoustic rhinometry, SNOT-22, and visual analogue scale (VAS) were assessed at each visit. A healthy control group (n=30) provided baseline reference values. Longitudinal changes were analyzed using linear mixed models with Bonferroni-adjusted pairwise comparisons. Pearson correlation coefficients were calculated to evaluate associations between PNIF and other variables.

RESULTS

PNIF increased significantly over time ($p<0.001$), from 133.03 L/min (95%CI 110.46-155.61) preoperatively to 202.99 L/min (95%CI 182.12-223.86) at 6 months. Total inspiratory airflow measured by rhinomanometry also improved significantly ($p<0.001$), with a marked increase at 1 month that remained stable thereafter. SNOT-22 scores decreased from 48.67 to 9.41 at 6 months ($p<0.001$), exceeding the minimal clinically important difference. VAS improved from 7.57 to 0.72 ($p<0.001$). PNIF correlated inversely with SNOT-22 at 1 and 3 months ($p\leq0.032$).

CONCLUSIONS

PNIF is a simple, reliable, and responsive objective tool that reflects both functional improvement and symptom reduction after ESS in severe CRSwNP, supporting its use in routine postoperative assessment.

KEYWORDS

peak nasal inspiratory flow; RSCwNP; Rhinomanometry; SNOT-22; VAS CRSwNP.

OP-1270

Dental Root–Maxillary Sinus Relationship In Antrochoanal Polyp And Maxillary Mucous Retention Cyst: Comparative CT Analysis And Distinct Etiopathogenetic Profiles

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BACKGROUND & AIM

Maxillary mucous retention cysts(MRC) and antrochoanal polyps(AP) are among the most common benign pathologies of the maxillary sinus. Although both lesions are thought to develop in the setting of chronic inflammation, their exact etiopathogenesis remains unclear. In particular, the impact of the anatomical relationship between maxillary tooth roots and the sinus floor remains uncertain. This study aimed to investigate the role of the relationship between maxillary tooth roots and the maxillary sinus floor in the development of AP and MRC.

MATERIAL & METHODS

In this retrospective study, patients were categorized into AP,maxillary MRC, and septoplasty (SP) groups. High-resolution CT images of paranasal sinuses were reviewed from 45 patients with AP, 53 MRC and 53 control individuals using a 256-slice CT scanner with a thickness of 0.67 mm. The relationship between maxillary tooth roots (right and left molar teeth) and the maxillary sinus floor was scored (0-3) according to root proximity to maxillary sinüs.

RESULTS

No statistically significant differences were observed among the groups in terms of age (AP: 33.2±18.2, MRC: 32.2±9.8, SP: 36.3±10.4; $p=0.097$) or sex distribution ($p=0.159$). On a patient-based analysis, the proportion of patients with at least one tooth root extending into the sinus was 48.9% in the AP group and 60.4% in the SP group, with no statistically significant difference ($p=0.254$). However, when all three groups were analyzed together, a significant difference was identified ($p=0.0006$), primarily driven by the MRC group (84.9%). The overall distribution differed significantly among the groups ($\chi^2=43.7$, $p<0.001$). The proportion of sinüs protrusion was notably lower in the AP group (4.2%) compared to the MRC (30.5%) and SP (21.8%) groups.

CONCLUSIONS

The findings suggest that the relationship between maxillary tooth roots and the sinus floor is not a primary determinant in AP development. In contrast, increased root proximity and sinus protrusion in the MRC group may contribute to impaired mucous drainage. Although odontogenic factors appear to play a limited role in AP, their involvement in sinonasal pathogenesis should not be overlooked; further large-scale prospective studies are warranted.

KEYWORDS

Antrochoanal polyp, mucous retention cyst, maxillary sinus, tooth roots

OP-1271

A Novel Composite Graft Technique For Medium-Sized Septal Perforation Repair: Costal Cartilage, Fat Layer, PRF And Biologic Graft

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BACKGROUND & AIM

Nasal septal perforation (NSP) remains a challenging condition in rhinologic surgery, particularly in medium-sized perforations where achieving durable closure and adequate mucosal support can be difficult. Various grafting techniques have been described to improve surgical outcomes. This study presents a novel multilayer composite graft technique using costal cartilage, autologous fat layer, Platelet-Rich Fibrin (PRF), and biologic graft material for the repair of medium-sized NSPs.

MATERIAL & METHODS

This retrospective study included 12 patients who underwent NSP repair using the described technique. The procedure was performed through an open rhinoplasty approach. Costal cartilage and fat tissue were harvested from the same donor site. The fat tissue was mechanically processed using a microdebrider to obtain a finely fragmented fat layer without nano-fat transformation. PRF obtained from venous blood was combined with the fat layer to create a layered composite structure surrounding the obliquely shaped costal cartilage graft. A 4 cm × 7 cm biologic graft (Biodesign® Tissue Graft) was additionally placed on the lateral aspects of the graft at the interface with the nasal mucosa. The multilayer composite graft was then positioned between the septal mucosal flaps.

RESULTS

The average size of the septal perforations was 12 mm horizontally and 13 mm vertically. All patients had medium-sized perforations ranging from 0.5 to 2 cm. The mean follow-up period was 12 months. Complete closure was achieved in 11 of 12 patients (91.6%). In one patient, complete closure was not achieved; however, the perforation size was markedly reduced and the patient became asymptomatic postoperatively. No postoperative complications, including infection, bleeding, or donor-site morbidity, were observed.

CONCLUSIONS

This novel multilayer composite graft technique combining costal cartilage, fat layer, PRF, and biologic graft material appears to be a safe and effective option for the repair of medium-sized nasal septal perforations. The technique provides structural support and favorable mucosal healing with a high closure rate and minimal complications.

KEYWORDS

Nasal Septal Perforation, Costal Cartilage, Platelet-Rich Fibrin (PRF), Biologic Graft, Composite Graft

OP-1272

Olfactory Bulb Volume In Patients With Allergic Rhinitis

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BACKGROUND & AIM

Olfactory dysfunction is a major symptom in patients with allergic rhinitis (AR) significantly correlating with a lower olfactory bulb volume.

Objective: To compare the size of olfactory bulbs in patients with and without AR.

MATERIAL & METHODS

Patients with and without AR who underwent orbital MRI over a period of 4 years were included. Volume measurement of the olfactory bulb was performed using a software designed by the Oxford University. Patients were assigned to the study group (with AR) or control group (without AR) based on the presence of symptoms and personal history of AR.

RESULTS

Results: A total of 47 patients were included, 15 of whom were in the study group and 32 in the control group. The mean age of the study group was 40.53±16.27 years compared to 49.69±17.12 in the control group (p=0.088). The female-to-male ratio was 4 vs 1.13 in the study and control groups, respectively (p=0.077). The difference in the total volume of both olfactory bulbs in the study group (83.95±23.68) vs the control group (102.29±28.73) was statistically significant (p=0.027).

CONCLUSIONS

The combined volume of olfactory bulbs is significantly lower in patients with AR compared to patients without AR.

KEYWORDS

Olfactory bulb, allergic rhinitis, anosmia, rhinology, Olfactory dysfunction, nasal allergies, Rhinitis, olfaction, orbital imaging, radiology, otolaryngology

OP-1273

When Better Healing Does Not Mean Better Recovery: Toward Selective Postoperative Debridement After Endoscopic Sinus Surgery

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BACKGROUND & AIM

Endoscopic sinus debridement is common after functional endoscopic sinus surgery (FESS) for chronic rhinosinusitis (CRS), intended to prevent synechiae, reduce crusting and improve drug delivery. However, the most reported outcomes, adhesion formation and endoscopic scores, are surgeon-observed measures that may not translate into patient-centred recovery. We systematically reviewed whether routine debridement improves objective healing and patient-reported outcomes versus no or reduced-frequency debridement, and whether its treatment burden is justified by meaningful patient benefit, addressing whether surgeon-observed metrics are adequate surrogates for recovery after FESS.

MATERIAL & METHODS

This review followed PRISMA 2020. MEDLINE, Embase, CENTRAL, Emcare and CINAHL, plus two trial registries, were searched to 18 December 2025 for randomised controlled trials of post-FESS debridement in adults with CRS (minimum six-week follow-up). Split-nose trials were admitted for the per-side adhesion outcome only. Risk of bias was assessed with RoB 2 and certainty with GRADE. Adhesion formation (dichotomous, per-side) was pooled across four RCTs using a DerSimonian-Laird random-effects model, with pre-specified sensitivity analyses. Continuous outcomes (Lund-Kennedy endoscopic score, sinonasal scores, VAS pain) were synthesised narratively owing to instrument heterogeneity.

RESULTS

Eight randomised trials were included (six parallel-group, n=357, plus two split-nose RCTs contributing only to the adhesion analysis). Pooling adhesion data from four RCTs (186 sides) showed reduced postoperative adhesion formation with debridement (RR 0.48, 95% CI 0.23 to 0.99; p=0.047; I^2=28.7%; NNT approximately 5), although the estimate was statistically fragile and dominated by a single trial. Short-term Lund-Kennedy improvement in CRSwNP at 8 weeks was not sustained at 6 months. No clinically meaningful differences in sinonasal outcome scores were observed at any time point, and debridement was consistently associated with increased short-term procedural pain and inconvenience. Revision surgery was never reported. No serious adverse events occurred. Certainty of evidence ranged from very low to low.

CONCLUSIONS

Routine debridement improves surgeon-observed endpoints, particularly adhesion formation, but does not consistently or durably improve patient-reported quality of life, while increasing discomfort and burden. Current evidence does not demonstrate consistent patient-centred benefit and supports a selective approach, reserving debridement for CRSwNP, heavy crusting, or elevated risk of synechiae. Surgeon-observed healing metrics should be validated against patient-centred outcomes before being adopted as treatment targets. Adequately powered trials with patient-centred primary endpoints and longer follow-up are needed.

KEYWORDS

chronic rhinosinusitis; functional endoscopic sinus surgery; postoperative debridement; nasal polyps; patient-reported outcomes

OP-1274

Impact Of Septorhinoplasty On Anxiety, Depression And Quality Of Life: A Prospective Study

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BACKGROUND & AIM

This study aimed to evaluate the effects of septorhinoplasty on psychopathological status and quality of life, and to highlight the importance of considering psychological factors during patient selection.

MATERIAL & METHODS

Seventy patients scheduled for septorhinoplasty were prospectively evaluated. Participants completed a sociodemographic questionnaire and several validated scales, including the Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI), Nasal Obstruction Symptom Evaluation (NOSE), Short Form-36 (SF-36), and Rhinoplasty Outcome Evaluation (ROE). All assessments were performed preoperatively and repeated six months after surgery.

RESULTS

The mean age of the participants was 26.14 ± 6.80 years. Postoperatively, significant decreases were observed in NOSE and BAI scores, whereas ROE scores significantly increased ($p < 0.05$). Improvements were also noted in several SF-36 subdomains, including physical functioning, role limitations due to physical health, general health, and social functioning ($p < 0.05$). An inverse correlation was identified between preoperative depression levels and postoperative satisfaction.

CONCLUSIONS

Septorhinoplasty appears to have a positive effect on both quality of life and anxiety levels. Assessment of depressive symptoms may be important during patient selection, as higher preoperative depression levels may negatively influence postoperative satisfaction.

KEYWORDS

Anxiety; Depression; Patient satisfaction; Quality of life; Rhinoplasty

OP-1275

Selection Of Biologic Agents For Chronic Rhinosinusitis With Nasal Polyps (Crswnp)

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BACKGROUND & AIM

Biologic therapies have demonstrated high efficacy in chronic rhinosinusitis with nasal polyps (CRSwNP) driven by type 2 inflammation and have become an important treatment option. However, many patients present with overlapping type 2 inflammatory conditions such as eosinophilia, bronchial asthma, and eosinophilic granulomatosis with polyangiitis (EGPA). With multiple biologic agents currently available, criteria for optimal drug selection remain unclear. This study aimed to evaluate treatment outcomes and comorbidities in CRSwNP patients treated at our institution and to explore strategies for biologic selection.

MATERIAL & METHODS

We retrospectively reviewed patients with CRSwNP who received dupilumab, mepolizumab, or tezepelumab at our institution. Clinical responses in sinonasal disease, middle ear involvement, comorbid conditions, changes in blood eosinophil counts, and adverse events were assessed.

RESULTS

Dupilumab demonstrated favorable therapeutic effects for CRSwNP and eosinophilic otitis media. However, treatment-related adverse events included increased blood eosinophil counts, peripheral paresthesia, and skin erythema. Mepolizumab showed limited improvement in sinonasal and middle ear disease but was associated with a reduction in blood eosinophil counts and no notable adverse events. Tezepelumab produced moderate improvement in sinonasal disease without severe adverse events.

CONCLUSIONS

Dupilumab may be considered a first-line biologic for CRSwNP patients without systemic eosinophilic complications or with concomitant eosinophilic otitis media. In contrast, patients with concerns regarding eosinophilia or with eosinophilic asthma or EGPA may benefit from treatment switching or combination strategies including mepolizumab. Tezepelumab may represent an alternative option for patients with moderate disease severity. Future development of biomarkers reflecting individual immunologic endotypes may enable more precise stratification and personalized biologic selection.

KEYWORDS

Chronic rhinosinusitis with nasal polyps, Biologics, Type 2 inflammation, Precision medicine

OP-1276

Clinical Analysis And Evaluation Of Prognostic Factors Affecting Acute Invasive Fungal Rhinosinusitis

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BACKGROUND & AIM

Acute invasive fungal sinusitis (AIFRS) is a disease commonly seen in patients under immunosuppression and with poorly controlled diabetes, characterized by rapid invasion of surrounding tissues and high mortality rates. Black necrotic lesions or discoloration indicative of mucosal ischemia may be observed on endoscopic examination. The most common pathogens are Zygomycetes species or Aspergillus. We aim to present the outcomes of patients with a diagnosis of acute invasive fungal sinusitis in a single tertiary institution between 2021 and 2026; and evaluate the prognostic significance of clinical, pathological and patient based variables with the current review of literature.

MATERIAL & METHODS

The present study retrospectively analysed the clinical data of 30 patients diagnosed with acute invasive fungal rhinosinusitis. Demographic data, clinical presentations, endoscopic examination and imaging findings, microbiological and histopathological data, underlying diseases, treatment delay, treatment approaches, laboratory findings and outcomes of patients diagnosed with invasive fungal sinusitis between 2021 and 2026 were evaluated. Patients with definitive clinical and histopathological diagnosis included in this study.

RESULTS

The cohort included 13 females and 17 males (7 pediatric, 23 adults) with a mean age of 43.73 years (range: 7-80). 8 patients had accompanying diabetes, 22 had other underlying causes. The most frequent presenting symptoms were facial pain and swelling, following ocular symptoms, some other patients had no distinctive symptoms. Among identified pathogens, Mucorales predominated (71%), Aspergillus and others each 14%. 17 cases were limited to sinonasal region, 12 had intracranial extension and 10 had orbital involvement. Patients with intracranial involvement had the most significant mortality rate (0.83); followed by orbital involvement (0.80). Overall survival rate was 0.41, with higher survival in diabetic patients compared to others (0.50 vs 0.31). Remission was associated with younger age (mean: 38.41 vs. 48.9). Mortality rates were higher in patients with severe neutropenia. Diagnostic delay was significantly longer in the group that resulted in mortality (8.16 vs. 1.66 days).

CONCLUSIONS

Acute invasive fungal sinusitis (AIFRS) often presents with symptoms like facial pain, edema, loss of sensation and nasal congestion; similar to non-specific sinusitis or paranasal tumors. However unconscious intensive care patients or patients with diabetic neuropathia, these subjective indicators are masked; complicating early detection. Therefore frequent and early endoscopic examination and institution based early treatment protocols may have a key role identifying, reducing the time required for diagnosis and preventing mortal consequences for the patients under risk. Along with surgical treatment, the prognosis is mostly determined by extension of the disease, early diagnosis, and the management of underlying metabolic diseases.

KEYWORDS

acute invasive fungal rhinosinusitis, prognostic factors, early diagnosis, endoscopic examination

SIALENDOSCOPY

Oral Presentations · OP-1277 – OP-1286 · 10 abstracts

OP-1277

CLINICAL PRESENTATION, DIAGNOSIS, AND THERAPEUTIC STRATEGIES OF EOSINOPHILIC SIALODOCHITIS

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BACKGROUND & AIM

Eosinophilic sialodochitis is an uncommon and likely underdiagnosed inflammatory condition of the major salivary ducts, historically described using multiple terms such as allergic parotitis, fibrinous sialodochitis, or Kussmaul disease. This systematic review aims to clarify terminology, summarize clinical features, diagnostic approaches, treatment strategies, and evaluate adherence to proposed diagnostic criteria.

MATERIAL & METHODS

We searched six bibliographic databases from inception to December 2025, complemented by Google Scholar and citation tracking. Studies reporting eosinophilic sialodochitis or related entities were included regardless of language. Due to substantial heterogeneity, findings were analyzed descriptively.

RESULTS

A total of 79 studies including 387 patients were analyzed, consisting mainly of case reports and case series. The most consistent clinical features were recurrent swelling of the parotid and/or submandibular glands, extrusion of eosinophil-rich mucus plugs, ductal abnormalities (dilatation or stenosis), and a high prevalence of atopic comorbidities. Eosinophils were identified in salivary mucus in most of the studies reporting local samples. Full compliance with published diagnostic criteria varied markedly, from 45 of 79 studies using the Baer framework to 2 of 79 using the Carey framework, while no study fully satisfied the Zhao framework. Treatment approaches were heterogeneous and typically combined medical therapy (antihistamines, corticosteroids), intraductal irrigation, sialendoscopy, and, in selected refractory cases, biologic agents targeting type 2 inflammation.

CONCLUSIONS

Eosinophilic sialodochitis appears to represent a distinct clinicopathological entity within the spectrum of obstructive salivary gland disorders, although current evidence remains limited by heterogeneity and inconsistent reporting. Standardized definitions and minimum reporting items are needed to improve diagnostic certainty and comparability.

KEYWORDS

eosinophilic sialodochitis, systematic review

OP-1278

Machine Learning-Based Prediction Of Surgical Strategy And Postoperative Symptomatic Outcomes In Chronic Obstructive Submandibular Sialolithiasis

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BACKGROUND & AIM

To develop and validate a machine learning–based predictive model for surgical strategy selection and postoperative symptomatic outcomes in patients with chronic obstructive submandibular sialolithiasis.

MATERIAL & METHODS

A retrospective cohort of patients undergoing surgery for chronic obstructive submandibular sialolithiasis at a tertiary referral center was analyzed. Patients with autoimmune salivary gland disease or malignancy were excluded. Demographic, clinical, radiological, and intraoperative variables including age, smoking history, symptom duration, recurrent infections, VAS scores, stone characteristics, localization, palpability, previous interventions, spontaneous stone passage, and stent requirement were recorded.

Surgical approaches were classified as intraductal/interventional sialendoscopy, sialendoscopy-assisted transoral stone removal, or submandibular gland excision. Postoperative outcomes included symptomatic improvement, complications, recurrence, operative time, and stent duration.

Random Forest, XGBoost, and CatBoost machine learning models were trained and temporally validated on an independent cohort. Model performance was evaluated using discrimination, calibration, and SHAP-based feature importance analyses.

RESULTS

Gland-preserving procedures were successfully achieved in the vast majority of patients, while gland excision was required only in a limited number of advanced cases. Larger stones and hilar/intraparenchymal localization were more frequently associated with combined surgical approaches.

Among the evaluated algorithms, the CatBoost model demonstrated the most favorable predictive performance for surgical strategy selection and postoperative symptomatic improvement. Stone size, hilar/intraparenchymal localization, palpability, recurrent infection history, symptom duration, and previous intervention history were identified as the most influential predictive variables.

Postoperative symptomatic outcomes showed marked clinical improvement during follow-up. Recurrence and complication rates remained low, and most postoperative complications were minor and transient. Overall, the clinical and predictive modeling results were highly encouraging.

CONCLUSIONS

Machine learning–based predictive modeling may provide clinically valuable support for individualized surgical planning in chronic obstructive submandibular sialolithiasis. Predictive analysis of stone characteristics and patient-specific variables may help optimize gland-preserving approaches, improve postoperative symptomatic outcomes, and reduce recurrence risk.

KEYWORDS

Sialolithiasis, Sialendoscopy, Machine learning, Predictive modeling, Submandibular gland surgery

OP-1279

Intraoperative Ultrasound Guidance In Submandibular Gland Sialendoscopy For Stone Extraction

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BACKGROUND & AIM

Sialolithiasis can affect any of the salivary glands. However, 80% of all salivary gland stones form in the submandibular glands (submandibular sialolithiasis). Removing stones from the submandibular glands depends on the site, size, shape and location of the stones ,

MATERIAL & METHODS

small stones up to 4mm usually can be removed by Sialendoscopy Basket retrieval , while larger stones may require combined approaches with Sialendoscopy. Proximal (hilar or intraglandular)stones can be managed by IMAS (intraoral microscopic assisted sialolithotomy) with or without Sialendoscopy. If the stone is big and palpable , this approach will be quite easy , but if the stone is small or deep intraglandular and not palpable, intraoperative Ultrasound guidance can direct the surgeon toward the site of the stone and facilitate the IMAS approach. Ultrasound is a well established tool for diagnostic purposes in salivary gland sialolithiasis.

RESULTS

In this study we demonstrate that it can be also useful for localization of calculi during submandibular gland intraoral Microscopic assisted sialolithotomy especially when calculi are deep and not palpable.

CONCLUSIONS

Our objective is to determine the efficacy and added value of stone localization using intraoperative ultrasound guidance.

KEYWORDS

Sialendoscopy , Stone , Submandibular , Ultrasound

OP-1280

Eosinophilic Sialodochitis: An Underrecognized Type-2 Inflammatory Salivary Duct Disease

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BACKGROUND & AIM

Eosinophilic sialodochitis is a rare and probably underrecognized inflammatory disorder of the major salivary glands, characterized by recurrent glandular swelling, eosinophil-rich mucous plugs and frequent association with type-2 inflammatory comorbidities. Its nonspecific presentation often leads to delayed diagnosis and misclassification as other causes of chronic obstructive sialadenitis. This study aimed to describe the clinical phenotype, diagnostic findings, glandular distribution, therapeutic management and quality-of-life impact of eosinophilic sialodochitis in a multicentre cohort of 11 patients.

MATERIAL & METHODS

A retrospective multicentre observational study was conducted including 11 patients diagnosed between 2020 and 2025. Diagnosis was based on recurrent obstructive salivary symptoms, eosinophil-predominant salivary cytology and/or biopsy, and exclusion of other causes of chronic salivary gland inflammation. Demographic, clinical and procedural variables were collected, including disease duration, mucous strands, peripheral eosinophilia, type-2 comorbidities, affected glands, sialendoscopies, intraductal steroid instillations and biological treatment. Health-related quality of life was assessed using the Chronic Obstructive Sialadenitis Questionnaire. Descriptive statistics and exploratory bivariate analyses were performed.

RESULTS

Eleven patients were included. The cohort showed a predominantly female, middle-aged profile, with several years of recurrent symptoms before diagnosis. Eosinophil-predominant salivary cytology was positive in all evaluable cases and represented the main diagnostic finding. Most patients presented peripheral eosinophilia and visible mucous strands, supporting a type-2 inflammatory phenotype. Asthma and chronic rhinosinusitis with nasal polyps were common associated comorbidities, while eosinophilic otitis was not observed. Glandular involvement was mainly parotid and frequently bilateral, although mixed parotid-submandibular and isolated submandibular patterns were also identified. Repeated gland-preserving procedures were required, including sialendoscopy and intraductal steroid instillations. Quality-of-life impairment was severe. No statistically significant associations were found between quality-of-life scores and demographic, clinical, glandular or procedural variables.

CONCLUSIONS

Eosinophilic sialodochitis should be considered in patients with recurrent obstructive salivary gland swelling, particularly when mucous strands, peripheral eosinophilia or type-2 inflammatory comorbidities are present. Salivary cytology is a simple and highly useful diagnostic tool. Despite its non-malignant nature, this condition has a marked impact on quality of life. Management should combine gland-preserving sialendoscopy with individualized medical control of the underlying eosinophilic inflammation.

KEYWORDS

Eosinophilic sialodochitis; salivary glands; sialendoscopy; chronic obstructive sialadenitis; eosinophilia; type-2 inflammation; salivary cytology; mucous plugs; quality of life.

OP-1281

ACCESS TO SALIVARY DUCTS AND DUCT NAVIGATION: Tips And Tricks

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BACKGROUND & AIM

Effective duct access is a critical and key step for performing a diagnostic or therapeutic sialendoscopy. Accessing and navigating the salivary ducts, (Stensen's) and (Wharton's) ducts, sometimes pose clinical challenges due to anatomical variations or disturbed ductal anatomy.

MATERIAL & METHODS

This presentation reviews the anatomical considerations, highlights radiological landmarks, and outlines key principles for identifying and accessing ductal papillae. It describes the specialized sets of instruments including cheek retractors, multiple sizes of salivary duct probes, dilators, conical dilators, and bougies used for duct navigation and dilation. Practical techniques

and tips for atraumatic handling, proper visualization using magnification tools, and conservative gland massage to facilitate duct access are emphasized. Also, focusing on the tips and tricks for difficult papillae situations.

RESULTS

The experience from live surgical courses and clinical practice underlines the importance of careful identification and dilation of the papilla to prevent complications such as false passages. The differential difficulty of papilla identification and duct navigation between the parotid and submandibular ducts is demonstrated.

CONCLUSIONS

Mastery of salivary duct access techniques facilitates safe and effective diagnostic and therapeutic sialendoscopy procedures. Adoption of standardized instruments and application of atraumatic handling principles can improve clinical outcomes. This knowledge is essential for otolaryngologists, head and neck surgeons, and clinicians involved in salivary gland disorders.

KEYWORDS

salivary ducts, parotid duct, submandibular duct, sialendoscopy, duct navigation, duct dilation

OP-1282

Sialendoscopy In The Management Of Sublingual Gland Stone.

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BACKGROUND & AIM

Since the sublingual gland (SLG) stone is rare and appears in the middle of the floor of the mouth, it can easily be mistaken for the mid-portion submandibular gland (SMG) stone. In this study, we present the clinical, radiological, and sialendoscopic findings of a series of SLG stones treated at a single institute.

MATERIAL & METHODS

This is a retrospective study. The subjects who underwent sialolithotomy with SLG stones between March 2008 and September 2025 were included. Data on the subject's symptoms, CT, and sialendoscopy were collected.

RESULTS

Among 1334 subjects who underwent surgery for salivary gland stones, 6 subjects with SLG stones were included in this study. Five subjects complained of SMG swelling, and 1 subject complained of oral floor swelling and pain. CT scan revealed stones in the mid-portion of the floor of the mouth in all 6 subjects. All subjects underwent transoral surgery combined with sialendoscopy, however none of the subjects had been diagnosed as SLG stones before surgery. In 2 subjects, stones were identified in the Bartholin's duct of SLG, and in others the absence of stones in the SMG duct led to the diagnosis of SLG stones. In 2 subjects with stones identified in the Bartholin's duct, the stone was removed using a basket through the sialendoscopy. In 4 subjects, the stone was removed by dissecting the SLG parenchyma below the SMG duct and lingual nerve.

CONCLUSIONS

Sialendoscopy was useful in identifying and removing stones in the SLG duct. The absence of stones in the SMG duct during sialendoscopy for the mid-portion of the floor of the mouth stones can be used as a clue to the diagnosis of SLG stones.

KEYWORDS

sublingual gland stone, sialendoscopy, salivary gland, sialolithiasis

OP-1283

Optimizing Salivary Duct Stenting: Systematic Review

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BACKGROUND & AIM

Intraductal salivary duct stents are widely used as adjuncts to sialendoscopy in salivary obstructive disorders (SODs), yet practice varies regarding indications, stent type, dwell time, fixation, and intrastent irrigation. This variability and inconsistent reporting of stent-related adverse events hinder protocol optimization and the development of improved fixation techniques. Aim: to systematically synthesize evidence on intraductal stenting in SODs and evaluate whether stent strategy and stent-related complications are associated with recurrence-free survival (RFS) and quality of life (QoL) outcomes. Hypothesis: stent strategy and stent-related complications modify RFS and patient-reported outcomes.

MATERIAL & METHODS

Systematic review with planned meta-analysis per Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020. We included patients with major salivary gland salivary obstructive disorders (SODs) treated with sialendoscopy and/or combined gland-preserving approaches involving intraductal stent placement; comparators (no stent/alternative strategies) were included when available. We extracted stent type/material/size, dwell time, fixation, and

intrastent irrigation (yes/no; solution/protocol) when reported. Primary outcome was recurrence-free survival (RFS; time-to-recurrence and/or recurrence at follow-up). Secondary outcomes included stent-related complications (migration, obstruction, infection), unplanned removal, re-intervention/sialadenectomy, and quality of life (QoL) using generic or chronic obstructive sialadenitis–specific questionnaires when available. Prespecified subgroup analyses: gland (parotid vs submandibular), obstruction (stenosis vs sialolithiasis vs mucous plugs), approach (pure vs combined), stent parameters, irrigation, and fixation type. Databases: MEDLINE, Embase, Cochrane, Scopus/Web of Science, LILACS. Two reviewers screened/extracted; risk of bias with RoB 2 and ROBINS-I; random-effects pooling with 95% confidence intervals when appropriate.

RESULTS

We identified 1,985 database records and 130 additional records; after removing 983 duplicates, 1,132 records were screened and 182 full texts assessed. Sixty studies met inclusion criteria. Reporting and protocols were highly heterogeneous. Stent dwell time was reported in 46/60 studies (77%; 95% CI 65–86), with a median duration of 14 days (IQR 14–21; range 1–90). Stent device/type was reported in 50/60 (83%), whereas fixation type was explicitly reported in 20/60 (33%). Adjunctive postoperative care was variably reported: antibiotics in 16/60 (27%) (explicit use in 7/60, 12%; 95% CI 6–22), oral corticosteroids in 15/60 (25%), and intraductal steroids in 54/60 (90%) with variable timing. Intrastent/duct irrigation was inconsistently reported (16/60, 27%). Early stent removal/extrusion was described in ≥7/60 studies (~12%). QoL outcomes were rarely captured (3/60, 5%).

CONCLUSIONS

This systematic review summarizes real-world intraductal stenting practices in salivary obstructive disorders, highlighting marked variability and incomplete reporting in indications, fixation, dwell time, irrigation, and adjunctive medications. The final synthesis is expected to clarify how stent-related complications and protocol choices relate to recurrence-free survival and available quality-of-life outcomes. These findings may support a standardized stent-reporting framework and guide prospective comparative studies, including the development and evaluation of improved stent fixation and postoperative management strategies.

KEYWORDS

Salivary duct stent, intraductal stenting, sialendoscopy, obstructive sialadenitis, sialolithiasis, ductal stenosis, mucous plugs, gland-preserving surgery, stent fixation, intraductal irrigation, intraductal corticosteroids, recurrence-free survival, systematic review.

OP-1284

A Decade Of Salivary Gland Interventions: Trends, Outcomes And The Expanding Role Of Minimally Invasive Techniques

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BACKGROUND & AIM

Disorders of the salivary glands represent a heterogeneous group of conditions including sialolithiasis, chronic sialadenitis, obstructive pathology, and neoplasia. Management has evolved with the introduction of minimally invasive techniques such as sialoendoscopy, reducing the need for gland excision. This study presents a 10-year retrospective review of all patients undergoing salivary gland intervention at a tertiary centre.

MATERIAL & METHODS

A retrospective review was conducted for patients undergoing sialoendoscopy, submandibular gland excision, parotidectomy, or sialography between 2016 and 2026. Demographics, indications, procedure type, complications, duration of hospital stay, requirement for further intervention and outcomes were analysed. Statistical analysis was carried out using SPSS.

RESULTS

A total of 486 patients were identified (mean age 52.3 years; 58% female). Indications included obstructive sialolithiasis (46%), chronic sialadenitis (28%), benign neoplasms (18%), and suspected malignancy (8%). Gland preservation was achieved in 72% of obstructive cases managed endoscopically. Overall complication rates were lowest in the sialoendoscopy group. Temporary facial nerve weakness occurred in % of parotidectomies, with permanent weakness in 1.8%. Median length of stay was day-case for sialoendoscopy and 1.4 days for gland excision.

CONCLUSIONS

Over the past decade, minimally invasive techniques have played an expanding role in salivary gland management, with sialoendoscopy demonstrating low complication rates and high gland preservation. Open gland excision remains essential for neoplastic disease but carries higher morbidity.

KEYWORDS

sialoendoscopy, salivary gland, submandibular, parotid.

OP-1285

Retrospective Analysis (2018-2025) Of Sialoendoscopy Activity In Marne La Vallée Hospital: Learning Curve And Clinical Cases

Torti[1]

[1]*GHEF (grand hopital de l'est francilien)*

BACKGROUND & AIM

In two thousand and eighteen we started the activity in the department

MATERIAL & METHODS

We started with two sialondoscpoe type ail in one

We offer sialendoscopy under general anesthesia

RESULTS

88 eighty eight surgeries were performed under general anesthesia in day hospital;

6 patients had 2 procedures; 1 patient had 3 procedures.

Most of the patients had lithiasic pathology of the submandibular gland

(59 submandibular glands - 19 parotid glands).

The medium age is 45 years with extremes of 4 and 81 years;

45 men and 43 women.

20 diagnostic procedures were performed for Sjogren's syndrome, juvenile recurrent parotitis and the side effect of radioactive iodine therapy (131I).

68 therapeutic procedures were performed: 58 for lithiasis diseases and 10 for stenosis diseases .

Two procedures required a Yag laser.

CONCLUSIONS

The sialendoscopy is a safe surgical alternative with few comorbidities.

KEYWORDS

sialendoscopy, surgery, orl pediatric

OP-1286

Treatment Selection In Sialolithiasis: Impact Of Stone Size And Location

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BACKGROUND & AIM

Sialolithiasis is the most common disease of the salivary glands, and its management has evolved toward minimally invasive techniques. However, treatment selection remains challenging and is primarily influenced by stone size and anatomical location. We hypothesized that both stone size and localization significantly affect the choice of treatment modality.

MATERIAL & METHODS

This retrospective study included 40 patients diagnosed with sialolithiasis and treated at a tertiary otolaryngology center. Demographic characteristics (age, sex), gland involved (submandibular or parotid), side of involvement, number of stones, stone size (mm), and treatment modality (sialoendoscopy, transoral removal, or gland excision) were recorded. Stone sizes were evaluated individually in patients with multiple stones. Statistical analysis was performed to assess the relationship between treatment modality and stone size, as well as clinical patterns related to stone location.

RESULTS

The mean age of patients was 37.9 ± 14 years (range: 7–63), with a male predominance (75%). The submandibular gland was affected in 75% of cases. The mean stone size was approximately 9.8 mm (range: 2–30 mm). Sialoendoscopy was primarily performed in patients with smaller stones (approximately <5 mm), whereas Holmium laser lithotripsy and transoral removal was more common in intermediate-large sized Stones. Gland excision was reserved for larger or complex cases, particularly when stones were located within the gland parenchyma rather than the ductal system. Stone size differed significantly between treatment groups ($p < 0.05$). Intraparenchymal localization was strongly associated with the need for gland excision.

CONCLUSIONS

Treatment selection in sialolithiasis is strongly influenced by both stone size and anatomical location. While minimally invasive techniques are effective for small and distal ductal stones, intraductal stones of the submandibular gland that are palpable intraorally are highly suitable for removal via a transoral approach. In addition, holmium laser lithotripsy is highly effective in reducing the size of large ductal stones, facilitating their subsequent extraction. In contrast, intraparenchymal stones often

necessitate gland excision. These findings support a tailored treatment strategy based on both stone size and localization to optimize clinical outcomes.

KEYWORDS

Sialolithiasis; Submandibular gland; Parotid gland; Sialoendoscopy; Transoral removal; Holmium laser lithotripsy

SLEEP MEDICINE

Oral Presentations · OP-1287 – OP-1326 · 40 abstracts

OP-1287

A Retrospective Analysis Of Surgical Treatment For Obstructive Sleep Apnea And Snoring

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BACKGROUND & AIM

Obstructive sleep apnea syndrome (OSAS) is a multidisciplinary disorder with a high prevalence in the adult population, averaging 22%, and occurs significantly more frequently in men. The disease represents a serious medical and socio-economic problem, being associated with an increased risk of cardiovascular complications, reduced quality of life and work capacity, as well as increased healthcare costs. Surgical treatment remains an important therapeutic option in patients with anatomically determined upper airway obstruction.

Aim of the Study

To evaluate the effectiveness of combined surgical treatment in patients with obstructive sleep apnea syndrome.

MATERIAL & METHODS

A retrospective analysis of clinical data was conducted in 524 patients diagnosed with OSAS who underwent treatment in a specialized ENT clinic between 2016 and 2021. The patients' age ranged from 18 to 66 years; 62% were men and 38% were women. Postoperative follow-up was carried out for up to 5 years, with control examinations every six months. All patients underwent combined surgical intervention including septoplasty, turbinoplasty, and uvulopalatoplasty. Surgical procedures were performed under general anesthesia using a diode semiconductor laser with a power of 12 W and a wavelength of 980 nm, in a contact–non-contact and submucosal mode. Treatment effectiveness was assessed based on the dynamics of clinical symptoms and the results of somnological examinations.

RESULTS

After surgical treatment, most patients demonstrated significant clinical improvement. Resolution or marked reduction of apnea episodes, decreased snoring intensity, reduced daytime sleepiness and fatigue, as well as improved sleep quality and overall well-being were observed. Complete resolution of all symptoms was recorded in 45% of patients. In 88% of patients, the disappearance of apnea episodes was noted in combination with a significant reduction in snoring. Overall clinical improvement was observed in 98% of patients. All patients were advised to perform a set of exercises aimed at preventing recurrence of sleep apnea.

CONCLUSIONS

1. Combined surgical treatment, including septoplasty, turbinoplasty, and uvulopalatoplasty, is an effective therapeutic method for obstructive sleep apnea syndrome when appropriate indications are present.

2. Long-term postoperative follow-up and the implementation of preventive measures, including breathing and myofunctional exercises, contribute to the preservation of achieved results and reduce the risk of OSAS recurrence.

3. Laser-assisted surgery performed in a contact–non-contact and submucosal mode represents a method of choice in the surgical treatment of obstructive sleep apnea syndrome.

KEYWORDS

Obstructive sleep apnea syndrome, diode laser, septoplasty, turbinoplasty, uvulopalatoplasty.

OP-1288

Epiglottoplasty In Obstructive Sleep Apnea: Outcomes And Determinants Of Surgical Success

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BACKGROUND & AIM

Drug-induced sleep endoscopy (DISE) has become an essential tool for identifying the level and pattern of airway obstruction in patients with obstructive sleep apnea syndrome (OSAS). Epiglottic collapse is an underrecognized cause of airway obstruction, and targeted surgical approaches such as epiglottoplasty may improve outcomes. This study aimed to evaluate the clinical and polysomnographic outcomes of epiglottoplasty in OSAS patients diagnosed with epiglottic collapse via DISE and to assess factors affecting surgical success.

MATERIAL & METHODS

This retrospective study included 10 patients diagnosed with OSAS between 2019 and 2022 who underwent DISE evaluation. Following identification of obstruction sites, all patients underwent epiglottoplasty. Additional procedures were performed in selected cases: anterior palatoplasty in two patients and expansion sphincter pharyngoplasty in one patient (performed in a second session), while one patient declined the latter intervention.

Preoperative and postoperative outcomes were compared using polysomnographic parameters including apnea-hypopnea index (AHI), minimum oxygen saturation (SpO_2), and Epworth Sleepiness Scale (ESS). Surgical success was defined as a ≥50% reduction in AHI and a postoperative AHI <20. Statistical analyses included paired t-test, independent samples t-test, Fisher's exact test, and Spearman correlation analysis.

RESULTS

The mean age of the patients was 45.7 ± 6.3 years, and 80% were male. Significant improvements were observed postoperatively in all evaluated parameters. Mean AHI decreased from 42.0 ± 12.2 to 24.5 ± 10.2 (p=0.001), minimum SpO_2 increased from 77.0 ± 4.0% to 82.6 ± 4.3% (p=0.003), and ESS scores decreased from 14.3 ± 2.3 to 8.8 ± 2.7 (p=0.001) .

Surgical success was achieved in 40% of patients. Multilevel collapse was significantly associated with the need for additional surgical intervention (p=0.033) and with surgical failure (p=0.01) . Higher body mass index (BMI) and higher preoperative AHI were also significantly associated with poorer outcomes. Postoperative AHI showed strong correlation with preoperative AHI (r=0.81, p=0.004) and BMI (r=0.68, p=0.03)

CONCLUSIONS

Epiglottoplasty is an effective surgical option for selected OSAS patients with epiglottic collapse identified by DISE, leading to significant improvements in polysomnographic and clinical parameters. However, surgical success is influenced by factors such as BMI, baseline disease severity, and presence of multilevel airway collapse. Comprehensive preoperative evaluation with DISE is crucial for optimizing patient selection and guiding individualized surgical planning.

KEYWORDS

Obstructive sleep apnea; Drug-induced sleep endoscopy; Epiglottoplasty; Epiglottic collapse; Multilevel obstruction; Sleep surgery

OP-1289

Clinical Outcomes Of Oropharyngeal Surgery To Improve Sleep Quality Surgery In 100 Patients: A Five-Year Tertiary Center Experience

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BACKGROUND & AIM

Oropharyngeal surgery is among the most commonly performed procedures in the field of otolaryngology aimed at improving sleep quality, and clinical outcomes vary among procedures targeting oropharyngeal anatomical structures. While the clinical outcomes of these surgical procedures, which generally aim to improve sleep quality, are generally satisfactory, patients' clinical responses to the procedures can sometimes be negative. Results may vary depending on age, gender, weight, tobacco/alcohol use, and surgical technique. The aim of this study is to evaluate age, gender, weight, tobacco/alcohol use, and surgical techniques in patients have undergone oropharyngeal surgery and to identify factors associated with clinical outcomes.

MATERIAL & METHODS

This study received ethical approval from the Local Ethics Committee of University. Surgeries on oropharyngeal anatomical structures performed by participating faculty members were identified through the hospital information system, and demographic data such as age, gender, and date of surgery were recorded. Patients' electronic medical records were reviewed individually to assess surgical indications and surgical techniques. Sleep quality was evaluated on a scale of 10 (excellent) to 0 (poor), using the Numerical Rating Scale (NRS) as a reference.

RESULTS

A total of 100 patients (age range: 25–71 years) who underwent oropharyngeal surgery were included in the study. Of these, 82 were male and 18 were female. The rate of postoperative relief was observed. The greatest postoperative relief was observed in patients of a male gender and those below the average age. Among smokers and alcohol consumers, the relief rate remained below the general average. Weight loss averaged +/-. The average weight of patients who did not show clinically significant relief in the 100 cases.

CONCLUSIONS

Oropharyngeal surgery is a common procedure with generally positive clinical outcomes in patients with poor sleep quality. An improvement in sleep quality has generally been observed in patients, and only rarely does it require a return to medical treatment or a second surgical intervention. Most patients are followed up without the need for additional treatment or a second surgery. Lifestyle changes remain the most important factor in improving the clinical response.

KEYWORDS

Anterior Palatoplasty, Expansion Sphincter Pharyngoplasty, Lateral Pharyngoplasty, Obstructive Sleep Apnea Syndrome

OP-1290

Multilevel Surgery For Obstructive Sleep Apnea: Significant Improvement In A 27-Patient Series

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[1]*ULS Alto Ave*

BACKGROUND & AIM

Surgical management remains an important therapeutic option for selected patients with obstructive sleep apnea (OSA), particularly when continuous positive airway pressure is not tolerated or declined.

Barbed reposition pharyngoplasty (BRP) has emerged as a contemporary palatal technique aimed at addressing lateral pharyngeal wall collapse.

This study aimed to evaluate respiratory outcomes following surgical treatment for OSA in a single-center retrospective series.

MATERIAL & METHODS

We conducted a retrospective study including 27 patients who underwent surgical treatment for OSA. Ten patients (37%) presented with severe OSA preoperatively.

Most patients underwent multilevel upper airway surgery. Barbed reposition pharyngoplasty (BRP) was the most frequently performed palatal procedure. Additional procedures included radiofrequency tongue base reduction and submucosal radiofrequency tunneling of the soft palate when indicated. All nasal surgeries included septoplasty combined with inferior turbinate reduction.

The apnea-hypopnea index (AHI) was compared before and after surgery using the Wilcoxon signed-rank test for paired samples. Surgical success was defined according to Sher criteria (≥50% reduction in AHI and postoperative AHI <20 events/hour).

RESULTS

Median AHI significantly decreased from 27.7 to 11.1 events/hour following surgery (Wilcoxon signed-rank test: $Z = -4.52$, $p < 0.001$), corresponding to an approximate 60% reduction. Improvement was observed in 26 of 27 patients. The effect size was large ($r = 0.87$).

Surgical success according to Sher criteria was achieved in 63.0% of patients (17/27).

CONCLUSIONS

Multilevel surgical treatment resulted in significant objective respiratory improvement, with a large effect size and consistent reduction in AHI across nearly all patients. These findings reinforce the role of contemporary upper airway surgery in carefully selected OSA patients.

KEYWORDS

Obstructive Sleep Apnea, Multilevel surgery, Barbed Reposition Pharyngoplasty, Radiofrequency, Surgical outcomes, AHI

OP-1291

Obstructive Sleep Apnea In Women: Relevance Of Early Diagnosis And PAP Adherence In A Clinical Cohort

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BACKGROUND & AIM

Obstructive sleep apnea (OSA) in women remains underdiagnosed despite its major global burden. Female patients often present with less typical phenotypes, including insomnia, fatigue, nocturia, morning headache, mood disturbances, and symptoms attributed to menopause, leading to delayed recognition and treatment. This delay limits therapeutic opportunity in a population whose cardiovascular, metabolic, cognitive, and quality-of-life risks are frequently underestimated. We hypothesized that analysis of the female cohort in our study would demonstrate a clinically relevant burden of OSA and a favorable PAP adherence profile, supporting the need for more active diagnostic strategies and gender-sensitive clinical pathways in women.

MATERIAL & METHODS

A retrospective analysis was performed of the women included in a clinical cohort of 64 patients with OSA managed in private otolaryngology and sleep medicine practice at Hospital La Católica and Centro Médico Naos Plaza, and treated predominantly with APAP AutoSet. Variables analyzed included age, body mass index (BMI), baseline severity according to the apnea-hypopnea index, objective adherence defined as the percentage of nights with device use >4 hours at 1 month, 6 months, and 1 year, mask type, and treatment abandonment.

RESULTS

Of the 64 patients analyzed, 24 (37.5%) were women. Mean female age was 59.0 years and mean BMI was 33.4 kg/m². Moderate-to-severe OSA was identified in 15/24 women (62.5%), including 7/24 (29.2%) with severe OSA. Severe disease was significantly less frequent in women than in men from the same cohort (29.2% vs. 62.5%; OR 0.25; 95% CI 0.08–0.73; p=0.019), although the burden in women remained clinically relevant. PAP adherence, defined as the percentage of nights with device use >4 hours, was 82.0% at 1 month, 83.0% at 6 months, and 75.0% at 1 year, descriptively higher than in men. Treatment abandonment was lower in women than in men, without statistical significance (16.7% vs. 27.5%; OR 0.53; 95% CI 0.15–1.89; p=0.38). N20 nasal mask use was more frequent in women.

CONCLUSIONS

In this cohort, women represented a clinically meaningful subgroup with a relevant burden of moderate to severe OSA and a favorable PAP adherence profile once treatment was initiated. In an international context where female OSA remains underdiagnosed and clinically underestimated, our findings challenge the persistently low level of diagnostic suspicion in women and support more active strategies for early detection and intervention specifically directed at this population. Rather than merely reiterating that OSA exists in women, this study provides real-world clinical evidence that, when identified and treated in a timely manner, female OSA can achieve favorable and sustained adherence outcomes.

KEYWORDS

* Obstructive Sleep Apnea * Women * Early Diagnosis * PAP Adherence * Sleep Medicine * Female OSA * Positive Airway Pressure * Clinical Cohort * Sex Differences

OP-1292

Nasopharyngeal Stenosis: The Scaring Enemy In OSA Surgery

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BACKGROUND & AIM

Nasopharyngeal stenosis (NPS) is a rare condition of obstruction of the communication between the nasopharynx and oropharynx due to concentric scar contracture of the tonsillar pillars, soft palate, and posterior pharyngeal wall. Definitive treatment is often very difficult and may induce more scarring and restenosis. the aim is to describe our protocol in management of OSA due to NPS with different grades (1,2 and 3) and show results in each grade.

MATERIAL & METHODS

NPS was classified into; grade I: minimal scar tissue, no soft palate lengthening, adherence between lateral aspects of the palate and posterior pharyngeal wall, grade II: moderate scar tissue, soft palate lengthening, with a small opening in the soft palate (1-2 cm in diameter), and grade III: excessive scarring with complete fusion of soft palate and tonsillar pillars with the posterior pharyngeal wall (atresia) or stenosis leaving a pinpoint hole less than 1 cm in diameter (Krespi & Kacker, 2002). each grade was offered a specific surgical intervention and the following were the outcome measures:1. A subjective measure of NPS by upper airway endoscopy and oral cavity exploration. 2. Baseline, 4-week, 3-month, and 1-year Visual Analog Scale (VAS 0-10) for nasal breathing, snoring by bed partner, and dysphagia (0 “no complaints” to 10 “severe complaint”). 3. Baseline and 1-year follow-up polysomnography. 4. Short-term morbidity and adverse events especially VPI.

RESULTS

Eleven patients were included; 9 completed the follow-up; 7 males and 2 females. Preoperatively, all patients had OSA that was objectively documented by polysomnography with apnea hypopnea index (AHI) ranged between 5.6 and 38.8 (mean = 23.2 +- 9.37). Postoperatively, the AHI showed significant improvement to a mean of 12.35 +- 3.75 (t = 5.0089, P < .001; Table 1).

Postoperative dry throat and inability to clear the throat were reported by all patients but were temporary and resolved com pletely within 3 weeks. Dysphagia showed early worsening, but it improved completely at 3 months postoperatively and remained throughout the follow-up period

CONCLUSIONS

OSA due to NPS is a very challenging surgical scenario. trials for surgical intervention may worsen the condition and CPAP is not helpful for those category of patients. our grading system with its surgical implications gives a simple protocol for management of such difficult condition

KEYWORDS

palatoplasty, pharyngoplasty, sleep disorders, soft palate, velopharyngeal function

OP-1293

Application Of AI-Based Upper Airway Narrowing Analysis And Inferior Turbinate Radiofrequency Ablation In Obstructive Sleep Apnea

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BACKGROUND & AIM

Obstructive sleep apnea (OSA) is characterized by recurrent upper airway collapse. While inferior turbinate hypertrophy contributes to nasal obstruction and exacerbates OSA, objective evaluation of surgical outcomes remains challenging. This study evaluates the efficacy of inferior turbinate Radiofrequency Ablation using three-dimensional computed tomography (CT) and artificial intelligence (AI)-based airway narrowing analysis.

MATERIAL & METHODS

We retrospectively analyzed 11 OSA patients who underwent inferior turbinate Radiofrequency Ablation. Pre- and post-operative (3–6 months) CT scans were processed using AI software to quantify upper airway volume (UAV), minimum cross-sectional area (MCA), simulated respiratory pressure (SRP), and simulated narrowest airway flow (SNAF). Paired t-tests were used for statistical analysis.

RESULTS

Post-operatively, the mean MCA significantly increased from 136.26 ± 76.50 mm^2 to 199.09 ± 100.85 mm^2 (P = 0.020). Functional parameters showed significant improvement: mean SRP decreased from 17.98 ± 18.48 Pa to 7.45 ± 6.50 Pa (P = 0.050), and mean SNAF decreased from 5.68 ± 5.21 m/s to 2.76 ± 2.54 m/s (P = 0.035). Although UAV increased (20148.98 to 24088.80 mm^3), the change was not statistically significant (P = 0.198).

CONCLUSIONS

Inferior turbinate Radiofrequency Ablation significantly improves upper airway anatomical structure and aerodynamic performance in OSA patients. AI-based analysis provides objective, quantifiable metrics for surgical assessment, supporting its role in precision treatment for OSA.

KEYWORDS

Obstructive sleep apnea;Inferior turbinate Radiofrequency Ablation; AI airway analysis; Airway dynamics; Computed tomography.

OP-1294

Effects Of Expansion Sphincter Pharyngoplasty On Polysomnographic And Clinical Outcomes In Obstructive Sleep Apnea

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BACKGROUND & AIM

Expansion sphincter pharyngoplasty (ESP) is an established surgical technique for the treatment of obstructive sleep apnea (OSA), particularly in patients with retropalatal collapse. This study aimed to comprehensively evaluate the effects of ESP on polysomnographic parameters, oxygenation, sleep efficiency, and subjective daytime sleepiness in patients intolerant to continuous positive airway pressure therapy.

MATERIAL & METHODS

A total of 43 adult patients with OSA (mean age: 41.0 ± 7.3 years; 76.7% male) who underwent ESP were retrospectively analyzed. Preoperative and postoperative polysomnographic variables, including apnea–hypopnea index (AHI), minimum oxygen saturation, and sleep efficiency, were recorded. Subjective daytime sleepiness was assessed using the Epworth Sleepiness Scale (ESS). Pre- and postoperative values were compared using paired statistical tests according to data distribution.

RESULTS

The mean follow-up period was 6.3 ± 0.7 months. ESP resulted in a significant reduction in respiratory events, with AHI decreasing from 27.7 ± 14.7 to 18.0 ± 11.6 (p < 0.001). ESS scores improved from 8.9 ± 2.7 to 7.5 ± 2.4 (p < 0.001), reflecting a meaningful decrease in daytime sleepiness. Minimum oxygen saturation increased from 82.7 ± 5.9% to 84.1 ± 7.2% (p = 0.001). Sleep efficiency demonstrated a significant improvement, rising from 83.5 ± 9.2% to 87.0 ± 5.5% (p = 0.001).

CONCLUSIONS

ESP results in significant improvements in both objective polysomnographic parameters and subjective symptoms in patients with OSA. Beyond reducing respiratory events, the procedure enhances sleep quality, oxygenation, and daytime alertness, supporting its role as an effective surgical option in appropriately selected patients.

KEYWORDS

Expansion sphincter pharyngoplasty, Obstructive sleep apnea, Polysomnography, Surgical outcomes

OP-1295

Analysis Of Positional Obstructive Sleep Apnea Features In 12,000 Patients At A Sleep Center

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BACKGROUND & AIM

Purpose: This study aims to determine the prevalence of Positional Obstructive Sleep Apnea (POSA) and investigate the factors associated with this condition.

MATERIAL & METHODS

Methods: Associations with clinical and polysomnographic variables were studied through a retrospective analysis of patients who underwent polysomnography between September 2017 and August 2023. Participants were grouped based on the presence of POSA and further classified into supine-predominant position (p-POSA) and supine-exclusive position (e-POSA).

RESULTS

Results: The study included 12,036 patients with OSA, 61.6% men and 38.4% women. Considering the entire cohort, 66.3% of patients were classified as having POSA, while 27.8% met criteria for e-POSA. Compared to non-POSA patients, POSA had lower apnea-hypopnea index (24.1 versus 44.4 events/h, p<0.001), lower mean age (47.6 versus 48.3 years, p=0.012), and lower BMI (29.2 versus 31.4 kg/m2, p<0.001). There was no significant difference in the prevalence of POSA between sex (p=0.921). However, women showed a higher prevalence of e-POSA compared to men (p<0.001). Patients with e-POSA had lower mean age than p-POSA (46.2 vs 48.6 years, p<0.001) and lower BMI (28.3 vs 29.8 kg/m2, p<0.001).

CONCLUSIONS

Conclusion: Our findings reveal that POSA is prevalent in our setting, affecting less obese patients with milder apnea severity. Although the age difference reached statistical significance, the effect size was trivial. Differences were observed concerning sex and disease severity.

KEYWORDS

positional obstructive sleep apnea; obstructive sleep apnea; polysomnography; phenotype

OP-1296

Impact Of Obstructive Sleep Apnea Severity On Wearable Sleep Staging Accuracy: A Comparison With Polysomnography

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BACKGROUND & AIM

Wearable devices are increasingly used for sleep monitoring; however, their accuracy in patients with sleep disorders remains uncertain. While prior studies have compared wearables with polysomnography (PSG) in healthy individuals, data in clinical populations are limited. This study aimed to compare sleep parameters obtained from wearable sleep monitoring with in-lab PSG in a clinical population and to evaluate the impact of OSA severity on device accuracy.

MATERIAL & METHODS

Cross-sectional study of adult patients undergoing simultaneous in-lab PSG and wearable sleep monitoring Apple Watch Series 8 between January and April of 2025. Sleep parameters were compared using intraclass correlation coefficients, Bland–Altman analysis, and multivariable regression.

RESULTS

A total of 39 participants were included (mean age 46.8±10.7 years), with obesity highly prevalent (mean BMI 32.2±5.1 kg/m²) and most presenting severe OSA (mean AHI 44.2±34.9 events/hour). Agreement between the wearable device and PSG was poor for all variables (ICC<0.50). The highest agreement was observed for sleep efficiency (ICC=0.452, p=0.003) and wake time (ICC=0.453, p=0.002), while sleep staging showed no significant agreement, particularly for REM (ICC=-0.003, 95% CI -0.320 to 0.310, p=0.507) and deep sleep (ICC=0.100, 95% CI -0.090 to 0.340, p=0.123). Bland–Altman analysis showed systematic bias, including underestimation of total sleep time and deep sleep and overestimation of light sleep, with wide limits of agreement, indicating poor individual-level accuracy. AHI correlated moderately with REM error (ρ=0.432, p=0.007). In multivariable analysis adjusted for age and BMI, AHI was the only independent predictor of error, associated with total sleep time (β=0.72, p=0.011) and REM sleep (β=0.32, p=0.001).

CONCLUSIONS

Wearable sleep staging accuracy appears to decrease with increasing OSA severity, with systematic bias and overall poor agreement compared to PSG, highlighting the need for further validation and refinement of wearable algorithms in clinical populations.

KEYWORDS

obstructive sleep apnea, wearables, polysomnography, REM sleep

OP-1297

Association Of Obstructive Sleep Apnea Severity And The Apnea-Hypopnea Index With Sensorineural Hearing Loss, Speech Discrimination, Tinnitus, And Vertigo

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BACKGROUND & AIM

Obstructive sleep apnea syndrome (OSA) is a multisystem disorder affecting various organs, including the cochlear and vestibular systems, and can result in sensorineural hearing loss. This study aims to determine the impact of OSA severity on prevalence and level of hearing impairment, audiometric parameters, and audiovestibular symptoms.

MATERIAL & METHODS

This retrospective study reviewed records of 2,420 patients who underwent polysomnography during 2021-2024. Of these, 427 had audiometry testing for any indication. After excluding individuals aged <18 or >60 years, and those with congenital or middle ear diseases, 311 patients were included. Sensorineural hearing loss was defined as bone-conduction thresholds >20 dB, and decreased Speech-Discrimination as scores <88%. Associations between OSA severity (mild, moderate, severe) and decreased SD-rates, hearing loss at PTAs and 250–6000–8000 Hz (in each ear separately and either one of the ears), tinnitus, and vertigo were assessed using the chi-square test. These categorical variables were also evaluated with AHI as a covariate using the Mann-Whitney test. Bone-conduction thresholds (PTAs-250–6000–8000 Hz) and SD-rates across OSA severity groups were compared using the Kruskal–Wallis test (p<0.05). Correlations with AHI were assessed via Spearman's rank correlation. All normality tests were assessed using the Kolmogorov–Smirnov test.

RESULTS

Individuals' distribution among OSA-subgroups (mild_moderate_severe) was evaluated; cases, with SNHL in either of the ears at PTAs (13/84; 15.5%_32/88; 36.4%_53/139; 38.1%, chi-square:p=0.001, without mild-OSA:p=0.789), at 6000-8000 Hz (39/84; 46.4%_58/88; 65.9%_101/139; 72.7%, chi-square:p<0.001, without mild-OSA:p=0.279), with decreased SD-rate (12/84; 14.3%_25/88; 28.4%_52/139, 37.4%; chi-square:p=0.001, without mild-OSA:p=0.163), with tinnitus (21/84; 25%_20/88; 22.7%_36/139; 25.9%, chi-square:p=0.863), with vertigo (11/84; 13.1%_11/88; 12.5%_21/139; 15.1%, chi-square:p=0.836), (median-age: 44.5, R:19-59_47, R:21-60_48, R:24-60). AHI value was evaluated using the Mann-Whitney test for the existence of SNHL in either of the ears at PTAs (p=0.002), at 6000-8000 Hz (p<0.001), decreased SD-rate (p=0.002), tinnitus (p=0.254), and vertigo (p=0.808). In individuals with SNHL (thresholds >20dB), OSA-subgroups were assessed with bone-conduction thresholds at PTAs (R:p=0.988_L:p=0.553), 250Hz (R:p=0.571_L:p=0.449), 6000Hz (R:p=0.239_L:p=0.953), 8000Hz (R:p=0.278_L:p=0.785), and with SD-rates (R:p=0.961_L:p=0.538) using the Kruskal–Wallis test. AHI correlation with bone-conduction thresholds(>20dB) at PTAs (R:p=0.677_L:p=0.465), 250Hz (R:p=0.851_L:p=0.374), 6000Hz (R:p=0.208_L:p=0.619), 8000Hz (R:p=0.259_L:p=0.494), and with SD-rates (R:p=0.963_L:p=0.639) was evaluated via Spearman's correlation.

CONCLUSIONS

In OSA patients, sensorineural hearing loss prevalence is significantly higher in moderate and severe cases compared to mild-OSA, at the PTAs and 6000–8000 Hz thresholds. Speech-Discrimination rates below 88 are also more common in moderate-severe OSA. The probability of sensorineural hearing loss at the PTAs and 6000–8000 Hz is associated with higher AHI values. However, among patients with OSA-related sensorineural hearing loss, no significant association or correlation is observed between AHI value and either the severity of hearing loss or SD-rates. Additionally, no significant association is found between OSAS severity and the presence of tinnitus or vertigo symptoms.

KEYWORDS
sleep apnea, hearing, audiometry, sensorineural hearing loss

OP-1298

Oropharyngeal Lateral Wall Collapse On Drug-Induced Sleep Endoscopy As A Predictor Of Hypoglossal Nerve Stimulation Response In Obstructive Sleep Apnoea: A Systematic Review

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BACKGROUND & AIM

Hypoglossal nerve stimulation (HNS) is an established treatment for moderate-to-severe obstructive sleep apnoea (OSA) in patients intolerant of continuous positive airway pressure. Pre-operative drug-induced sleep endoscopy (DISE) is mandatory for HNS candidacy assessment, with complete concentric velopharyngeal collapse representing the only formally accepted DISE-based contraindication. The prognostic significance of oropharyngeal lateral wall (OLW) collapse — a common DISE finding — remains contested, with conflicting published evidence and no current consensus on its role in patient selection. The aim is to systematically evaluate whether OLW collapse identified on pre-operative DISE predicts surgical response to HNS in adults with OSA.

MATERIAL & METHODS

A systematic review was conducted in accordance with PRISMA 2020 guidelines (PROSPERO registration: [CRD420261347436]). MEDLINE, EMBASE, and Cochrane CENTRAL were searched in March 2026 with no date restrictions. Records were screened against predefined inclusion criteria. Studies were eligible if they enrolled adults with OSA undergoing HNS with any device, performed pre-operative DISE, reported OLW collapse and treatment response. Risk of bias was assessed using the Quality In Prognosis Studies (QUIPS) tool. Data were synthesised narratively due to anticipated heterogeneity in DISE protocols and outcome definitions. Two reviewers independently screened records and extracted data.

RESULTS

Nine studies comprising 824 patients were included. Complete OLW collapse was associated with significantly lower HNS response rates in three of five studies directly testing this association (57.8–66.7% versus 74.2–84.8%; p=0.024–0.042). On multivariate analysis in the largest study (n=343), the association was attenuated to non-significance (OR 0.57, 95% CI 0.26–1.22). One study reported a null finding and one identified partial OLW collapse as the failure-associated pattern (p=0.04). Substantial heterogeneity was observed across studies in DISE protocols, OLW classification systems, response definitions, and PSG outcome type. All studies were rated moderate or high risk of bias on QUIPS assessment.

CONCLUSIONS

Complete OLW collapse on DISE is associated with worse HNS outcomes in the majority of included studies, but conflicting evidence from well-powered cohorts — particularly the attenuation of effect on multivariate analysis — precludes its designation as a formal contraindication. Early evidence suggests that concurrent palatine tonsillectomy may partially mitigate the adverse prognostic effect of OLW collapse in patients with small tonsils. Standardisation of DISE reporting and prospective validation studies are required before OLW collapse can be incorporated into HNS candidacy criteria.

KEYWORDS
obstructive sleep apnoea. hypoglossal nerve stimulation, drug-induced sleep endoscopy, oropharyngeal lateral wall collapse, upper airway stimulation, patient selection, systematic review

OP-1299

Personalized Selection Of Staged Surgical Therapy For Obstructive Sleep Apnea

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BACKGROUND & AIM

To evaluate the efficacy of staged surgical correction targeting multiple levels of upper airway obstruction in patients with snoring/obstructive sleep apnea

MATERIAL & METHODS

This prospective single-center study included 47 adults (selected from 150 screened) with snoring/OSA and ENT pathology at the Saint-Petersburg Research Institute of ENT. Exclusion criteria: acute/exacerbated respiratory diseases, pregnancy. Assessment comprised STOP-BANG questionnaire, body mass index (BMI), ENT examination, DISE, paranasal sinus computed tomography, computerized rhinomanometry, sleep respiratory monitoring, and laboratory tests. Treatment strategy selection was based on DISE-identified obstruction levels, severity of OSA, and patient-specific factors, followed by staged UA correction.

RESULTS

Baseline distribution: primary snoring 10.6% (n=5), mild OSA 40.4% (n=19), moderate 6.4% (n=3), severe 42.5% (n=20); mean BMI 28.9±0.5; moderate/severe nasal obstruction in 80.9% (n=38). Stage 1 (intranasal/nasopharyngeal correction): performed

in 38 patients (inferior turbinate reduction ± septoplasty 94.7%, functional endoscopic sinus surgery 14.9%, adenoidectomy 10.5%). All reported subjective improvement in nasal breathing/sleep; complete snoring resolution in 8.5% (n=4). Continuous positive airway pressure (CPAP) compliance improved in 14.9% (n=7) with severe OSA; mandibular advancement device adaptation improved in 25.5% (n=12) with mild OSA and hypopharyngeal obstruction. Stage 2 (uvulopalatopharyngoplasty [UPPP] + tonsillectomy): performed in 17.2% (n=8). At 6 months: apnea-hypopnea index (AHI) decreased by 34.05 events/hour (−83.35%) in moderate/severe OSA, enabling CPAP discontinuation; AHI normalized in mild OSA. Primary UPPP+tonsillectomy (38.3%, n=18, mainly severe OSA with grade III–IV tonsillar hypertrophy): AHI reduced by 12.7 events/hour (−75.2%) at 6 months, with CPAP discontinuation in all cases.

CONCLUSIONS

A DISE-guided staged surgical strategy enables precise identification of obstruction levels and personalized treatment planning. This approach significantly improves nasal breathing, subjective sleep quality, and may eliminate snoring; enhances CPAP compliance in severe OSA and oral device adaptation in mild OSA; and substantially reduces AHI, allowing selected patients to discontinue CPAP therapy. Individualized selection of staged intervention represents an effective pathway to improve quality of life in snoring and OSA.

KEYWORDS

obstructive sleep apnea, snoring, upper airway obstruction, DISE (Drug-Induced Sleep Endoscopy), UPPP (uvulopalatopharyngoplasty), staged surgery, CPAP compliance, AHI (apnea-hypopnea index), ENT pathology, nasal obstruction, quality of life

OP-1300

Association Between Obstructive Sleep Apnea Severity And Interstitial Cystitis/Bladder Pain Syndrome-Related Symptom Burden: A Cross-Sectional Observational Correlation Study

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BACKGROUND & AIM

This study aimed to quantify the unadjusted associations between full-night polysomnographic parameters, including the apnea-hypopnea index (AHI), 3% oxygen desaturation index (ODI-3%), minimum oxygen saturation (minimum SpO_2), and T90, and validated O'Leary-Sant Interstitial Cystitis Symptom Index (ICSI) and Interstitial Cystitis Problem Index (ICPI) scores in patients with obstructive sleep apnea (OSA).

MATERIAL & METHODS

This cross-sectional observational study combined retrospectively extracted polysomnographic data with prospectively administered symptom questionnaires. Ninety-one patients with OSA were classified into three groups according to AHI: mild OSA (AHI 5-14.9 events/h, n=30), moderate OSA (AHI 15-29.9 events/h, n=32), and severe OSA (AHI >=30 events/h, n=29). ICSI, ICPI, visual analog scale (VAS) pain scores, and a three-night nocturia diary were administered at study participation. Because continuous variables deviated from normal distribution on the Shapiro-Wilk test, data were reported as median [interquartile range]. Between-group comparisons were performed using the Kruskal-Wallis test with Bonferroni-corrected Mann-Whitney U tests for post-hoc comparisons. Associations between polysomnographic parameters and symptom outcomes were evaluated using Spearman correlation analysis. The explanatory performance of ODI-3% and AHI for ICSI scores was explored using univariable linear regression and R^2 comparison. All reported associations are unadjusted correlations because multivariable adjustment was not performed.

RESULTS

ICSI symptom burden increased in a dose-dependent pattern across OSA severity groups (median ICSI: 6.6 -> 10.2 -> 12.7; $p<0.005$). ODI-3% showed a strong unadjusted correlation with ICSI ($r=0.785$, $p<0.001$), whereas T90 showed a strong correlation with VAS pain score ($r=0.839$, $p<0.001$). In univariable regression, ODI-3% ($R^2=0.624$) and AHI ($R^2=0.599$) demonstrated broadly comparable explanatory performance for ICSI (Delta $R^2=+0.025$). The small numerical difference between these parameters should not be interpreted as statistical superiority without a formal comparison test. Hypertension was the most prominent potential confounder, increasing from 36.7% in the mild OSA group to 82.8% in the severe OSA group ($p<0.005$).

CONCLUSIONS

OSA severity was associated with greater IC/BPS-related symptom burden in unadjusted analyses. ODI-3% and AHI showed comparable associations with ICSI scores, while T90 was most strongly correlated with pain intensity. These findings support systematic lower urinary tract symptom screening in patients with moderate-to-severe OSA; however, prospective studies with multivariable adjustment and interventional trials evaluating the effect of continuous positive airway pressure therapy are required.

KEYWORDS
obstructive sleep apnea; interstitial cystitis symptom burden; bladder pain syndrome; polysomnography; apnea-hypopnea index; oxygen desaturation index; T90; ICSI; ICPI

OP-1301

Impact Of Palatal Surgery On Thiol–Disulfide Homeostasis And Ischemia-Modified Albumin Levels In Obstructive Sleep Apnea: A 6-Month Prospective Study

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BACKGROUND & AIM

Obstructive sleep apnea (OSA) is associated with intermittent hypoxia–induced oxidative stress, contributing to disease severity and systemic complications. Thiol–disulfide homeostasis and ischemia-modified albumin (IMA) are emerging biomarkers reflecting oxidative balance and ischemia-related damage. While alterations in these markers have been reported in OSA and partially reversed with non-surgical treatments, the biochemical impact of palatal surgery remains unclear.

This study aimed to evaluate changes in thiol–disulfide homeostasis and IMA levels before and 6 months after palatal surgery in OSA patients, and to assess their association with changes in apnea–hypopnea index.

MATERIAL & METHODS

This prospective study included 34 adult patients diagnosed with obstructive sleep apnea who underwent palatal surgery for retropalatal obstruction. All patients underwent full-night polysomnography and fasting blood sampling preoperatively and at 6 months postoperatively.

Thiol–disulfide homeostasis parameters (native thiol, total thiol, and disulfide) and ischemia-modified albumin (IMA) levels were measured using automated spectrophotometric methods. The apnea–hypopnea index (AHI) was recorded for each patient.

Pre- and postoperative values were compared using paired t-test or Wilcoxon signed-rank test according to data distribution. Correlations between changes in biomarkers and AHI were analyzed using Pearson or Spearman correlation coefficients. A p-value <0.05 was considered statistically significant.

RESULTS

Thirty-four patients completed the 6-month follow-up. A significant reduction in AHI was observed, decreasing from 36.8 ± 13.9 to 18.7 ± 10.8 events/h ($p < 0.001$).

Native thiol levels increased significantly (352.6 ± 61.4 to 389.8 ± 57.3 µmol/L, $p < 0.001$), as did total thiol levels (501.7 ± 58.6 to 523.9 ± 55.2 µmol/L, $p = 0.006$). In contrast, disulfide levels decreased significantly (72.6 ± 26.8 to 63.8 ± 23.1 µmol/L, $p = 0.013$). IMA levels also showed a significant reduction (0.93 ± 0.05 to 0.88 ± 0.04 ABSU, $p < 0.001$).

The reduction in AHI correlated positively with increases in native thiol ($r = 0.49$, $p = 0.003$) and negatively with changes in disulfide ($r = −0.41$, $p = 0.016$) and IMA ($r = −0.55$, $p < 0.001$).

CONCLUSIONS

Palatal surgery was associated with significant improvement in OSA severity and a concomitant reduction in oxidative stress, as reflected by restoration of thiol–disulfide homeostasis and decreased IMA levels.The observed correlations between biomarker changes and AHI reduction suggest that these parameters may serve as potential indicators of treatment response.These findings highlight the role of oxidative stress in OSA pathophysiology and support the potential utility of thiol–disulfide balance and IMA as adjunctive biomarkers in the postoperative evaluation of OSA patients.

KEYWORDS

Obstructive sleep apnea; Palatal surgery; Thiol–disulfide homeostasis; Ischemia-modified albumin; Oxidative stress; Apnea–hypopnea index

OP-1302

INVESTIGATION OF THE RELATIONSHIP BETWEEN NASAL OBSTRUCTION FINDINGS AND POLYGRAPHY DATA IN SNORING PATIENTS

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BACKGROUND & AIM

This study aims to investigate the relationship between clinical and radiological findings of nasal obstruction and polygraphy data in patients with obstructive sleep apnea syndrome (OSAS) and primary snoring.

MATERIAL & METHODS

Patients presenting to the outpatient clinic with snoring and apnea symptoms and concomitant nasal obstruction were included in the study. All patients underwent clinical examination, nasal endoscopy, paranasal sinus computed tomography (CT), and polygraphy. CT images were evaluated for septal deviation and turbinate pathologies. Mean apnea–hypopnea index

(AHI), supine and non-supine AHI values, and minimum oxygen saturation levels were recorded. Patients were divided into two groups based on AHI values. Patients with no or mild apnea (AHI < 15) were classified as Group 1, and those with moderate to severe apnea (AHI ≥ 15) as Group 2. The relationship between clinical and radiological findings and polygraphy data was analyzed across the groups.

RESULTS

Moderate to severe OSAS was more prevalent in men than in women ($p < 0.05$). A significant association was found between supine AHI and septal deviation grade ($p = 0.027$). As the severity of septal deviation increased, the likelihood of being in Group 2 also increased. A significant negative correlation was observed between snoring visual analog scale (VAS) scores and minimum oxygen saturation, indicating that higher VAS scores were associated with lower oxygen saturation levels ($p = 0.044$). Evaluation of turbinate pathologies revealed that inferior turbinate hypertrophy was frequently accompanied by middle turbinate pathologies (54.5%; n = 36).

CONCLUSIONS

A significant association was found between the clinical and radiological findings of nasal obstruction and OSAS severity. As septal deviation severity increased, the prevalence of moderate to severe OSAS, particularly in the supine position, increased. Increased snoring severity was associated with decreased minimum oxygen saturation. This finding suggests that, despite being a subjective measure, the snoring visual analog scale (VAS) score may be useful in predicting disease severity. The frequent coexistence of middle turbinate pathologies with inferior turbinate hypertrophy highlights the importance of preoperative radiological imaging. Additionally, minimum oxygen saturation may be useful in predicting moderate to severe apnea.

KEYWORDS

Nasal obstruction, obstructive sleep apnea syndrome (OSAS), septal deviation, snoring, apnea–hypopnea index (AHI), turbinate hypertrophy

OP-1303

Inflammation, Fibrosis, And Muscle Structural Changes In Upper-Airway Tissues In Patients With OSA

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BACKGROUND & AIM

Obstructive sleep apnea (OSA) is characterized by recurrent upper-airway collapse during sleep, which may lead to inflammation-driven tissue remodeling and myogenic alterations. This study aimed to investigate histopathological and immunohistochemical evidence of inflammation, fibrosis, and muscle structural changes in upper-airway tissues of adults with mild–moderate OSA.

MATERIAL & METHODS

Twenty-nine adults were included (15 with polysomnography-confirmed mild–moderate OSA [apnea–hypopnea index 5–29.9 events/hour] and 14 controls). Intraoperative pharyngeal muscle and soft palate specimens were analyzed using hematoxylin–eosin and specific muscle stains to evaluate inflammatory parameters, fibrosis, and fiber architecture. Histological features—including polymorphonuclear (PMN) cell infiltration, inflammation, edema, hyperemia, lymphocytosis, vascular proliferation, and fibrosis—were graded (0–3) independently by two blinded observers. Immunohistochemistry assessed the expression of transforming growth factor beta (TGF-β), matrix metalloproteinase-2 (MMP-2), active caspase-9, and progranulin.

RESULTS

Compared with controls, OSA muscle specimens showed significantly higher fibrosis and inflammation scores, along with increased PMN infiltration, edema, hyperemia, lymphocytosis, and vascular proliferation (all $p<0.001$). Muscle staining demonstrated irregular fiber contours, focal degeneration, and expansion of interstitial connective tissue in OSA muscle samples. In soft palate specimens, OSA patients demonstrated higher fibrosis and inflammation, with significantly increased PMN infiltration, vascular proliferation, edema, hyperemia, and lymphocytosis compared with controls (all $p<0.001$). Immunohistochemistry showed progranulin expression in OSA soft palate and stronger TGF-β, MMP-2, and active caspase-9 staining in OSA muscle compared with controls

CONCLUSIONS

Mild–moderate OSA is associated with pronounced inflammatory–fibrotic remodeling and structural disruption of pharyngeal muscle fibers, as well as marked inflammatory changes in the soft palate. These findings support local tissue inflammation, apoptosis, and matrix remodeling as key contributors to upper-airway dysfunction in the pathophysiology of OSA.

KEYWORDS

myopathy, obstructive sleep apnea, immunohistochemistry, pathophysiology, sleep-disorder

OP-1304

Combination Of Thai Version Of Pediatric Obstructive Sleep Apnea Screening Tool And Overnight Pulse Oximetry For The Diagnosis Of Obstructive Sleep Apnea In Children

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BACKGROUND & AIM

While PSG remains the gold standard for diagnosing OSA, high costs and extensive resource requirements limit accessibility. Overnight pulse oximetry (SpO2) is commonly used as alternative tool which provided sensitivity of 54% and specificity of 91%. Despite it yielding high specificity for diagnosing, sensitivity for screening is limited. POSAST is one of screening questionnaires, which is brief and easy to use. According to the validated Thai version of POSAST yielded sensitivity of 81.1% and specificity of 52.8%. So, we hypothesize that Combination of POSAST and SpO2 would be better than using only POSAST or SpO2 alone for diagnosing pediatric OSA.

MATERIAL & METHODS

The demographic data, POSAST, SpO2, and PSG reports from pediatric patients aged 2-15 years old who underwent PSG in a sleep laboratory were collected. The SpO2 was scored by a pediatric pulmonologist and PSG was scored by sleep specialists who were blinded to each other. Combined Q-O2 was considered positive when POSAST total score ≥ 8 and SpO2 is positive. Diagnostic properties of Combined Q-O2 and comparison of Combined Q-O2 with SpO2 for diagnosis of pediatric OSA (AHI ≥ 5 events/h) were presented.

RESULTS

Sixty patients were included in this study. The mean age was 9.9 ± 3.2 years. There were 26 patients (43.3%) diagnosed with OSA (AHI ≥ 5 events/h) by PSG. Combined Q-O2 provided 97.06% specificity, 68.33% accuracy, 88.89% PPV, 64.71% NPV, and 30.77% sensitivity for diagnosing OSA (AHI ≥ 5 events/h). SpO2 provided 91.18% specificity, 65.00% accuracy, 72.23% PPV, 63.27% NPV, and 30.77% sensitivity for diagnosing OSA. Despite the Combined Q-O2 yielding more specificity, PPV, NPV, and accuracy than SpO2 for diagnosing OSA, there was no statistical significance.

CONCLUSIONS

The Combined Q-O2 test has good specificity in terms of diagnosis of pediatric OSA. The Combined Q-O2 might be used as an alternative test for the diagnosis of pediatric OSA if the full PSG in the sleep laboratory is not available.

KEYWORDS

Obstructive sleep apnea, Pediatric, Questionnaire, Overnight Pulse Oximetry, Polysomnography, OSA

OP-1305

Effects Of Upper Airway Surgery On Voice Quality And Nasalance In OSAS Patients: Midline Vs. Lateral Approach

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BACKGROUND & AIM

Obstructive sleep apnea syndrome (OSAS) may affect voice quality and nasal resonance due to upper airway anatomical changes. Surgical approach type — midline versus lateral — may differentially impact vocal parameters, yet objective comparative data remain scarce. This ongoing prospective study aims to evaluate and compare the effects of midline surgery (uvulopalatopharyngoplasty/adenopalatopharyngoplasty) and lateral surgery (expansion sphincter pharyngoplasty, lateral pharyngoplasty, tonsillectomy) on acoustic voice parameters and nasalance in OSAS patients.

MATERIAL & METHODS

This ongoing prospective comparative cohort study enrolls adults aged 18–65 diagnosed with OSAS by polysomnography. This interim analysis includes 24 patients who completed 3-month postoperative follow-up: Group A — Midline surgery (UPF/APP, n=12) and Group B — Lateral surgery (tonsillectomy, ESF, LFP, n=12). Pre- and postoperative assessments included acoustic voice analysis (fundamental frequency F0, jitter, shimmer, HNR), stereo nasometry for nasalance measurement (/m/ sound), and the Voice Handicap Index-10 (VHI-10). Data were analyzed using paired t-tests for overall pre-post comparison and independent samples t-tests for between-group comparisons.

RESULTS

In 24 patients completing 3-month follow-up (Group A: Midline n=12, Group B: Lateral n=12), overall group analysis revealed a statistically significant decrease in nasalance from 78.0±18.3% to 62.6±28.6% postoperatively (p=0.014). Fundamental frequency (F0) showed a non-significant decline across all patients (168.4±36.1 → 157.8±38.1 Hz; p=0.138). Subgroup analysis showed no significant changes in F0 or nasalance in the Midline group (p=0.906 and p=0.081, respectively). In the Lateral group, F0 demonstrated a borderline significant decrease (168.2±34.8 → 147.0±24.0 Hz; p=0.051) and nasalance approached

significance (p=0.078). No significant between-group differences were found for any parameter (p>0.05). Preoperative VHI-10 score was 3.8±6.2 (median: 0; range: 0–17).

CONCLUSIONS

Upper airway surgery did not adversely affect acoustic voice quality in OSAS patients regardless of surgical approach. The most notable finding of this interim analysis is a significant reduction in nasalance across the entire cohort (p=0.014). The borderline F0 decrease in the Lateral group (p=0.051) may reach significance with increasing sample size. The absence of between-group differences suggests comparable vocal outcomes for midline and lateral approaches. Final conclusions await completion of the target sample.

KEYWORDS

OSAS, upper airway surgery, voice quality, nasalance, acoustic analysis, lateral pharyngoplasty, uvulopalatopharyngoplasty, fundamental frequency

OP-1306

Determinants Of Hypoxemia In Severe Obstructive Sleep Apnea: The Interplay Between Obesity And Upper Airway Collapse Patterns

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BACKGROUND & AIM

Severe obstructive sleep apnea (OSA) is traditionally defined by the apnea–hypopnea index (AHI); however, patients with similar AHI values may exhibit markedly different clinical and physiological characteristics, suggesting a heterogeneous disease structure. This study aimed to investigate the relative contribution of obesity and upper airway collapse patterns, assessed using the VOTE classification, to the severity of hypoxemia in patients with severe OSA.

MATERIAL & METHODS

Seventy-three patients with severe OSA (AHI ≥30), selected from a larger cohort of 945 patients diagnosed by polysomnography, were included (mean age: 50.2 ± 11.9 years; mean BMI: 35.4 ± 5.8 kg/m²). Upper airway collapse was evaluated using the Müller maneuver and classified according to the VOTE system (Velum, Oropharynx, Tongue base, Epiglottis; graded 0–2). Associations between VOTE patterns, lowest oxygen saturation (SaO2), mean oxygen desaturation depth (%), and clinical variables were analyzed using Spearman correlation and multiple linear regression analyses.

RESULTS

The most common collapse patterns were concentric collapse at the velum (stage 2, 41%), lateral collapse at the oropharynx (stage 1, 65%), and anteroposterior collapse at the tongue base (stage 1, 56%). Increasing severity of oropharyngeal collapse was significantly associated with lower minimum SaO_2 ($r = -0.27$, $p = 0.019$) and greater mean desaturation depth ($r = 0.26$, $p = 0.027$). In multiple linear regression analysis, BMI emerged as the strongest independent predictor of minimum SaO2 ($p < 0.001$), with each one-unit increase associated with an approximately 1% decrease in minimum oxygen saturation. Although oropharyngeal collapse did not remain statistically significant after adjustment ($p = 0.06$), a trend toward association was observed. Additionally, total VOTE score showed a significant negative correlation with minimum SaO2 ($r = -0.28$, $p = 0.017$).

CONCLUSIONS

Obesity appears to play a dominant role in determining the severity of hypoxemia in patients with severe OSA. Nevertheless, anatomical factors—particularly oropharyngeal collapse patterns—may provide additional contribution, reflecting the heterogeneity within this patient group. These findings support the need to move beyond AHI-based assessment and highlight the importance of a phenotype-driven, multidimensional evaluation approach in OSA.

KEYWORDS

Obstructive Sleep Apnea, Hypoxemia, Obesity, Upper Airway Collapse, VOTE Classification

OP-1307

CT-Based Evaluation Of Upper Airway Morphometric Changes After OSAS Surgery And Their Clinical Correlation

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BACKGROUND & AIM

Obstructive sleep apnea syndrome (OSAS) is characterized by recurrent upper airway obstruction, particularly at retropalatal and retrolingual levels, leading to impaired quality of life. Surgical treatment is effective in selected patients; however, the relationship between postoperative anatomical changes and clinical outcomes remains unclear. It is hypothesized that postoperative increases in upper airway dimensions, particularly in the retrolingual region, are associated with clinical improvement measured by the Epworth Sleepiness Scale (ESS).

MATERIAL & METHODS

This retrospective clinical study included 50 patients who underwent surgical treatment for OSAS. Preoperative and postoperative computed tomography (CT) scans were analyzed to measure anteroposterior, transverse, and cross-sectional area dimensions of the retropalatal (RP) and retrolingual (RL) regions. Clinical outcomes were assessed using ESS scores. Patients were categorized into good and poor responders based on median ESS change. Statistical analyses included paired t-test or Wilcoxon test depending on data distribution, Spearman correlation analysis, receiver operating characteristic (ROC) analysis, and logistic regression. A p value <0.05 was considered statistically significant.

RESULTS

A significant reduction in ESS scores was observed postoperatively ($p < 0.001$). All morphometric measurements demonstrated significant postoperative increases ($p < 0.001$). Correlation analysis revealed a significant negative association between changes in ESS scores and retrolingual area ($r = -0.334$, $p = 0.041$). ROC analysis showed that retrolingual area change had moderate discriminative ability in predicting clinical improvement (AUC = 0.723, $p = 0.019$). Logistic regression analysis identified retrolingual area change as an independent predictor of good clinical response (OR = 0.992; 95% CI: 0.985–0.999; $p = 0.020$).

CONCLUSIONS

Postoperative enlargement of the upper airway is associated with clinical improvement in OSAS patients. In particular, increases in the retrolingual region appear to be a significant and independent predictor of favorable clinical outcomes. These findings support the importance of targeting the retrolingual area in surgical planning.

KEYWORDS

Obstructive sleep apnea syndrome; Computed tomography; Upper airway; Retrolingual area; Epworth Sleepiness Scale; Surgical outcomes

OP-1308

Characteristics Of Preoperative Drug-Induced Sleep Endoscopy In Patients With Uvulopalatopharyngoplasty Failure

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BACKGROUND & AIM

Uvulopalatopharyngoplasty (UPPP) is one of the most commonly performed surgical treatments for obstructive sleep apnea (OSA). However, its success rate remains limited, and some patients continue to experience clinical symptoms postoperatively. Drug-induced sleep endoscopy (DISE) allows dynamic evaluation of upper airway collapse and may provide clinical value in predicting surgical outcomes. The aim of this study was to investigate the preoperative DISE characteristics of patients who failed UPPP and to analyze the site, degree, and pattern of upper airway collapse.

MATERIAL & METHODS

We retrospectively reviewed OSA patients who underwent UPPP at our institution between January 2016 and January 2025. Baseline data, preoperative DISE findings, and pre- and postoperative PSG results were collected. Patients were classified as surgical success or non-success using Sher criteria. DISE variables—including collapse site (velum, oropharyngeal lateral wall, tongue base, epiglottis), degree, and pattern (anteroposterior, lateral, circumferential)—were compared between groups. Statistical analyses were performed to assess associations between DISE features and surgical outcomes.

RESULTS

A total of 1,538 patients were screened, and 57 with complete data were analyzed. According to Sher criteria, 17 were classified as surgical successes and 40 as non-successes, with no significant baseline differences. Velum AP collapse (p=0.043) and oropharyngeal lateral wall collapse (p=0.033) were strongly associated with UPPP failure, while other DISE findings showed no impact. The success group had significantly higher tonsil weight. Among 32 patients with tongue-base collapse, those undergoing UPPP plus lingual tonsillectomy had higher success rates than those receiving tongue-base radiofrequency.

CONCLUSIONS

This study showed that velum AP collapse and oropharyngeal lateral wall collapse are strong negative predictors of UPPP success, suggesting that severe collapse at these sites may require additional procedures. Patients with heavier tonsils demonstrated higher success rates. Among those with tongue-base AP collapse, lingual tonsillectomy yielded better outcomes. Overall, DISE serves as a valuable tool for guiding surgical planning.

KEYWORDS

Uvulopalatopharyngoplasty, Drug-induced sleep endoscopy, Obstructive sleep apnea

OP-1309

Association Between Ascending And Descending Phop Measurements During DISE And Routine Physical Examination Findings

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BACKGROUND & AIM

Drug-induced sleep endoscopy with positive airway pressure (DISE-PAP) allows dynamic assessment of upper airway collapsibility through ascending and descending pharyngeal opening pressure (PhOP) measurements. Recent early evidence suggests that ascending and descending PhOP may reflect distinct physiologic and mechanical properties of upper airway obstruction, potentially offering insights beyond static anatomic assessment. Whether routine office-based physical examination findings correlate with these dynamic airway metrics remains unclear. This study aimed to evaluate the relationship between ascending and descending PhOP measurements obtained during DISE-PAP and commonly assessed physical examination variables in patients undergoing evaluation for obstructive sleep apnea.

MATERIAL & METHODS

A single-center retrospective chart review was performed of patients who underwent standardized DISE-PAP evaluation for obstructive sleep apnea. Visual ascending and descending PhOP measurements were obtained during a standardized DISE-PAP protocol performed under propofol sedation with bispectral index (BIS) monitoring to ensure a controlled depth of sedation. Routine preoperative physical examination findings were extracted from the medical record, including skeletal class, dental occlusal class, Friedman tongue position, and tonsil size. Correlation analyses were performed to assess associations between these physical examination variables and both ascending and descending PhOP values. Statistical significance was defined at $p < 0.05$.

RESULTS

Fifty-three patients met inclusion criteria for analysis. No statistically significant correlation was identified between ascending PhOP and any routine physical examination variable assessed, including skeletal class, dental occlusal class, Friedman tongue position, and tonsil size. Similarly, no meaningful association was observed between descending PhOP and skeletal class, dental class, or tonsil size. The only statistically significant correlation identified was between descending PhOP and Friedman tongue position ($R = 0.30$, $p = 0.031$), suggesting a modest relationship between tongue-related upper airway crowding and passive airway opening pressure during descending titration.

CONCLUSIONS

The modest correlation between descending PhOP and Friedman tongue position may indicate an association between tongue-related pharyngeal crowding and passive airway mechanics. Conversely, ascending titration encompassing elements of ventilatory drive and respiratory effort did not correlate with static routine physical examination variables. These findings support the complementary role of DISE-PAP-derived quantification of passive mechanical load stenting needs beyond routine office-based examination in patients with obstructive sleep apnea.

KEYWORDS

DISE, Endotyping, OSA, Physiology

OP-1310

Association Of Nasal Septal Deviation Type And Angle With The Presence And Severity Of Obstructive Sleep Apnea

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BACKGROUND & AIM

Obstructive sleep apnea is a disorder caused by the recurrent collapse of the upper airways during sleep,resulting in partial or complete airway obstruction.The relationship between the septal deviation angle and the classification of septal deviation types(Mladina types) and the presence and severity of obstructive sleep apnea syndrome (OSAS) has not yet been clearly demonstrated. In this study, we aim to compare septal deviation angle and Mladina types in patients diagnosed with OSAS and those without OSAS to evaluate the relationship between septal parameters and disease severity in the OSAS group.

MATERIAL & METHODS

This retrospective study included a total of 202 patients. Of the patients,101 had polysomnography confirmed OSAS and 101 served as controls without OSAS.All patients had their age,gender, apnea hypopnea index (AHI),septal deviation angle,and Mladina types documented. Group comparisons were performed using the Mann-Whitney U test or chi-square test,when appropriate. Binary logistic regression were used to determine predictive performance.

RESULTS

In the study,no differences were found between the OSAS and control groups in terms of age and gender($p>0.05$).The mean septal deviation angle was 14.28±5.12° in the OSAS group and 15.17±4.42° in controls,with no significant difference between

groups(p=0.121).The distribution of Mladina types differed statistically significantly between the two groups(p<0.001).Type 5 deviation was more common in the OSAS group, while Type 6 deviation was dominant in the control group.No significant relationship was observed between AHI and septal deviation angle or Mladina type in the Spearman correlation analysis(p>0.05).In binary logistic regression showed that both Mladina type (overall p<0.001) and septal deviation angle (OR=0.922,p=0.031) were independently associated with OSAS. Type 6 was associated with significantly lower odds of OSAS compared with Type 1(OR=0.143,p=0.003).

CONCLUSIONS

In conclusion, both septal deviation angle and Mladina type were significantly associated with the presence of OSAS, while neither was associated with disease severity as measured by AHI. Type 5 deviation was more frequent in the OSAS group, whereas Type 6 was more common in controls. These findings suggest that both angular measurement and morphological classification may provide clinically relevant information in the assessment of OSAS. Further prospective studies with larger populations are needed to confirm these findings.

KEYWORDS

Obstructive sleep apnea syndrome, septal deviation, nasal septum deviation angle

OP-1311

Impact Of Digital Follow-Up And The Human Factor On PAP Therapy Adaptation And Adherence: A Retrospective Cohort Of 64 Patients

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BACKGROUND & AIM

Adherence to positive airway pressure (PAP) therapy remains a major challenge in the management of obstructive sleep apnea (OSA). The initial treatment period is particularly relevant, as early adaptation strongly influences long-term continuation. We hypothesized that a care model centered on the human factor, reinforced by daily digital follow-up via WhatsApp during the first 15 days and comfort-oriented technological support, would be associated with improved early adaptation and sustained adherence to PAP therapy.

MATERIAL & METHODS

We performed a retrospective observational study in a clinical cohort of 64 patients with OSA managed in private otolaryngology and sleep medicine practice across two care settings, Hospital La Católica and Centro Médico Naos Plaza, and treated predominantly with APAP AutoSet. Variables analyzed included sex, age, body mass index (BMI), baseline disease severity according to the apnea-hypopnea index, objective adherence defined as the percentage of nights with device use >4 hours at 1 month, 6 months, and 1 year, mask type, and treatment abandonment. The intervention consisted of individualized education, personalized mask selection, heated tubing, targeted management of nasal symptoms, and daily WhatsApp follow-up during the first 15 days, including early troubleshooting, positive reinforcement, and continuous support.

RESULTS

The cohort included 40 men (62.5%) and 24 women (37.5%), with a mean age of 53.3 years and a mean BMI of 33.1 kg/m². Severe OSA was present in 32/64 patients (50.0%) and was significantly more frequent in men than in women (62.5% vs 29.2%; OR 4.05, 95% CI 1.36–12.02; p=0.019). Mean adherence, expressed as the percentage of nights with device use >4 hours, was 78.8% at 1 month, 76.4% at 6 months, and 70.6% at 1 year. Women showed descriptively better adherence than men at all time points (82.0%, 83.0%, and 75.0% vs 76.9%, 72.5%, and 68.0%, respectively). Treatment abandonment was 23.4%, with a non-significant trend toward higher rates in men than in women (27.5% vs 16.7%; OR 1.90, 95% CI 0.53–6.81; p=0.38). Overall, the F20 mask was the most frequently used interface (53%), whereas the N20 nasal mask predominated among women (58%).

CONCLUSIONS

In this cohort, a model combining intensive digital follow-up, close human support, and comfort-oriented technological assistance was associated with favorable early adaptation and sustained adherence to PAP therapy. The differences observed according to sex and mask type further support the need for individualized PAP management from treatment initiation. This approach may represent an innovative, accessible, and scalable strategy to optimize PAP outcomes in patients with OSA.

KEYWORDS

* Obstructive Sleep Apnea * Positive Airway Pressure * APAP * Adherence * Digital Follow-Up * Human Factor * Telemonitoring * Patient Support

OP-1312

Does The Age At Obstructive Sleep Apnea Diagnosis Affect The Prevalence, Severity, And Symptoms Of OSA-Related Sensorineural Hearing Loss?

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BACKGROUND & AIM

Obstructive sleep apnea (OSA) is a multisystem disorder affecting various organs, including the cochlear and vestibular systems, due to intermittent hypoxia. Although its morbidities are serious, they may appear in a period of time after exposure to the disease and chronic hypoxia. This study aims to determine the impact of the age at which OSAS is diagnosed on the prevalence and level of hearing impairment, audiometric parameters, and audiovestibular symptoms, as well as to assess whether early diagnosis of OSA can prevent its associated hearing morbidities.

MATERIAL & METHODS

This retrospective study reviewed records of 2,420 patients who underwent polysomnography during 2021-2024. Of these, 427 had undergone audiometry testing for any indication. After excluding individuals aged <18 or >60 years, and those with congenital or middle ear diseases, 311 patients were included. Sensorineural hearing loss (SNHL) was defined as bone-conduction thresholds exceeding 20 dB, and decreased Speech-Discrimination rates were defined as scores below 88%. Decreased SD-rates, existence of SNHL at PTAs-250-6000-8000 Hz (in each ear separately and in either one of the ears), tinnitus, and vertigo were assessed among all OSA patients and in OSA subgroups using the Mann-Whitney or Student-t test ($p<0.05$), with age at OSA diagnosis as a covariate. The correlation between age at OSA diagnosis and bone conduction threshold values (at PTAs-250-6000-8000 Hz) as well as SD-rates in each ear was examined using Spearman's rank correlation test. All normality tests were performed using the Kolmogorov-Smirnov test.

RESULTS

The age at OSA diagnosis was evaluated using the Mann-Whitney or Student-t test in all OSA cases and subgroups for the existence of SNHL at PTA (R:$p<0.001$, L:$p<0.001$, either of ears:$p<0.001$), (either of ears; mild:$p=0.202$, moderate:$p<0.001$, severe:$p<0.001$), at 250 Hz (R:$p=0.246$, L:$p=0.0.003$, either of ears:$p=0.005$), (either of ears; mild:$p=0.464$, moderate:$p=0.012$, severe:$p=0.315$), at 6000-8000 Hz (R:$p<0.001$, L:$p<0.001$, either of ears:$p<0.001$), (either of ears; mild:$p<0.001$, moderate:$p<0.001$, severe:$p<0.001$), decreased SD-rate (R:$p<0.001$, L:$p<0.001$, either of ears:$p<0.001$), (either of ears mild:$p<0.001$, moderate:$p<0.001$, severe:$p<0.001$), tinnitus ($p=0.024$), and vertigo ($p=0.599$). Age at OSA diagnosis correlation with bone-conduction thresholds (>20dB) at PTA (R:$p=0.903$_L:$p=0.293$), 250Hz (R:$p=0.137$_L:$p=0.008$, r=0381), 6000Hz (R:$p=0.001$, r=0.226_L:$p<0.001$, r=0.304), 8000Hz (R:$p=0.002$, r=0.222_L:$p<0.001$, r=0.241), and with SD-rates (R:$p=0.089$_L:$p=0.014$, r=-0.259) was evaluated via Spearman's correlation.

CONCLUSIONS

Older age at OSA diagnosis strongly increases the prevalence of sensorineural hearing loss (at PTAs-6000-8000Hz) and decreased-SD rates, except that mild-OSA cases aren't affected at PTAs. The effect on 250Hz isn't definite. Diagnosing OSA at an older age may also raise the likelihood of tinnitus. These likely reflect that a later age at diagnosis corresponds to a longer untreated exposure period to OSAS-related hypoxia, which probably increases cochlear damage risk. No significant correlation is found between diagnosis age and SNHL severity at PTAs. However, at 6000-8000Hz, a weakly positive correlation is observed. Also, no significant correlation with SD-rates is found.

KEYWORDS

sleep apnea, hearing loss, audiometry, age at OSA diagnosis

OP-1313

Beyond AHI: A Discordance-Based Phenotyping Model Integrating Symptoms And Upper Airway Anatomy In Obstructive Sleep Apnea

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BACKGROUND & AIM

Obstructive sleep apnea (OSA) is a clinically heterogeneous disorder in which apnea–hypopnea index (AHI) does not always reflect symptom burden or underlying anatomical involvement. This study aimed to identify discordance-based OSA phenotypes by integrating physiological severity, patient-reported outcomes, and upper airway anatomical findings.

MATERIAL & METHODS

In this retrospective cross-sectional study, 257 patients with OSA were evaluated. Symptom burden was assessed using the Epworth Sleepiness Scale (ESS) and Pittsburgh Sleep Quality Index (PSQI). Upper airway anatomy was analyzed using the VOTE classification system. A composite symptom score was generated from standardized ESS and PSQI values. Patients were categorized into four phenotypes according to concordance or discordance between AHI severity and symptom burden. Intergroup comparisons and multinomial logistic regression analyses were performed.

RESULTS

Four distinct phenotypes were identified, demonstrating a substantial dissociation between physiological severity and symptom burden. High-AHI phenotypes showed significantly higher body mass index and greater tongue base and epiglottic obstruction ($p < 0.001$). In contrast, patients with high symptom burden despite low AHI had lower anatomical obstruction scores. Velum collapse was more prominent in symptom-dominant phenotypes, whereas lower airway obstruction was

associated with increased AHI severity. Multinomial regression analysis revealed that body mass index and total VOTE score predicted physiological severity, while ESS and PSQI independently predicted symptomatic phenotypes.

CONCLUSIONS

OSA demonstrates a marked discordance between physiological severity and clinical symptom burden, with distinct anatomical characteristics across phenotypes. A multidimensional phenotype-based approach integrating anatomical, physiological, and patient-reported parameters may improve disease characterization and support personalized management strategies.

KEYWORDS

Obstructive Sleep Apnea, Discordance Phenotype, VOTE Classification, Patient-Reported Outcomes

OP-1314

Obstructive Sleep Apnea Knowledge And Attitudes Of Turkish Primary Care Physicians: An OSAKA Survey Analysis (A Nationwide Survey)

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BACKGROUND & AIM

Obstructive Sleep Apnea (OSA) is a significant public health concern with an estimated prevalence of 14% in Turkey. Primary care physicians (PCPs) play a pivotal role in the early identification and management of OSA. This study aimed to assess Turkish PCPs' knowledge and attitudes regarding OSA using the Turkish adaptation of the Obstructive Sleep Apnea Knowledge and Attitudes (OSAKA) questionnaire.

MATERIAL & METHODS

This descriptive, cross-sectional study included 338 PCPs (43.2% female, 56.8% male) with a mean age of 33.19 years. Participants were invited to complete the survey, which was distributed via email, and informed consent was obtained from all respondents prior to inclusion. The OSAKA questionnaire, comprising 18 items assessing knowledge and 5 items assessing attitudes toward OSA, was utilized. Demographic data, including years in practice and graduation year, were also collected. Statistical analyses were performed using SPSS v.27, employing t-tests, ANOVA, and correlation analyses where appropriate.

RESULTS

Participants demonstrated high knowledge scores in identifying classic symptoms like snoring (87.8%), the gold standard for diagnosis (88.1%), and the association with traffic accidents (87.2%). However, significant knowledge gaps were identified regarding treatment nuances: only 52.2% knew that CPAP is the first-line treatment for severe OSA, and only 25.7% knew that uvulopalatopharyngoplasty is not curative for most patients. The differences in knowledge were statistically significant across the various items ($p < 0.001$). Additionally, while 79.8% linked OSA with cardiac arrhythmias, only 39.2% were aware of the threshold for normal apnea-hypopnea index (AHI) values, a statistically significant gap ($p < 0.05$). Regarding attitudes, while most physicians recognized OSA as an important clinical issue, their confidence in managing the disorder was relatively low.

CONCLUSIONS

Although Turkish PCPs possess a solid foundation in recognizing the general epidemiology and symptoms of OSA, there is a distinct need for targeted medical education focusing on specific diagnostic criteria and long-term management strategies. Enhancing PCP confidence and specialized knowledge is essential for improving the referral pathways and treatment outcomes for OSA patients in Turkey.

KEYWORDS

OSAKA survey, OSAS, primary care physicians, nationwide analysis

OP-1315

Anatomo-Clinical Hybrid Phenotyping In Obstructive Sleep Apnea Syndrome: Integrated Analysis Of VOTE Scores And PROMS Symptom Profiles

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BACKGROUND & AIM

Obstructive Sleep Apnea Syndrome (OSAS) is a heterogeneous disease in terms of clinical and anatomical features. This study aims to identify "hybrid phenotypes" in OSAS patients by integrating upper airway anatomical VOTE (Velum, Oropharynx, Tongue base, Epiglottis) scores with patient-reported outcome measures (PROMS: ESS and PSQI) and to evaluate their relationship with the Apnea-Hypopnea Index (AHI).

MATERIAL & METHODS

Data from 167 OSAS patients were retrospectively analyzed. Demographic data, AHI, ESS, and PSQI scores, and anatomical collapse patterns according to the VOTE classification were recorded. K-means cluster analysis was performed using VOTE and

PROMS variables to identify phenotypic subgroups. Intergroup differences were analyzed using the Kruskal-Wallis test, and phenotype predictors were evaluated with multinomial logistic regression.

RESULTS

Three distinct phenotypes were identified: Cluster 0 (Anatomically-Oriented, n=47) showed the highest AHI (39.54±29.39) with multilevel collapse, while Cluster 2 (Symptomatically-Oriented, n=43) demonstrated the highest ESS (9.79±5.22) and PSQI (18.02±5.52) scores despite comparable AHI values. Multinomial logistic regression identified epiglottic collapse as the strongest predictor of Cluster 0 membership (OR: 12.42; 95% CI: 4.10–37.58; p<0.001), while velar collapse (OR: 2.65) and ESS score (OR: 1.42) predicted Cluster 2 membership. ROC analysis confirmed excellent discriminatory performance of epiglottic collapse for anatomic phenotype identification (AUC: 0.922), markedly superior to AHI (AUC: 0.594). BMI was the strongest predictor of AHI severity (p<0.001) but failed to differentiate cluster membership (p=0.065).

CONCLUSIONS

AHI alone is an insufficient criterion for OSAS management.The hybrid integration of VOTE-based anatomical mapping and PROMS-based symptom profiles, combined with unsupervised cluster analysis, provides a more precise phenotypic framework for personalized OSAS management, guiding surgical planning and treatment selection beyond AHI-based classification.

KEYWORDS

OSAS, VOTE Classification, PROMS, Phenotyping, Cluster Analysis

OP-1316

A Multimodal Pre-Polysomnographic Risk Model For Severe Obstructive Sleep Apnea

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BACKGROUND & AIM

Obstructive sleep apnea (OSA) is increasingly recognized as a systemic inflammatory syndrome driven by intermittent hypoxia and upper airway collapse. Limited access to polysomnography (PSG) frequently delays diagnosis of severe disease. We hypothesized that integrating inflammatory, anatomical, anthropometric, and clinical parameters into a multimodal pre-polysomnographic model could enable high-precision identification and prioritization of patients at risk for severe OSA.

MATERIAL & METHODS

This retrospective cross-sectional study included 112 adults who underwent full-night PSG. Severe OSA was defined as an apnea–hypopnea index (AHI) ≥30 events/hour. Pre-PSG variables included STOP-Bang score, tonsil grade (Brodsky classification), neck circumference, and systemic immune-inflammation index (SII) derived from complete blood count. Independent predictors were identified using multivariable logistic regression with backward elimination.

A composite risk score (0–7 points) was constructed as follows: STOP-Bang 0–2 (0 points), 3–4 (1 point), ≥5 (2 points); tonsil grade 0–1 (0 points), grade 2 (1 point), grade ≥3 (2 points); SII <726.5 (0 points), ≥726.5 (2 points); neck circumference <42 cm (0 points), ≥42 cm (1 point). Model discrimination and calibration were assessed using receiver operating characteristic (ROC) analysis and the Hosmer–Lemeshow test.

RESULTS

Severe OSA was identified in 26 of 112 patients (23.2%). In multivariable logistic regression analysis, independent predictors of severe OSA were STOP-Bang category (OR 17.77, p<0.001), tonsil grade (OR 4.55, p=0.005), systemic immune-inflammation index (SII) ≥726.5 (OR 7.01, p=0.021), and neck circumference ≥42 cm (OR 2.10, p=0.047), reflecting complementary contributions from clinical, anatomical, inflammatory, and anthropometric domains.

The composite risk score (0–7 points) demonstrated excellent discrimination with an area under the curve of 0.95 and good calibration (Hosmer–Lemeshow p=0.364). At a cut-off ≥4 points, the model achieved 88.5% sensitivity and 86.9% specificity, indicating strong overall discriminatory performance. At ≥6 points, specificity and positive predictive value reached 100%, identifying a subgroup composed exclusively of severe OSA patients and establishing a clear rule-in threshold for high-risk triage.

CONCLUSIONS

This four-variable multimodal risk model integrates biological inflammation and mechanical airway narrowing to achieve highly accurate pre-polysomnographic identification of severe OSA. Its perfect rule-in capability at higher thresholds provides a practical precision-triage framework to optimize PSG prioritization in high-demand clinical settings.

KEYWORDS

Multimodal Risk Model; Obstructive Sleep Apnea; Pre-Polysomnographic Screening; STOP-Bang; Systemic Immune-Inflammation Index

OP-1317

Dynamic Determinants Of Snoring

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BACKGROUND & AIM

This study aims to investigate the impact of upper airway collapse patterns, identified during drug-induced sleep endoscopy (DISE), on the apnea-hypopnea index (AHI) and minimum oxygen saturation (MinO2) in patients with obstructive sleep apnea (OSA) and primary snoring.

MATERIAL & METHODS

A retrospective analysis was conducted on 58 patients (42 males, 16 females) who underwent DISE prior to planned sleep surgery due to snoring complaints between January 2024 and December 2025. Patient demographics, polygraphy results, and upper airway collapse levels and patterns were evaluated according to the VOTE classification. The relationship between collapse patterns, AHI, and DISE MinO2 levels was statistically analyzed.

RESULTS

The most frequent obstruction pattern observed was lateral oropharyngeal collapse, accounting for 72.4% of the cases. A statistically significant positive correlation was found between lateral oropharyngeal collapse and AHI values (p=0.001). Additionally, there was a near-significant negative correlation between concentric collapse at the velum level and minimum oxygen saturation levels recorded during DISE (p=0.052).

CONCLUSIONS

Lateral oropharyngeal collapse is the most critical dynamic factor associated with disease severity in OSA. Furthermore, concentric velum collapse is closely related to deeper oxygen desaturation during DISE. Patients exhibiting these specific collapse patterns require closer monitoring for sleep apnea complications. When planning surgical treatment, the configuration of the collapse must be considered alongside the anatomical level of obstruction ; notably, CPAP therapy should be prioritized for patients presenting with concentric velum collapse.

KEYWORDS

Obstructive Sleep Apnea, Drug-Induced Sleep Endoscopy, Lateral Collapse, Concentric Collapse, Minimum Oxygen Saturation, VOTE Classification, Apnea-Hypopnea Index

OP-1318

Evaluating Chatgpt Treatment Recommendations For Obstructive Sleep Apnea: Inter-Rater Agreement And Video Input Effect

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BACKGROUND & AIM

The use of large language models such as ChatGPT 4.5 in clinical decision-making has increased rapidly in recent years. However, their reliability and consistency in otolaryngology practice remain unclear. This study evaluated the inter-rater agreement of ChatGPT-generated treatment recommendations for obstructive sleep apnea (OSA), their consistency across repeated queries, and the effect of clinical examination video input on recommendation quality.

MATERIAL & METHODS

This clinical study included 66 patients diagnosed with OSA. ChatGPT was queried on three consecutive days using patient-specific clinical information. Treatment recommendations generated by the model were independently evaluated by two blinded clinicians using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Patients were divided into three groups: no-video (n=36), video-available queried without video input (n=30), and video-assisted (n=30). Inter-rater agreement was assessed using quadratic weighted Cohen's kappa (κ). Consistency across repeated queries was analyzed with the Friedman test. The effect of clinical examination video input on recommendation scores was evaluated using the Wilcoxon signed-rank test. Group comparisons were performed using Mann-Whitney U tests with Bonferroni correction for multiple comparisons (adjusted α=0.017).

RESULTS

Inter-rater agreement was almost perfect across all three assessment days (Day 1: κ=0.975, Day 2: κ=0.960, Day 3: κ=0.959; all p<0.001). In the no-video group, ChatGPT recommendation scores did not differ significantly across consecutive days (χ^2=1.167, df=2, p=0.558). The inclusion of video input did not significantly affect recommendation scores (Wilcoxon test, all p>0.05). After Bonferroni correction, no statistically significant differences were observed between the no-video and video-assisted groups on any assessment day (Day 1: p=0.106, Day 2: p=0.036, Day 3: p=0.157).

CONCLUSIONS

ChatGPT generated consistent treatment recommendations for OSA with almost perfect agreement between evaluators. Neither repeated querying nor the addition of clinical examination video input significantly affected recommendation scores. Although video input did not produce statistically significant differences, the relatively lower numerical scores observed in the video-assisted condition may suggest that additional clinical information can reveal certain limitations in ChatGPT-generated

recommendations. These findings suggest that ChatGPT may provide consistent decision support in OSA management; however, larger studies are needed to better define its clinical applicability.

KEYWORDS

Obstructive sleep apnea (OSA); ChatGPT; Large language models (LLM); Treatment recommendations

OP-1319

Improving Service Efficiency Through Transitioning Level-3 Sleep Studies From In-Hospital To Home Based Testing

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BACKGROUND & AIM

Before this initiative, Level-3 sleep studies at King Fahd Military Medical Complex (KFMMC) required inpatient admission, limiting capacity to four patients per week due to bed availability and device constraints. This resulted in prolonged waiting times for sleep testing (average 206 days) and delayed post-study follow-up (42 days), negatively impacting patient access and service efficiency. This study aimed to evaluate the impact of transitioning to a home-based sleep testing model (Home Sleep Apnea Testing, HSAT) combined with a dedicated follow-up clinic on service capacity, waiting times, and patient flow.

MATERIAL & METHODS

A Quality Improvement (QI) project was conducted through collaboration between the Respiratory Therapy (RT) and Otorhinolaryngology (ORL) departments. The intervention involved transitioning Level-3 sleep studies from inpatient to HSAT, procuring six HSAT devices, implementing a structured staff training program, and establishing a dedicated Sleep Study Clinic for post-test follow-up. A time-series design utilizing two Plan–Do–Study–Act (PDSA) cycles was employed. Data were collected from Q1 2022 to Q4 2025, with the intervention implemented in Q3 2024.

RESULTS

The implementation of HSAT resulted in a significant reduction in waiting times for sleep studies, from a pre-intervention average of 206 days (range: 158–266 days) to 35 days post-intervention. Additionally, the waiting time for follow-up after sleep testing decreased from 42 days to 15 days. Service capacity markedly improved, with 182 patients managed over 18 months compared to 47 patients in the preceding 30 months.

CONCLUSIONS

Transitioning Level-3 sleep studies to a home-based HSAT model, combined with a dedicated sleep clinic, is a feasible and highly effective strategy to improve operational efficiency, expand service capacity, and enhance patient access. This model significantly shortens the time to diagnosis and management and can serve as a scalable approach for similar healthcare settings.

KEYWORDS

Home Sleep Apnea Testing (HSAT); Sleep Study; Healthcare Efficiency

OP-1320

Evaluating CT Metrics As Markers Of DISE-Based Palatal Phenotypes And Velum Collapse Severity: A Prospective Cohort Study

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BACKGROUND & AIM

Palatal shape, classified by Woodson as vertical, intermediate, or oblique, has been proposed as a predictor of surgical response in obstructive sleep apnea. However, objective imaging markers reflecting drug-induced sleep endoscopy (DISE)–based palatal phenotypes remain poorly defined. We hypothesized that computed tomography (CT) linear measurements at the posterior nasal spine could discriminate DISE palatal morphology and correlate with velum collapse severity.

MATERIAL & METHODS

We conducted a prospective observational study including adult patients with obstructive sleep apnea or primary snoring evaluated at a tertiary referral center. All subjects underwent DISE, and only those with available upper airway CT were included. DISE recordings were jointly reviewed by two authors. CT measurements on axial images at the posterior nasal spine included anteroposterior (AP) and transverse (TR) distances and the AP/TR ratio. Nonparametric tests and receiver operating characteristic (ROC) analysis assessed associations and discriminatory performance.

RESULTS

The cohort included 33 patients (73% male) with a mean age of 46.7 years. Palatal morphology was oblique in 45.5%, intermediate in 33.3%, and vertical in 21.2%. The median apnea–hypopnea index was 8.9 events/hour, and the mean oxygen saturation nadir was 83.6%. Severe anteroposterior velum collapse (75–100%) occurred in 90.9% of patients. According to VOTE configuration, 39.4% showed anteroposterior collapse and 54.5% concentric collapse, while lateral or absent collapse occurred in 6.1%.

No significant differences in AP, TR, or AP/TR ratio were observed across DISE palatal morphology groups ($p>0.05$). CT metrics showed poor discrimination for vertical palate (AUC 0.46–0.54). A smaller transverse airway dimension tended to be associated with greater anteroposterior velum collapse severity, although not statistically significant ($\rho = -0.333$, $p = 0.062$).

CONCLUSIONS

Linear CT measurements at the posterior nasal spine did not discriminate DISE-based palatal morphology, reinforcing the importance of DISE for functional assessment. However, the inverse trend between transverse airway dimension and anteroposterior velum collapse suggests a possible anatomical contribution. CT metrics may provide complementary anatomical information, although larger studies are needed to clarify their clinical utility.

KEYWORDS

Obstructive sleep apnea; Drug-induced sleep endoscopy (DISE); Palatal morphology; Velum collapse; Computed tomography; VOTE classification

OP-1321

Outcomes Of Coblation Intracapsular Tonsillectomy In Adults: A Single-Center Sequential Study

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BACKGROUND & AIM

Coblation intracapsular tonsillectomy (CIT) has been increasingly adopted in pediatric populations, but data in adults remain limited. This study aimed to evaluate the safety, postoperative morbidity, and recurrence rate of CIT in adult patients.

MATERIAL & METHODS

We conducted a single-center, sequential prospective trial including 60 adult patients (≥18 years; mean age 29.0 ± 8.5 years; range 18–57; 48 females, 12 males) undergoing CIT. Indications were recurrent tonsillitis (60%) and post-peritonsillar abscess (25%). Preoperative questionnaires included the SF-12 (mean ± SD: 35.0 ± 5.2) and TOI-14 (32.0 ± 6.1). Pain scores were recorded daily on a 0–10 scale, and postoperative complications were documented.

RESULTS

Minor postoperative hemorrhage (Grade I) occurred in 9 patients (15%), with only one (1.7%) requiring medical evaluation but no intervention. Mean pain intensity was minimal immediately postoperatively (1.2 ± 0.9), peaked at day 5 (4.4 ± 1.4), and resolved by day 14 (0.6 ± 0.8). Only 8.6% of patients adopted a restricted diet during the first week, and 93% resumed a normal diet by two weeks. Within one year, 2 patients experienced a single tonsillitis episode, and 1 patient from the abscess subgroup had a recurrence.

CONCLUSIONS

Coblation intracapsular tonsillectomy in adults appears to be a safe and effective technique, associated with low postoperative hemorrhage, minimal pain, and rapid functional recovery. Although recurrence rates were low in this cohort, CIT may be less suitable for patients operated after peritonsillar abscess. Further multicenter studies with longer follow-up are warranted to confirm long-term efficacy and recurrence risk.

KEYWORDS

Intracapsular Tonsillectomy, Coblation, Recurrent Tonsillitis,

OP-1322

Oxidative Stress In Obstructive Sleep Apnea: A Review Of Molecular Mechanisms And Clinical Biomarkers

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BACKGROUND & AIM

OSA is a disorder characterized by recurrent episodes of upper airway collapse, leading to intermittent hypoxia (IH) and sleep fragmentation. Beyond its anatomical basis, OSA is increasingly recognized as a systemic disease driven by a state of chronic oxidative stress. The cyclical nature of hypoxia and reoxygenation triggers an overproduction of (ROS), which overwhelms the body's antioxidant defenses and contributes to widespread cellular injury and multi-organ comorbidities.

This aims to synthesize the current understanding of the molecular mechanisms underlying oxidative stress in OSA and to evaluate the clinical utility of key biomarkers for diagnosis, risk , and treatment .

MATERIAL & METHODS

A comprehensive literature review was conducted using PubMed, Google Scholar, and other scientific databases. Search terms included "obstructive sleep apnea," "oxidative stress," "biomarkers," "intermittent hypoxia," and "pathophysiology." The review focused on peer-reviewed studies published within the last 10 years to ensure relevance and novelty.

RESULTS

The primary drivers of ROS production in OSA include mitochondrial dysfunction and the activation of NADPH oxidase. This leads to the activation of pro-inflammatory transcription factors like NF-κB and HIF-1α, creating a self-amplifying cycle of inflammation and oxidative damage. Key biomarkers provide a window into this pathology:

1.Lipid Peroxidation Markers (e.g., Malondialdehyde - MDA): Indicate cell membrane damage and correlate strongly with the Apnea-Hypopnea Index (AHI).

2.DNA Damage Markers (e.g., 8-hydroxy-2'-deoxyguanosine - 8-OHdG): Reflect genotoxic stress and are associated with long-term cancer risk and accelerated aging.

3.Antioxidant Capacity (e.g., Total Antioxidant Capacity - TAC): Measures the depletion of the body's defense systems.

CPAP therapy has been shown to reduce levels of these biomarkers, but normalization is often incomplete, suggesting residual oxidative stress.

CONCLUSIONS

Oxidative stress is a fundamental pathway linking OSA to its severe cardiovascular, neurological, and metabolic consequences. Biomarkers of oxidative stress serve as valuable tools that complement polysomnography by providing a direct measure of systemic pathophysiological burden. Integrating biomarker assessment into clinical practice can enable more precise patient risk stratification and open new avenues for adjunctive antioxidant therapies to improve long-term outcomes.

KEYWORDS

Obstructive Sleep Apnea, Oxidative Stress, Biomarkers, Intermittent Hypoxia, Pathophysiology

OP-1323

Bilateral Hypoglossal Nerve Stimulation In Management Of OSA

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BACKGROUND & AIM

This study presents our pioneer clinical experience as the first surgical team to perform bilateral hypoglossal nerve stimulation for obstructive sleep apnoea in the Middle East and North Africa (MENA) region.

The primary objectives are:

1. To assess the safety of surgery using the Genio system in patients with moderate to severe OSA.

2. To evaluate the feasibility of performing this procedure

3. To assess patient acceptability and satisfaction, including cosmetic outcomes.

4. To explore insurance coverage and reimbursement feasibility within the healthcare systems of the UAE

MATERIAL & METHODS

This retrospective, descriptive case series reports the first 30 consecutive patients who underwent bilateral hypoglossal nerve stimulation (BiHNS) implantation with the Genio system at Al Zahra Hospital, Dubai. All procedures were performed by Dr. Ahmed Bahgat. The study was conducted according to institutional policies.

Data collection and outcome measures

- Demographics: age, sex, BMI
- Baseline sleep data: baseline AHI, ODI, ESS
- CPAP history: documented adherence/intolerance and reasons for CPAP failure.
- Operative data: operative time, intraoperative findings, intraoperative testing results, immediate complications.
- Postoperative outcomes: length of hospital stay, early (≤30 days) and late (>30 days) complications, device activation date, stimulation parameters at first activation, patient-reported outcomes (ESS, device comfort, cosmetic satisfaction)
- Acceptability: patient uptake of the device when offered, willingness to continue use, and patient satisfaction as assessed during follow-up visits.
- Insurance coverage: documentation of insurance authorization attempts, approvals/denials, out-of-pocket costs.

All collected data were de-identified and entered into a secure study database.

RESULTS

Data will be presented during the congress showing the operative time and postoperative course and improvement in sleep quality both subjectively and objectively

CONCLUSIONS

Bilateral hypoglossal nerve stimulation proved to be effective, feasible, acceptable and safe in Middle East patients suffering from sleep apnea

KEYWORDS

Hypoglossal nerve stimulation; sleep surgery; sleep apnea

OP-1324

When To Address The Base Of Tongue In Children With OSA? An Insight On Clinical Presentation And Radiological Examination

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BACKGROUND & AIM

Obstruction at the level of the base of the tongue (BOT) is classically suspected as a cause of OSA in children with Down syndrome (DS). However, this can be present in the otherwise healthy child. This presentation will discuss the evaluation and surgical treatment through a case series.

MATERIAL & METHODS

We reviewed children aged 18 years or younger with suspicion of BOT-level obstruction between 2020 and 2023. Data collected included demographics, lateral neck films, sleep endoscopy, polysomnography (PSG), surgical procedures, and postoperative symptoms.

RESULTS

22 patients (mean age 7.3y, 2.11 – 15.11) were included, and 10 failed a previous surgery. Nine had a PSG; eighteen had sleep endoscopy. Only three patients were DS, and five others had significant comorbidities. The lateral neck film was sound when the physician's examination was inconclusive. Sleep endoscopy was the primary assessment confirming an obstruction at the level of BOT. Coblation lingual tonsillectomy and/or midline BOT reduction was the procedure of choice; 91.7% of the operated children improved markedly. One patient had persistent symptoms.

CONCLUSIONS

Obstruction at the level of the BOT should be considered when a child fails a conventional adenotonsillectomy or when the physical examination does not reveal a clear cause for the upper airway obstruction. Sleep endoscopy is diagnostic. The lateral x-ray might help raise the suspicion of BOT obstruction, but the clinical presentation influences this.

KEYWORDS

base of tongue, OSA, sleep endoscopy, lateral neck film, failed adenotonsillectomy

OP-1325

Subjective Sleepiness Vs Objective Reality In OSA

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BACKGROUND & AIM

Polysomnography remains the reference standard for diagnosing and grading obstructive sleep apnea (OSA), whereas symptom-based questionnaires are commonly used to assess daytime sleepiness and perceived sleep quality. In routine practice, however, subjective symptom burden does not always parallel objective disease severity. This study aimed to compare clinical and sleep study findings between mild and severe OSA, with particular attention to the Epworth Sleepiness Scale (ESS) and Pittsburgh Sleep Quality Index (PSQI), and to determine whether these subjective measures discriminate severity as reliably as polysomnographic variables.

MATERIAL & METHODS

This single-center cross-sectional study included 61 adult patients who presented to the otorhinolaryngology outpatient clinic with symptoms suggestive of obstructive sleep apnea and subsequently underwent sleep study evaluation. Based on baseline polysomnographic findings, patients were classified as mild OSA (n=28) or severe OSA (n=33). Demographic characteristics, body mass index, Epworth Sleepiness Scale, Pittsburgh Sleep Quality Index, sleep latency, arousal index, and major respiratory and oxygenation parameters were analyzed. Continuous variables were compared using the independent-samples t test or Mann-Whitney U test according to data distribution, while categorical variables were analyzed with the chi-square test or Fisher exact test. A two-sided p value of less than 0.05 was considered statistically significant.

RESULTS

A total of 61 patients were included, comprising 28 with mild OSA and 33 with severe OSA. In the overall cohort, mean Epworth Sleepiness Scale (ESS) and Pittsburgh Sleep Quality Index (PSQI) scores were 9.35 ± 5.48 and 8.81 ± 4.53, respectively, showing that both daytime sleepiness and impaired sleep quality were common at presentation. When stratified by severity, ESS scores

remained similar between the mild and severe groups (8.61 ± 5.63 vs 9.97 ± 5.36, p=0.340). Total PSQI score also did not differ significantly (7.93 ± 4.77 vs 9.55 ± 4.25, p=0.175). In contrast, poor PSQI category was more frequent in severe OSA (29/33 vs 17/28, p=0.019). Objective sleep study measures showed clearer separation, with significantly higher apnea-hypopnea index (32.91 ± 9.16 vs 9.66 ± 3.36, p<0.001), arousal index (33.11 ± 9.43 vs 9.97 ± 3.75, p<0.001), and worse nocturnal oxygenation in severe disease.

CONCLUSIONS

Subjective symptom scores and objective sleep study findings did not parallel each other consistently in this cohort. Although patients with severe OSA showed markedly greater polysomnographic burden, total ESS and PSQI scores were not significantly different from those of patients with mild disease. This suggests that daytime sleepiness and perceived sleep quality capture dimensions of patient experience that are not fully explained by respiratory event frequency alone. In contrast, poor PSQI category was more common in severe OSA. Clinically, ESS and PSQI remain useful adjuncts, but they should be interpreted alongside, rather than in place of, objective polysomnographic assessment.

KEYWORDS

Obstructive sleep apnea; Epworth Sleepiness Scale; Pittsburgh Sleep Quality Index; polysomnography; apnea-hypopnea index

OP-1326

The Sound Of Sleep: Snoring Intensity As A Marker Of OSA Severity

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BACKGROUND & AIM

Snoring is the most common symptom of obstructive sleep apnea (OSA), occurring in up to 70–95% of affected patients. Despite its high prevalence, the relationship between objectively measured snoring intensity and OSA severity remains incompletely understood. This study aimed to evaluate the association between acoustic snoring intensity and the severity of OSA.

MATERIAL & METHODS

We conducted a retrospective observational study including 301 adults referred for suspected OSA who underwent home sleep monitoring using the WatchPAT device between 2020 and 2025. OSA severity was classified according to the peripheral apnea–hypopnea index (pAHI) into four groups: no OSA, mild, moderate, and severe. Snoring parameters included mean snoring intensity (dB) and the percentage of sleep time with snoring above 45 dB and 50 dB. Associations between snoring variables and respiratory indices were assessed using Spearman correlation. An ordinal logistic regression model was performed to determine whether snoring intensity was independently associated with OSA severity, adjusting for age, body mass index (BMI) and sex.

RESULTS

A total of 301 individuals were included (mean age 50.8 ± 12.6 years; 76.7% male). Mean snoring intensity increased progressively with OSA severity (p-value < 0.001), with the highest values observed in patients with severe disease. Snoring parameters showed moderate positive correlations with key respiratory indices, including pAHI ($\rho = 0.535$; $p < 0.001$), pRDI ($\rho = 0.506$; $p < 0.001$), and ODI ($\rho = 0.538$; $p < 0.001$). Conversely, snoring intensity was negatively correlated with minimum oxygen saturation ($\rho = -0.509$; $p < 0.001$) and mean oxygen saturation ($\rho = -0.370$; $p < 0.001$). In multivariable ordinal logistic regression analysis, mean snoring intensity remained independently associated with greater OSA severity (OR 1.26; 95% CI 1.16–1.36; $p < 0.001$). Each 1 dB increase in snoring intensity was associated with approximately a 26% increase in the odds of belonging to a more severe OSA category.

CONCLUSIONS

In this study, objective snoring intensity appears to be independently associated with OSA severity. Acoustic analysis of snoring may represent a simple and clinically useful marker for identifying patients at higher risk of severe disease.

KEYWORDS

Obstructive sleep apnea; Snoring; Snoring intensity; Acoustic analysis; Sleep-disordered breathing; WatchPAT

SWALLOWING

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OP-1327

Optimizing Patient Selection For Interferential Current Stimulation Therapy In Dysphagia: Immediate Effects Assessed By Videofluoroscopic Swallowing Study

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BACKGROUND & AIM

Interferential current (IFC) stimulation of the neck can activate sensory afferents in the larynx and pharynx, thereby facilitating pharyngeal swallowing.

Although it provides significant improvement for dysphagic patients who have delayed swallowing initiation, optimized patient selection for more efficient use of IFC stimulation therapy may be necessary. The immediate effects of IFC stimulation on swallowing function should be evaluated before determining its indication for long-term rehabilitation therapy. This study aimed to evaluate the immediate effects of IFC during videofluoroscopic swallowing study (VFSS) and to explore its potential prognostic value for swallowing rehabilitation outcomes.

MATERIAL & METHODS

Patients with dysphagia in rehabilitation hospitals were enrolled. Laryngeal elevation delay time (LEDT), pharyngeal residue, and the penetration-aspiration scale were assessed before and during IFC stimulation to evaluate the immediate effects of IFC stimulation on swallowing function. In some cases, IFC-assisted swallowing rehabilitation was performed with informed consent. Long-term outcomes, including the resumption of oral intake, were evaluated according to the underlying disease.

RESULTS

A subset of patients demonstrated significant improvement in swallowing dynamics during IFC stimulation, including reductions in LEDT and pharyngeal residue. Among these responders, those who underwent IFC-assisted rehabilitation showed modest improvement in oral intake.

CONCLUSIONS

IFC stimulation may facilitate pharyngeal swallowing function, and its immediate effects could help us select suitable patients for its beneficial use. These findings suggest that the immediate response to IFC during VFSS may be a prognostic factor for long-term swallowing outcomes.

KEYWORDS

Interferential current stimulation, videofluoroscopic swallowing study, pharyngeal swallowing, sensory stimulation

OP-1328

Foreign Body Airway Obstruction Resulting In Out-Of-Hospital Cardiac Arrest In Denmark - Incidence, Survival And Interventions

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BACKGROUND & AIM

Foreign body airway obstruction (FBAO) stands as an important contributor to accidental fatalities, yet prompt bystander interventions have been shown to improve survival. This study aimed to evaluate the incidence, interventions, and survival outcomes of patients with out-of-hospital cardiac arrest (OHCA) related to FBAO in comparison to patients with non-FBAO OHCA.

MATERIAL & METHODS

In this population-based cohort study, we included all OHCAs in Denmark from 2016 to 2022. Cases related to FBAO were identified and linked to the patient register. Descriptive and multivariable analyses were performed to evaluate prognostic factors potentially influencing survival.

RESULTS

A total of 30,926 OHCA patients were included. The incidence rate of FBAO-related OHCA was 0.78 per 100,000 person-years. Among FBAO cases, 24% presented with return of spontaneous circulation upon arrival of the emergency medical services. The 30-day survival rate was higher in FBAO patients (30%) compared to non-FBAO patients (14%). Bystander interventions were recorded in 26% of FBAO cases. However, no statistically significant association between bystander interventions or EMS personnels' use of Magill forceps and survival was shown, aOR 1.47 (95 % CI 0.6-3.6) and aOR 0.88 (95% CI 0.3-2.1).

CONCLUSIONS

FBAO-related OHCA was rare but has a higher initial survival rate than non-FBAO related OHCA, with a considerable proportion of patients achieving return of spontaneous circulation upon arrival of the emergency medical service personnel. No definitive associations were established between survival and specific interventions performed by bystanders or EMS personnel. These findings highlight the need for further research in this area.

KEYWORDS

Bystander interventions; Emergency medical services; Foreign body airway obstruction; Out-of-hospital cardiac arrest.

OP-1329

Dysphagia Outcomes After Surgical Vs. Radiation Therapy For Early-Stage Glottic Cancer: A Systematic Review Of Randomized Controlled And Clinical Trials

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BACKGROUND & AIM

Dysphagia is a clinically meaningful source of morbidity and reduced quality of life. Both surgery and radiation therapy for early-stage (T1–T2) glottic cancer may impair swallowing, yet their relative impact on dysphagia remains unclear despite similar oncologic control.

MATERIAL & METHODS

PubMed, Cochrane, and Embase were searched following PRISMA guidance. Eligible studies enrolled adults with T1–T2 glottic carcinoma and reported post-treatment dysphagia/swallowing outcomes after surgery and/or radiation. We included direct comparative (surgery vs radiation) and single-modality studies. Records were screened in two stages (title/abstract, then full text). Given expected heterogeneity in outcome definitions and reporting, qualitative synthesis was planned.

RESULTS

Across three database searches, 183 records were screened by title/abstract and 41 articles underwent full-text review. Thirteen studies met inclusion criteria and advanced to data extraction. Included studies were randomized or prospective clinical investigations evaluating swallowing outcomes after surgery and/or radiation; outcome measures and follow-up time points were heterogeneous, precluding meta-analysis.

CONCLUSIONS

Oncologic outcomes are comparable for early-stage glottic cancer, and dysphagia is usually mild and improves over time. Limited comparative evidence suggests transoral surgery is at least comparable to radiotherapy; one study favored transoral surgery with better swallowing-related QoL and lower objective dysphagia scores than RT. More extensive resections may worsen early swallowing but often recover within months, and radiotherapy generally yields low-grade dysphagia.

Heterogeneous measures and follow-up hinder counseling and evidence-based selection. Prospective trials should use standardized dysphagia instruments at consistent intervals to enable meta-analysis.

KEYWORDS

dysphagia, glottic cancer, surgical therapy, radiation therapy, systematic review

OP-1330

Oesophageal Soft Food Bolus Obstruction: A Retrospective Review Of The Management Of 384 Cases In Two Tertiary Centre

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BACKGROUND & AIM

Oesophageal soft food bolus obstruction (OSFBO) is a frequent emergency presentation to otolaryngology and gastroenterology services. While many cases resolve without intervention, others require urgent endoscopy, with no UK consensus on referral pathways, timing, or technique. This study evaluates the real-world management of OSFBO across two UK hospitals over 12 years, examining rates of conservative resolution, procedural intervention, associated complications, and the diagnostic utility of post-resolution contrast swallow imaging.

MATERIAL & METHODS

A retrospective review of all adult patients (≥16 years) presenting with OSFBO between August 2008 and August 2020 at one tertiary and one district general hospital. Sharp or non-organic foreign body cases were excluded. Data were collected from electronic records, anonymised, and analysed using IBM SPSS. Categorical and continuous variables were compared using appropriate statistical tests. Kaplan-Meier survival analysis assessed time to resolution, and logistic regression (visualised via a forest plot) identified predictors of procedural intervention.

RESULTS

Among 384 cases, 65% (n=249) resolved with conservative management. Of the 135 patients requiring intervention, 58% (n=70) underwent rigid oesophagoscopy and 42% (n=51) had flexible oesophagoscopy. One case of oesophageal perforation occurred following rigid oesophagoscopy (1.4% complication rate). Flexible nasendoscopy dislodged the bolus in 3% (n=7) of all cases. Hyoscine butylbromide was used in 71% (n=193), with 32% (n=62) subsequently requiring intervention, compared to 6% (n=5) in those not receiving it. Plain radiographs were diagnostic in only 6% (n=7) of 122 cases. Post-resolution contrast swallow imaging was performed in 20% (n=75), with 48% (n=36) revealing oesophageal abnormalities such as webs, achalasia, and strictures. Kaplan-Meier analysis showed most conservative resolutions occurred within 24-48 hours. Regression analysis identified age and absence of hyoscine as significant predictors of intervention.

CONCLUSIONS

The majority of OSFBO cases resolve without the need for invasive procedures. Rigid and flexible oesophagoscopy are both effective, though rigid carries a higher risk of complication. Flexible nasendoscopy may offer a low-risk, bedside option for select patients. Post-resolution contrast swallow studies have high diagnostic yield and should be considered in follow-up. These findings support the need for national guidelines and further prospective research into pharmacological and procedural strategies for OSFBO.

KEYWORDS

Foreign bodies, food bolus, oesophageal, endoscopy, cricopharyngeus

OP-1331

AI-Assisted Computer-Aided Diagnosis Enhances Detection Accuracy In Flexible Endoscopic Evaluation Of Swallowing

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BACKGROUND & AIM

Flexible endoscopic evaluation of swallowing (FEES) is a useful and standard tool for assessing swallowing impairment, as it is portable and can be used at the bedside. However, appropriate evaluation of FEES findings is often challenging, especially for inexperienced evaluators. Recent advances in deep learning have led to a resurgence of interest in artificial intelligence-assisted computer-aided diagnosis (AI-assisted CAD) for a variety of medical applications. In the present study, we investigated the effectiveness of FEES-CAD, an AI-assisted CAD system.

MATERIAL & METHODS

he FEES-CAD algorithm was developed using 25,630 expert-annotated images from 199 FEES videos. The system analyzes FEES videos and classifies four key findings: aspiration, laryngeal penetration, vallecular residue, and hypopharyngeal residue. We conducted two evaluations. First, FEES-CAD performance was compared with that of experienced laryngologists (> 15 years

FEES experience) using deidentified, randomized videos. Next, the utility of the system was assessed for 45 inexperienced evaluators (residents, nurses, and medical students). Each evaluator reviewed 64 FEES videos obtained from 32 patients: 32 videos without CAD assistance, and the remaining 32 were equally split, with 16 evaluated with CAD assistance and 16 without. The detection accuracy of FEES findings was analyzed, and the results with and without CAD assistance were statistically compared.

RESULTS

FEES-CAD achieved expert-level accuracy across all classification tasks: penetration (92.5%), aspiration (92.5%), vallecular residue (100%), and hypopharyngeal residue (87.5%). Detection accuracies with and without CAD assistance were as follows: resident doctors (90.1% and 83.7%), nurses (79.4% and 80.1%), and medical students (82.6% and 80.9%). Among resident doctors, detection accuracy was significantly higher with CAD assistance compared to without CAD.

CONCLUSIONS

This study demonstrated expert-level detection accuracy of aspiration and penetration by FEES-CAD, as well as a significant improvement in detection accuracy among resident doctors.

KEYWORDS

flexible endoscopic evaluation of swallowing (FEES), artificial intelligence-assisted computer-aided diagnosis (AI-assisted CAD), swallowing impairment, inexperienced evaluator

OP-1332

Evaluation Of Tongue Strength And Swallowing In Hypoglossal–Facial Anastomosis: A Videofluoroscopic Kinematic Analysis

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BACKGROUND & AIM

Hypoglossal–facial anastomosis (HFA) is a widely used reanimation technique in facial paralysis when the proximal facial nerve stump is not accessible. However, reduced tongue strength due to unilateral hypoglossal sacrifice and its impact on swallowing physiology have mostly been discussed subjectively. This study aimed to objectively quantify tongue strength in patients who underwent classic HFA and to characterize temporal–spatial swallowing features using videofluoroscopic swallowing study (VFSS)-based kinematic analysis. We further investigated the associations between tongue strength and swallowing efficiency (pharyngeal residue) as well as swallowing safety assessed by the Penetration–Aspiration Scale (PAS).

MATERIAL & METHODS

In this cross-sectional comparative study, 30 patients who underwent classic HFA and 30 age- and sex-matched healthy controls were included. In the HFA group, symptomatic swallowing was assessed using the T-EAT-10, facial function was assessed using the Regional House–Brackmann system, and tongue atrophy was assessed using the Martins scale. Anterior and posterior tongue strength measurements were obtained for all participants, along with lip compression and buccal suction strength measurements. VFSS was conducted using 10 swallow trials across the IDDSI (International Dysphagia Diet Standardisation Initiative) consistencies. Three trials were performed for IDDSI-0 thin liquid (5 mL), IDDSI-0 thin liquid (single sip), and IDDSI-3 moderately thick liquid (one tablespoon), and one trial for IDDSI-7 solid; oral and pharyngeal temporal–spatial kinematics were analyzed. Swallowing efficiency was quantified using vallecular, pyriform sinus, and total pharyngeal residue measures, while safety was assessed using PAS. Correlations between tongue strength and efficiency/safety metrics were analyzed.

RESULTS

The groups were comparable with respect to age and sex. In the HFA group, effective eye closure was observed in all cases, and resting symmetry across all regions was achieved in 73.3% of participants. According to the T-EAT-10, 63.3% reported symptomatic swallowing complaints (total score ≥3). Anterior and posterior tongue strengths were significantly reduced compared to those in the control group (both, $p<0.001$). Oral preparatory and oral transit times were prolonged across consistencies ($p<0.05$). As an efficiency outcome, vallecular residue was higher, particularly for moderately thick and solid boluses, while total pharyngeal residue increased across all consistencies ($p<0.05$). Swallowing safety was largely preserved, with 93.3% demonstrating PAS scores of 1–2. In solids, vallecular residue was negatively correlated with anterior tongue strength ($r=-0.441$; $p=0.015$). In thin liquids, where safety tended to be most vulnerable, PAS scores showed negative correlations with both anterior and posterior tongue strengths.

CONCLUSIONS

Hypoglossal–facial anastomosis (HFA) is an established technique for facial reanimation, enhancing facial function in the majority of patients. Following HFA, tongue strength decreases significantly and pharyngeal residue increases, indicating

reduced swallowing efficiency; however, swallowing safety is generally maintained, likely due to compensatory mechanisms. Correlations between tongue strength and both swallowing efficiency (residue) and safety (PAS) suggest that tongue-focused rehabilitation may represent a viable intervention strategy. By providing an objective VFSS-based kinematic characterization of swallowing physiology following HFA, these findings may facilitate clinical risk stratification and inform individualized rehabilitation planning during follow-up.

KEYWORDS

Swallowing kinematics; swallowing efficiency; swallowing safety; dysphagia; facial reanimation; hypoglossal–facial anastomosis; videofluoroscopic swallowing study; tongue strength

OP-1333

Validity And Reliability Study Of The Swallowing Catastrophization Scale

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BACKGROUND & AIM

This study aimed to evaluate the reliability and validity of the 13 item Swallowing Catastrophization Scale (SCS), designed to quantify swallowing related catastrophization in patients with dysphagia.

MATERIAL & METHODS

In a cross-sectional case control design, patients with dysphagia (n=25) and healthy controls (n=25) were assessed. Outcome measures included the SCS (range, 0–52), Turkish versions of EAT-10 (T-EAT-10), GAD-7 (T-GAD-7), and SWAL-QOL subdomains (T-SWAL-QOL). Internal consistency was examined using Cronbach's alpha with bootstrap 95% confidence intervals. Validity was assessed using Spearman's rank correlations and Mann–Whitney U tests. Statistical significance was set at $p<0.05$.

RESULTS

The mean age was 55.0±17.3 years in the dysphagia group (female/male: 13/12) and 44.6±8.5 years in controls (female/male: 12/13). The SCS demonstrated excellent internal consistency (Cronbach's $\alpha=0.970$; 95% CI: 0.947–0.983). Median [IQR] SCS scores were 26 [11–46] in the dysphagia group and 0 [0–0] in controls, indicating a significant between-group difference ($p<0.001$; $r=0.77$). Convergent validity within the dysphagia group was supported by a very strong correlation between SCS and T-EAT-10 ($\rho=0.875$; $p<0.001$) and a moderate-to-strong correlation with T-GAD-7 ($\rho=0.616$; $p=0.001$). The SCS was inversely correlated with T-SWAL-QOL, most prominently for the Mental Health ($\rho=-0.917$; $p<0.001$) and Fear ($\rho=-0.688$; $p<0.001$) subdomains.

CONCLUSIONS

The SCS exhibits excellent internal consistency and strong evidence of validity for assessing catastrophization-related psychological burden accompanying dysphagia. Further studies with larger samples are warranted to establish test–retest reliability and to confirm the scale's structural validity using comprehensive psychometric approaches.

KEYWORDS

Dysphagia; Swallowing disorders; Catastrophization; Scale development; Psychometric analysis.

OP-1334

Cross-Cultural Adaptation And Validation Of The Thai Version Of The Swallowing Disturbance Questionnaire (SDQ)

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BACKGROUND & AIM

Dysphagia is a severe, frequently under-recognized condition leading to complications, including aspiration pneumonia and increased mortality. While the globally recognized Swallowing Disturbance Questionnaire (SDQ) correlates with clinical severity—as opposed to quality-of-life-focused tools—a validated Thai version remains unavailable. This study aimed to cross-culturally adapt and validate the Thai-SDQ to provide a reliable screening instrument for the Thai population, facilitating early intervention and improving clinical outcomes.

MATERIAL & METHODS

This cross-sectional study was conducted at a tertiary center in Bangkok. Standardized cross-cultural adaptation guidelines were followed, including translation, expert review, and pretesting. 137 participants (62 high-risk, 75 low-risk) were recruited. High-risk patients had head/neck malignancies, neurological disorders or others; low-risk volunteers were screened via Repetitive Saliva Swallowing Test. All high-risk participants underwent Fiberoptic Endoscopic Evaluation of Swallowing (FEES) as the gold standard. Thai-SDQ psychometric properties and diagnostic validity were evaluated via ROC analysis and Youden's index.

RESULTS

High-risk participants (67.7% male; 61.4±12.81 years) were older and more predominantly male than low-risk individuals (38.7% male; 41.77±11.58 years). Head and neck cancer primarily comprised the high-risk group (95.2%). Thai-SDQ showed excellent internal consistency (Cronbach's alpha = 0.867; 95%CI: 0.832–0.897, p<0.001). Dysphagia symptom-based screening yielded a 33.3% false-positive rate. Median SDQ scores were significantly higher in high-risk (8.5; 0.5–31.5) vs. low-risk (2.5; 0.5–14.5), and confirmed aspiration (12; 2.5–31.5) vs. normal (4.5; 0.5–29.5) groups. ROC analysis revealed an AUC of 0.795. An optimal cut-off of ≥7 provided 81.3% sensitivity, 69.4% specificity, 26% PPV, 96.6% NPV, and 70.8% accuracy. Total SDQ and sub-item (6-15) scores correlated with FEES severity across liquids (r=0.364, p=0.004), purees (r=0.398, p=0.001), and solids (r=0.318, p=0.013).

CONCLUSIONS

Thai-SDQ is a reliable, valid screening tool for oropharyngeal dysphagia, offering superior accuracy over symptom-based assessment. The significant SDQ-FEES correlation underscores its utility in quantifying swallowing disturbance severity. Implementing this standardized tool offers a cost-effective method for early detection, potentially reducing complications and improving patient outcomes in Thailand.

KEYWORDS

Dysphagia; Swallowing Disturbance Questionnaire (SDQ); Fiberoptic Endoscopic Evaluation of Swallowing (FEES); Validation Study; Screening Tool

OP-1335

Early Predictors Of Three-Month Feeding Outcomes In Stroke Patients

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BACKGROUND & AIM

Post-stroke oropharyngeal dysphagia is associated with aspiration pneumonia, malnutrition, prolonged hospitalization, and increased mortality. Early clinical swallowing assessment may help predict long-term nutritional outcomes; however, evidence regarding its association with feeding status at three months remains limited. This study aimed to determine whether early demographic, clinical, and swallowing findings predict oral feeding, nasogastric tube feeding, or percutaneous endoscopic gastrostomy (PEG) requirement at three months after acute Stroke.

MATERIAL & METHODS

This retrospective cohort study included 66 patients hospitalized with acute ischemic or hemorrhagic stroke who underwent early clinical swallowing assessment. Patients with pre-existing dysphagia, previous major head and neck surgery, neurodegenerative disease, or incomplete follow-up data were excluded. Demographic characteristics, comorbidities, intensive care unit (ICU) admission, length of hospital stay, neurological deficits, and stroke localization were recorded. Stroke localization was categorized as middle cerebral artery infarction, bulbar infarction, or other localizations. Early swallowing assessment included cooperation status, gag reflex, tongue strength, laryngeal elevation, penetration/aspiration signs, and nasogastric tube requirement during hospitalization. The primary outcome was feeding status at three months. Multivariate logistic regression was used to identify independent predictors of PEG requirement.

RESULTS

The study included 66 patients, 38 males and 28 females, with a mean age of 67.8 ± 11.4 years. At three months, 35 patients achieved oral feeding, 14 continued nasogastric tube feeding, and 17 required PEG. Male sex was significantly associated with PEG requirement (p=0.041), whereas oral feeding was more common among females. Patients requiring PEG were older than orally fed patients (p=0.018). Bulbar infarction was strongly associated with PEG requirement (p=0.006). ICU admission and longer hospital stay were also significantly associated with PEG feeding (p=0.004 and p=0.001, respectively). Aspiration, reduced laryngeal elevation, tongue weakness, and absent gag reflex were associated with poor oral feeding recovery. In multivariate analysis, aspiration, bulbar infarction, impaired laryngeal elevation, and prolonged hospitalization independently predicted PEG requirement.

CONCLUSIONS

Three-month feeding outcomes after acute Stroke can be predicted using early clinical swallowing assessment. Aspiration, bulbar stroke, impaired laryngeal elevation, and prolonged hospitalization independently predict PEG requirement. Early identification of high-risk patients may enable timely nutritional planning, close follow-up, and targeted dysphagia rehabilitation.

KEYWORDS

Stroke; dysphagia; PEG; nasogastric tube; aspiration; swallowing rehabilitation

OP-1336

Can Fois Predict Mortality In Hospitalised Patients? A Retrospective Study Of A Dysphagia Cohort

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BACKGROUND & AIM

Oropharyngeal dysphagia in hospitalised patients is associated with malnutrition, aspiration and increased mortality. Early recognition enables timely assessment and multidisciplinary intervention, but dysphagia is often under-recognised and bedside severity grading is difficult. FEES (fiberoptic-endoscopic-evaluation-of-swallowing) performed by otorhinolaryngologists can diagnose, guide diet recommendations and support risk stratification. FOIS (Functional Oral Intake Scale) was developed to document functional oral intake based on FEES; robust evidence supporting FOIS as isolated prognostic marker is limited, although observational data suggest worse outcomes with lower scores.

Purpose: characterise FEES findings in hospitalised patients with suspected dysphagia and identify factors associated with feeding route, discharge outcome and mortality.

MATERIAL & METHODS

Retrospective study of 114 consecutive inpatients referred for dysphagia assessement with FEES in the Otorhinolaryngology department. FOIS was recorded at first evaluation. Outcomes: mortality (in-hospital, 30 days, 6 and 12 months), discharge status (alive vs dead) and need for alternative feeding (NGT/PEG). Fisher's exact, Mann–Whitney U, Spearman and Kruskal–Wallis tests were used; mortality analyses were adjusted for age and sex.

RESULTS

114 patients were included (mean age 73.9±12.9); 16 did not undergo FEES due to poor cooperation/intercurrent complications. Mean time from request to assessment was 8.3 days. 12% had no swallowing abnormalities.

FOIS distribution: high (5–7) 56.1%, intermediate (3–4) 18.4%, low (1–2) 25.5%. FOIS correlated with alternative feeding (Spearman rho −0.608, $p<0.001$); 100% with FOIS ≤3 required alternative feeding. In-hospital mortality was 19.3% and 30-day mortality 28.1%. For mortality prediction, FOIS ≤4 vs ≥5 was more discriminative: 12-month mortality 53.5% vs 32.1% (OR=0.41, p=0.041). Mortality differed across FOIS levels at 6 months (H=14.64, p=0.023) and 12 months (H=13.16, p=0.041). FOIS 4 had the highest mortality (82% at 6 and 12 months), suggesting a non-linear risk profile, while FOIS 7 had the lowest 12-month mortality (9.1%). These associations remained significant after adjustment for age and sex.

CONCLUSIONS

Inpatient FEES revealed marked clinical frailty with substantial in-hospital and post-discharge mortality. FOIS ≤4 appeared more clinically relevant than the traditional FOIS ≤3 (oral intake vs alternative feeding) for predicting mortality and may capture risk beyond feeding-route decisions. Integrating FOIS into inpatient pathways may help guide multidisciplinary planning, anticipate nutritional support needs, and optimise feeding routes. Earlier identification and standardised referral for FEES could shorten delays and improve patient safety, particularly by reducing aspiration risk.

KEYWORDS

dysphagia swallowing FESS oropharyngeal dysphagia mortality FOIS

OP-1337

Comparing Tongue Pressures Using Three Different Portable Devices

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BACKGROUND & AIM

The IOPI is the most commonly used device for assessing and rehabilitating lingual physiological performance. As a recognized gold standard, recently emerging lingual pressure measurement tools have been validated against it. There is a need to assess reliability further and compare tools across new subject populations that differ from those in which the devices were originally manufactured and calibrated. We compared the tools in a new Subject population and administered a user comfort questionnaire to assess device practicability

MATERIAL & METHODS

We collected three sets of three tasks across three devices in a randomized order: the IOPI, the Tongueometer, and the JMS. The Tasks were Anterior Lingual maximal pressure, Posterior Lingual maximal pressure, and a Regular effort Saliva Swallow. We also collected a questionnaire on the ease of use of the three devices across different tasks

RESULTS

The Three Devices showed a Cronbach's Alpha score of greater than 0.92 (Excellent reliability) for trials with each device, and there was a significant correlation for their scores across the three tasks. The JMS device scored significantly lower than the IOPI and Tongueometer on the three tasks and on the ease-of-use questionnaire.

CONCLUSIONS

The results do not negate the JMS's usability or the applicability of recommendations drawn from studies using it; however, they suggest that the JMS bulb is less user-friendly and may contribute to the lower pressure scores observed. The Questionnaire scores, when considered alongside the cost of each device, clearly favour the Tongueometer as the best option, as the scores are not significantly different from IOPI in either pressure values or subject questionnaire scores

KEYWORDS

Tongue Pressure , IOPI , JSM, Tongueometer

OP-1338

A Study On Swallowing Function Following Esophageal Cancer Resection And Reconstruction

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BACKGROUND & AIM

Risks of dysphagia following subtotal esophagectomy include recurrent laryngeal nerve palsy and difficulty elevating the larynx.

Our hospital's Swallowing Team intervenes in all cases of esophageal cancer surgery involving reconstruction. Patients are referred to our department from the Department of Gastroenterological Surgery prior to surgery for the exclusion of multiple primaries and laryngeal function assessment and are then referred to our team after surgery.

MATERIAL & METHODS

In this study, we examined swallowing function following esophageal cancer resection and reconstruction. The study included 119 patients (90 men, mean age 70.0 ± 7.8 years) who underwent surgery for esophageal cancer between November 2021 and October 2024. The surgical procedures were subtotal esophagectomy (109 cases of transmediastinal subtotal esophagectomy and 10 cases of open subtotal esophagectomy), with reconstruction primarily performed via the retrosternal approach. Additionally, while two-field dissection was the standard, three-field dissection involving neck procedures was performed in 10 cases.

Regarding feeding status at discharge, a comparison was conducted between two groups—those capable of oral intake of three meals per day and those requiring alternative nutrition, with concomitant gastrostomy or enterostomy, focusing on factors such as the extent of lymph node dissection, vocal cord paralysis, and postoperative laryngeal elevation.

RESULTS

In the alternative nutrition group, forward laryngeal elevation was significantly restricted, and the LEDT, which indicates the reflex to initiate swallowing, was significantly delayed.

Following a three-field dissection, vertical laryngeal elevation was significantly restricted.

CONCLUSIONS

Based on these results, we report on prospects for rehabilitation following esophageal cancer surgery.

KEYWORDS

Subtotal esophagectomy, Laryngeal elevation, LEDT, Rehabilitation

OP-1339

Early speech and swallowing therapy in Tapia syndrome-like lower cranial neuropathies following septorhinoplasty and maxillofacial surgery: a four case series

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BACKGROUND & AIM

Lower cranial nerve neuropathies following septorhinoplasty and maxillofacial procedures are rare but may lead to significant functional impairment. Tapia syndrome, characterized by combined involvement of the hypoglossal (XII) and recurrent laryngeal branches of the vagus nerve (X), presents with dysphagia, dysphonia, dysarthria, and tongue deviation. Current literature mainly reports conservative management with short-term corticosteroid therapy followed by spontaneous recovery, while data on structured rehabilitation are limited.To evaluate the clinical impact of early, individualized speech, voice, and swallowing therapy on functional recovery in patients with postoperative lower cranial nerve neuropathies.

MATERIAL & METHODS

This retrospective case series included four patients who developed lower cranial nerve dysfunction following septorhinoplasty (n=3) and maxillofacial surgery (n=1). Neurological involvement included combined X and XII nerve palsy (n=2), isolated XII palsy (n=1), and combined IX, X, and XII involvement (n=1). All patients received standard short-term corticosteroid therapy. Within the first 48 hours postoperatively, all patients underwent comprehensive evaluation including clinical examination and fiberoptic endoscopic evaluation of swallowing (FEES), followed by early initiation of individualized rehabilitation programs targeting swallowing safety, phonation, and tongue mobility.

RESULTS

All patients presented with dysphagia, dysarthria, and impaired phonation characterized by reduced maximum phonation time and altered voice quality. Therapy protocols varied between 5 and 20 sessions over 2–5 weeks. Functional improvements were observed in all cases, including restoration of safe oral intake, significant improvement in speech intelligibility, and near normalization of voice parameters. Objective findings (FEES and/or VFSS) demonstrated resolution or marked reduction of aspiration/penetration and improved vocal cord function. Compared to literature reports of recovery periods ranging from 3–6 months or incomplete recovery, all patients in this series achieved near-complete functional recovery within weeks. No long-term deficits were observed during at least one year of follow-up.

CONCLUSIONS

Early initiation of structured and individualized speech and swallowing therapy appears to significantly accelerate functional recovery in Tapia syndrome-like neuropathies following septorhinoplasty. These findings suggest that rehabilitation should be considered an essential component of management rather than a supportive adjunct.

KEYWORDS

Tapia syndrome, septorhinoplasty, hypoglossal nerve, dysphagia, speech therapy, swallowing rehabilitation

OP-1340

Functional Outcomes Of Voice And Swallowing After Total Thyroidectomy

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BACKGROUND & AIM

To objectively and subjectively evaluate both swallowing and voice functions in patients with preserved nerve integrity after total thyroidectomy, compare surgical techniques, and examine the effects of identified risk factors (gender, age, diagnosis, thyroid volume) on voice and swallowing outcomes.

MATERIAL & METHODS

Between March 2024 and September 2025, 66 patients who underwent total thyroidectomy with nerve integrity confirmed by intraoperative nerve monitoring (IONM) were prospectively evaluated for swallowing and voice functions preoperatively and postoperatively at day 1, week 1, month 1, and month 3. Swallowing functions were assessed objectively using the Penetration-Aspiration Scale (PAS) and the Yale Pharyngeal Residue Severity Rating Scale via fiberoptic endoscopic evaluation of swallowing (FEES), and subjectively using the Eating Assessment Tool-10 (EAT-10) questionnaire. Voice functions were measured through acoustic analysis using Praat software, evaluating jitter, shimmer, harmonics-to-noise ratio (HNR), and maximum phonation time (MPT). Patients were stratified by surgical technique into NVCT (nerve visualization during capsular dissection technique) and CD (capsular dissection) groups. Relationships between surgical technique, age, gender, thyroid volume, and diagnoses (multinodular goiter, thyroid cancers, Graves' disease) with postoperative changes in swallowing and voice functions were evaluated.

RESULTS

Pathological PAS rates increased significantly on postoperative day 1 and week 1 (13.6% and 7.6%) compared to preoperative levels (3%) but normalized by month 3. Similarly, pathological Yale scores were significantly higher on day 1 and week 1 (22.7% and 10.6% vs. 4.5%), remained elevated at month 1 without significance, and normalized at month 3. The NVCT group showed significantly better early postoperative swallowing scores than the CD group, though this difference resolved by month 3. Clinically significant dysphagia (EAT-10 ≥3) was observed in 9.1% of patients. Advanced age (>50 years), female gender, and large thyroid volume (>100 ml) were independent risk factors for dysphagia. All acoustic voice parameters significantly deteriorated postoperatively (jitter, shimmer, HNR, and MPT); however, voice changes were not associated with surgical technique, age, gender, or thyroid volume.

CONCLUSIONS

Our study shows that even with preserved recurrent laryngeal nerve and no vocal cord paralysis, nerve trauma from surgical traction or dissection can cause temporary swallowing and voice impairment. Patients should be counseled preoperatively about this risk. Objective postoperative swallowing evaluation is particularly important for patients with comorbidities or chronic pulmonary disease to prevent aspiration complications. This study is the first to identify increased thyroid volume, female gender, and advanced age as risk factors for temporary swallowing dysfunction after thyroidectomy. Additionally, the NVCT technique better preserves early postoperative swallowing compared to capsular dissection.

KEYWORDS

Total thyroidectomy, swallowing function, voice function, FEES, PAS, YALE, acoustic voice analysis, vagus nerve, surgical technique, objective-subjective evaluatio

OP-1341

Dysphagia In Parkinson's Disease Following STN-DBS: Can Swallowing Therapy Make A Difference?

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BACKGROUND & AIM

Subthalamic nucleus deep brain stimulation (STN DBS) is widely used to treat debilitating motor symptoms and fluctuations in Parkinson's disease (PD) patients. The impact of STN DBS on axial symptoms, such as swallowing function, is less well understood, with research on these symptoms showing mixed results. This study aims to evaluate the swallowing function of individuals with PD undergoing STN DBS with instrumental and non-instrumental measurement tools and investigate the effectiveness of swallowing therapy.

MATERIAL & METHODS

In this study, 10 PD patients undergoing STN DBS were recruited. The assessment of swallowing function was conducted using FEES alongside standardized measurement scales, including the DHI, T-SWAL-QOL, EAT-10, FOAS, and MDS-UPDRS under both MEDS-ON/STIM-ON and MEDS-ON/STIM-OFF conditions. After initial assessments, a swallowing therapy program consisting of eight sessions was initiated. After swallowing therapy, FEES and other measurement methods were re-administered in MEDS-ON/STIM-ON and MEDS-ON/STIM-OFF conditions. Statistical analyses were performed using SPSS version 21.0, using paired t-tests or Wilcoxon tests to analyze treatment effects and ANOVA to investigate differences between stimulation conditions, with significance $p<0.05$.

RESULTS

As a result of the FEES test performed at the first evaluation, higher PAS scores were recorded in the STIM-ON condition than in the STIM-OFF condition ($p<0.05$). In the final FEES assessment performed after swallowing therapy, patients' PAS scores decreased and FOAS scores improved. In line with patient-reported subjective findings, patients with less severe dysphagia at baseline showed significant benefits in swallowing-related quality of life, especially in the psychological, social and nutritional subdomains.

CONCLUSIONS

This innovative research underscores the significant impact of dysphagia on the quality of life for PD patients undergoing STN DBS, a factor that is frequently underestimated. Additionally, it highlights the essential role of swallowing therapy in mitigating the risk of aspiration among this patient population.

KEYWORDS

Dysphagia, Swallowing therapy, Parkinson’s disease, Subthalamic nucleus deep brain stimulation (STN DBS)

OP-1342

Multivariate Analysis Of Clinical, Histopathological, And Sialoendoscopic Factors In The Diagnosis Of Sjögren’s Disease

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BACKGROUND & AIM

To evaluate the diagnostic importance of sialoendoscopy, salivary flow rate, and labial salivary gland biopsy (LSGB) in differentiating Sjögren’s Disease (SjD) from non-autoimmune sicca syndrome, while accounting for demographic and anatomical variables.

MATERIAL & METHODS

A comparative study was conducted with 50 patients divided into two cohorts: Group A (n=25, ACR/EULAR>4) and Group B (n=25, symptomatic sicca controls). Data points included age, sex, unstimulated salivary flow rate (USFR), LSGB results (classified as "consistent" or "not consistent" with SjD), and sialoendoscopic findings. Anatomical distribution was recorded by affected side (right, left, or bilateral) and gland type (submandibular vs. parotid). Statistical significance was assessed using the Chi-square tests for categorical anatomical and endoscopic data.

RESULTS

LSGB results remained the strongest independent predictor of SjD ($p<0.05$), followed closely by sialoendoscopic findings (ductal pallor and stenosis), which were present in 72% of Group A versus 36% of Group B ($p<0.05$). Analysis of affected glands showed a statistically significant predilection for bilateral parotid involvement in the SjD group ($p<0.05$), whereas the control group exhibited more localized or submandibular-dominant symptoms. While USFR was significantly reduced in Group A, it showed a moderate correlation with age, suggesting decreased specificity in older populations. Multivariate regression identified the combination of bilateral sialoendoscopy findings and positive biopsy as the most accurate diagnostic model.

CONCLUSIONS

The integration of sialoendoscopy provides critical structural data that complements histopathological findings. The statistical significance of bilateral glandular involvement in SjD suggests that "affected side" and "gland type" are essential variables in

clinical staging. These results advocate for a diagnostic approach that weights endoscopic structural changes and biopsy results more heavily than isolated flow rate measurements to improve diagnostic precision.

KEYWORDS

Sjogren syndrome; Sialoendoscopy; salivary gland biopsy.

OP-1343

Reliability Of The Modified Evans Blue Dye Test In Swallowing Assessment In Tracheostomy Patients: A Preliminary Study

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BACKGROUND & AIM

This preliminary study aimed to evaluate the sensitivity and specificity of the modified Evans blue dye test (MEBDT) compared to the fibre-optic endoscopic evaluation of swallowing (FEES) to detect aspiration in tracheostomized patients.

MATERIAL & METHODS

This observational accuracy study included 34 patients hospitalised for respiratory complications, subjected to prolonged intubation, and for this reason, tracheostomized. All participants underwent MEBDT according to standard protocols, followed by a blinded FEES evaluation within a 24-hour interval. A positive MEBDT was defined as the presence of blue-dyed secretions during tracheal suctioning, while FEES identified aspiration as the entry of material below the true vocal folds.

RESULTS

Mean patient age was 57.3 ± 18.8 years. Aspiration was identified in 29 patients (85.3%) when assessed by fibre-optic endoscopic evaluation of swallowing; of these, 19 had aspiration when evaluated by modified Evans blue dye test. No false-positive results were observed, and 5 patients were correctly classified as non-aspirating. The sensitivity and specificity of MEBDT were 65.5% and 100.0%, respectively for detecting aspiration. The positive predictive value was 100.0%, whereas the negative predictive value was 33.3%.

CONCLUSIONS

The modified Evans blue dye test (MEBDT) is a simple and cost-effective bedside screening tool for aspiration in tracheostomized patients. While its high specificity makes it reliable for confirming aspiration, its moderate sensitivity and low negative predictive value limit its ability to exclude it. Therefore, negative results should be confirmed with fibre-optic endoscopic evaluation of swallowing (FEES), especially in high-risk patients.

KEYWORDS

Diagnostic Accuracy, Dysphagia, Tracheostomy, Evans Blue, Endoscopy, Aspiration, MEBDT, FEES

OP-1344

Assessment Of Swallowing And Pharyngeal Motor Function After Chemoradiotherapy In Nasopharyngeal Carcinoma Patients At Cipto Mangunkusumo General Hospital, Jakarta

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BACKGROUND & AIM

Nasopharyngeal carcinoma (NPC) is the most common head and neck malignancy in Indonesia. Chemoradiotherapy, the standard treatment for NPC, may cause dysphagia due to damage to swallowing structures surrounding the tumor. Swallowing function can be evaluated using Fiberoptic Endoscopic Evaluation of Swallowing (FEES), while pharyngeal motor function may be assessed through the pharyngeal squeeze maneuver (PSM), velopharyngeal squeeze maneuver (VPSM), and endoscopic pharyngeal contraction grade (EPCG). This study aimed to evaluate swallowing and pharyngeal motor function in post-chemoradiotherapy NPC patients and to determine their association with demographic characteristics

MATERIAL & METHODS

This study employed a cross-sectional survey design involving 53 post-chemoradiotherapy NPC subjects, both with and without complaints of dysphagia. All subjects underwent FEES examination alongside a review of their medical records.

RESULTS

Based on the FEES examinations, 35 subjects (66%) experienced dysphagia, with the majority presenting with neurogenic-type dysphagia (35 subjects or 66%), involvement of the oropharyngeal phase (32 subjects or 60.4%), and a mild degree of severity (22 subjects or 41.5%). Regarding pharyngeal motor function characteristics, 13 subjects (24.5%) demonstrated impairment in VPSM, 28 subjects (52.8%) showed impairment in PSM, and 21 subjects (39.6%) exhibited impairment in EPCG.

CONCLUSIONS

FEES examination should be routinely performed in post-chemoradiotherapy NPC patients, regardless of the presence of dysphagia symptoms. Pharyngeal motor function should also be routinely evaluated in post-chemoradiotherapy NPC patients, given the high prevalence of pharyngeal motor dysfunction observed.

KEYWORDS

Dysphagia, FEES, VPSM, PSM, EPCG, post-chemoradiotherapy nasopharyngeal carcinoma.

OP-1345

Breaking Barriers In Dysphagia: ENT And Gastroenterology Collaboration For Better Patient Outcomes - Pilot Joint ENT And Gastroenterology Transnasal Oesophagoscopy (TNO) Clinic

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BACKGROUND & AIM

Background: Dysphagia is a complex symptom that can arise from a wide range of

structural, functional and neurological causes involving both the upper

aerodigestive tract and gastrointestinal system. Patients are inadvertently referred between specialities for the same complaint.

Objective: To determine the effectiveness of a joint ENT and Gastroenterology clinic with the use of TNO in the 2 week wait (2WW) setting for patients presenting with high dysphagia.

MATERIAL & METHODS

Methods: An initial audit and process mapping of the current patient pathway was completed. A pilot joint clinic with ENT and Gastroenterology performing TNO was conducted for 3 months. Patients had an initial telephone consultation to assess suitability for TNO. Patients that were not suitable for TNO were seen face-to-face in the ENT clinic and underwent flexible laryngoscopy.

RESULTS

Results: The initial audit of our current pathway showed that 22% of patients had already been seen by Gastroenterology before being referred to ENT team or had been referred to Gastroenterology following ENT review. The average time spent on the 2WW pathway was 26.8 days and 1% of patients were diagnosed with cancer. Interestingly, despite symptoms being localized above the sternal notch, a considerable proportion of patients had pathology noted within the oesophagus.

CONCLUSIONS

Conclusion: Preliminary observations demonstrated improved diagnostic efficiency with the joint model and shorter time on the 2WW pathway. Overall patient feedback was favourable. This joint model represents a practical approach to improve the pathway for patients presenting with complex upper aerodigestive complaints.

KEYWORDS

dysphagia, oesophagus, TNO, gastrointestinal

OP-1346

Impact Of Anxiety On Postoperative Pain And Swallowing Function In Adults Undergoing Tonsillectomy: A Prospective Study

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BACKGROUND & AIM

Adult tonsillectomy is commonly associated with significant postoperative pain and morbidity. While psychological factors have been investigated in pediatric populations, evidence in adults remains limited. This study aimed to evaluate the association between preoperative anxiety and postoperative pain and swallowing function in adult tonsillectomy patients. We hypothesized that high levels of preoperative anxiety would be associated with increased pain intensity and delayed improvement in swallowing function during the early postoperative period.

MATERIAL & METHODS

This prospective study included 60 adults (18–65 years) undergoing tonsillectomy at a tertiary referral center. Preoperative anxiety was assessed using the State-Trait Anxiety Inventory (STAI) and Anxiety Sensitivity Index-3 (ASI-3). Patients were stratified into mild (n=42) and high anxiety groups (n=18) based on STAI scores. Postoperative pain was measured using the Visual Analog Scale (VAS) at 6 hours, 24 hours, 1 week, and 2 weeks. Swallowing function was evaluated at postoperative week 1 using the Eating Assessment Tool-10 (EAT-10). Correlation analyses (Spearman's Rho test) and group comparisons (Mann-Whitney U test and Pearson Chi-Square test) were performed.

RESULTS

Postoperative pain scores were significantly higher in the high anxiety group at all time points (p = 0.0001). EAT-10 scores were also significantly higher in this group (29.5 (22-36) vs. 19 (7-35); p = 0.0001), indicating worse swallowing function. STAI scores showed moderate-to-strong positive correlations with pain at all time points (r = 0.43–0.83, p = 0.0001), with the strongest correlation observed at postoperative week 1 (r = 0.83). A strong positive correlation was also found between STAI and EAT-10 scores (r = 0.70, p = 0.0001). Although overall complication, bleeding, readmission, and reoperation rates were numerically higher in the high-anxiety group, none of these differences reached statistical significance (p = 0.30, 0.18, 0.09, and 0.53, respectively).

CONCLUSIONS

Higher preoperative anxiety levels are significantly associated with increased postoperative pain and impaired swallowing function following adult tonsillectomy. Preoperative identification of high-anxiety patients may enable targeted interventions to improve postoperative recovery and clinical outcomes.

KEYWORDS

Adult Tonsillectomy , Anxiety , Swallowing, STAI , EAT-10

OP-1347

Novel Glottic Closure Surgery For Severe Dysphagia: A Retrospective Review Of 110 Consecutive Cases

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BACKGROUND & AIM

Intractable aspiration in patients with severe dysphagia has traditionally been managed using irreversible aspiration-prevention procedures such as total laryngectomy or laryngotracheal separation. To reduce postoperative local complications, particularly salivary leakage, a novel glottic closure procedure was developed in Japan. We previously reported its feasibility in head and neck cancer patients, including those with prior radiotherapy. The present study evaluates its safety in a broader population with dysphagia of various etiologies.

MATERIAL & METHODS

A retrospective review was conducted of 110 consecutive patients with severe dysphagia who underwent this glottic closure procedure between 2014 and 2025. Patients had dysphagia resulting from multiple causes, including neurological disease and head and neck cancer. Postoperative complications were analyzed, with particular attention to local wound-related events and systemic adverse outcomes.

RESULTS

Salivary leakage from the sutured glottic site occurred in 3 patients (2.7%). Two resolved with conservative management, and one required revision surgery. One patient receiving anticoagulation therapy for prior cerebral infarction developed postoperative hemorrhage requiring surgical hemostasis. No patient who was not ventilator-dependent preoperatively required new postoperative mechanical ventilation. One patient developed sudden cardiopulmonary deterioration on postoperative day 3 and died despite intensive management. No evidence of surgical site infection, hemorrhage, or airway obstruction was identified, and a direct causal relationship with the procedure could not be established.

CONCLUSIONS

In this series, the glottic closure procedure demonstrated a low incidence of local surgical complications while effectively preventing aspiration. Although procedure-related adverse events were infrequent, careful perioperative assessment remains essential, as candidates for this surgery often present with significant systemic comorbidities. Further prospective evaluation is warranted to better define patient selection and perioperative risk.

KEYWORDS

Swallowing, Dysphagia, Laryngeal closure, aspiration pneumonia

TRANSVERSE ACTIVITIES (INNOVATION, BASIC RESEARCH, EDUCATION)

Oral Presentations · OP-1348 – OP-1398 · 51 abstracts

OP-1348

A Systems Approach To AI-Assisted Outcome Capture And Tariff Assurance In Ear, Nose And Throat Outpatient Clinic

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BACKGROUND & AIM

In Ear, Nose and Throat (ENT) outpatient clinics, dual-documentation, a narrative clinical letter and a structured Electronic Patient Record (EPR) outcome form, creates massive administrative failure demand. This structural duplication routinely leaves a substantial volume of patient pathways unrecorded at the point of care, risking regulatory breaches and lost procedural tariffs. We hypothesized that missing Referral to Treatment (RTT) outcomes represent a systemic process failure rather than behavioural "clinician omission," aiming to evaluate whether safely integrating Artificial Intelligence (AI) could provide a scalable, high-impact solution.

MATERIAL & METHODS

A pragmatic mixed-methods process evaluation was conducted at Lewisham and Greenwich National Health Service (NHS) Trust, involving ENT clinicians and operational managers. To accommodate stretched clinical schedules, we utilised targeted interviews and a cross-sectional survey rather than time-intensive workshops. Process modelling visually mapped workflow handoffs to analyze systemic bottlenecks. The MoSCoW (Must have, Should have, Could have, Won't have) method prioritised intervention requirements to ensure compliance with the NHS DCB0129 clinical safety standard. Outcomes measured included duplication frequency, RTT omission risk, and future-state workflow acceptability.

RESULTS

Process mapping exposed a hidden "retrospective correction loop," proving the organisation relied heavily on retroactive error-catching rather than proactive capture. Surveys confirmed this systemic disconnect: 80% of clinicians "always" complete dual documentation, and 60% recognize RTT omission risks during clinics. Rather than proposing costly standalone software, the future-state design leveraged the Trust's already-funded transition to Ambient Voice Technology (AVT). By extracting structured data from clinic letters to pre-populate operational forms, 70% of clinicians agreed this proposed "Verified AI" workflow would improve reliability. Crucially, a "human-in-the-loop" validation step was mandated to mitigate AI risk and ensure safety compliance.

CONCLUSIONS

Missing operational data is a structural workflow failure, not a behavioural issue. The proposed AI-assisted workflow provides a highly scalable, cost-effective redesign by leveraging existing digital infrastructure. By strategically shifting the clinician's role from manual typist to data validator, this intervention reduces administrative burnout, guarantees clinical safety, and directly ensures organizational financial sustainability.

KEYWORDS
AI, Digital transformation, Healthcare financing, workflow optimisation

OP-1349

Work-Related Musculoskeletal Symptoms And Ergonomic Practices Among Otolaryngologists In Kuwait: A Cross-Sectional Study

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BACKGROUND & AIM

Work-related musculoskeletal disorders represent a major occupational health concern among surgeons, largely due to prolonged static postures, repetitive movements, and demanding workloads. Otolaryngology–head and neck surgeons are particularly exposed to ergonomic challenges; however, local data from Kuwait remain limited. This study aims to determine the prevalence of work-related musculoskeletal symptoms among otolaryngology–head and neck surgeons in Kuwait and to assess associated demographic, workload, and ergonomic factors.

MATERIAL & METHODS

A cross-sectional survey was conducted among otolaryngology–head and neck surgeons working in five public hospitals in Kuwait. Data were collected using a validated, self-administered questionnaire covering demographic characteristics, professional background, workload, ergonomic practices, and self-reported musculoskeletal symptoms. Descriptive statistics were used to summarize findings, and associations were assessed using appropriate statistical tests with a significance level of $p < 0.05$.

RESULTS

A total of 52 surgeons participated (mean age 45.38 ± 9.81 years), of whom 78.8% were male. Overall, 71.2% reported at least one work-related musculoskeletal symptom. The most frequently affected regions were the cervical region (97.3%), dorsal region (81.1%), and lumbar region (67.6%). Right-sided upper extremity symptoms were more prevalent than left-sided symptoms, particularly in the hand and fingers (73%), shoulder (67.6%), and wrist (64.9%). More than half of the surgeons (51%) spent 12 or more hours per week in the operating room, and 63.5% regularly performed surgeries lasting three or more consecutive hours. Among symptomatic surgeons, 56.8% required medical treatment, 24.3% reported limitations in daily activities, and 21.6% expressed concerns regarding career longevity. Despite this burden, 44% did not take microbreaks and 46.7% did not use arm support during surgery.

CONCLUSIONS

Work-related musculoskeletal symptoms are highly prevalent among otolaryngology–head and neck surgeons in Kuwait, particularly affecting the neck and back. Suboptimal ergonomic practices and high operative workloads likely contribute to this burden, highlighting the need for targeted ergonomic interventions and formal training programs.

KEYWORDS

Work-related musculoskeletal disorders; Otolaryngology–head and neck surgery; Ergonomics; Occupational health.

OP-1350

A Comparative Readability Analysis Of AI-Generated And SocietyAuthored ENT Patient Information Leaflets

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BACKGROUND & AIM

Clear, accessible patient information is essential in otolaryngology, where patients must understand complex conditions and procedures. Artificial intelligence (AI), particularly large language models, may support scalable development of patient information leaflets (PILs) that are clear and consistent. This study compared the readability of AI-generated ENT PILs with those produced by ENT-UK (the professional membership body of otolaryngologists in the UK) using established objective readability metrics.

MATERIAL & METHODS

A retrospective quantitative study compared AI-generated and ENT UK–authored PILs. AI texts were produced using ChatGPT version 4.5 with standardised prompts aligned to UK clinical guidance. Readability was assessed using validated indices capturing text length, sentence structure, lexical complexity, and estimated comprehension demand. A composite readability score, defined a priori as the primary outcome, was derived through directional alignment and standardisation of indices. Individual metrics were analysed as secondary outcomes. Convergent validity and internal consistency were assessed using Spearman correlations and Cronbach's alpha. Paired comparisons were performed using the Wilcoxon signed-rank test, with significance set at $p \leq 0.05$.

RESULTS

Ninety-five PILs were analysed. Using the composite readability score, AI-generated PILs demonstrated significantly higher overall readability than society-authored materials across all documents. AI-generated PILs were significantly shorter, with a lower median word count (605 [497-721] vs. 1167 [742-1777], $p < 0.001$), fewer sentences (48 [39-60] vs. 78 [47-125], $p < 0.001$), and fewer sentences exceeding 22 words (2 [1-3] vs. 11 [5-17], $p < 0.001$), indicating reduced structural complexity. Across all PILs, AI-generated texts demonstrated lower estimated grade and reading levels for several commonly used indices, including Flesch-Kincaid, Fry, Gunning Fog, and SMOG, although FORCAST grade and reading levels were significantly higher in AI-generated materials. Internal consistency across readability measures was very high (Cronbach's $\alpha = 0.98$ for GL, 0.97 for RL), with strong inter-index correlations supporting convergent validity

CONCLUSIONS

AI-generated ENT PILs were shorter and structurally simpler, with mixed improvements across readability indices. Clinician oversight remains essential to ensure meaningful accessibility gains.

KEYWORDS

AI, Patient information Leaflets, Health Literacy

OP-1351

Multidisciplinary High-Fidelity Simulation Training For The Management Of Laryngospasm Following General And Local Anesthetic Procedures

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BACKGROUND & AIM

Laryngospasm is a potentially life-threatening airway emergency requiring rapid recognition and coordinated multidisciplinary intervention to prevent hypoxia and cardiac arrest. With the increasing number of airway procedures performed outside traditional operating theatres—such as flexible nasendoscopy-guided vocal cord injections—ENT surgeons, nurses, and allied healthcare professionals must be prepared to manage airway crises without immediate anaesthetic support. Opportunities for real-life training are limited due to the unpredictable nature of such events. High-fidelity simulation provides a safe, controlled environment for experiential learning. This study aimed to evaluate the impact of multidisciplinary simulation training on knowledge, confidence, and competence in managing laryngospasm.

MATERIAL & METHODS

A multidisciplinary simulation-based training programme was conducted in a dedicated simulation suite using high-fidelity mannequins and realistic clinical scenarios. Participants included doctors, nurses, healthcare assistants, and speech and language therapists. The programme consisted of a didactic lecture followed by two structured simulation scenarios replicating laryngospasm occurring under local anaesthesia and general anaesthesia. Each scenario was followed by a structured faculty-led debrief focusing on technical and non-technical skills, including communication, teamwork, and decision-making.

Participants completed anonymised pre- and post-course questionnaires assessing knowledge, confidence, and perceived competence using a five-point Likert scale. Statistical analysis was performed using the Mann-Whitney U test to compare pre- and post-training responses. The primary outcomes were changes in participant knowledge, confidence, and competence in recognising and managing laryngospasm in simulated clinical environments.

RESULTS

Nineteen multidisciplinary healthcare professionals participated in the training programme. There was a statistically significant improvement in participants' confidence ($U=12.0$, $p<0.05$) and perceived competence ($U=16.0$, $p<0.05$) in managing laryngospasm following the simulation training. Knowledge scores improved numerically but did not reach statistical significance ($U=70.0$, $p=0.342$), likely reflecting high baseline knowledge among experienced participants.

Post-training, 89.5% of participants agreed or strongly agreed they felt confident managing laryngospasm, and 84.2% reported improved competence. Participants also demonstrated improved ability to recognise early signs, initiate appropriate airway interventions, and coordinate multidisciplinary team responses. These findings highlight the effectiveness of simulation-based training in enhancing preparedness for airway emergencies.

CONCLUSIONS

Multidisciplinary high-fidelity simulation training significantly improves healthcare professionals' confidence and perceived competence in managing laryngospasm. Simulation provides a safe and effective environment to develop both technical and non-technical skills essential for airway emergency management. These findings support the integration of structured multidisciplinary simulation into routine ENT and airway training programmes to enhance clinical preparedness, improve team performance, and ultimately strengthen patient safety in airway emergency scenarios.

KEYWORDS

Laryngospasm, Simulation training, Airway emergency, Multidisciplinary training, Medical education, Airway management, Patient safety, High-fidelity simulation, Otolaryngology education

OP-1352

War-Time ENT Cases : My Experience In Gaza

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BACKGROUND & AIM

Gaza experienced a war following 7 October 2025, during which all types of weapons were used. The aim of this study is to highlight the role of ENT specialists in war zones and the secondary injuries resulting from trauma caused by explosions, shrapnel or bullets.

MATERIAL & METHODS

During the war and in the period from 25 June 2025 to 10 July 2025, this study drew on the cases I operated on myself, the accounts of the wounded, and the opinions of our ENT colleagues in Gaza.

RESULTS

During the two weeks in Gaza, most of the cases seen during this intense period of war were primarily closed or open injuries to the neck and face. The role of ENT specialists was primarily to perform tracheotomies in cases of laryngeal dyspnoea, to provide haemostasis for vascular wounds, to remove foreign bodies (bullets, shrapnel) and to treat infectious complications (cellulitis). Among the complicated cases were three instances of pharyngolaryngeal fistulas resulting from gunshot or shrapnel wounds, which were successfully reconstructed using flaps, with patients making a very good recovery despite the lack of antibiotics and appalling hygiene conditions.

CONCLUSIONS

Recently, ENT specialists have been increasingly training in microscopic, endoscopic and robotic surgery. Meanwhile, open surgery is becoming increasingly rare. This is particularly important in conflict zones, where situations are unpredictable, and is a skill that every ENT specialist must master.

KEYWORDS

Gaza, War, Cervical trauma, Facial trauma,

OP-1353

Educational Quality Of Youtube Videos On Rinne And Weber Tuning Fork Tests

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BACKGROUND & AIM

Rinne and Weber tuning fork tests are fundamental to hearing assessment and require both theoretical knowledge and practical skills. Online videos are increasingly used for self-directed learning, but their educational adequacy remains uncertain. This study evaluated whether YouTube videos on Rinne and Weber tests meet knowledge and skills training requirements and are suitable for educational use.

MATERIAL & METHODS

This cross-sectional descriptive study searched YouTube in December 2025 using four paired Turkish/English terms: “Rinne testi/Rinne test,” “Weber testi/Weber test,” “Rinne Weber testi/Rinne Weber test,” and “diyapozon testleri/tuning fork hearing test.” The first 74 results per search were screened (n=296). After duplicate removal by Video ID, 163 unique videos remained. Turkish- or English-language videos demonstrating and/or clinically interpreting Rinne and/or Weber tests were included; theory-only, animation/schematic-only, YouTube Shorts (≤60 seconds), and non-educational or irrelevant videos were excluded, yielding 78 videos.

A 19-item Rinne–Weber YouTube Video Assessment Form (RW-YVDS) assessed seven domains: educational framework, clinical purpose/use, physiological basis, technical performance, Rinne test, Weber test, and errors/warnings. Items were scored 0–2 (total: 0–38), with higher scores indicating more comprehensive educational content. Two otorhinolaryngologists independently assessed all videos using RW-YVDS, Global Video Score (GVS), and JAMA Benchmark Criteria; mean scores were analysed.

RESULTS

The mean total RW-YVDS score was 16.39±8.46/38. Mean RW-YVDS domain scores (percentage of maximum possible score) were 2.63±1.58/6 (43.9%) for educational framework, 2.99±2.21/6 (49.9%) for clinical purpose/use, 0.86±1.27/4 (21.5%) for physiological basis, 2.56±1.68/6 (42.7%) for technical performance, 3.21±1.91/6 (53.4%) for Rinne, 3.62±2.05/6 (60.4%) for Weber, and 0.51±0.83/4 (12.8%) for errors/warnings. Physiological basis and errors/warnings scored 0 in 46 (59.0%) and 49 (62.8%) videos, respectively.

RW-YVDS correlated strongly with GVS ($\rho=0.845$; $p<0.001$) and moderately with JAMA ($\rho=0.583$; $p<0.001$). Video duration correlated with RW-YVDS ($\rho=0.609$; $p<0.001$), while view count did not ($\rho=0.086$; $p=0.456$).

CONCLUSIONS

YouTube videos on Rinne and Weber tests do not adequately meet knowledge and skills training requirements, particularly regarding physiological basis and errors in performance and interpretation. Educational videos should follow clinical skills training principles with expert input. Furthermore, view count is not an indicator of educational adequacy.

KEYWORDS

Rinne, Weber, medical education, video tutorial

OP-1354

Comparison Of Postoperative Outcomes Between Cold Dissection And Ligasure Tonsillectomy In Adults: A Retrospective Cohort Study

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BACKGROUND & AIM

Tonsillectomy is one of the most common otolaryngologic procedures. Various surgical techniques have been developed to reduce postoperative morbidity. This study aimed to compare postoperative outcomes of cold dissection and LigaSure tonsillectomy in adult patients.

MATERIAL & METHODS

A retrospective cohort study was conducted including adult patients who underwent tonsillectomy between May 2022 and March 2026 at a tertiary referral center. Patients were divided into two groups according to surgical technique: cold dissection and LigaSure. Demographic data and postoperative outcomes, including hemorrhage, reoperation due to postoperative bleeding, postoperative pain scores, and length of hospital stay, were analyzed. Statistical comparisons were performed between groups.

RESULTS

A total of 267 adult patients were included: 214 underwent cold dissection tonsillectomy and 53 underwent LigaSure tonsillectomy. Postoperative hemorrhage was numerically lower in the LigaSure group than in the cold dissection group; however, the difference was not statistically significant (20.8% vs 21.0%, p=0.965). Reoperation due to postoperative bleeding was also less frequent in the LigaSure group, without reaching statistical significance (7.5% vs 8.4%, p=0.838). Mean postoperative day-1 pain score was lower in the LigaSure group (5.95 vs 6.84), although the difference did not reach statistical significance (p=0.053). Mean hospital stay was similar between groups (0.64 vs 0.70 days, p=0.772). No significant association was observed between tonsil size and postoperative hemorrhage (p=0.549). Tonsil size distribution was also similar between the surgical technique groups (p=0.802).

CONCLUSIONS

LigaSure tonsillectomy demonstrated postoperative hemorrhage and reoperation rates comparable to cold dissection in adult patients, with numerically lower bleeding-related outcomes and lower postoperative pain scores. Although these differences did not reach statistical significance, LigaSure showed similar hospital stay and may be considered a safe and effective alternative technique for adult tonsillectomy.

KEYWORDS

Tonsillectomy; Adult tonsillectomy; LigaSure; Cold dissection; Postoperative hemorrhage; Postoperative pain

OP-1355

Self-Powered Electrotherapy Suture For The Treatment Of Facial Nerve Disorders

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BACKGROUND & AIM

Traumatic facial nerve repair remains clinically challenging due to the high functional specificity features, which routinely requires end-to-end neurorrhaphy, but outcomes remain suboptimal. Facial asymmetry, etc., highlights the need for strategies that actively regulate the regenerative microenvironment. Sutures are essential in facial nerve surgery, and emerging interfaces for bioelectronics. Previously, we reported a functional suture to facilitate wound healing (Nat. Commun., 2024, 15, 8462), but cannot be applied to nerves owing to the size limitations.

MATERIAL & METHODS

This study modified the technology and developed a body-coupled electrotherapy suture (BESS), enabling the facial nerve regeneration without imported power.

RESULTS

BESS restored CMAP amplitudes and NCV to 87.10% and 84.97% of healthy levels, whereas commercial sutures achieved only 57.76% and 67.67%, demonstrating high expression of nerve growth-related factors, synapse and myelin formation. BESS also reduced muscle atrophy, preserved fiber integrity, and protected relevant brainstem nuclei and target muscle function.

CONCLUSIONS

This promising nerve repair strategy offers an innovative solution for facial nerve injury treatment.

KEYWORDS

Facial nerve repair, sutures, self-powered stimulation

OP-1356

Should Hemithyroidectomies Be Performed As A Day-Case Procedure: A 2-Year Retrospective Review Of Thyroid Lobectomies In A Tertiary Centre.

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BACKGROUND & AIM

Hemithyroidectomy is a common surgical procedure in the UK, traditionally requiring overnight admission due to risks of postoperative haemorrhage and airway compromise. With increasing pressure on NHS resources and growing international support for day-case thyroid surgery, this study aimed to evaluate the safety and feasibility of day-case hemithyroidectomy in a tertiary centre.

MATERIAL & METHODS

A retrospective review of elective hemithyroidectomies performed between May 2023 and May 2025 was undertaken. Demographics, indications, operative details, complications, return to theatre, readmissions, drain output, specimen volume, and length of stay were analysed. Exclusion criteria included completion thyroidectomy and combined major head and neck procedures.

RESULTS

122 cases met the inclusion criteria (80.3% female, mean age 48.9 years). Indications were primarily suspicious nodules (57.4%) and compressive symptoms (39.2%). The overall complication rate was 17.2%, with 1.6% requiring return to theatre. Postoperative haematoma occurred in 3.3% of patients; only one case (0.8%) required surgical evacuation. Notably, 75% of haematomas presented beyond 24 hours postoperatively. Transient unilateral vocal cord palsy occurred in 5.7%, with resolution in most cases; persistent palsy was documented in 1.6%. Mean length of stay was 1.2 days; one patient was successfully discharged the same day without adverse events. No mortality or 30-day readmission was observed.

CONCLUSIONS

In this tertiary centre, hemithyroidectomies were associated with low complication rates, consistent with published data. As such, selected patients may be suitable for day-case surgery, but the unpredictable timing of postoperative haematoma warrants caution. Larger multicentre studies are needed to refine patient selection criteria and optimise safety for day-case pathways.

KEYWORDS

Thyroid surgery, day-case procedures, hemithyroid

OP-1357

Comparison Of The Effects Of Boric Acid And Dexamethasone Injection On Scar Formation After Vocal Cord Injury In Rats

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BACKGROUND & AIM

The aim of this study is to comparatively evaluate the effects of boric acid and dexamethasone administered alone and in combination, on wound healing and scarring processes in an experimental vocal fold injury model, using histopathological and biochemical parameters.

MATERIAL & METHODS

Ethical Approval and Experimental Animals

This study was conducted with the approval of the Kütahya Health Sciences University Local Ethics Committee for Animal Experiments (Date: 29.08.2024, No: 2024.08.01). The study used 30 healthy adult female Wistar Albino rats (Rattus norvegicus)

weighing 250–300 g. The subjects were housed under standard laboratory conditions (22±2℃ temperature, 50±10% humidity, 12-hour light/dark cycle); access to water and food was provided ad libitum.

Experimental Groups

The experimental animals were divided into five equal groups (n=6), each consisting of six rats, using a simple randomization method. In the control group, the subjects were monitored under standard laboratory conditions without any surgical intervention or pharmacological administration. In the Injury (VK) group, standard vocal fold injury was created; in the Boric Acid (BA) group, intracordal boric acid (3 mg/mL) was injected into the lesion site following injury. In the Dexamethasone (DEX) group, a similar injury protocol was applied.

RESULTS

In recent years, boron and its derivatives have attracted attention in the regenerative medicine literature for their wound healing-promoting properties. Boric acid compounds have been found to contribute to the healing process by multiple biological mechanisms such as stimulating angiogenesis, regulating ECM synthesis, increasing antioxidant capacity, and accelerating reepithelization by balancing the inflammatory phase [8] Although the biocompatibility of boric acid in different tissue models has been reported in the literature, a study systematically evaluating its effects on laryngeal tissue injury and healing dynamics has not yet been included in the literature [9].

CONCLUSIONS

The findings indicate that dexamethasone administration alone may trigger the fibrotic process by increasing the oxidative burden in the tissue. Conversely, it was determined that adding boric acid to the treatment suppressed oxidative stress and significantly reduced fibrotic-related SEMA3A levels. Consequently, boric acid balances the potential negative effects of dexamethasone, providing a more physiological and controlled healing environment. The combination therapy's superior repair profile compared to single treatments suggests that boric acid may be a valuable adjunctive treatment option for vocal fold injuries.

KEYWORDS

boric acid, dexamethason, inflamation, vocal scared, voice

OP-1358

The Rhinologist As Developer: A Practical Framework For Prompt Engineering And App Creation In Clinical Practice

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BACKGROUND & AIM

Generative AI and Large Language Models (LLMs) have lowered the technical barrier for software creation, yet a gap remains between potential and practical application for surgeons. We aim to bridge this gap by defining a structured "Prompt Engineering Framework" specifically for Rhinologists. Our objective is to demonstrate how clinicians can utilize specific prompting strategies to build NHS-compliant, effectively functioning medical software without prior coding experience.

MATERIAL & METHODS

We performed a literature review of current prompt engineering methodologies (e.g., Chain-of-Thought, Few-Shot prompting) with experiential data derived from the development of ‘Sniffinsticksonline’—a fully functional clinical web app built using natural language. We deconstructed the development process into an iterative workflow, analysing the specific prompt structures required to overcome common AI pitfalls such as logic errors ("hallucinations") and security compliance issues.

RESULTS

We present a validated, three-stage "Clinician-to-Code" workflow:

Contextual Architecture: How to structure initial "system prompts" to define clinical parameters and safety constraints.

Iterative Refinement: demonstratable success using Chain-of-Thought prompting (asking the LLM to explain its reasoning step-by-step) to debug complex clinical logic, significantly increasing code accuracy (Shah et al., 2024).

Cross-Verification: The utility of using multiple LLMs to audit code for NHS digital compliance. This workflow was successfully used to build ‘Sniffinsticksonline’, which achieved superior usability scores compared to the legacy OLAF system in subsequent validation trials.

CONCLUSIONS

Proficiency in prompt engineering is emerging as a critical competency for clinical innovators. We conclude that by applying this structured framework, Rhinologists can rapidly prototype and deploy digital solutions, removing the dependency on external developers. ‘Sniffinsticksonline’ serves as a proof-of-concept, demonstrating that clinician-led, AI-architected software is not only feasible but can outperform existing solutions.

KEYWORDS

Prompt engineering; Generative AI; ChatGPT; Instruction design; AI-assisted writing; Human–AI collaboration; Responsible AI use.

OP-1359

Pioneering Feasibility Study Of Real-Time 3D Visualization And AI-Based Analysis Of Needle Position During Microvascular Anastomosis For Optimizing Suture Accuracy

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BACKGROUND & AIM

Precise suture placement is critical for the success of microvascular anastomosis (MVA). Errors in needle positioning can compromise vessel wall integrity, lead to leakage, and impair patency. This feasibility study investigated whether an integrated system of real-time 3D visualization and artificial intelligence (AI)-based needle analysis could improve assessment of suture accuracy. Functional outcomes of anastomoses performed with and without the AI system were compared in an in vitro model.

MATERIAL & METHODS

MVAs were carried out on silicone vessels (1–2 mm diameter) under standardized conditions. In the AI group, real-time tracking of needle entry, exit, angle, and trajectory was performed, while the control group used conventional technique without AI assistance. After completion, patency and leakage were tested by NaCl injection. Subsequently, the anastomoses were cut open longitudinally and examined microscopically to evaluate vessel wall integrity and detect potential needle-related damage. As all procedures were performed in vitro, no ethical approval was required.

RESULTS

AI-assisted procedures allowed reliable real-time identification of needle position and trajectory, with high agreement to expert evaluation. Patency testing showed preserved flow in both groups. Leakage at the suture line occurred less frequently in the AI-assisted group compared to controls. Microscopic evaluation after cutting the anastomoses revealed fewer instances of vessel wall damage in the AI group, suggesting a potential protective effect on suture placement quality.

CONCLUSIONS

This pioneering feasibility study demonstrates that real-time 3D visualization combined with AI-based analysis of needle position is technically feasible and may improve suture accuracy in microvascular anastomosis. Functional testing by NaCl flow and leakage, together with microscopic wall assessment, confirmed potential benefits compared to conventional techniques. Further studies in cadaveric and in vivo models are required to validate these findings and explore clinical applications.

KEYWORDS

Microvascular anastomosis; 3D visualization; Artificial intelligence; Needle tracking; Patency; Leakage; Vessel wall integrity

OP-1360

An Improved Electrical Model Of CI Stimulation Arrays In Frequency Domain

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BACKGROUND & AIM

Introduction: Cochlear implants (CI) are well-established neurostimulators to restore hearing in severe sensorineural hearing loss and profound deafness but suffer from limitations in frequency resolution and speech intelligibility in noise. Contributing factors are the significant current spread and increased impedances by fibrotic tissue growth. Our goal was the development and experimental validation of a frequency-specific model. This model serves (1) to determine the sensitivity of electric impedance spectroscopy (EIS) to differentiate cell layers, (2) understand clinical impedance measurements in time domain, (3) to optimize pulse shapes for power consumption and addressing specific target cells.

MATERIAL & METHODS

Methods: We developed an electric equivalent circuit (EEC) that captures the frequency-dependent impedance between two stimulation electrodes. The model incorporates the separately measured properties of the wires, the non-linear electrode-electrolyte bilayer, using the Schwan-Faraday model and the surrounding tissue. Based on this model, a monopolar EEC was developed with a large-area extracochlear return electrode. Additionally, the long-range resistance Rt from array electrodes to a return electrode and its impact on EIS spectra was determined in human cadaveric heads.

RESULTS

Results: The experimental validation of the developed EEC using CI arrays from four different manufacturers demonstrated an accuracy of mean relative error < 8%. The long-range resistance Rt of two different return electrode types from two manufacturers was experimentally determined in human cadaveric heads. This EEC was used for in-silico analysis of power distribution over the different elements of CIs and tissue, and stimulation waveforms.

CONCLUSIONS

Conclusion: The developed non-linear EEC can be applied generally to multiple CI arrays from different manufacturers with reasonable accuracy. With the experimentally determined long range resistance Rt to a return electrode, it can be used for frequency specific analysis of random pulses and power distribution to optimize stimulation efficiency.

KEYWORDS
Impedance measurement, Electric Equivalent Circuit, Cochlear Implants,

OP-1361

Smartphone-Based Audiometry: Validation Of Air-Conduction Thresholds, Bone-Conduction Thresholds, And Speech Discrimination Scores

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BACKGROUND & AIM

This study aimed to evaluate the agreement between the HearinTest mobile hearing screening application and clinical audiometry in adults aged 18–55 years. It compared air-conduction, bone-conduction, and speech audiometry results obtained with the mobile application and standard clinical audiometry, and assessed whether HearinTest could serve as a reliable supportive tool for clinical hearing evaluation after appropriate calibration.

MATERIAL & METHODS

HearinTest is a mobile hearing assessment application developed to provide fast, accessible, and reliable evaluation on Android and iOS devices. The app follows the logic of conventional pure-tone audiometry by adjusting intensity according to the user's "heard" or "not heard" responses and calculating thresholds at 250, 500, 1000, 2000, 4000, and 8000 Hz. Pure tones are generated in real time in Unity using sinusoidal functions, reducing the need for external audio files and supporting synchronized output. The application also includes speech audiometry measurements: SRT, MCL, and SDS. Speech materials were professionally recorded, cleaned, normalized, and stored as lossless WAV files to ensure consistent intensity and articulation. Air-conduction calibration was performed using AirPods Max as a reference headset.

RESULTS

Air-conduction thresholds obtained with the mobile hearing application were compared with clinical audiometry using Bland–Altman analysis. Agreement was acceptable across frequencies and both ears. Bias was closest to zero at 250 and 2000 Hz, while 500 and 1000 Hz showed slight differences. Higher frequencies showed greater variability without systematic deviation.

Bland–Altman analyses showed high agreement between mobile and clinical bone-conduction thresholds at 500, 1000, 2000, and 4000 Hz. Bias values were close to zero, with limited mean differences. Most measurements fell within 95% limits of agreement, indicating consistent, reliable distribution across frequencies and both ears, and better agreement than air-conduction thresholds.

Speech audiometry parameters obtained with the mobile hearing test application and clinical audiometry were evaluated using Bland–Altman analysis. SRT, MCL, and SDS results were examined separately for right and left ears, considering mean differences, bias values, and 95% limits of agreement between the two measurement methods.

CONCLUSIONS

This study compared HearinTest mobile hearing test results with standard clinical audiometry for air-conduction, bone-conduction, and speech audiometry measurements. Statistical analyses, including Wilcoxon signed-rank tests and Bland–Altman plots, showed generally acceptable agreement between the two methods. Air-conduction thresholds demonstrated frequency-dependent differences, especially at high frequencies, whereas bone-conduction thresholds showed closer agreement and more stable results. In speech audiometry, SRT and MCL values were systematically higher with the mobile application, while SDS results showed smaller intermethod differences. Overall, HearinTest produced clinically comparable findings, although variability differed across frequencies and test parameters, mostly remaining within acceptable agreement limits.

KEYWORDS

Mobile hearing test, clinical audiometry, calibration, Bland–Altman analysis, speech audiometry

OP-1362

Are ENT Specialists Still Better Than AI? Readability And Quality Analysis Of AI-Generated Patient Information For FESS And Septoplasty Across Different AI Models

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BACKGROUND & AIM

Artificial intelligence (AI) tools are increasingly used in medicine, yet the performance of different models in providing patient information remains unclear. This study compared readability and informational quality of responses generated by five large language models for functional endoscopic sinus surgery (FESS) and septoplasty.

MATERIAL & METHODS

Three standard models (ChatGPT 5.3, DeepSeek 3.2, Gemini 3) and two premium models (ChatGPT 5.4 'Thinking' and ChatGPT 5.4 'Deep Research') were asked three standard questions per procedure. Readability was evaluated using Flesch-Kincaid

Reading Ease Score (FRES), Flesch-Kincaid Grade Level (FKGL), Gunning Fog Index (GFI), and Simple Measure of Gobbledygook (SMOG). Informational quality was assessed using the DISCERN instrument and compared with ENT UK patient leaflets. Differences between models were analysed using one-way ANOVA with Tukey post-hoc testing.

RESULTS

AI outputs demonstrated consistently lower readability than ENT UK leaflets, which demonstrated higher FRES (59.7–69.7) and lower FKGL (7.2–8.5) compared with AI outputs (FRES 15.3–58.6; FKGL 9.2–16.8). One-way ANOVA demonstrated significant differences between models for FRES ($F(4,25)=2.88$, $p=0.043$), FKGL ($F(4,25)=4.99$, $p=0.004$), and GFI ($F(4,25)=4.53$, $p=0.007$), but not SMOG ($p=0.081$). Tukey post-hoc analysis showed DeepSeek 3.2 produced significantly more readable responses than several ChatGPT variants. DeepSeek generated the most readable outputs (mean FRES 45.9), while ChatGPT 5.4 'Deep Research' achieved the highest informational quality (mean DISCERN 42.3). DISCERN scores for AI models ranged from 29–50.5 compared with 56.5 for ENT UK leaflets, indicating lower reliability, transparency, and quality of treatment information overall. FESS responses were more complex than septoplasty, with higher GFI and SMOG scores, suggesting procedure-specific variation in output complexity.

CONCLUSIONS

AI-generated patient information remains less readable and of lower quality than ENT UK leaflets. While advanced models provide more comprehensive responses, they frequently exceed recommended reading levels and may lack consistency in reliability. Clinician oversight is required to ensure accurate, safe, patient-friendly communication and appropriate integration into clinical practice.

KEYWORDS

Artificial intelligence, Large language models, Patient information, Readability, Informational quality, Functional endoscopic sinus surgery, Septoplasty, DISCERN instrument, Health communication, Otolaryngology

OP-1363

Audiogram Classification Performance Of A Multimodal Large Language Model: Potential For Clinical Decision Support

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BACKGROUND & AIM

Large language models are increasingly explored for medical image interpretation, yet evidence in audiology remains limited. This study evaluated the diagnostic accuracy of ChatGPT-4o in interpreting pure-tone audiograms against an audiologist-defined gold standard.

MATERIAL & METHODS

A balanced sample of 280 patients (mean age 50.4 ± 19.2 years; 145 men, 135 women) was analyzed, comprising 70 cases each across four diagnostic categories: normal hearing, conductive hearing loss (CHL), sensorineural hearing loss (SNHL), and mixed-type hearing loss. Each audiogram image was submitted to ChatGPT-4o (version 2024-05-13) using a standardized prompt in a fresh session with conversation history disabled. Model outputs for diagnostic category, hearing-loss degree (Clark 1981 scale), air-bone gap (ABG), and frequency-specific thresholds were compared with the expert reference.

RESULTS

ChatGPT-4o correctly classified the diagnostic category in 73.9% of cases (207/280; $\kappa = 0.65$, substantial agreement). Accuracy differed significantly across categories ($\chi^2 = 36.67$, $p < 0.001$; Cramér's $V = 0.36$), being high for normal hearing (94.3%) and SNHL (84.3%) but markedly lower for CHL (61.4%) and mixed-type loss (55.7%). Sensitivity was lowest for mixed (55.7%) and conductive (61.4%) loss, whereas specificity remained high across all categories (≥ 82.9%). Hearing-loss severity grading showed strong agreement (exact match 67.1%; within ±1 grade 89.6%; quadratic-weighted $\kappa = 0.82$). Numerical tasks were the weakest domain: the ABG was computed correctly in only 53.6% of cases and frequency thresholds were read accurately in only 39.6%; correct threshold reading was strongly associated with diagnostic success ($p < 0.001$). Hallucinated (fabricated) data appeared in 48 cases (17.1%), concentrated in complex audiograms, and 9 pathological cases were misclassified as normal.

CONCLUSIONS

ChatGPT-4o demonstrates strong pattern-level recognition of audiometric categories — particularly normal and sensorineural hearing loss — and reliable severity grading, but unreliable point-wise numerical reading of thresholds and air-bone gaps that undermines the diagnosis of conductive and mixed-type loss. In its current form, the model may function as a supportive tool under expert supervision rather than as an autonomous diagnostic instrument; substantial improvement in numerical accuracy is required before clinical deployment.

KEYWORDS

large language models, artificial intelligence, hearing loss

OP-1364

The Clinical Significance Of The Trigeminal Cervical Complex: A Neural Network Explaining Disorders Affecting The Head And Neck Region.

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BACKGROUND & AIM

To introduce the trigeminal cervical complex (TCC) as a comprehensive framework for understanding the anatomical and functional scope of the afferences and efferences of the trigeminal system and explaining common otolaryngologic symptoms, including head and neck myofascial pain syndrome. Additionally, it explores how the bidirectional transmission of neurotransmitters contributes to the sensitization of the TCC and motor nuclei.

MATERIAL & METHODS

The study was conducted as a narrative review. The authors performed a comprehensive search of multiple databases, including Medline/OVID, Embase, Scopus, and PubMed, covering publications from inception until August 2023.

RESULTS

This review discusses the multiple afferent connections from cranial nerves, specifically VII, IX, X, and XI, to the TCC, and their respective efferent pathways. These connections may explain various clinical manifestations in the head and neck that cannot be attributed to other medical conditions. Additionally, the review highlights: 1- the dual sensory and motor nature of cranial nerves, 2- the bidirectional transmission of neurotransmitters in head and neck areas, which leads to the sensitization of both the TCC and motor nuclei innervating the cervicofacial muscles, 3- How sensitization of the TCC by cervicofacial muscles could affect the sensorineural organs (Ear, Eye, Nose) and other organs.

CONCLUSIONS

The central and peripheral sensitization and the intricate connections of the TCC can elucidate the pathophysiology of conditions such as otalgia, tinnitus, hearing loss, vertigo, headache, cervicogenic dizziness, bruxism, and other symptoms affecting the head and neck.

KEYWORDS

Trigeminal cervical complex; Trigeminal nerve; Neuroanatomy; Otolaryngology

OP-1365

What Overlooked Factors Influence The Difficulty Of Adult Tracheostomy?

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BACKGROUND & AIM

Tracheostomy is a commonly performed essential procedure in otolaryngology and critical care; however, operative duration remains variable affecting operating room efficiency, resource utilization, and perioperative risk. Although obesity is frequently implicated in procedural difficulty, the relative contribution of demographic, clinical, training-related, bedside physical examination, and radiologic factors to operative time have not been comprehensively evaluated. This study aims to identify determinants of operative difficulty in isolated adult tracheostomy, as reflected by operating room (OR) time.

MATERIAL & METHODS

A retrospective observational study was conducted at the American University of Beirut Medical Center included adult patients who underwent isolated open tracheostomy between January 2020 and December 2025. Operating room (OR) time was defined as the interval between documented OR start and finish times and was analyzed both as a continuous variable and as a categorical variable; procedures exceeding the cohort mean (60 minutes) were classified as longer-duration cases. Collected variables were grouped into demographic, patient-related, training-related, bedside physical examination, and radiologic categories. Bedside findings represented subjective clinical assessments, whereas radiologic parameters provided objective measurements derived from preoperative CT imaging, including calculated neck circumference and measured skin-to-trachea distance. Univariate analyses were performed, followed by multivariable logistic and linear regression to identify independent predictors of prolonged operative duration.

RESULTS

A total of 192 tracheostomies were analyzed, with 43.7% classified as longer-duration cases. On univariate analysis, demographic variables (age, sex, BMI), patient-related factors including smoking status, prior radiation therapy, prior neck surgery, blood thinner therapy, chronic kidney disease, and platelet count, as well as training-related variables (PGY level, time of day, academic quarter, and year of procedure) were not associated with operative time. Neck infection was significantly associated with prolonged duration ($p = 0.010$). Variability across attending surgeons was significant ($p = 0.03$). Bedside

examination findings demonstrated that short neck (p = 0.002), cervical spine stiffness (p = 0.002), and submental fat (p = 0.013) were associated with longer operative duration. Radiologic parameters showed that increased skin-to-trachea distance (p = 0.0048) and greater neck circumference (p = 0.037) were significantly associated with prolonged operative time. On multivariable analysis, short neck and skin-to-trachea distance remained independent predictors.

CONCLUSIONS

Operative time in adult tracheostomy is driven by anatomical factors rather than demographic or training-related variables. A short neck on examination and increased skin-to-trachea distance on CT independently predict longer OR time. Preoperative recognition of these features may improve procedural planning and resource utilization. These findings may also support the development of a predictive model for operative complexity in adult tracheostomy.

KEYWORDS

Tracheostomy, Operative time, Short neck, Deep neck, Anatomy

OP-1366

Is There A Single Best Treatment For Pinna Haematoma Management?

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BACKGROUND & AIM

Pinna haematoma refers to the accumulation of blood between the perichondrium and the cartilage of the auricle as a result of blunt force trauma, such as a sports-related injury. Prompt surgical treatment can preserve cosmetic appearance and prevent “cauliflower ear” deformity. There is no universally accepted treatment modality available to deal with this problem. To identify the best treatment option to treat pinna haematoma and prevent complications a systematic review and meta-analysis were carried out.

MATERIAL & METHODS

Cochrane Central Register of Controlled Trials (CENTRAL), Pubmed (US National Library of Medicine), EMBASE, CINAHL, CAB Abstracts, MEDLINE and Web of Science were searched using the following terms: ‘auric*’, ‘auris’, ‘ear’, ‘ears’, ’pinna’, ‘haematoma*’, ‘hematoma*’, ‘cauliflower’, ‘boxer*’, ‘rugby’, ‘football’, ‘wrestler*’. Inclusion criteria comprised any means of decompression including incision and drainage, needle aspiration with or without post-decompression care. All studies included randomised controlled trials, cohort studies and case series. Recurrence of pinna haematoma was the primary outcome for both the incision and drainage and needle aspiration groups. The secondary outcomes were incidence of infection or any deformity in each group. Meta-analysis of pinna haematoma recurrence was carried out. We also evaluated the novel technique of utilising hrough and through absorbable suture after incision and drainage as the best compression strategy.

RESULTS

The 41 articles included one randomised control trial, six cohort studies and 34 case series. Pooled data demonstrated lower recurrence in the incision and drainage cohort. On meta-analysis of cohort studies and RCT, the lower recurrence in the incision and drainage cohort was statistically significant ($p \leqslant 0.0001$). There was a trend to suggest that incidence of both infection and deformity were higher in the incision and drainage cohort compared to needle aspiration.

CONCLUSIONS

Incision and drainage confers an advantage over needle aspiration in the prevention of recurrence of pinna haematoma. Limited available data support through and through absorbable suture after incision and drainage as the best compression strategy. By contrast, incision and drainage would appear to be associated with an increased risk of infection in comparison to needle aspiration.

KEYWORDS

Systematic review, meta-analysis, pinna haematoma, auricle, surgery, incision and drainage, needle aspiration.

OP-1367

‘‘The Lagari Lab’’ The Mobile Temporal Bone Lab: Transforming Surgical Education Across Borders

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BACKGROUND & AIM

Ensuring equitable access to hands-on surgical training is a persistent global challenge, particularly in resource-constrained regions. To bridge the gap in otologic education, we developed the Lagari Lab—a mobile, technology-enhanced platform designed to provide scalable, high-quality training beyond conventional laboratory settings

MATERIAL & METHODS

Thirty-two otolaryngology residents and specialists participated in a mobile temporal bone training program conducted in Madagascar and Tanzania. The Lagari Lab was designed as a fully portable unit enabling rapid on-site deployment and high-fidelity dissection without permanent infrastructure. The program integrated three-dimensional simulation, virtual learning, and expert-supervised artificial temporal bone dissection within a standardized educational framework. Outcomes were prospectively evaluated using pre- and post-training knowledge tests, self-efficacy scales, objective structured technical skill assessments (OSATS), and a modified Welling temporal bone dissection scale.

RESULTS

Post-training knowledge scores improved significantly from 12.59 ± 3.91 to 14.67 ± 2.47 ($p = 0.005$), and self-efficacy score from 30.64 ± 8.63 to 38.25 ± 6.07 ($p < 0.001$). Mean post-training OSATS and modified Welling scores were 45.91 ± 1.06 and 25.34 ± 3.21, respectively. Overall satisfaction remained high (46.15 ± 5.87/55).

CONCLUSIONS

The Lagari Lab demonstrates that a mobile, technology-enhanced temporal bone training model can improve knowledge and self-efficacy while achieving high participant satisfaction. This mobility-oriented framework may support broader access to practical otologic training across diverse and resource-limited settings.

KEYWORDS

Temporal bone, Mobile training, Surgical education, Innovative Learning Platforms, Global health

OP-1368

A New Anatomical Schema: The Floor Of The Mouth In Transoral Approaches

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BACKGROUND & AIM

In Ear, Nose, and Throat (ENT) practice, the traditional approach to surgical pathologies of the floor of the mouth is performed via a transcervical incision; surgical anatomy is addressed from an external perspective that includes skin, subcutaneous tissue, and platysma muscle dissection. However, current ENT surgery is increasingly evolving toward transoral approaches. Classical transcervical anatomy models remain insufficient in providing functional orientation in transoral approaches. The objective of this study is to restructure the fundamental anatomical knowledge for transoral surgical approaches in line with clinical experiences and to emphasize the importance of surgical anatomy in this perspective.

MATERIAL & METHODS

In this study, the outcomes of cases with different pathologies who underwent transoral surgical approach to the floor of the mouth by the same surgeon between 2011–2026 were retrospectively evaluated. Although the histopathological diagnoses of the patients varied, the common characteristic of all cases was that they were operated on via the transoral route. Factors facilitating surgical experience and postoperative complications were analyzed; the results were examined over clinical surgical anatomy knowledge. Unlike traditional cadaver dissection, the study was supported by transoral cadaver dissection and perioperative endoscopic anatomy images.

RESULTS

The study included 70 patients (33 males, 47.1%; 37 females, 52.9%; mean age: 33.93±20.19 years). Operation times were omitted due to data missingness, and long-term follow-up was limited beyond routine 3-month visits. Preoperative contrast-enhanced neck CT was standard. Histopathologically, sialadenitis variants predominated (n=38). Other benign/developmental lesions included thyroglossal cysts (n=12), pleomorphic adenomas (n=6), lymphangiomas (n=2), and single cases of various dermoid cysts, ranulas, ectopic tissues, and lipoma. Dissection histopathology (n=5) revealed lymphomas (n=2) and granulomatous lymphadenitis (n=3). Lesion localization guided transfrenular midline or lateral submandibular approaches. Tongue numbness and bleeding were the primary early complications. Intraoperative hemorrhage and limited exposure posed major challenges, with poor visibility causing lesion ruptures. Severe adhesions prompted conversion to a transcervical approach in three chronic sialadenitis cases.

CONCLUSIONS

Drawing on a fifteen-year surgical experience with a diverse case series, this study offers significant contributions to clinical practice. The management of these rare cases by a single surgeon enhances series homogeneity and study value. Presenting an innovative anatomical perspective on transoral surgery, this research is anticipated to provide ENT physicians with a new vision regarding anatomical modeling and orientation perception in floor-of-mouth surgery.

KEYWORDS

Transoral Anatomy, Floor of the Mouth, Anatomical Modeling, Surgical Experience.

OP-1369

Gender Representation Among Newly Appointed Otolaryngology Specialists In Türkiye: A Five-Year National State Service Obligation Analysis

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BACKGROUND & AIM

Gender representation in surgical specialties is an important issue in workforce planning and postgraduate training. National data on the gender distribution of newly appointed otolaryngology specialists in Türkiye are limited. This study aimed to evaluate gender representation and temporal trends among newly appointed otolaryngology specialists using national State Service Obligation appointment data.

MATERIAL & METHODS

This database-based retrospective descriptive study reviewed publicly available specialist appointment lists from the 97th to the 128th State Service Obligation periods in Türkiye. Physicians appointed as Otolaryngology–Head and Neck Surgery specialists were included. For each period, total appointments and female/male distribution were recorded. Temporal trends were evaluated using linear regression analysis.

RESULTS

A total of 656 newly appointed otolaryngology specialists were identified. Of these, 180 were female (27.4%) and 476 were male (72.6%). Female representation ranged from 11.1% to 50.0%. The highest rate was observed in the 104th period (50.0%) and the lowest in the 109th period (11.1%). Total appointments increased significantly over time ($p < 0.001$), whereas female representation did not show a significant upward trend ($p = 0.949$).

CONCLUSIONS

Male predominance remains evident among newly appointed otolaryngology specialists in Türkiye. Despite a significant increase in total appointments, female representation showed marked period-to-period variation without consistent growth. These findings provide national-level data for workforce planning and may guide future studies on gender representation in otolaryngology.

KEYWORDS

Otolaryngology; gender representation; women in surgery; workforce planning; State Service Obligation; Türkiye

OP-1370

Smartphone -Based Application In ENT Practice

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BACKGROUND & AIM

There are two Smartphone -based applications which will be helpful for ENT practice

MATERIAL & METHODS

The PED Airway application (app) is an easy-to-use Android and iOS mobile app designed specifically for pediatric otolaryngologists, pediatricians, anesthesiologists, emergency physicians and caregivers who deal with the pediatric airway.

RESULTS

Smart Phone Based Application for Positional OSA: Aims to adapt the concept of sleep position monitoring and subtle vibrotactile feedback system as an application for smartphones based Sleep Position Alarm Therapy Application (SPATA). The smartphone with SPATA is designed to be strapped on to the chest wall of positional obstructive sleep apnea patients during sleep, extracting patient's sleep position from smartphone's accelerometer sensor.

CONCLUSIONS

When SPATA detects supine sleep position for more than 10 seconds a sequence of vibration of smartphone will be initiated. SPATA may be an alternative treatment for positional OSA

KEYWORDS

Smart-phone , Application, sleep position, pediatric airway

OP-1371

Expert Evaluation Of TPU-Based Bioprinted Nose And Ear Models For Professional Surgical Training: A Comparative Study

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BACKGROUND & AIM

High-fidelity anatomical models are essential for advanced surgical training in otorhinolaryngology. Three-dimensional bioprinting with thermoplastic polyurethane (TPU) provides new possibilities to reproduce tissue-like elasticity, mechanical resistance, and anatomical realism. We conducted a côprayici comparative study to assess two distinct TPU-based bioprinted nose and ear models optimized for professional procedural training.

MATERIAL & METHODS

Nasal and auricular anatomical models were designed and bioprinted using two TPU formulations (TPU-A and TPU-B) differing in Shore hardness, wall thickness, and infill pattern. A panel of 12 ENT experts (head and neck surgeons, otologists, rhinologists; >10 years of experience) evaluated each model using a validated checklist assessing anatomical realism, tactile response, handling during simulated procedures (incision, suturing, reshaping), durability, and training applicability. Ratings were collected on a 5-point Likert scale.

RESULTS

TPU-A achieved higher scores for elasticity (4.6±0.4) and realism in complex nasal procedure training (4.4±0.5). TPU-B demonstrated superior mechanical resistance (4.7±0.3) and greater stability during external ear surgical simulations (4.5±0.4). In the direct comparison, experts considered TPU-A more suitable for high-sensitivity tactile training, whereas TPU-B was preferred for repetitive high-load procedures requiring traction or compression.

CONCLUSIONS

Different TPU formulations address distinct educational needs in the bioprinting of nasal and auricular models. The complementary integration of both materials enables the development of realistic and durable high-fidelity simulators for advanced ENT surgical training. These findings support the adoption of TPU as a key material for next-generation otolaryngology simulation programs.

KEYWORDS

TPU; 3D models; bioprinting; ENT surgeon

OP-1372

Development Of An ENT Digital Health Ecosystem: A Question Bank And Notch Therapy Application For Otolaryngology

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BACKGROUND & AIM

Tinnitus affects 10-15% of adults globally, yet access to evidence-based sound therapy remains limited. Similarly, otolaryngology residents lack accessible, comprehensive digital tools for board examination preparation. We aimed to develop a dual-application digital health ecosystem addressing both clinical management and medical education needs in otolaryngology: TinniCare, a science-based notch therapy application, and ENTwise, an otolaryngology question bank platform.

MATERIAL & METHODS

Both applications were developed using HTML/CSS/JavaScript with Capacitor iOS framework by an ENT resident. TinniCare implements notch sound therapy based on lateral inhibition principles, featuring a 7-step binary search frequency finder (2AFC method), five tinnitus sound type simulations (pure tone, narrow-band ringing, cricket, hum, whistle), six therapy sounds including nature sounds with real-time notch filtering, sound layering, and longitudinal severity tracking using a Visual Analog Scale (VAS). ENTwise contains 1,550 peer-reviewed questions across four subspecialties (otology, rhinology, laryngology, head and neck surgery) with bilingual support, session-based practice, and performance analytics. A prospective pilot study with 20 tinnitus patients is planned using TinniCare for 12 weeks, with weekly VAS severity scores and Tinnitus Handicap Inventory (THI) measurements at baseline, 4, 8, and 12 weeks.

RESULTS

Both applications have been successfully developed and deployed on iOS App Store. TinniCare incorporates evidence from a 2025 meta-analysis of 14 randomized controlled trials (n=793) demonstrating significant reductions in tinnitus severity with notch therapy. ENTwise provides comprehensive coverage across all ENT subspecialties with 1,550 bilingual questions. Preliminary pilot data from the first enrolled patients will be presented, including VAS score trends, therapy adherence rates, and user engagement metrics.

CONCLUSIONS

This ENT digital health ecosystem demonstrates that evidence-based clinical tools and educational platforms can be developed and deployed by otolaryngology residents. TinniCare offers an accessible, science-based approach to tinnitus management, while ENTwise addresses the need for comprehensive board preparation. Preliminary clinical data and user engagement metrics will provide initial validation for the notch therapy implementation.

KEYWORDS
Tinnitus, notch therapy, digital health, mobile application, otolaryngology education, question bank, sound therapy, Visual Analog Scale, mHealth, lateral inhibition, board preparation

OP-1373

Transoral Anatomy And Submandibular Gland Ganglion Neurectomy

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BACKGROUND & AIM

Parasympathetic denervation of the submandibular gland significantly reduces the amount of resting saliva. Drooling (uncontrolled saliva flow) is treated through denervation. The objective of this study is to explain the details of the surgical technique through clinical outcomes in patients undergoing "Transoral Submandibular Gland Ganglion Neurectomy" and to emphasize the critical importance of deep anatomical knowledge belonging to this region. The classic anatomical approach and orientation, on which traditional submandibular surgeries rely, are completely inverted (turned upside down) in the transoral technique and reconstructed with a brand-new anatomical perspective.

MATERIAL & METHODS

Operations performed by the same surgeon in different clinics between the years 2013-2026 were retrospectively evaluated. When patients came for follow-ups, the reduction rates in saliva flow observed by their relatives were questioned as percentages and recorded. Clinical outcomes and the surgical technique were subjected to a comprehensive evaluation.

Surgical Technique: Transoral submandibular ganglion neurectomy is an advantageous surgery with its low complication risk and its safe anatomical localization far from arterial structures. Entering with an incision parallel to Wharton's duct, the lingual nerve medial to the duct is preserved and dissection is performed up to the crossing point. Transection of the parasympathetic fibers splitting from the lingual nerve to the submandibular gland constitutes the main surgical step of the operation. Following hemostasis, the mucosal incision line is closed with absorbable sutures.

RESULTS

Of the 16 patients included in the study, 7 were male and 9 were female, with their ages ranging between 7 and 27 (mean = 12.56 ± 4.74; variance = 22.52). For the bilateral surgical procedure, the operation time was calculated between 20-45 minutes (mean = 32.25 ± 6.73; variance = 45.40); and the postoperative follow-up period was calculated between 1-12 months (mean = 7 ± 3.54; variance = 12.53). The reduction rate in saliva flow ranges between 70% and 100%, and it was found as mean = 89.37 ± 8.53 (variance = 72.91). In the postoperative period, no significant complication was observed except for a mild bleeding in 1 patient that stopped spontaneously with follow-up, and difficulty swallowing in 1 patient that lasted for 2 weeks and passed.

CONCLUSIONS

Transoral submandibular ganglion neurectomy is a minimally invasive, permanent, and alternative surgical treatment performed for parasympathetic denervation while preserving the sympathetic functions of the submandibular gland. In the literature review, only two articles showing anatomical feasibility studies on cadavers were found, but there is no comprehensive clinical study. This paper is a study in which clinical experiences are successfully presented. Furthermore, the transoral anatomical detail, which includes a different configuration of traditional anatomical structures, has been re-revealed starting from the nuclei in the brain to the end organ.

KEYWORDS

Transoral Anatomy, Submandibular Gland, Ganglion Neurectomy, Clinical Outcomes, Surgical Approach.

OP-1374

Medical Illustration In Otolaryngology–Head And Neck Surgery: Enhancing Surgical Education, Communication, And Dissemination Of Innovative Techniques

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BACKGROUND & AIM

Otolaryngology–Head and Neck Surgery encompasses anatomically complex regions characterized by intricate three-dimensional relationships, limited operative exposure, and highly specialized surgical approaches. Traditional methods of surgical communication, including textual descriptions and intraoperative photography, may not always adequately convey critical anatomical details or operative nuances. Medical illustration has emerged as a powerful educational and communication tool capable of simplifying complex surgical concepts while maintaining anatomical accuracy.

MATERIAL & METHODS

The objective is to highlight the role of medical illustration in facilitating the understanding of complex otolaryngologic surgical procedures, improving surgical education, and enhancing the dissemination of innovative operative techniques.

A narrative review of the educational applications of medical illustration in surgical disciplines was performed, with particular emphasis on otolaryngology and head and neck surgery. The utility of illustrations in preoperative planning, resident education, surgical publications, conference presentations, and communication of novel surgical techniques was examined.

RESULTS

Medical illustrations provide visual abstraction that emphasizes key anatomical structures and procedural steps while eliminating unnecessary visual distractions commonly encountered in operative photographs and videos. In otolaryngology, illustrations facilitate comprehension of endoscopic sinus surgery, skull base approaches, otologic procedures, airway surgery, and head and neck reconstruction. Furthermore, they serve as effective tools for communicating innovative surgical techniques, standardizing procedural descriptions, and enhancing educational materials for trainees and practicing surgeons. Recent advances in digital illustration and three-dimensional visualization have further expanded their educational value.

CONCLUSIONS

Medical illustration represents an underutilized yet highly effective adjunct in otolaryngology education and scientific communication. By transforming complex surgical information into clear visual narratives, medical illustration enhances learning, supports knowledge dissemination, and facilitates the adoption of novel surgical techniques. Greater collaboration between surgeons and medical illustrators may contribute to improved surgical education and communication within the specialty.

KEYWORDS

Medical Illustration, Surgical Education, Otolaryngology, surgical innovation, Surgical Communication, Anatomy Education.

OP-1375

Danish Prehospital Cricothyroidotomy Investigation A Nationwide Investigation Of Prehospital Emergency Cricothyroidotomy During Cardiac Arrest Between 2016 And 2023

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BACKGROUND & AIM

Emergency cricothyrotomy (EC) is a rare but potentially life-saving procedure performed when conventional airway management fails. Evidence on its epidemiology, indications, and outcomes in the prehospital setting, particularly in out-of-hospital cardiac arrest (OHCA), remains limited. The aim of this study is to present a comprehensive epidemiological analysis of EC procedures performed during cardiac arrest in the prehospital setting in Denmark.

MATERIAL & METHODS

We conducted a nationwide registry-based follow-up study including all patients who underwent prehospital EC in Denmark between 2016 and 2023. Cases were identified through prehospital medical records, the Danish Helicopter Emergency Medical Services database, and the Danish Cardiac Arrest Register. All cases were manually validated. The primary outcome was 30-day survival. Multivariable logistic regression was used to examine factors associated with survival.

RESULTS

Preliminary results show taht a total of 71 prehospital EC cases were identified, of which 48 (67.6%) occurred in patients with cardiac arrest. Preliminary results show that the overall procedural success rate was high, achieved in 83.3% of cardiac arrest cases and 95.6% of non-cardiac arrest cases. Preliminary results show that the most common indications were aspiration and oropharyngeal bleeding. Among patients with OHCA, return of spontaneous circulation was achieved in 25%, while 30-day survival was 4.5% and one-year survival 2.3%. In multivariable analysis preliminary results show that EC was associated with lower odds of 30-day survival (OR 0.15, 95% CI 0.02–0.53), whereas shockable rhythm and bystander-witnessed arrest were associated with improved survival.

CONCLUSIONS

Preliminary results show that prehospital EC is a rare but highly effective procedure for establishing a definitive airway in critically ill patients. Despite high procedural success, survival in patients undergoing EC during cardiac arrest remains low and appears primarily driven by underlying disease severity rather than the intervention itself. Preliminary results suggests that EC should be regarded as an essential rescue procedure in extreme airway emergencies, although its impact on overall survival is limited.

KEYWORDS

Emergency cricothyroidotomy; survival; eFONA

OP-1376

THE THERAPEUTIC POTENTIAL FOR SIALORRHEA: RADIOFREQUENCY ABLATION OF THE SUBMANDIBULAR GLANDS IN A RAT MODEL

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BACKGROUND & AIM

Sialorrhea is a clinical condition frequently associated with neurological disorders and can significantly impair quality of life. This study aimed to evaluate the histopathological and volumetric effects of radiofrequency ablation (RFA) applied to the submandibular gland in a rat model and to investigate whether this technique may serve as a minimally invasive and durable treatment option for sialorrhea.

MATERIAL & METHODS

A total of 28 rats were divided into four groups and underwent RFA with either 5 Joules or 10 Joules of energy. Sacrifice times were set at 3 weeks and 3 months for each energy level. RFA was applied to the right submandibular gland, while the left gland was preserved as an internal control. Following sacrifice, glands were assessed macroscopically, and histopathological evaluation was performed using H&E, Masson Trichrome, and PAS-AB staining to assess atrophy, fibrosis, inflammation, and ductal changes.

RESULTS

All RFA-treated glands showed significant volume reduction compared to controls ($p < 0.05$). Both 5 Joule and 10 Joule applications resulted in decreased gland weights, with the reduction more pronounced at 3 months than at 3 weeks. Histopathological examination revealed coagulative necrosis, marked atrophy, fibrosis, ductal proliferation, and a characteristic zonal pattern of tissue damage. Mucinous components appeared relatively more resistant than serous acini. No complications were observed during or after the procedures.

CONCLUSIONS

Radiofrequency ablation induces progressive, time- and energy-dependent atrophy and volume reduction in the rat submandibular gland. Given the direct relationship between gland size and salivary output, RFA demonstrates potential as a minimally invasive, long-lasting, and systemically safe treatment option for sialorrhea. This study represents the first experimental model applying RFA to the rat submandibular gland and provides foundational insight for future human studies.

KEYWORDS

Sialorrhea, submandibular gland, radiofrequency ablation, rat model, salivary gland, minimally invasive treatment.

OP-1377

Preliminary Results On Equivalence Of Water Based And Chemical Pre-Cleaning Of Thermolabile Endoscopes In Otorhinolaryngology

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BACKGROUND & AIM

The hygienic reprocessing of flexible, thermolabile endoscopes without working channel (FE) in otorhinolaryngology (ENT) is subject to demanding requirements to ensure patient safety. In Germany and internationally, UV-based disinfection is increasingly implemented in hospitals, outpatient clinics and private practice with consistently convincing outcomes. With regard of the precleaning process, however, requirements currently vary depending on the responsible regulating authority. The aim of this study is to investigate whether a de-escalated, water-based precleaning followed by UV-C is equivalent to chemical precleaning.

MATERIAL & METHODS

50 clinically used ENT endoscopes were swap-tested from the entire surface. Samples were immediately plated on tryptic soy agar (TSA) and incubated at 30°C for five days. Visually distinct colonies were subcultured onto separate Columbia agar plates, incubated for an additional night at 37°C, and subsequently analyzed using MALDI-TOF-MS analysis determining baseline contamination.

Using the same method, 50 endoscopes were examined after pre-cleaning with mikrozid® universal wipes followed by UV-C disinfection for 60 seconds.

In addition, 13 endoscopes were analyzed after water-based pre-cleaning followed by UV-C disinfection. Data are presented as mean ± standard deviation (SD) and standard error of mean (SEM); group differences were analyzed using the Kruskal-Wallis test with Dunn´s multiple comparisons correction.

RESULTS

Baseline contamination demonstrated a high microbial load, with mean values of 33,7 ± 84,5 colony-forming units (CFU) (SEM 15.7) on the handle site and 161,38 ± 185,2 CFU (SEM 34.4) on the insertion tube. Predominantly bacteria belonging to the physical flora of the upper respiratory tract were detected. After precleaning with mikrozid® universal wipes followed by UV-C

disinfection, 48 of 50 (96%); minimal contamination in two endoscopes resulted in an overall mean residual contamination of 0,19 ± 0,45 CFU (SEM 0.06).

After water-based pre-cleaning followed by UV-C disinfection, 13 out of 13 endoscopes (100%) showed no detectable microbial growth (0 CFU). Both chemical and water-based pre-cleaning resulted in a significant reduction of CFU counts compared with baseline (adjusted p<0.0001 for all comparisons). No statistically significant differences were observed between chemical and water-based pre-cleaning for either handle or insertion tube (adjusted p >0.9999).

CONCLUSIONS

Water-based pre-cleaning demonstrated microbiologically equivalent results compared with chemical pre-cleaning. Considering these findings, there are justified indications for a reassessment and possible adjustment of existing precleaning algorithms.

KEYWORDS

Hygiene, endoscopes, UV-C, precleaning

OP-1378

Bridging Gaps In Otolaryngology Care: Evaluation Of A Novel Skills-Based Training Curriculum For Rwandan General Practitioners

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BACKGROUND & AIM

In Rwanda's health system, otolaryngology care is structured such that patients are first evaluated at district hospitals, where general practitioners (GPs) play a central role in assessment and triage. As GPs serve as the primary point of contact for many otolaryngology presentations, ongoing professional development in otolaryngologic skills is particularly relevant to their scope of practice. We sought to develop, implement, and evaluate a hands-on training curriculum for GPs to learn and practice foundational skills in otolaryngologic care.

MATERIAL & METHODS

In this Type II hybrid effectiveness-implementation study, an 8-hour curriculum was developed and led by 9 Rwandan OHNS clinicians. The course taught essential skills for GPs including head and neck exam (lecture and hands-on practice), laceration repair (simulation), anterior rhinoscopy and nasal packing (simulation), and ear foreign body removal (simulation). Pre- and post-intervention surveys evaluated clinical outcomes (knowledge and confidence/comfort) and implementation outcomes (appropriateness and acceptability). Data were analyzed using descriptive statistics and paired t-tests.

RESULTS

Forty GPs collectively representing 19 of 30 Rwandan districts attended the training. The curriculum was appropriate, with 93% of GPs agreeing that otolaryngology skills are relevant to their practice. The training was associated with significant improvement in self-reported confidence in all surveyed areas, with anterior rhinoscopy yielding the greatest mean increase of 2.66 out of 5 (p<0.001). Knowledge assessment scores also demonstrated a mean score improvement of 18.55% (p<0.001). Finally, the training was acceptable. All participants agreed the training would improve their ability to manage and treat otolaryngology conditions, and all participants were interested in attending future training sessions.

CONCLUSIONS

This study describes one of the first documented hands-on otolaryngology training session focused on Rwandan GPs. The combined lecture- and simulation-based format was appropriate, effective, and acceptable. This model demonstrates that participants place great value on simulation-based education with associated improvements in both confidence and knowledge. Given the current scope of CME programs focused on otolaryngologic topics in Rwanda, this model could be utilized to further support ongoing professional development to strengthen GPs, knowledge, confidence, and skills, therefore promoting the provision of high-quality otolaryngologic care across healthcare levels.

KEYWORDS

Continuing medical education, hybrid effectiveness-implementation, Rwanda, Global Health, capacity building

OP-1379

Comparative Evaluation of the 4K 3D VITOM® EAGLE Exoscope in Otorhinolaryngology: Surgical Workload, Ergonomics, and Feasibility

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BACKGROUND & AIM

Surgical visualization in otorhinolaryngology–head and neck surgery is evolving toward heads-up, digitally mediated 4K-3D platforms. However, evidence regarding the surgeon-centered ergonomic and workload impact of the VITOM® EAGLE exoscope remains limited. This study aimed to comparatively evaluate the robotic arm–assisted 4K-3D VITOM® EAGLE exoscope across otologic, microlaryngeal, and head and neck procedures, focusing on surgical workload, postural ergonomic risk, and feasibility.

MATERIAL & METHODS

This single-center observational feasibility study included 21 elective procedures performed by five surgeons: 11 otologic, six microlaryngeal, and four head and neck operations. The VITOM® EAGLE 4K-3D exoscope mounted on the ARTip™ CRUISE robotic arm was compared with the conventional visualization modality routinely used for each procedure type: operating microscope for otologic and microlaryngeal surgery, and surgical loupes for head and neck surgery. Surgical workload was assessed using the National Aeronautics and Space Administration Task Load Index (NASA-TLX), and ergonomic risk using the Rapid Upper Limb Assessment (RULA). Paired comparisons, Holm-adjusted analyses, subgroup analyses, and sensitivity models were performed.

RESULTS

Overall, total NASA-TLX was modestly lower with exoscopic visualization than with the conventional comparator (31.82 ± 15.80 vs 33.51 ± 15.00, $p = 0.044$), mainly driven by otologic procedures (22.24 ± 7.02 vs 30.97 ± 11.37, $p < 0.001$). The exoscope produced a consistent ergonomic advantage, with significantly lower total RULA scores overall (3.52 ± 0.81 vs 5.76 ± 0.44, $p < 0.001$). RULA Group A and Group B scores were also significantly reduced (both $p < 0.001$). Workload-domain analysis showed redistribution away from physical-demand dominance toward relatively higher cognitive and temporal components, rather than uniform global workload reduction.

CONCLUSIONS

The robotic arm–assisted 4K-3D VITOM® EAGLE exoscope is feasible across selected otorhinolaryngology procedures and provides a clinically meaningful reduction in postural ergonomic risk, particularly in otology. Its principal benefit appears to be ergonomic optimization and workload redistribution rather than simple reduction of total perceived workload. These findings support further prospective, procedure-specific human-factors studies.

KEYWORDS

Exoscope, VITOM EAGLE, Otorhinolaryngology, Ergonomics, Surgical Workload, Robot-assisted surgery

OP-1380

DECELLULARIZED XENOGENEIC CARTILAGE AS A BIOSCAFFOLD: A RABBIT MODEL STUDY

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BACKGROUND & AIM

Autologous cartilage grafts remain the gold standard in reconstructive surgery; however, donor-site morbidity and limited graft availability continue to drive the search for alternative biomaterials. This study aimed to histopathologically evaluate host tissue response to decellularized xenogeneic cartilage and to compare its time-dependent biological behavior with autologous auricular cartilage grafts in an experimental rabbit model.

MATERIAL & METHODS

Chicken-derived sternal cartilage underwent lipid extraction, sodium dodecyl sulfate–based detergent decellularization, enzymatic processing, and ethylene oxide sterilization. In twelve New Zealand rabbits, xenogeneic grafts were implanted into subcutaneous pockets on one side, while fresh autologous auricular cartilage grafts were placed contralaterally as controls. Specimens were harvested at 1 week, 1 month, 3 months, and 4 months. Histopathological evaluation included cellularity, glycosaminoglycan (GAG) preservation, inflammatory response, peripheral proliferative activity, collagen matrix integrity, calcification, and bone metaplasia. Assessments were performed using standardized scoring criteria by a pathologist blinded to implantation time points.

RESULTS

Absence of chondrocyte nuclei confirmed successful decellularization in xenogeneic grafts. Both graft types demonstrated a time-dependent reduction in GAG content, which occurred earlier and was more pronounced in xenogeneic grafts ($p < 0.001$).

Inflammatory response was significantly higher in the xenograft group compared with autografts ($p < 0.001$), without evidence of progressive increase over time. Peripheral proliferative activity was observed in both graft types. At the earliest evaluation point, proliferative activity was significantly greater in autografts ($p < 0.001$); however, no statistically significant differences were identified between graft types at subsequent time points ($p > 0.05$). Peripheral proliferation within the xenogeneic graft group demonstrated a progressive increase over time ($p = 0.005$). No significant intergroup differences were observed in collagen matrix preservation, calcification, or bone metaplasia ($p > 0.05$).

CONCLUSIONS

Decellularized xenogeneic cartilage preserved structural collagen matrix integrity but exhibited greater glycosaminoglycan loss and persistent inflammatory response compared with autografts. Nevertheless, progressively increasing cellular proliferation suggests ongoing host–tissue interaction over time. These findings indicate that decellularized xenogeneic cartilage may represent a potential bioscaffold candidate warranting further experimental and translational investigation in reconstructive cartilage surgery.

KEYWORDS

Xenogeneic cartilage Decellularization Scaffold Cartilage graft

OP-1381

Implementing Ambient Voice Technology Into Ear, Nose And Throat Outpatient Clinics: A Workflow Analysis

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BACKGROUND & AIM

Ear, Nose, and Throat (ENT) outpatient clinics face severe clinical documentation inefficiencies. Current workflows require clinicians to duplicate effort through brief electronic notes and full manual dictaphone recordings, contributing heavily to clinician fatigue and delayed patient correspondence. We hypothesized that integrating Ambient Voice Technology (AVT), an artificial intelligence (AI) scribe, would eliminate manual rework loops, reduce documentation turnaround times, and alleviate clinical administrative burdens

MATERIAL & METHODS

Study design: Mixed-methods business process analysis. Subjects: ENT clinicians and medical secretaries. Setting: Outpatient clinics at Lewisham and Greenwich National Health Service (NHS) Trust. Intervention(s): Simulated integration of an AVT-powered AI scribe to passively capture consultations and generate structured Electronic Health Record (EHR) notes. Outcome measurement(s): Process handoff frequency, documentation turnaround time, and projected clinician time saved. Independent variables: Documentation method (Manual dictation vs. AVT). Analyses: Data were collected via clinician surveys and one-to-one interviews to capture specific workflow pain points. Workflows were mapped using Business Process Model and Notation (BPMN) swimlanes. Root-cause analysis utilised the 'Five Whys' technique.

RESULTS

Baseline BPMN mapping revealed a fragmented process requiring seven manual handoffs per clinic letter and a frustrating rework loop. Clinical surveys indicated complex letters require up to 10 minutes of manual clinician processing. The modelled AVT intervention successfully consolidated the workflow to a single, same-day clinician review at the point of care. To ensure clinical safety and usability, acceptance criteria established for the pilot mandate a strict AI transcription accuracy of ≥ 99% (Word Error Rate) and a system latency under 10 seconds. However, root-cause analysis identified that outdated legacy EHR systems and rigorous NHS data governance compliance pose significant systemic barriers to immediate integration.

CONCLUSIONS

Replacing manual dictation with AVT presents overwhelming positive potential to streamline ENT documentation workflows, significantly reducing clinician burnout and returning valuable time to direct patient care. However, successful translational implementation is negatively impacted by legacy technology, necessitating strategic alignment with future hospital-wide EHR migrations to sustain these clinical benefits

KEYWORDS

AI scribe, AVT, Ambient voice technology, digital transformation

OP-1382

Enhancing Confidence And Knowledge In Vertigo Management: Outcomes Of A Primary Care Training Course For General Otorhinolaryngologists

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BACKGROUND & AIM

Background. Dizziness is a common complaint seen in hospital practice, yet diagnosis and management remains a challenge to most physicians. In 2024, ORL HNS experts from the Philippines developed a two-day course consisting of lectures and workshops on proper diagnosis and management of vertigo in the primary care setting.

Objectives. This study aims to evaluate the preceptorship program for general otolaryngologists through pre- and post-training program questions about confidence in dealing with patients complaining of vertigo as well as pre-and post-test exams on theoretical and practical knowledge on vertigo.

MATERIAL & METHODS

Methods. This is a cross-sectional study design used to compare pre and post test scores of PBO-HNS certified otorhinolaryngologists who attended the two day vertigo training course. This includes the pre- and post-test questionnaire scores on confidence in dealing with dizzy patients and pre- and post-test questionnaires on theoretical knowledge and practices on vertigo and dizziness.

RESULTS

Results. Results showed that there was a significant improvement in the overall confidence of participants dealing with vertigo patients and vertigo specific scenarios. Confidence also scores improved across all vertigo-related scenarios in the questionnaire, with the most significant increase in performing H.I.N.T.S exam, followed by performing canalolith repositioning maneuvers and positional tests. Similarly, the total theoretical knowledge score of participants also increased after the course,

CONCLUSIONS

Conclusion. Our study demonstrated that following a two-day vertigo training course, participants exhibited a significant increase in both confidence and theoretical knowledge in the diagnosis and management of vertigo, thereby improving efficacy and efficiency of primary care for patients.

KEYWORDS

Keywords: Wertigo training course, Dizziness, Head impulse, nystagmus testing, test of skew, Dix- Hallpike, Epley Maneuver, Audiometry

OP-1383

Enhancing Artificial Intelligence Responses In Healthcare: Assessing Chatgpt Models In Addressing Common Pharyngitis Inquiries

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BACKGROUND & AIM

Pharyngitis is an inflammation of the mucosa of the oropharynx. In most cases, it is caused by a bacterial or viral infection. Approximately 50 to 80 percent of pharyngitis or sore throat symptoms are of viral origin. The most common bacterial cause is Group A beta-haemolytic streptococci.This study evaluates and compares the accuracy, comprehensiveness, and readability of responses generated by ChatGPT-3.5 and ChatGPT-4 to common patient questions regarding pharyngitis

MATERIAL & METHODS

Thirty patient-oriented questions about pharyngitis, based on guidelines from the American Academy of Otolaryngology and the American Academy of Pediatrics, were posed to both ChatGPT-3.5 and ChatGPT-4. A total of five Ear Nose Throat specialists and three residents were tasked with evaluating the responses for accuracy and comprehensiveness. The readability of the responses was evaluated using the Flesch-Kincaid Grade Level and Flesch Reading Ease scores.

RESULTS

Out of 480 responses, ChatGPT-4. provided significantly more comprehensive and accurate answers compared to ChatGPT-3.5, with 88% of ChatGPT-4. responses rated as comprehensive and accurate versus 79% for ChatGPT-3.5 ($p = 0.01$). Readability analysis showed that both versions required a high educational level for comprehension

CONCLUSIONS

ChatGPT-4 demonstrated superior performance in providing more accurate and comprehensive information on pharyngitis compared to ChatGPT-3.5. However, the complex language used by both models may limit accessibility for the general patient population. Future Artificial Intelligence models should aim for simpler language to improve accessibility and comprehension. Ongoing testing and feedback are essential for refining these Artificial Intelligence based tools in healthcare settings.

KEYWORDS

Pharyngitis, ChatGPT, Patient education, Flesch-Kincaid Grade Level (FKGL), Flesch Reading Ease (FRE)

OP-1384

Ergonomic Impact Of Robotic-Assisted Microvascular Anastomosis: An EMG-Based Comparison

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BACKGROUND & AIM

Microvascular anastomoses represent a key element in plastic and reconstructive head and neck surgery. These demanding procedures are often performed at the end of lengthy tumor resections, when the surgeon is already physically and mentally fatigued. This study aimed to demonstrate the feasibility of robot-assisted microvascular anastomosis and to evaluate whether robotic technology can reduce the surgeon's physical workload during microsurgical procedures.

MATERIAL & METHODS

A master–slave robotic system was used, in which the surgeon's hand movements were transmitted via joysticks and replicated in near real-time by the robotic arms. To assess ergonomic advantages, wireless electromyography (EMG) measurements were performed while conducting microanastomoses on silicone vessels with a diameter of 1–2 mm. Muscular load and fatigue were analyzed, particularly in the shoulder girdle, upper arms, and hands.

RESULTS

Microanastomoses using the robotic system were successfully completed on silicone vessels. EMG analyses revealed significant differences in muscular strain compared to conventional free-hand techniques. A structured training and adaptation phase was required to ensure efficient and precise use of the robotic system.

CONCLUSIONS

This study provides first evidence that robot-assisted microvascular anastomosis is technically feasible. Successful completion of the anastomosis on a non-living model supports the potential of robotic systems in microsurgery. Further studies are needed to validate the clinical applicability of this technique in real surgical scenarios, particularly in head and neck reconstruction.

KEYWORDS

Robot-assisted surgery; Microvascular anastomosis; Electromyography (EMG); Ergonomics; Head and neck reconstruction

OP-1385

From Free Text To Real-World Evidence: Standardizing Voice-Care Data In ENT Clinics (Apdvoice)

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BACKGROUND & AIM

Voice-care documentation in ENT clinics is predominantly narrative and fragmented, limiting outcome measurement, comparability, and evidence generation. As phoniatrics increasingly demands multidisciplinary decision-making and multi-center collaboration, the absence of standardized, analyzable datasets represents a critical barrier. This presentation introduces APDVoice (apdvoice.com) as an integrated digital framework that not only standardizes voice-care documentation but also enables structured consilium-based case discussion and research-ready data generation for single- and multi-center clinical studies (Figure 1).

MATERIAL & METHODS

APDVoice was designed as a structured clinical data ecosystem tailored to ENT–phoniatric workflows. At its core is the Minimum Voice Dataset (MVD), capturing standardized information on symptoms, risk modifiers, endoscopic findings, acoustic and perceptual parameters, diagnosis, treatment decisions, and longitudinal outcomes (Figure 2).

Beyond routine documentation, the platform incorporates dedicated Consilium and Research modules. The Consilium module enables structured discussion of complex or hard cases by linking standardized clinical data, multimedia findings, and expert input (Figure 3). The Research module transforms routine clinical data into curated datasets suitable for single-center analyses and scalable multi-center studies (Figure 4).

The system architecture supports longitudinal tracking, cross-clinician comparability, and future interoperability with external research and analytics infrastructures, forming a scalable ecosystem for real-world evidence generation (Figures 1 and 4).

RESULTS

Structured data capture improved documentation consistency, completeness, and analytical usability across clinical encounters. The Consilium module facilitated standardized discussion of complex voice cases, supporting transparent decision-making and reproducible clinical reasoning.

The Research module enabled efficient transformation of routine clinical data into analyzable datasets, reducing manual data extraction and supporting both retrospective and prospective research workflows. Standardized variables allowed reliable aggregation of cases across clinicians and centers, enabling comparative analyses and hypothesis-driven research.

Together, these modules established a practical pathway from everyday clinical documentation to real-world evidence generation, supporting both clinical excellence and scientific productivity in phoniatric practice.

CONCLUSIONS

Transforming narrative documentation into structured, standardized datasets is essential for advancing voice care from anecdotal practice to measurable, evidence-driven precision medicine. APDVoice illustrates how digital workflow redesign can generate high-quality real-world evidence directly from routine clinical activity. Beyond documentation, such platforms move phoniatrics beyond isolated clinical narratives toward a shared, data-driven ecosystem that supports precision care, reproducible science, and future AI-assisted clinical intelligence.

KEYWORDS

APDVoice, Voice, Digital health, Voice disorders; Structured clinical data; Real-world evidence; Phoniatrics; ENT informatics; Artificial intelligence; Clinical standardization; Outcomes research

OP-1386

Linking Long Covid With GNRH Neurons Invasion

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BACKGROUND & AIM

Anosmia is a common manifestation of COVID-19, affecting approximately 50% of patients, with 68–73% recovering olfactory function. However, a substantial proportion develop persistent anosmia as part of long COVID, a syndrome characterised by prolonged fatigue, cognitive dysfunction, headaches, and sensory deficits. Long COVID represents an increasing healthcare and economic burden, with emerging evidence suggesting sustained viral neuroinvasion and hypothalamic dysfunction.

This study aims to explore the potential mechanisms linking SARS-CoV-2 neuroinvasion, olfactory dysfunction, and disruption of the hypothalamic–pituitary–gonadal (HPG) axis, with particular focus on gonadotropin-releasing hormone (GnRH) neuronal integrity.

MATERIAL & METHODS

A narrative review of current neuropathological, molecular, and clinical studies was undertaken, including post-mortem analyses, translational research, and longitudinal cohort data (e.g. GoCOVID study), to evaluate evidence of SARS-CoV-2 neurotropism and its impact on hypothalamic and endocrine function.

RESULTS

Neuropathological studies demonstrate SARS-CoV-2 neuroinvasion associated with loss of GnRH neurons, suggesting disruption of the HPG axis. The virus infects olfactory sensory neurons and hypothalamic tanycytes, while GnRH neurons express ACE2, TMPRSS2, and neuropilin-1 (NRP1), facilitating direct viral entry. Infection of hypothalamic structures, particularly the median eminence, impairs GnRH neuronal signalling, leading to apoptosis and reduced GnRH transcript expression.

Clinical data from the GoCOVID study indicate heterogeneous endocrine outcomes. While some patients recover normal HPG axis function within one year, others develop delayed or persistent hypogonadotropic hypogonadism, associated with testosterone deficiency and impaired reproductive function.

Additionally, fetal and neonatal GnRH neurons express viral entry receptors, suggesting vulnerability during critical developmental periods, with potential long-term implications for pubertal and reproductive function.

CONCLUSIONS

SARS-CoV-2–associated anosmia may reflect broader neuroendocrine involvement, including disruption of GnRH neurons and the HPG axis. Persistent hypothalamic dysfunction may contribute to long COVID manifestations and endocrine sequelae. Further longitudinal and mechanistic studies are required to clarify causality and long-term clinical implications.

KEYWORDS

COVID-19, Long COVID ,Anosmia, Neuroinvasion, Hypothalamic dysfunction, Gonadotropin-releasing hormone (GnRH), Hypothalamic–pituitary–gonadal axis (HPG axis), Hypogonadotropic hypogonadism, ACE2 receptor

OP-1387

The Pamukkale Operative Performance Scale (Paops): A Competency-Based Tool For Structured Operative Performance Assessment

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BACKGROUND & AIM

To develop the Pamukkale Operative Performance Scale (PaOPS) and present preliminary evidence supporting its validity and reliability as a structured instrument for assessing resident competence during real surgical procedures.

MATERIAL & METHODS

The PaOPS was developed based on the key steps that trainees are expected to perform during routine surgical procedures. The scale comprises five domains: (1) integration of patient-specific information into the planned procedure, (2) procedural

knowledge, (3) technical skill and appropriate handling of surgical instruments, (4) management of operative flow, and (5) teamwork and communication. In addition, operative autonomy was evaluated as a separate item. The validity, reliability, and generalizability of the PaOPS were examined using statistical analyses. Ethical approval was obtained.

RESULTS

A total of 738 surgical performances by 22 otolaryngology residents were assessed by five supervising surgeons across 85 procedures.

Validity: Spearman correlation analyses showed that higher PaOPS scores were strongly associated with greater operative autonomy across all procedures ($r = 0.773$, $p < 0.001$), indicating that performance improvements paralleled increased surgical independence. For adenotonsillectomy/tonsillectomy, the most frequently assessed procedure, the number of cases performed correlated positively with PaOPS scores ($r = 0.819–0.934$, $p < 0.001$) and with attainment of operative autonomy ($r = 0.619–0.847$, $p < 0.001$), supporting the scale's sensitivity to experience-related gains and its validity in competency-based training.

Reliability: The PaOPS demonstrated good internal consistency (Cronbach's $\alpha = 0.785$). Interrater reliability showed moderate agreement across performance domains ($\kappa = 0.425–0.597$, $p < 0.001$) and excellent agreement for operative autonomy ratings ($\kappa = 0.892$, $p < 0.001$). Generalizability analysis yielded a reliability coefficient of 0.91, indicating high measurement generalizability..

CONCLUSIONS

The PaOPS demonstrated satisfactory preliminary validity and reliability as a concise, competency-based instrument for assessing resident performance in real operative environments. It may serve as a practical tool in otolaryngology training programs to assess operative competence, deliver structured feedback, and track progression toward surgical autonomy.

KEYWORDS

surgical training, assessment of operative competency,

OP-1388

Workplace Harassement, Family Planning, Parental Leave And Lactation Experiences Among Otorhinolaryngologists In Turkiye: A National Cross-Sectional Survey

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BACKGROUND & AIM

This study aimed to assess family planning, reproductive decision making, occupational harrassment and workplace bullying, parental leave and lactation experiences among otorhinolaryngologists practicing in Turkiye. Furthermore it is endeavored to evaluate potential differences according to gender and occupational status (resident physician or specialist).

MATERIAL & METHODS

A web-based, anonymous, cross-sectional survey was conducted among actively practicing otorhinolaryngology specialists and residents throughout Turkiye region. The questionnaire was adapted to Turkish setting from the survey developed by Naismith et al. to assess family planning, parental leave, fertility and lactation experiences among otorhinolaryngologists in Canada. The survey was distributed to approximately 3000 otorhinolaryngologists via professional networking and digital platforms. Through the survey 202 completed responses were obtained. Categorical variables were compared using the Pearson's chi-square test whereas continuous and ordinal variables were analyzed utilizing the Mann-Whitney U test. A p value of <0.05 was accepted as statistically significant.

RESULTS

A total of 202 otorhinolaryngologists participated in the study ; 46.5% were women whereas 53.5% were men. The mean age was 34.86± 8.66 years. Overall, 60.9% of participants reported delaying parenthood due to career related impacts. Infact this rate was significantly higher among women then men (71.3% vs. 51.9% respectively, p=0.007) Women were also more likely to state that otorhinolaryngology training had influenced their decision regard to having a child compared to men. (55.3% vs 29.6% respectively, p=0.003) During residency training, exposure to workplace harrassment and bullying were reported more frequently by women than men (59.6% vs 38.0% respectively, p=0.007) Moreover this difference remained significant after completion of residency (25.5% vs 5.6% respectively, p<0.001) Among female physicians who needed to express breast milk in the occupational era, 72.2% reported inadequate timing , 83.3 % reported deprivation of adequate space and 66.7% reported inadequate storage facilities.

CONCLUSIONS

Otorhinolaryngologists in Turkiye, particularly women physicians cope with substantial challenges and obstacles related to occupational harassement, family planning, lactational support and parental leave.These findings highlight the need for secure reporting systems for workplace mistreatment, parental leave policies that don't impose career or financial disadvantages, and improved workplace infrastructure supportive of lactation.

KEYWORDS
Otorhinolaryngology, family planning, fertility, parental leave, lactation, workplace harassement, women surgeons, gender equity

OP-1389

4K-3D Video Microscopy Vs. Conventional Microscope In Head And Neck Microsurgery: Objective Ergonomic Analysis Using EMG

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BACKGROUND & AIM

One of the main ergonomic challenges in conventional microvascular anastomosis (MVA) is the prolonged use of an operating microscope, which often leads to strain in the shoulder, neck, and back muscles. The Mitaka® HawkSight 4K-3D video microscope provides an alternative by offering high-resolution 4K-3D visualization on a monitor placed away from the operating table. This setup allows for greater freedom of movement of the head and neck muscles, reducing dependence on a traditional operating microscope. The present study aimed to evaluate whether the Mitaka® HawkSight 4K-3D video microscope offers ergonomic advantages for the surgeon during MVA.

MATERIAL & METHODS

MVA procedures were performed using both the Mitaka® HawkSight 4K-3D video microscope and a conventional optical microscope. Electromyographic (EMG) measurements were recorded with a wireless system to analyze and compare muscle activity in the shoulder, neck, and back regions of the operating surgeon.

RESULTS

In vivo MVA performed with digital 4K-3D video microscopy demonstrated excellent visualization of microvessels. EMG analysis revealed significant differences in muscular workload between digital and conventional microscopy. In particular, mean frequency values in the cervical muscles were higher during 4K-3D video microscopy, suggesting reduced muscle fatigue compared to conventional techniques. A structured training and familiarization phase was required to optimize handling of the digital 3D system.

CONCLUSIONS

This study demonstrates the feasibility of performing microvascular anastomosis using the Mitaka® HawkSight 4K-3D video microscope. The enhanced freedom of movement in the neck and shoulder regions, independent of the microscope's position, offers clear ergonomic benefits for the surgeon. However, further technological development and refinement of the digital video microscopy system are required to maximize its ergonomic potential in clinical practice.

KEYWORDS

Microvascular anastomosis; 4K-3D video microscopy; Electromyography (EMG); Ergonomics; Head and neck surgery

OP-1390

Preventing Early Musculoskeletal Injury in Surgical Training: A Novel PGY-1 Ergonomics Curriculum with Measurable Behavioural Impact

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BACKGROUND & AIM

Musculoskeletal (MSK) strain affects more than 75% of surgeons over their careers, with otolaryngologists at particularly high risk due to prolonged static posture and fine motor demands. Despite this burden, structured ergonomics education is rarely embedded in early surgical training. To our knowledge, no standardized ergonomics curriculum has been implemented at the PGY-1 level. We developed and evaluated a structured ergonomics program for first-year surgical residents to characterize baseline MSK symptoms and assess the impact of early targeted training.

MATERIAL & METHODS

Twenty-four PGY-1 surgical residents participated in a structured ergonomics session consisting of: (1) a didactic module addressing ergonomic principles, neutral posture, microbreak implementation, and operating room setup; and (2) a six-station hands-on workshop providing real-time posture coaching and targeted core-stabilization exercises relevant to operative positioning.

Pre-session voluntary surveys assessed MSK symptoms using a visual analogue scale (VAS 0–10; 0 = no pain, 10 = worst imaginable pain), ergonomic knowledge, and microbreak behaviours. Post-session voluntary surveys evaluated educational value, confidence in applying ergonomic principles, comfort requesting intraoperative adjustments, and intention to adopt ergonomic practices. Data was summarized descriptively.

RESULTS

Twenty-one residents (88%) completed the pre-session survey. Over 90% reported experiencing MSK discomfort during or after surgery. Mean intraoperative VAS scores ranged from 1.2–3.1/10 (range 0–8), with postoperative discomfort comparable or higher in several domains, suggesting persistent symptom burden. No respondents reported prior formal ergonomics training.

Eighteen residents (75%) completed the post-session survey. Session quality was rated highly (mean 4.6/5), with 94% reporting high relevance to surgical training. Post-session understanding of surgical ergonomics was high (89% rating 4–5/5). Confidence in recognizing ergonomic risk factors improved (89% rating 4–5/5), and 83% reported high confidence in applying ergonomic principles.

Eighty-three percent felt more comfortable requesting microbreaks, and 83% intended to use a microbreak routine during their next operative day. Eighty-nine percent planned to implement at least one ergonomic modification in their next case.

CONCLUSIONS

Even early in residency, trainees demonstrate measurable MSK symptoms without prior formal ergonomics education. Early implementation of structured ergonomics training represents a proactive strategy to prevent ingrained postural dysfunction and long-term occupational morbidity. This novel pilot supports integration of specialty-specific ergonomics curricula to promote surgeon longevity and sustainable surgical careers.

KEYWORDS

Surgical Ergonomics, Musculoskeletal Injury Prevention, Residency Education

OP-1391

Evaluation Of The Efficacy Of Exosome-Rich Plasma And Selenium Applications On Nerve Regeneration In A Traumatic Facial Nerve Injury Model

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BACKGROUND & AIM

The aim of this study is to compare the effects of steroid treatment, Exosome-Rich Plasma (ERP), and selenium on nerve recovery in a traumatic facial nerve injury model through electrophysiological and histopathological evaluation

MATERIAL & METHODS

This study utilized 50 male Wistar Albino rats (3 months old, 300–400 g) randomized into five equal groups (n=10). Under anesthesia, the buccal branch of the facial nerve was exposed, and baseline electrophysiological recordings, including nerve stimulation thresholds (starting at 0.01 mA) and motor unit action potentials from the orbicularis oris and buccal muscles, were obtained. Except for the sham group (Group 1) all subjects underwent a 10-minute nerve compression trauma using microvascular clamps. The control group (Group 2) received no treatment, while experimental groups received methylprednisolone (Group 3: 28 days,1 mg/kg,im), ERP (Group 4: intraneuronal, only first day) and selenium (Group 5: 28 days, sodium selenit 0,17 mg/kg,ip). ERP was prepared from intracardiac blood of five donor rats. After four weeks, final electrophysiological measurements were recorded, and the traumatized nerve segments were excised for histopathological examination prior to sacrifice

RESULTS

This study is my medical specialty thesis. The experimental process and data collection phases are currently ongoing. The efficacy of ERP and selenium in the treatment of facial nerve injury will be evaluated based on the statistical analysis of the obtained electrophysiological and histopathological data.

CONCLUSIONS

All histopathological and electrophysiological data acquired throughout the study will be statistically analyzed to evaluate the therapeutic efficacy of exosome-rich plasma and selenium in facial nerve injury, both of which currently lack a defined role in clinical practice. Consequently, these findings are expected to facilitate the development of novel therapeutic protocols for the management of facial nerve paralysis

KEYWORDS

Facial Nerve Injury, Nerve Regeneration, Exosome-Rich Plasma, Selenium, Methylprednisolone.

OP-1392

Pixel-Wise Otoscopy Planning With Patient-Specific Graft Templates: Quantified Tympanic Membrane Perforation Assessment Applied To Endoscopic Tympanoplasty

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BACKGROUND & AIM

Tympanic membrane (TM) perforation repair—especially with cartilage grafts—often depends on subjective intraoperative estimation of defect size and shape, leading to repeated trimming, longer operative time, and unnecessary cartilage removal. This is particularly relevant in endoscopic tympanoplasty, where precision and efficiency are essential. We developed a practical, low-cost pixel-wise otoscopy workflow with scale calibration (mm/pixel) to objectively quantify perforation geometry (perforation-to-TM area ratio, areas in mm^2, and major/minor axes in mm) and generate a patient-specific graft template. The template can be used as a 2D blueprint and optionally converted into a 3D-printable cutting mold to standardize cartilage shaping.

MATERIAL & METHODS

A browser-based application (Streamlit) with a Python/OpenCV backend was developed for preoperative otoscopy planning. Standard otoscopic images were imported and scale-calibrated to millimeters using either (i) speculum diameter (mm) with automatic circle detection, or (ii) manual calibration by defining a known distance, yielding mm/pixel. The tympanic membrane (TM) and perforation were segmented pixel-wise by manual mask delineation (touch/pen input), generating binary masks. The perforation mask was constrained within the TM mask to avoid overestimation. Areas were computed by pixel counting and converted to mm^2 using the calibration factor; perforation-to-TM area ratio (%) was calculated. Perforation major/minor axes were estimated from contour geometry (ellipse fitting or minimum-area rectangle) and converted to millimeters. A patient-specific graft template was created from the perforation mask and exported as (1) an annotated 2D blueprint with scale bar and metrics, and (2) an optional 3D-ready contour for extrusion and STL mold generation for cartilage trimming guidance.

RESULTS

The workflow successfully generated calibrated, objective perforation measurements and a patient-specific graft template from a single otoscopic image. In the representative case, scale calibration yielded a consistent mm/pixel factor, enabling conversion of pixel-based metrics to clinically interpretable dimensions. The total tympanic membrane area was 68.68 mm^2, with a perforation area of 51.94 mm^2, corresponding to a perforation-to-TM ratio of 75.63%. Perforation geometry analysis demonstrated a major axis of 8.81 mm and a minor axis of 8.33 mm, with an equivalent diameter of 8.13 mm. The system produced two standardized outputs: (1) a blue graft “blueprint” showing the perforation-derived graft shape with embedded dimensions and a scale bar, and (2) an overlay visualization of the graft on the otoscopic image, allowing immediate verification of expected coverage and edge control. The template contour was also compatible with export for optional 3D mold generation to guide cartilage trimming.

CONCLUSIONS

A scale-calibrated, pixel-wise otoscopy planning workflow can objectively quantify tympanic membrane perforation size and geometry and generate a patient-specific graft template for endoscopic tympanoplasty. By providing perforation-to-TM area ratio, absolute areas (mm^2), and major/minor axes (mm) preoperatively, the approach supports accurate graft sizing and improves control of perforation margins and full coverage. This can reduce intraoperative trial-and-error, shorten operative time, and minimize excessive cartilage removal, with potential to increase anatomical closure success. The optional conversion of the template into a 3D-printable cutting mold may further standardize cartilage shaping and enhance reproducibility.

KEYWORDS

Endoscopic tympanoplasty Tympanic membrane perforation Otoscopy image analysis Pixel-wise segmentation Cartilage graft template Preoperative planning

OP-1393

The Role Of Chatgpt-4 In Otorhinolaryngology: A Narrative Review

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BACKGROUND & AIM

Background:

Artificial intelligence (AI) and large language models (LLMs) such as ChatGPT-4 have rapidly gained attention for their potential to transform clinical practice, medical education, and patient communication. However, their specific utility in otorhinolaryngology (ENT) remains underexplored.

Objective:

To review current literature and assess ChatGPT-4’s potential applications, benefits, and limitations in otorhinolaryngology across patient education, medical education, and clinical practice domains.

MATERIAL & METHODS

Methods:

A narrative review was conducted using PubMed, Google Scholar, and EMBASE databases with keywords including “ChatGPT-4,” “artificial intelligence,” “ENT,” and “otorhinolaryngology.” Relevant English-language studies were evaluated. Additionally, ChatGPT-4 was prompted across multiple ENT-related scenarios to assess its response accuracy and practicality.

RESULTS

Results:

ChatGPT-4 demonstrated strong potential in improving patient education by enhancing readability and accessibility of medical information, and by providing clear peri-operative guidance. In medical education, it served effectively as a virtual tutor, generating structured learning objectives, assessment materials, and procedural simulations. Clinically, ChatGPT-4 supported documentation tasks such as operative notes and consent forms, aligning with guideline-based standards. However, limitations included inconsistent diagnostic accuracy, occasional factual errors, and ethical concerns regarding data security and medico-legal responsibility.

CONCLUSIONS

Conclusion:

ChatGPT-4 can complement otorhinolaryngology practice by enhancing patient communication, educational efficiency, and administrative workflow. Nonetheless, its use should remain adjunctive, with continued validation and ethical oversight to ensure safe and accurate clinical integration.

KEYWORDS

ChatGPT-4, Otorhinolaryngology, Artificial Intelligence, ENT Education, Clinical Practice

OP-1394

Noise-Induced Vestibular Dysfunction In Rats: A Synaptic Mechanism

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BACKGROUND & AIM

The cochlea and vestibular organs share the membranous labyrinth, close anatomical proximity, similar hair cell structures, and a common vascular supply, suggesting that both systems may be susceptible to noise-induced damage. Therefore, this study aimed to characterize the impact of low-frequency noise (LFN) exposure on vestibular function and utricular synaptic integrity using electrophysiological, behavioral, and histological assessments.

MATERIAL & METHODS

Sprague-Dawley rats were exposed to 6 hours of continuous LFN at either 110 dB SPL or 120 dB SPL. Auditory function was assessed using auditory brainstem responses (ABRs), while vestibular function was evaluated using cervical vestibular-evoked myogenic potentials (cVEMPs), the balance beam-walking test, and the rotarod test. Utricular synaptic organization was examined by immunofluorescence staining and confocal microscopy.

RESULTS

Exposure to 120 dB SPL LFN resulted in permanent auditory and vestibular functional deficits, whereas the effects of 110 dB SPL LFN were temporary and limited. In the 120 dB SPL group, increased ABR thresholds, reduced wave I amplitudes, elevated cVEMP thresholds, decreased cVEMP amplitudes, and prolonged latencies were observed. These electrophysiological results were accompanied by poorer behavioral performance. Histological analysis revealed selective synaptic loss in the striolar region of the utricle following exposure to 120 dB SPL LFN, while no comparable synaptic loss was observed after 110 dB SPL exposure.

CONCLUSIONS

Noise exposure represents an important environmental risk factor that can directly affect vestibular function. The present findings indicate that noise-induced vestibular damage is intensity-dependent and associated with utricular synaptopathy, with the striolar region particularly vulnerable. Vestibular synaptopathy may therefore play an underlying role in noise-induced balance dysfunction.

KEYWORDS

Noise, vestibular dysfunction, synapses, balance, rodents

OP-1395

Reaching One Billion At Risk: Evaluating A Clinician-Led Youtube Intervention For Hearing-Loss Prevention In Young Audiences

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BACKGROUND & AIM

Hearing loss is a growing global public-health challenge affecting over 1.5 billion people worldwide, with prevalence projected to increase substantially by 2050 (WHO, 2021). Up to 1 billion adolescents and young adults are at risk of preventable noise-induced hearing loss due to unsafe listening practices (WHO 2025; Dillard et al. 2022). Despite this preventability, hearing-health literacy remains low and engagement with traditional public-health resources is limited. To address this gap, we independently developed and produced a WHO-informed educational YouTube video designed to translate evidence-based hearing-loss prevention guidance into accessible, narrative-driven digital content. This study evaluated its reach and public-health impact.

MATERIAL & METHODS

A mixed-methods observational evaluation was conducted of a 7-minute clinician-authored educational video translating key messages from the WHO World Report on Hearing into clear explanations of auditory physiology, cumulative noise exposure, and preventive behaviours. The video was designed using evidence-based science communication principles to engage adolescents and young adults. Quantitative analytics were extracted from YouTube Studio (27/07/2024–05/02/2026), including impressions, views, watch time, retention, engagement, and audience demographics. A qualitative thematic analysis of 1,421 de-duplicated public comments was performed using an inductive–deductive framework aligned with public-health outcomes (knowledge gain, risk perception, behavioural intention, barriers, misinformation). Only publicly available anonymised data were analysed.

RESULTS

The video generated 421,022 views and 17,232 watch-hours from 3,752,747 impressions (CTR 7.43%), with 79.96% of views occurring within 28 days. Engagement included 23,379 likes and 1,425 comments. Viewers were predominantly aged 18–34 years (86.7%), the highest-risk demographic for unsafe listening, and globally distributed (91.9% of views outside the UK). Thematic analysis identified prevention awareness, risk recognition, and lived experience as dominant themes. Fifteen percent of comments expressed self-reported preventive behaviour change or intent, and prevention-focused comments attracted 34% of total comment likes.

CONCLUSIONS

A clinician-led, WHO-informed digital intervention achieved rapid global reach and engagement among high-risk young audiences. While sustained behavioural change cannot be directly inferred, findings demonstrate that clinician-created digital media can function as a scalable, low-cost adjunct to traditional hearing-loss prevention strategies and highlight the potential for healthcare professionals to directly translate evidence into impactful global public-health communication.

KEYWORDS

Hearing Loss Prevention, Public Health, Mixed-Methods Evaluation

OP-1396

Cognitive Load Effect On Intraoperative Learning – A Randomized Trial In Simulation-Based Settings

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BACKGROUND & AIM

Surgical trainees in the operating room (OR) face numerous stressful distractions, that increase cognitive load (CL) and potentially hinder learning. While the challenging nature of the OR environment is known, its specific effects on CL and knowledge acquisition in the setting of intraoperative teaching remain underexplored. This study addresses this gap.

MATERIAL & METHODS

A randomized controlled trial was conducted with 61 medical students at King Saud bin Abdulaziz University for Health Sciences. Participants were divided into a control group (CG), exposed to a low-stress simulation, and an experimental group (EG), subjected to a noisy OR simulation. Both groups participated in a chest tube insertion scenario with intraoperative teaching. CL was measured subjectively using the Modified Multidimensional Cognitive Load Scale (m-MCLS) and objectively via heart rate monitoring and a tactile response task (TRT). Postsimulation quiz scores assessed knowledge acquisition.

RESULTS

The EG exhibited significantly higher extraneous CL due to environmental noise ($p < 0.001$). Objective measures supported this; the EG showed more skipped TRT responses (19% vs. 5.3%, $p < 0.001$), indicating attentional lapses. Quiz scores were also

lower in the EG (57.4% vs. 67.5%, p = 0.02), reflecting impaired knowledge acquisition. Prior meaningful hands-on exposure improved performance on univariate analysis but lost significance after accounting for group assignment.

CONCLUSIONS

Simulating a realistic OR environment intensified cognitive load and trainees impaired knowledge acquisition. Incorporating CL management strategies into surgical training may enhance trainee performance and adaptability in similar real-time encounters. Further research should explore optimal simulation realism levels and interventions to mitigate negative impacts on OR knowledge acquisitions.

KEYWORDS

cognitive load, surgery, intraoperative teaching, learning, education.

OP-1397

Quantum Physics - Theoretical Voice Evaluation: A Review Of Emerging Perspectives And Applications

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BACKGROUND & AIM

Traditional acoustic analysis of the human voice often relies on classical linear models, which struggle to capture the non-linear, stochastic nature of vocal production and pathological turbulence. Recent theoretical developments, most notably: Quantum Vocal Theory of Sound, have proposed that the mathematical quantum mechanics, specifically linear operators in Hilbert spaces, offer a superior framework for describing sounds as an embodied representation. This review is of current knowledge on how quantum principles can be applied to voice evaluation and pathology detection.

MATERIAL & METHODS

We conducted a systematic review of the literature (2018-2025) focusing on quantum signal processing, quantum-inspired algorithms, and vocal state superpositions. The review examines the use of quantum-mechanical postulates (observables, measurement, and time evolution) to show phonetic elements like phonation and turbulence.

RESULTS

The literature reveals that mapping vocal signals onto a Hilbert space allows for a more nuanced representation of vocal states. Research into quantum-enhanced analysis (e.g., the QuantumMelody framework) demonstrates that hybrid quantum-classical models can activate higher agreement with expert clinical graders up to 74% in singing assessment compared to classical baselines. Quantum-inspired denoising and entanglement-based feature extraction have also shown potential in improving signal-to-noise ratios in pathological voice recordings.

CONCLUSIONS

While still in its infancy, a quantum-informed perspective on sound provides a robust mathematical toolkit for addressing complexity in phoniatrics. Future clinical applications may leverage quantum machine learning to enhance the sensitivity of automated voice grading systems, though practical implementation remains tied to advancements in quantum hardware.

KEYWORDS

Voice, Quantum mechanics, Application.

OP-1398

Neck Abscesses And Phlegmons – A Continuing Challenge: The Use Of Vacuum-Assisted Closure (VAC) Therapy In Exceptionally Difficult Clinical Cases

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BACKGROUND & AIM

Although advances in diagnostic imaging and widespread antibiotic use have significantly reduced the incidence of extensive purulent infections of the neck, deep neck abscesses and phlegmons remain potentially life-threatening conditions. Comorbidities often further influence the patient's general condition and clinical outcome. The aim of this study was to analyze the clinical characteristics and management of deep neck infections treated at a tertiary otolaryngology center, with particular emphasis on the role of vacuum-assisted closure (VAC) therapy in exceptionally advanced necrotizing cases.

MATERIAL & METHODS

A retrospective analysis was conducted of patients hospitalized in the Department of Otolaryngology of the Provincial Hospital in Poznan between 2010 and 2023. Demographic data (age, sex), comorbidities, localization and extent of inflammatory lesions, radiological and microbiological findings, and treatment modalities were evaluated. Particular attention was given to cases requiring advanced wound management techniques - the role of vacuum-assisted closure (VAC) therapy in exceptionally advanced necrotizing cases.

RESULTS

Between 2010 and 2023, 203 patients aged 20–88 years were hospitalized due to neck abscesses or phlegmons, predominance of male patients. The time from symptom onset to hospital admission ranged from several days to several months. The most common symptoms included fever or subfebrile temperature, neck pain, and cervical swelling. The submandibular and lateral cervical regions were the most frequently affected sites; other locations included the anterior neck, submental, parapharyngeal, prevertebral spaces. Multispace infections with extension to the mediastinum, and even the chest wall with soft tissue necrosis were also observed. Staphylococci and Streptococcus pyogenes were the most commonly identified pathogens. The majority of patients were treated with wide surgical incision and drainage combined with systemic antibiotic therapy. In two patients with extensive necrotizing soft tissue involvement, negative pressure wound therapy (VAC) was successfully implemented.

CONCLUSIONS

Deep neck abscesses and phlegmons are relatively rare but remain serious, potentially life-threatening conditions. Computed tomography plays an important role in diagnostic evaluation by providing precise information on the location and extent of infection. Wide surgical drainage combined with appropriate systemic antibiotic therapy remains the standard of care and significantly improves patient outcomes. In particularly extensive or necrotizing infections, adjunctive negative pressure wound therapy (VAC) can support wound healing and reduce local infection. Careful monitoring and timely intervention are essential to prevent severe complications and ensure optimal recovery.

KEYWORDS

Deep neck abscess, Phlegmon, Surgical drainage, Vacuum-assisted closure (VAC), Negative pressure wound therapy, Necrotizing infection, Head and neck infection

YO-IFOS (YOUNG IFOS)

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OP-1399

Clinical Outcomes And Complications Of Tonsil Surgery In 2,537 Patients: A Fifteen-Year Tertiary Center Experience

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BACKGROUND & AIM

Tonsil surgery is among the most commonly performed procedures in otorhinolaryngology, with indications varying between pediatric and adult populations. Although generally safe, postoperative complications—particularly hemorrhage—remain clinically significant and may require readmission to the hospital or surgical intervention. Complication rates may differ according to age, indication, surgical technique, and comorbidities. This study aimed to evaluate the demographic characteristics, surgical indications, operative techniques, and postoperative complication rates of pediatric and adult patients who underwent tonsil surgery, and to identify factors associated with minor and major complications in a large single-center cohort.

MATERIAL & METHODS

This study received ethical approval from the Local Ethics Committee of Selçuk University Faculty of Medicine (approval no. 2025/674). Tonsillectomies performed by participating faculty members were identified through the hospital information system, and demographic data such as age, gender, and date of surgery were recorded. Patients' electronic medical records were reviewed separately to assess surgical indications, comorbidities, surgical techniques, hemostasis methods, and postoperative complications. Readmission or hospitalization due to pain, feeding difficulties, or deterioration of general health status was defined as a minor complication, while postoperative bleeding was classified as a major complication. Data were tabulated using Microsoft Excel and analyzed using IBM SPSS Statistics version 29.0 (IBM Corp., Armonk, NY, USA). Parametric variables were analyzed using Student's t-test, and nonparametric variables were evaluated using the Mann–Whitney U test. A p-value < 0.05 was considered statistically significant.

RESULTS

A total of 2,537 patients (age range: 14 months–72 years) who underwent tonsil surgery were included. Of these, 1,860 (73.3%) were pediatric and 677 (26.7%) were adults. Obstruction was the leading surgical indication (1,683; 66.3%), followed by infection (755; 29.8%), with obstructive causes predominating in children and infectious indications in adults. Most patients (2,335; 92%) had no comorbidities, with respiratory and cardiovascular disorders being the most frequent among those affected. Tonsillectomy was performed in 2,194 cases (86.5%) and tonsillotomy/biopsy in 343 (13.5%), with the cold knife technique used in 1,890 patients (74.5%). Minor complications occurred in 52 patients (2.1%), and major hemorrhage in 87 (3.4%). Reintervention was required in 21 patients (24.1%). There was one pediatric mortality (0.04%); all other patients were discharged without sequelae.

CONCLUSIONS

Tonsil surgery is a common and generally safe procedure in both pediatric and adult populations. Obstructive indications predominated in children, whereas infectious causes were more frequent in adults. The overall rates of minor and major complications were low; however, postoperative hemorrhage remains the most significant adverse event and may require surgical intervention. Although most patients were discharged without sequelae, rare but serious outcomes can occur. Careful patient selection, meticulous surgical technique, and close postoperative monitoring are essential to minimize complications and improve clinical outcomes.

KEYWORDS

Tonsillectomy; Tonsillotomy; Postoperative Hemorrhage; Surgical Complications; Pediatric; Adult; Retrospective Study

OP-1400

COVID-19 Policy Change And Otolaryngologic Surgery In Japan: A Nationwide Interrupted Time-Series Study

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BACKGROUND & AIM

The COVID-19 pandemic disrupted surgical services worldwide. In Japan, a national state of emergency was declared in April 2020, and COVID-19 was reclassified as a Class 5 infectious disease (seasonal influenza–equivalent) in May 2023, marking a shift from emergency countermeasures to routine infectious-disease management. We quantified the impact of these two policy milestones on nationwide otolaryngology–head and neck surgery activity, capturing both surgical volume and surgical reimbursement.

MATERIAL & METHODS

We used publicly available aggregated monthly data from Japan's National Database (NDB) Open Data. Otolaryngological surgeries were identified using K-codes from April 2019 through March 2024. Outcomes were (1) total surgical volume and (2) total surgical fees in Japanese yen (JPY); for interpretability, fees were also approximately converted to USD using the publicly available average USD/JPY exchange rate for Japan fiscal year 2019. We performed segmented interrupted time-series regression with two intervention points (April 2020 and May 2023), estimating incidence rate ratios (IRRs) with 95% confidence intervals for immediate level changes.

RESULTS

In the pre-emergency period (April 2019–March 2020), the mean monthly surgical volume was 35,157 (SD 3,499), and mean monthly surgical fees were JPY 4.56×10^{9} (SD 3.27×10^{8}), approximately US$42 million/month. For all surgeries combined, a large immediate level change was observed only after the April 2020 emergency declaration, corresponding to a 26% reduction in volume (IRR 0.74, 95% CI 0.62–0.89; p<0.01) and a 19% reduction in surgical fees (IRR 0.81, 95% CI 0.68–0.95; p<0.01). Most procedure categories showed a similar abrupt decline; however, head and neck cancer surgery and foreign body removal showed little to no immediate level change.

CONCLUSIONS

Nationwide otolaryngological surgery in Japan contracted substantially at the onset of emergency measures, with heterogeneous impacts across categories, while essential/urgent surgery appeared comparatively preserved. In future infectious disease outbreaks, these findings suggest that crisis-time triage can protect essential care but may generate backlogs in elective categories, underscoring the need for recovery-phase reallocation of surgical capacity.

KEYWORDS

Nationwide Database, COVID-19, Interrupted time series analysis, Otolaryngologic surgery, health policy

OP-1401

Diagnostic Accuracy Of Fine-Needle Aspiration In Parotid Gland Tumors: A Retrospective Analysis Of 215 Cases

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BACKGROUND & AIM

Parotid gland tumors are predominantly benign and generally associated with a favorableprognosis. However, malignant tumors are also encountered at a considerable frequency andare often associated with poor prognosis and metastatic potential. In addition to primaryparotid malignancies, carcinomas originating from the head and neck region may metastasizeto the parotid gland. Therefore, it is important to define the role of fine-needle aspiration(FNA) in distinguishing different types of parotid malignancies.

MATERIAL & METHODS

This retrospective chart review included 215 patients who underwent parotid surgery at Çukurova University Hospital between January 2015 and December 2025. Medical records of all patients were reviewed, and preoperative FNA findings were

compared with final histopathological diagnoses. The sensitivity, specificity, positive predictive value (PPV), andnegative predictive value (NPV) of FNA in differentiating benign and malignant parotidtumors were calculated.

RESULTS

Among 215 cases, preoperative FNA results were available for 151 patients. Of these, 89 patients had both benign FNA findings and benign final histopathology results. In 9 cases, FNA findings were reported as benign, whereas final pathology revealed malignancy. Twentypatients had both malignant FNA findings and malignant final pathology results. In contrast, 5 patients with malignant FNA findings were found to have benign lesions on final histopathological examination. Among 12 cases categorized as salivary gland neoplasm of uncertain malignant potential (SUMP), final pathology was benign in 4 cases and malignantin 8 cases. Of the 16 cases reported as suspicious for malignancy, 7 were benign and 9 weremalignant on final pathology. The sensitivity of fine-needle aspiration for detectingmalignancy was 68.97%, the specificity was 96.79%, the positive predictivevalue was 80%, and the negative predictive value was 94.38%

CONCLUSIONS

Although FNA demonstrates relatively low sensitivity, it has high specificity in the evaluationof parotid gland tumors. Given its ability to reliably differentiate benign from malignantlesions, we support the routine use of preoperative FNA in all patients with parotid tumors.

KEYWORDS

parotid gland, SGT, salivary gland tumor, FNA, fine needle aspiration

OP-1402

Haemostatic Agent Use And Associated Complications After Thyroid Surgery: A Retrospective Cohort Study In A Tertiary Head And Neck Centre

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BACKGROUND & AIM

Haemostatic agents are increasingly used in thyroid surgery to improve operative outcomes. While randomised controlled trials (RCTs) have demonstrated significant benefits, their real-world efficacy is under-researched. To determine whether these agents may facilitate day-case thyroidectomies in the UK, this study evaluated postoperative outcomes associated with the intraoperative application of topical haemostatic agents.

MATERIAL & METHODS

A single-centre retrospective cohort study analysed patients aged ≥18 years who underwent elective thyroidectomies between May 2023 and May 2025. The primary outcome was the incidence of postoperative complications associated with the use of intraoperative topical haemostatic agents. Complications between patients who received haemostatic agents and those who did not were analysed using Fisher's exact test. Secondary outcomes, including total drain output and length of inpatient stay, were analysed using the Mann-Whitney U test.

RESULTS

In 167 thyroidectomies, haemostatic agents were used in 69 (41.3%) patients. Oxidised regenerated cellulose was used in 41 operations (59.4%) and fibrin sealants in 29 (42.0%); one operation used both. Overall, postoperative complications occurred in 37 (22%) patients. A significantly increased incidence of postoperative complications was observed with the use of haemostatic agents ($p<0.001$). No difference was observed in total drain output or length of stay between the two groups.

CONCLUSIONS

Significant postoperative complications were associated with the use of haemostatic agents. This study highlights the challenge of observing RCT-demonstrated efficacy in routine clinical practice. Further research is necessary before determining the role of haemostatic agents in thyroid surgery. Until then, they cannot be relied upon to facilitate day-case thyroid surgery

KEYWORDS

Surgery, adverse effects, therapeutic use, haemostatic agents, post-thyroid surgery complications

OP-1403

Diagnostic Accuracy Of Imaging Modalities For Precise Localization Of Parathyroid Lesions: A Single-Center Retrospective Study

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BACKGROUND & AIM

Accurate preoperative localization of parathyroid lesions is critical for minimally invasive surgery. This study evaluated the diagnostic performance of different imaging modalities in determining lesion location at the side and quadrant level, using histopathology as the gold standard.

MATERIAL & METHODS

A retrospective analysis was conducted on 130 patients who underwent surgery for suspected parathyroid neoplasms between January 2021 and January 2026 at İnönü University Faculty of Medicine, Department of Otorhinolaryngology. Histopathological diagnoses included parathyroid adenoma, hyperplasia, carcinoma, normal parathyroid tissue, and thymus.

Preoperative imaging modalities included ultrasonography (US), US-guided PTH washout, parathyroid scintigraphy/SPECT-CT (99mTc-sestamibi), computed tomography (CT), magnetic resonance imaging (MRI), FDG PET, and choline PET.

Localization was defined as correct identification of both side (right/left) and quadrant (superior/inferior). Histopathology was accepted as the gold standard. In hyperplasia, a single gland was used as reference. Negative or non-localizing imaging findings were considered incorrect localization.

Sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were calculated for each imaging modality.

RESULTS

For US, accuracy and sensitivity were 60%, with an F1-score of 0.61. The highest sensitivity was observed in the left superior localization (100%), although a low PPV (42.9%) indicated a high false-positive rate. Performance was relatively better in inferior localizations but lower in cases without pathology and hyperplasia.

US-guided PTH washout showed accuracy and sensitivity of 75.4% (F1-score 0.75), with the highest performance in right inferior (90.6%) and left inferior (90.0) localizations.(Fig 1)

Parathyroid scintigraphy/SPECT-CT demonstrated accuracy and sensitivity of 67.5% (F1-score 0.69), with the best performance in inferior localizations.

MRI showed an overall accuracy of 50%. Although the highest sensitivity was observed in left superior localization (100%), this was based on a single case. Performance was moderate in right inferior (62.5%) and low in left inferior (20.0%) localizations.

CONCLUSIONS

Overall, findings were consistent with the literature. US showed moderate performance, while PTH washout provided higher accuracy. SPECT-CT had acceptable performance, whereas MRI contributed limited value. Lower rates may be explained by quadrant-level analysis and a heterogeneous patient population.

KEYWORDS

Parathyroid neoplasms, ultrasonography (US), US-guided PTH washout, parathyroid scintigraphy/SPECT-CT (99mTc-sestamibi), computed tomography (CT), magnetic resonance imaging (MRI), FDG PET, choline PET.

OP-1404

Otovent Balloon: A Cross-Sectional Survey Of UK Consultants

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BACKGROUND & AIM

To explore the opinions of UK consultants on the use of Otovent balloon in the management of Eustachian tube dysfunction (ETD).

MATERIAL & METHODS

A 10-question online survey using Microsoft forms was distributed to ENT consultants/specialists currently practising in the UK (February – April 2026).

RESULTS

A total of 138 ENT-UK consultants and specialists responded to the survey. Just over half (53%) reported using the Otovent balloon in clinical practice, while 47% did not. Among users, it was most commonly recommended for Eustachian tube dysfunction (ETD) symptoms and otitis media with effusion, with only a small proportion using it for barotrauma-related ETD. It was generally prescribed for children over five years old, as younger patients often struggle to use it effectively. Most clinicians had been using the device for less than a decade. In many cases, it was trialled while patients awaited procedures such as ventilation tube insertion or Eustachian tube balloon dilatation.

Among those who did not recommend Otovent, 19% cited insufficient evidence of effectiveness. Additionally, 19% reported discontinuing its use after previously unsuccessful outcomes in their patients.

CONCLUSIONS

This is the first cross-sectional survey on the practice of Otovent balloon in patients having ETD. The study showed that over half (53 percent) used Otovent balloon. The survey suggests that the uptake of Otovent balloon use is more since the NICE (UK)

guidance was published 10 years ago. National guidance for its use in primary care before patients are referred to secondary care for possible surgical intervention should be considered. An effective multicentre trial of Otovent balloon for eustachian tube dysfunction with strict selection criteria may provide a basis for audit and research and help develop the evidence base.

KEYWORDS

Otovent balloon, Eustachian tube dysfunction, otitis media with effusion

OP-1405

ACUTE IDIOPATHIC VELOPHARYNGEAL INCOMPETENCE: CLINICAL CHARACTERIZATION AND SYSTEMATIC EVIDENCE SYNTHESIS

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BACKGROUND & AIM

Acute idiopathic velopharyngeal incompetence (AIVI) is a rare neurogenic disorder characterized by sudden palatal paresis without identifiable structural lesions or systemic involvement. It predominantly affects pediatric patients and can present with hypernasality, nasal regurgitation, and dysphagia. Due to its rarity and broad differential diagnosis, clinical management remains heterogeneous. This study aims to integrate systematic evidence synthesis with clinical characterization of a pediatric case to better define epidemiology, clinical features, differential diagnoses, therapeutic response, and recurrence patterns.

MATERIAL & METHODS

A systematic review was conducted according to PRISMA 2020 guidelines across PubMed, Web of Science, SciELO, and LILACS databases. Case reports and case series describing acute velopharyngeal incompetence were included. A hierarchical exclusion strategy, adapted from systematic review principles for rare diseases, was implemented to delimit the entity and identify differential diagnoses. Epidemiological, clinical, therapeutic, and outcome variables were extracted and analyzed descriptively. Additionally, a pediatric case with documented recurrence was clinically characterized and integrated into the evidence synthesis.

RESULTS

Twenty-nine studies comprising 50 cases were included in this review. AIVI showed male predominance (67.4%) and mean pediatric age of 10.1 years. Hypernasality was universal, frequently accompanied by nasal regurgitation and dysphagia. Preceding infectious symptoms were reported in 43.5% of cases. Palatal paresis was predominantly unilateral. Complete or near-complete recovery occurred in 90.0% of cases, with median recovery time of 28 days. Corticosteroid therapy was associated with a trend toward faster recovery. Recurrence was exceptionally rare (three reported cases). Application of the hierarchical exclusion strategy identified several relevant differential diagnoses, including immune-mediated neuropathies and infectious etiologies (e.g., Guillain-Barré syndrome, diphtheria, Lyme disease). The presented case demonstrated typical clinical and endoscopic findings, negative imaging and laboratory workup, favorable corticosteroid response, and documented recurrence.

CONCLUSIONS

AIVI is a rare but distinct clinical entity with favorable prognosis and possible inflammatory pathophysiology. Careful evaluation is essential to differentiate it from potentially severe neurological conditions. Evidence synthesis supports high recovery rates and suggests a potential benefit from corticosteroid therapy. Recurrence remains exceptional but possible. Although not fully understood, awareness of this likely underdiagnosed condition seems crucial when evaluating patients with sudden velopharyngeal incompetence.

KEYWORDS

Velopharyngeal dysfunction; Velopharyngeal incompetence; Pediatric otolaryngology; Hypernasality; Corticosteroid therapy; Systematic review

OP-1406

Abscess Volume Versus Inflammatory Markers For Predicting Neck Exploration In Deep Neck Infections

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BACKGROUND & AIM

Deep neck infections (DNIs) are potentially life-threatening conditions requiring timely diagnosis and intervention. Although systemic inflammatory markers such as neutrophil-to-lymphocyte ratio (NLR), systemic immune-inflammation index (SII), and C-reactive protein (CRP) are widely used in clinical practice, their role in predicting the need for surgical intervention remains

unclear. We hypothesized that abscess volume measured on computed tomography (CT) is a stronger predictor of the need for neck exploration than inflammatory markers.

MATERIAL & METHODS

This retrospective study included 24 patients diagnosed with DNI at a tertiary care center. The decision for neck exploration was based on clinical and radiological findings, including airway compromise, clinical deterioration, lack of response to antibiotic therapy, presence of multiloculated abscess, and surgeon preference.Abscess volume was calculated on CT using the formula: anteroposterior × transverse × craniocaudal diameters × 0.52 and expressed in cubic centimeters (cm^3). Patients were divided into two groups: those who underwent neck exploration (n=11) and those managed non-surgically (n=13), including medical therapy and/or image-guided drainage.

Inflammatory markers, including neutrophil-to-lymphocyte ratio (NLR), systemic immune-inflammation index (SII), and C-reactive protein (CRP), as well as length of hospital stay, were recorded. Group comparisons were performed using the Mann–Whitney U test. Correlations were assessed using Spearman's rank correlation coefficient. Receiver operating characteristic (ROC) analysis was used to evaluate predictive performance and determine optimal cut-off values with 95% confidence intervals (CI).

RESULTS

Abscess volume was significantly higher in patients who underwent neck exploration (p=0.043). ROC analysis demonstrated that abscess volume had the highest predictive value (area under the curve [AUC]=0.81; 95% CI: 0.63–0.99), with an optimal cut-off value of 53 cm^3.

Although CRP levels and NLR were higher in the surgical group, these differences were not statistically significant (p>0.05). Abscess volume showed a significant positive correlation with length of hospital stay (r=0.59, p=0.002). CRP was also correlated with hospitalization duration (r=0.53, p=0.007), whereas NLR and SII showed no significant association with either neck exploration or length of stay.

CONCLUSIONS

In this cohort, abscess volume demonstrated better discriminatory performance than systemic inflammatory markers in predicting the need for neck exploration in DNIs. Additionally, both abscess volume and CRP were associated with prolonged hospitalization. These findings suggest that radiological assessment of abscess burden may support clinical decision-making; however, larger studies are needed to validate these results.

KEYWORDS

DEEP NECK ABSCESS , NECK EXPLORATİON

OP-1407

The Educational Value Of Novel 3D Printed Models In Surgical Airway Skills Teaching

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BACKGROUND & AIM

Three-dimensional (3D) printed models have been shown to improve surgical skill acquisition, confidence, and technical ability [1]. This study evaluated the use of 3D-printed airway models, as an alternative to animal or cadaveric specimens, for teaching surgical airway management to medical students.

MATERIAL & METHODS

A multidisciplinary team (MDT) of otolaryngologists and anaesthetists (n=9) delivered a practical workshop in which medical students (n=20) were taught how to perform front-of-neck-airway (FONA) access techniques using 3D-printed models. Students received hands-on practice with the models in a small group setting. To assess the value of the models, pre- and post-workshop surveys were utilised, including qualitative and quantitative components.

RESULTS

All participants rated the workshop as excellent (100%, n=20). Regarding the 3D-printed models, 85% of delegates strongly agreed and 15% agreed that the models allowed them to perform key steps in performing tracheostomy and cricothyroidotomy. All students strongly agreed or agreed that the models improved their understanding of relevant airway anatomy and supported achievement of learning objectives. Self-reported confidence in airway management increased markedly following the session. Thematic analysis of qualitative responses highlighted the value of hands-on practice, limited prior exposure to airway management, and a preference for further MDT-led, workshop-based teaching.

CONCLUSIONS

This 3D-printed model provides an affordable, reproducible, and low-stress solution for teaching surgical airway management. For medical students, 3D models provide an opportunity to further their practical and theoretical understanding of airway management with the benefit of the MDT perspective provided in this workshop.

KEYWORDS

Education, 3D printing, skill acquisition, multidisciplinary

OP-1408

When The Frontal Sinus Expands: Endoscopic Management Of Pneumosinus Dilatans

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BACKGROUND & AIM

Pneumosinus dilatans (PSD) is a rare condition characterized by abnormal expansion of a paranasal sinus beyond its normal anatomical boundaries, in the absence of bone destruction. A limited number of cases have been described in the literature. The frontal sinus is most frequently involved. The pathophysiology remains unclear, although altered sinus ventilation and a ball-valve mechanism have been proposed.

To describe the clinical presentation, radiologic findings, and endoscopic management of frontal pneumosinus dilatans in a young patient with progressive deformity and headache.

MATERIAL & METHODS

A 19-year-old male presenting with progressive left frontal headache and deformity was evaluated through clinical examination and nasal endoscopy. High-resolution computed tomography (CT) of the paranasal sinuses was performed for anatomical characterization, differential diagnosis, and surgical planning.

RESULTS

Physical examination revealed left frontal protuberance with facial asymmetry, without sinonasal inflammatory signs. Nasal endoscopy was unremarkable.

Computed tomography (CT) of the paranasal sinuses demonstrated marked hyperpneumatization of the left frontal sinus, extending beyond normal anatomical boundaries. The sinus walls were intact, without bone erosion. Mild mucosal thickening was noted along the inferior wall of the frontal sinus, while the remaining paranasal sinuses were well aerated and free of opacification.

Given the progressive deformity and symptomatic burden, surgical management was undertaken using an extended frontal sinusotomy (Draf III). The postoperative course was uneventful, with improvement of headache and stabilization of the cosmetic deformity.

CONCLUSIONS

Frontal pneumosinus dilatans should be considered in patients presenting with progressive frontal deformity and headache. Imaging is essential for accurate diagnosis and surgical planning. Management should be individualized, ranging from observation, in asymptomatic patients, to endoscopic or combined external surgical intervention.

KEYWORDS

Pneumosinus dilatans, Endoscopic Surgery, Frontal sinus, Draft III

OP-1409

Retrospective Analysis Of Factors Determining Recurrence In Vocal Fold Leukoplakia

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BACKGROUND & AIM

Vocal fold leukoplakia comprises epithelial lesions ranging from benign keratosis to invasive carcinoma, with an often unpredictable clinical course. Although excisional biopsy is widely performed for diagnosis and treatment, postoperative recurrence and histopathological progression remain significant concerns. Clinical variables such as smoking status, lesion localization, and patient characteristics are frequently considered in follow-up planning; however, their impact on recurrence and pathological severity has not been clearly established. This study aimed to retrospectively evaluate surgically treated vocal fold leukoplakia and to identify clinical predictors of recurrence and histopathological severity in order to improve risk stratification and follow-up planning.

MATERIAL & METHODS

This retrospective study included patients who underwent type I cordectomy for vocal fold leukoplakia between 2017 and 2025. Patients with less than six months of follow-up, irregular postoperative attendance, or clinically evident invasive malignancy at initial evaluation were excluded. Demographic characteristics, smoking status, lesion localization, histopathological findings, recurrence, and rebiopsy requirement were recorded. Recurrence was defined as the development of a new leukoplakic lesion during follow-up. Histopathological findings were categorized according to severity: hyperkeratosis, parakeratosis, and acanthosis were classified as Group 1, whereas dysplasia (mild, moderate, high-grade) and microinvasive or invasive carcinoma were classified as Group 2. All procedures were performed by the same surgical team using a standardized type I cordectomy technique. Statistical analyses were conducted using SPSS version 25, and associations between categorical variables were evaluated with Fisher's exact or chi-square tests as appropriate. A p-value <0.05 was considered statistically significant.

RESULTS

A total of 32 patients were included, with a mean age of 59.0 ± 14.5 years. The mean follow-up duration was 48.7 months (SD: 21.8; range: 7–90 months). Histopathological evaluation revealed benign lesions in 44% of patients, mild dysplasia in 24%, moderate/high-grade dysplasia in 18%, and microinvasive or invasive carcinoma in 14%. Recurrence occurred in 46.9% of cases, and all recurrent cases underwent rebiopsy. Among rebiopsied patients, mild dysplasia was identified in 28%, moderate/high-grade dysplasia in 65%, and microinvasive or invasive carcinoma in 7%.

No significant association was observed between recurrence and sex, smoking status, or lesion localization ($p > 0.05$). Rebiopsy rates were also not significantly associated with these variables. In contrast, histopathological severity was significantly associated with male sex ($p = 0.004$) and active smoking ($p = 0.013$). Lesion localization was not associated with histopathological severity.

CONCLUSIONS

Recurrence after surgical management of vocal fold leukoplakia remains largely unpredictable when based solely on routine clinical parameters, as no significant association was observed with gender, smoking status, or lesion localization. However, histopathological severity was significantly associated with male gender and active smoking. These findings suggest that clinical risk assessment should not rely solely on demographic or lesion-based characteristics when estimating recurrence risk. Instead, careful histopathological evaluation and individualized surveillance strategies, particularly in active smokers are essential to optimize long-term management.

KEYWORDS

Vocal fold leukoplakia, recurrence, dysplasia, histopathology, smoking, cordectomy, precancerous lesions

OP-1410

The Role Of Preoperative CT-Generated 3D Models In Septorhinoplasty Success In Patients With Nasal Axis

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BACKGROUND & AIM

Surgical interventions in the head and neck region require precise spatial orientation and predictable planning. While traditional radiological imaging is standard, translating 2D data into 3D surgical reality remains a challenge, particularly in residency training. The primary aim of this study is to evaluate the operative utility of 3D-printed physical models in endoscopic sinus surgery and axis correction, specifically assessing the operating surgeon's perception of the models' benefit using a standardized evaluation scale.

MATERIAL & METHODS

This prospective observational study included 30 patients requiring surgical axis correction. Utilizing preoperative computed tomography (CT) data, patient-specific high-fidelity physical models were manufactured via a high-resolution 16K resin 3D printer. Prior to the actual procedure, surgical teams conducted tactile rehearsals on these models. Following each operation, the primary surgeons completed a standardized 5-point Likert scale questionnaire (ranging from 1 = Strongly Disagree to 5 = Strongly Agree). The survey evaluated the model's contribution to (I) understanding complex anatomy, (II) planning surgical maneuvers, (III) reducing intraoperative hesitation, and (IV) the overall subjective success of the axis correction.

RESULTS

A total of 30 physical models were successfully printed and utilized for preoperative rehearsal. Analysis of the post-operative surgeon questionnaires revealed high approval ratings across all surveyed domains. The median Likert score for the model's contribution to planning the axis correction maneuver was 4.2 . Descriptive statistics and non-parametric evaluation demonstrated that practicing on the 3D models significantly improved the surgeons' intraoperative confidence and perceived accuracy of the operational maneuvers.

CONCLUSIONS

Integrating high-resolution 3D resin printing into preoperative planning offers a highly effective, tactile training modality for rhinoplasty. Based on surgeon-reported outcomes, preoperative practice on patient-specific models significantly enhances spatial understanding and maneuver precision. This accessible methodology bridges the gap between digital imaging and physical surgical execution, ultimately optimizing both surgical training and axis correction procedures.

KEYWORDS

Septorhinoplasty, Training , Deviation ,Nasal Axis

OP-1411

Evaluation Of İncision Choice On Aesthetic And Functional Outcomes In Parotid Surgery

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BACKGROUND & AIM

This study aimed to evaluate and compare different skin incision techniques used in patients undergoing parotid surgery at our institution with respect to aesthetic outcomes assessed by both patients and physicians, functional outcomes, and early and late postoperative complication rates, in order to determine the clinical advantages and disadvantages of each incision type.

MATERIAL & METHODS

Ethical approval was obtained from the Selçuk University Faculty of Medicine Local Ethics Committee (Approval No: 2025/244). Patients who underwent parotid surgery for benign parotid masses were invited for follow-up by two study authors and completed a structured evaluation form. The form collected data on age, sex, date of surgery, follow-up duration, patient- and physician-rated cosmetic appearance and acceptability of the incision, presence of residual or recurrent disease, sensory loss, Frey's syndrome, and other complications. Patients operated on for malignant tumors, infection, trauma, or sialolithiasis were excluded. Data were recorded in Microsoft Excel and analyzed using SPSS version 29 (IBM Corp., Armonk, NY, USA). Parametric variables were analyzed with the independent samples t-test, non-parametric variables with the Mann–Whitney U test, and categorical variables with the chi-square test

RESULTS

A total of 40 patients were included (mean age: 50.03 years; 62.5% male), with a mean follow-up of 40.33 months. Twenty-five patients underwent Modified Blair incision (MBI) and 15 facelift incision (FLI). No residual or recurrent tumors were detected in either group. Patient satisfaction scores were 8.76/10 for MBI and 9.33/10 for FLI (p=0.256). Physician satisfaction was significantly higher in the FLI group (9.2 vs. 8.32; p=0.042). The overall complication rate was 8% in the MBI group (one marginal mandibular nerve palsy, one infection) and 13.4% in the FLI group (one facial palsy, one hematoma). Sensory loss was clinically less frequent in the MBI group; however, the difference was not statistically significant (p=0.30). Although Frey's syndrome was observed less frequently in the FLI group, this difference did not reach statistical significance (p=0.213).

CONCLUSIONS

Parotid surgery incision selection has traditionally prioritized surgical exposure and facial nerve safety. Advances in anatomical knowledge and intraoperative monitoring have reduced facial paralysis rates, shifting focus toward cosmetic and functional outcomes, particularly in benign cases. The Modified Blair incision (MBI) remains the standard approach, while the facelift incision (FLI) seeks improved cosmetic concealment. In our study, patient satisfaction was similar between techniques; however, physician-rated cosmetic scores were significantly higher with FLI. Complication rates, sensory loss, and Frey's syndrome did not differ significantly. Incision choice should therefore be individualized according to patient expectations and surgical considerations.

KEYWORDS

Parotid surgery, Modified Blair incision, Facelift incision, Cosmetic and Functional outcomes, Surgical complications,Frey's syndrome

OP-1412

Analysis Of Serum Lipid Profiles In Patients With Head And Neck Cancer And Comparison With A Healthy Control Group

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BACKGROUND & AIM

Tumor cells reprogram lipid metabolism to meet the high energy demands of uncontrolled proliferation and biomembrane synthesis. Lipoprotein(a), an independent cardiovascular risk factor, may also play a role in tumor biology. This study aims to evaluate Lipoprotein(a) levels alongside serum lipid profiles — Total Cholesterol, HDL, LDL, VLDL, and Triglycerides — in treatment-naive head and neck squamous cell carcinoma patients, and to compare these parameters with a healthy control group matched for age and sex, in order to assess their diagnostic and prognostic biomarker potential.

MATERIAL & METHODS

This observational case-control study will enroll 100 participants: 50 treatment-naive patients with histopathologically confirmed squamous cell carcinoma of the head and neck region and 50 healthy controls matched for age and sex. Exclusion criteria include use of lipid-altering medications, primary lipid disorders, uncontrolled endocrine diseases (diabetes, hypothyroidism), chronic renal or hepatic failure, active infection, chronic inflammatory conditions, and pregnancy or lactation. Following 8–12 hours of fasting, peripheral venous blood samples will be collected. Total Cholesterol, HDL, LDL, VLDL, Triglycerides, and Lipoprotein(a) concentrations will be measured using photometric and immunoturbidimetric methods on fully automated analyzers. Sample size was calculated via G*Power 3.1 (effect size d = 0.58, $\alpha = 0.05$, power = 80%), requiring a minimum of 48 participants per group. Statistical analyses will be performed using SPSS 31.0; Independent samples t-test or Mann-Whitney U test will be applied based on normality, with significance set at $p < 0.05$.

RESULTS

It is anticipated that serum Lipoprotein(a) levels will be significantly elevated in head and neck squamous cell carcinoma patients compared to healthy controls, reflecting tumor-driven alterations in lipid metabolism. Similarly, Total Cholesterol,

LDL, VLDL, and Triglyceride levels are expected to differ significantly between the two groups, while HDL levels may be comparatively reduced in the patient group. These differences are hypothesized to correlate with TNM staging and histopathological characteristics of the tumor. If confirmed, elevated Lipoprotein(a) alongside an unfavorable lipid profile may indicate a metabolic environment conducive to tumor progression. These findings would support the potential utility of Lipoprotein(a) and serum lipid parameters as accessible, cost-effective diagnostic and prognostic biomarkers in the clinical management of head and neck cancers.

CONCLUSIONS

This study will provide novel insights into the relationship between Lipoprotein(a), serum lipid parameters, and head and neck squamous cell carcinoma. By comparing lipid profiles of treatment-naive cancer patients with healthy controls, the diagnostic and prognostic biomarker potential of these parameters will be systematically evaluated. If significant differences are confirmed, Lipoprotein(a) and lipid panel measurements may offer a cost-effective and readily accessible tool in the clinical management of head and neck cancers, contributing original data to the growing body of literature on metabolic reprogramming in oncology.

KEYWORDS

Head and neck cancer; Squamous cell carcinoma; Lipoprotein(a); Serum lipid profile; Biomarker

OP-1413

Impact Of Blood Pressure On Platelet-Rich Fibrin (PRF) Production: A Quantitative And Qualitative Analysis

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BACKGROUND & AIM

Platelet-Rich Fibrin (PRF) is an autologous biomaterial widely utilized in otolaryngology to enhance tissue regeneration and wound healing. Despite its frequent clinical use, the impact of perioperative hemodynamic variations on its biological profile remains poorly understood. This prospective, single-blinded study aims to evaluate the quantitative mass and the growth factor content—specifically TGF-β and EGF—of PRF obtained during preoperative normotensive and intraoperative controlled hypotensive states in rhinoplasty patients. The objective is to determine whether systemic blood pressure values significantly influence the regenerative potential of PRF, ultimately aiming to optimize PRF preparation protocols.

MATERIAL & METHODS

This prospective, single-blind clinical study included patients aged 18–65 years without systemic disease undergoing elective operations. Exclusion criteria comprised chronic conditions, malignancies, history of chemoradiotherapy, or immunosuppression. Based on power analysis (α = 0.05, 80% power, effect size = 0.8), a minimum sample size of 34 patients was determined; however, 45 patients were enrolled to account for potential dropouts and data loss. Blood samples were collected at two perioperative stages: the preoperative normotensive state and the intraoperative controlled hypotensive state. PRF was prepared using a standardized double-tube centrifugation method without anticoagulants. Quantitative analysis involved measuring PRF mass and volume, while qualitative assessment included the determination of growth factor content (specifically TGF-β and EGF) using the ELISA method. The biochemistry team remained blinded to the hemodynamic origin of the samples. Statistical analysis was conducted to evaluate the impact of systemic blood pressure values on PRF characteristics.

RESULTS

The study included 45 patients (36% female) with a mean age of 33.0 ± 12.3 years. No significant difference was observed in PRF weight between normotensive (509 ± 99 mg) and hypotensive (526 ± 112 mg) states ($p = 0.4309$). While serum TGF-β and EGF levels remained stable across both conditions ($p > 0.05$), analysis of PRF supernatants revealed significantly higher growth factor concentrations under hypotensive conditions. Specifically, PRF-TGF-β (46.2 vs 37.5 pg/mg PRF, $p = 0.0005$) and PRF-EGF (1.19 vs 0.95 pg/mg PRF, $p = 0.0002$) levels were significantly increased during hypotension, with large effect sizes ($r = 0.52$ and 0.56, respectively). Correlation analysis demonstrated a positive association between PRF weight and PRF-TGF-β in both conditions (Spearman's $rs = 0.364$ and $rs = 0.408$). ROC analysis indicated limited discriminative capacity of PRF-derived growth factors in distinguishing hemodynamic states (AUC: 0.686 for TGF-β; 0.677 for EGF).

CONCLUSIONS

Controlled hypotension significantly increases TGF-β and EGF content within PRF without affecting systemic serum levels. The positive association between PRF weight and PRF-TGF-β—more pronounced under hypotensive conditions—suggests that intraoperative hemodynamic variations may modulate platelet activation and growth factor release dynamics. These findings indicate that the biological activity of PRF is sensitive to perioperative blood pressure states, potentially conferring a regenerative advantage during controlled hypotensive anesthesia. However, the limited discriminative performance observed in ROC analysis suggests that these growth factors are better suited as indicators of PRF bioactivity rather than reliable markers of hemodynamic status.

KEYWORDS
Platelet-rich fibrin (PRF), Blood pressure, Growth factors, Transforming growth factor-beta (TGF-β), Epidermal growth factor (EGF), ELISA, Regenerative medicine

OP-1414

Can Brain Imaging Identify Tinnitus Subtypes That Clinical Tests Miss? A Machine Learning Study

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BACKGROUND & AIM
Tinnitus is diagnosed entirely by subjective self-report, with no validated objective test to confirm its presence or distinguish clinically relevant subtypes. Tinnitus without hearing loss (T) and tinnitus with hearing loss (THL) are clinically indistinguishable on standard instruments: Tinnitus Handicap Inventory (THI) scores do not differ between groups (p=0.369), nor does tinnitus duration (p=0.121). Yet accurate subtype differentiation directly influences treatment selection; sound-amplification strategies are prioritised in THL while cognitive-behavioural approaches are emphasised when peripheral hearing is preserved. We tested whether task-based functional MRI (fMRI) features could discriminate tinnitus subgroups at the individual level using machine learning.

MATERIAL & METHODS
Thirty-two adults (8 healthy controls [HC], 13 T, 11 THL) underwent an auditory oddball task-fMRI protocol. Brain activity patterns, specifically signal amplitude and variability, were measured across 48 cortical regions involved in auditory processing and self-referential cognition (yielding 96 features per participant). A machine learning classifier (random forest) was trained to distinguish the three groups, with rigorous cross-validation (50 repeats) and permutation testing (500 iterations) to confirm results exceeded chance. Age effects were controlled for within the analysis.

RESULTS
Despite clinical indistinguishability on THI (p=0.369) and tinnitus duration (p=0.121), brain imaging significantly distinguished all three groups (healthy controls, T, and THL) above chance levels (balanced accuracy 0.535, p=0.018), a result that held after controlling for age (0.553, p=0.018). Critically, distinguishing T from THL improved from near chance (0.563) to 0.636 after controlling for age. The most reproducibly discriminating brain regions were Heschl's gyrus (primary auditory cortex; 78% of models), insular cortex (71%), and posterior cingulate cortex (70%).

CONCLUSIONS
Brain imaging detected real differences between tinnitus subtypes that questionnaires and clinical history cannot capture. Three brain regions, Heschl's gyrus, insular cortex, and posterior cingulate cortex, consistently distinguished the groups and represent promising targets for an objective tinnitus test. With external validation in age-matched cohorts, this approach could support objective confirmation of tinnitus diagnosis and individual-level patient stratification to guide treatment selection.

KEYWORDS
tinnitus, hearing loss, machine learning, functional MRI, tinnitus subtyping, objective assessment, imaging biomarkers, auditory cortex, brain-based diagnosis

OP-1415

Improved Usability Of An Active-Polarized 3D Display In Exoscopic Surgery Under Non-Optimal Viewing Conditions

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BACKGROUND & AIM
Three-dimensional (3D) exoscopes have increasingly been used in otolaryngology-head and neck surgery because they allow surgeons to operate in an ergonomic posture while sharing the surgical view with assistants and trainees. However, conventional passive-polarized 3D displays (PPDs) have limitations in vertical viewing angles, which may impair stereoscopic perception when the display is viewed from non-frontal positions. This can be problematic for assistants or surgeons working at different eye levels. We evaluated the usability and task performance of a prototype active-polarized display (APD), which is designed to maintain 3D visibility across a wider viewing range.

MATERIAL & METHODS
A 32-inch APD prototype was compared with a commercially available 32-inch PPD using the ORBEYE 4K 3D exoscope system. Twenty-four otorhinolaryngologists and head and neck surgeons participated. The viewing position was set 100 cm horizontally from the display, with the line of sight directed 20downward toward the screen center, a condition known to be unfavorable for PPD. Participants performed a procedural task simulating stapes surgery for 10 minutes. The number of successfully completed tasks was counted. Visual fatigue was evaluated using a target-tracking eye-movement test performed

before and after the task. Usability was assessed with a seven-item questionnaire. Data were analyzed using Wilcoxon signed-rank tests with Benjamini–Krieger–Yekutieli correction. This study was supported by the Cooperation Program between Tokyo Medical and Dental University (currently called Institute of Science Tokyo) and Sony Corporation.

RESULTS

Questionnaire scores favored APD across all items, with particularly large differences in 3D visibility and ease of procedure (both $q < 0.001$). The number of successfully completed procedural tasks was significantly higher with APD than with PPD (median 15.5 vs. 12 tasks; $p = 0.008$). Although objective oculomotor fatigue measured by the saccadic main-sequence slope ratio did not reach statistical significance ($p = 0.188$), a trend toward less fatigue was observed with APD.

CONCLUSIONS

Under non-optimal viewing conditions for PPDs, the APD demonstrated superior usability and task performance in a simulated surgical environment. APD may improve visualization for assistants or surgeons operating at different eye levels and could enhance performance in procedures requiring fine manipulation.

KEYWORDS

3D display, active polarizer, ORBEYE, VITOM, surgery, target-tracking

OP-1416

Simplifying BPPV Education: The C Method For Intuitive Prediction Of Nystagmus Patterns

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BACKGROUND & AIM

Accurate interpretation of nystagmus patterns is essential for the diagnosis of benign paroxysmal positional vertigo (BPPV). However, understanding the three-dimensional relationship between otolith movement, semicircular canal orientation, and ocular motor responses is conceptually challenging for residents in training and often relies on rote memorization. To address this limitation, we developed the “C Method” a novel hand-motion–based educational technique designed to enable intuitive, logic-driven prediction of nystagmus direction. This pilot study aimed to evaluate the feasibility and educational effectiveness of the C Method in otolaryngology residency training.

MATERIAL & METHODS

Thirty-four otolaryngology residents with 0–43 months of clinical experience participated in this prospective educational intervention. Participants completed a structured 10-item multiple-choice test assessing their ability to predict expected nystagmus direction across a range of common and uncommon BPPV scenarios. Following a standardized 20-minute training session introducing the C Method, the same test was re-administered. Pre- and post-training scores were compared using paired-sample t-tests to assess learning outcomes.

RESULTS

The results showed that the mean number of correct responses increased significantly from 2.09 ± 2.11 before training to 5.50 ± 2.08 after training). The Wilcoxon signed-rank test revealed that this increase was statistically significant ($Z = 4.742$, $p < 0.001$), with a very large effect size ($r = 0.81$). Furthermore, the frequency of selecting the “I don’t know” option decreased markedly from 158 to 17 responses, reflecting improved conceptual understanding and increased diagnostic confidence. Performance improvements were observed across both typical and more complex BPPV scenarios, suggesting that the method may support conceptual understanding beyond simple pattern memorization.

CONCLUSIONS

The C Method appears to be a simple, cost-free, fast and practical educational tool that may assist residents in predicting BPPV-related nystagmus patterns more intuitively. By offering a visual and logic-based framework, this approach has the potential to reduce reliance on memorization and facilitate the learning process. The C Method may serve as a useful adjunct in vestibular education and otology training. Further studies incorporating clinical application, larger cohorts of residents and audiologists, and long-term follow-up are needed to more fully evaluate its educational value and clinical relevance.

KEYWORDS

Benign Paroxysmal Positional Vertigo, Nystagmus, Vestibular Education, C Method

OP-1417

Comparative Results Of Intraoperative Neurophysiological Parameters Using A Hand Assistant System Versus Manual Electrode Array Insertion In Children

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BACKGROUND & AIM

To evaluate the feasibility, safety, and intraoperative neurophysiological outcomes of electrode array insertion using a Hand Assistant System during cochlear implantation in children with normal inner ear anatomy and to compare these results with those obtained using the conventional manual insertion technique.

MATERIAL & METHODS

A retrospective analysis of clinical data from the Republican Specialized Scientific and Practical Medical Center of Pediatrics was conducted for the period 2024–2025. Cochlear implantation was performed in 60 children with normal inner ear anatomy. In 30 cases, the electrode array was inserted using the conventional manual technique, while in 30 cases insertion was performed with the Hand Assistant System (OtoDrive/OtoArm). Intraoperative monitoring included electrically evoked compound action potential telemetry (ART), ground path impedance measurements, the number of electrodes with recordable responses, and electrode insertion speed. A maximum stimulation charge of 30 qu was used in all cases.

RESULTS

In the Hand Assistant System group (n = 30), ground path impedance values ranged from 0.80 to 1.20. Complete ART responses from all 12 electrodes were recorded in 26 children (86.7%), while 4 patients (13.3%) demonstrated responses from 8–9 electrodes. The electrode insertion speed was 0.3 mm/s.In the manual insertion group (n = 30), ground path impedance values ranged from 0.87 to 1.50. Complete ART responses from all 12 electrodes were obtained in 23 children (76.7%), whereas 7 patients (23.3%) demonstrated responses from only 6–7 electrodes. The electrode insertion speed was 0.1 mm/s.

CONCLUSIONS

The use of a Hand Assistant System for electrode array insertion in children is associated with more stable intraoperative neurophysiological responses and more favorable impedance values compared with the conventional manual technique. Despite requiring additional insertion time, the robotic-assisted approach may potentially reduce the risk of cochlear structure trauma.

KEYWORDS

cochlear implantation, robotic-assisted electrode insertion, intraoperative monitoring, ART, impedance.

OP-1418

Patient-Reported Concerns, Emotional Status, And Satisfaction Following Tonsillectomy Performed As Day Surgery: A Prospective Questionnaire-Based Study

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BACKGROUND & AIM

Tonsillectomy is one of the most commonly performed procedures in otorhinolaryngology and is increasingly undertaken as day surgery. Although this surgical model is considered safe and efficient, patient concerns, emotional status, and perceptions of same-day discharge remain insufficiently explored. Patient-reported outcome measures are essential for evaluating perioperative care, postoperative pain management, and acceptance of day surgery pathways.

Aim.

To assess patient concerns, emotional state, expectations, and knowledge before tonsillectomy performed as day surgery, as well as postoperative pain, recovery, mood, and satisfaction with treatment and same-day discharge during the first two postoperative weeks.

MATERIAL & METHODS

This prospective questionnaire-based study included adult patients undergoing elective tonsillectomy. A structured questionnaire was administered preoperatively and repeated at 1 week and 2 weeks after surgery. The preoperative assessment focused on emotional status, concerns regarding pain, anesthesia and complications, level of knowledge, expectations for postoperative pain management, comorbidities, and attitudes toward same-day discharge. Postoperative assessments evaluated pain intensity using a numeric rating scale, analgesic use and effectiveness, complications, emotional well-being, functional recovery, return to daily activities, and overall satisfaction with surgical outcomes and discharge on the day of surgery. Data were collected prospectively and analyzed using descriptive statistical methods.

RESULTS

A total of 70 patients underwent tonsillectomy performed as day surgery. Preoperative anxiety was reported by 53.6% of patients, with a mean anxiety score of 5.4 ± 2.6 and a median score of 5 (range 1–10). The most common concerns were postoperative pain, bleeding, and anesthesia.

The median duration of postoperative pain was 13 days, with pain most frequently peaking within the first postoperative week rather than on the day of surgery. Same-day discharge was achieved in 42.9% of patients.

Overall satisfaction was high, with a mean score of 3.9 ± 1.3; approximately 75% of patients were satisfied or very satisfied, and 87.5% would recommend the procedure. A significant negative association was observed between postoperative pain duration

and satisfaction (Spearman's ρ = −0.49, p = 0.035). Preoperative anxiety showed a moderate, non-significant association with lower satisfaction (ρ = 0.37, p = 0.096).

CONCLUSIONS

Tonsillectomy performed as day surgery is well accepted by patients when supported by structured preoperative counseling and standardized postoperative pain management. The presented questionnaire is a practical tool for evaluating patient-reported outcomes and may contribute to further optimization of day surgery practice in otorhinolaryngology.

KEYWORDS

Tonsillectomy, Day surgery, emotional status, otorhinolaryngology.

OP-1419

H1 Receptor Gene Polymorphisms In Subjective Tinnitus: Susceptibility And Pharmacogenomic Implications

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BACKGROUND & AIM

Tinnitus affects 10–17% of the adult population and severely impairs quality of life in 1–2% of individuals, yet its pathophysiology remains incompletely understood. Histamine 1 (H1) receptors are expressed in the stria vascularis, spiral ganglion, and vestibular neuroepithelium of the inner ear, regulating cochlear microcirculation via nitric oxide-mediated vasodilation. Betahistine dihydrochloride, a widely used tinnitus agent acting as a weak H1 agonist and potent Histamine 3 (H3) antagonist, produces variable treatment outcomes whose genetic basis remains unexplored. We aimed to evaluate whether H1 receptor gene 1068-A/G (rs2067468) and Leu449Ser (rs2067470) polymorphisms are associated with tinnitus susceptibility and betahistine treatment response.

MATERIAL & METHODS

This retrospective case-control study enrolled 75 patients with subjective tinnitus (42 female, 33 male; aged 18–65 years) and 74 age-matched controls. All tinnitus patients completed 90 days of betahistine 24 mg twice daily. Pure-tone audiometry, tinnitus loudness matching, and the Tinnitus Handicap Inventory (THI) were administered at baseline and day 90. Treatment response was defined as ≥7-point THI reduction or ≥15 dB decrease in loudness matching. Genotyping of the 1068-A/G and Leu449Ser polymorphisms was performed by polymerase chain reaction–restriction fragment length polymorphism (PCR-RFLP) using BseNI restriction endonuclease. Chi-square, Fisher's exact test, and independent-samples t-test were applied ($p<0.050$).

RESULTS

Neither polymorphism differed significantly between tinnitus and control groups in genotype or allele frequency (p=0.448 and p=0.511, respectively), indicating no association with tinnitus susceptibility. Betahistine significantly improved all THI subscales and loudness matching values (all $p<0.001$). When response was assessed by loudness matching, none of the five G-allele carriers (4 AG, 1 GG) responded to treatment; genotype distribution significantly differed between responders and non-responders (p=0.014). THI-based response did not differ by genotype (p=1.000). Leu449Ser was not associated with treatment response by either criterion (p=0.393 and p=0.172).

CONCLUSIONS

Although H1 receptor polymorphisms were not associated with tinnitus susceptibility in this cohort, the G allele of the 1068-A/G variant appears to negatively influence the psychoacoustic response to betahistine, likely through impaired cochlear H1-mediated vasodilation. The preserved THI response across genotypes implicates betahistine's central H3 antagonist mechanism as genotype-independent. These findings introduce H1 receptor pharmacogenomics as a novel framework for understanding variable tinnitus treatment outcomes. Larger prospective studies are warranted.

KEYWORDS

Tinnitus, histamine 1 receptor, betahistine

OP-1420

Global Warming, Prolonged Pollen Seasons And The Rising Prevalence Of Allergic Rhinitis: A Systematic Review Of Epidemiological Evidence

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BACKGROUND & AIM

Climate change is reshaping the biological environment in ways that directly affect human health. Rising temperatures and elevated atmospheric CO_2 have been shown to extend pollen seasons and enhance the allergenic potency of airborne pollen, contributing to a growing burden of allergic rhinitis worldwide. Although epidemiological data supporting this association are

accumulating, a comprehensive synthesis of the current evidence remains limited. This review aims to evaluate the relationship between global warming, prolonged pollen seasons, and the rising prevalence of allergic rhinitis through a PRISMA-compliant systematic review of the epidemiological literature, with particular attention to Northern Hemisphere and Mediterranean basin findings.

MATERIAL & METHODS

A systematic review was conducted in accordance with the PRISMA guidelines. A comprehensive literature search was performed across PubMed/MEDLINE, Web of Science, Embase, and environmental science databases including GreenFile, covering publications from 2000 to 2025. The following search terms were used in various combinations: "climate change," "global warming," "pollen season," "allergic rhinitis," "prevalence," "phenology," and "temperature." Studies were eligible for inclusion if they reported epidemiological data on pollen seasonality or allergic rhinitis prevalence in relation to climatic variables. Reviews, editorials, case reports, and studies focusing exclusively on non-allergic rhinitis were excluded. Supplementary data were obtained from publicly available databases of the World Health Organization (WHO) and the European Environment Agency (EEA).

RESULTS

The evidence consistently supports a biological cascade linking climate change to allergic rhinitis: rising temperatures and elevated atmospheric CO_2 have progressively extended pollen seasons and amplified pollen allergenicity across temperate and Mediterranean regions, with particularly well-documented changes in birch, grass, and olive species. Reviewed studies collectively suggest that climate change is not merely a background variable but an active driver of allergic rhinitis epidemiology. Parallel epidemiological trends indicate a sustained increase in allergic rhinitis prevalence over the past three decades, with urban populations and Mediterranean countries — including Turkey — showing a disproportionate burden. The association between seasonal temperature anomalies and symptom exacerbation was a recurrent finding across geographically diverse cohorts.

CONCLUSIONS

Climate change represents an increasingly significant determinant of allergic rhinitis epidemiology, operating through a well-defined biological pathway of extended pollen seasons and heightened allergenicity. The epidemiological trends identified in this review underscore the need for otolaryngologists to consider environmental factors in both patient counselling and disease management. As Mediterranean regions — including Turkey — face a disproportionate impact, geographically tailored public health strategies are warranted. Integrating climate projections into allergy surveillance systems and clinical practice guidelines may prove essential in mitigating the rising burden of allergic rhinitis in the decades ahead.

KEYWORDS

Climate change; Global warming; Pollen season; Allergic rhinitis; Prevalence; Phenology; Temperature

OP-1421

Cholesteatoma Development And Incidence In Long-Term Follow-Up After Tympanoplasty: A Retrospective Study From A Tertiary Center

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BACKGROUND & AIM

Tympanoplasty is frequently performed for chronic otitis media and tympanic membrane perforation; however, there are other determinants affecting the outcome beyond anatomical success. One determinant includes development of a new cholesteatoma that arises after an unsuccessful resolution of the middle ear disease even though the surgical intervention was done. While numerous papers have been written on this topic, it has still not been established whether the incidence of the disease and possible contributing factors are known. The primary aim of this research paper is to determine the incidence of this disease and possible contributing factors.

MATERIAL & METHODS

This is a retrospective observational study conducted at a tertiary referral center. The patient records of people who underwent tympanoplasty or myringoplasty from January 1, 2015, to January 1, 2026, were reviewed. Patients without cholesteatoma preoperatively were chosen for the study. Demographic information, clinical Findings, procedures performed surgically, and post-operative outcomes were analyzed. The main objective was to determine the incidence of newly acquired cholesteatoma in the patients under observation, diagnosed through otoscopy and/or radiologic studies. Other objectives include time to diagnosis, number of revisions needed, and hearing outcome. There were no further interventions made because all information was from follow-up visits only.

RESULTS

A total of 37 patients with the ages between 10 and 63 years underwent tympanoplasty or myringoplasty between 2015 and 2026. Amongst the patients, the prevalence of de novo cholesteatoma was found to be 5 cases (13.5%). The age group of the patients who developed cholesteatoma was from 23 to 51 years. Statistically, there was no signiFcant correlation between the age of the patient and the development of cholesteatoma . The patients diagnosed with cholesteatoma required revision

surgery. Moreover, the hearing outcomes of the patients with cholesteatoma were expected to deteriorate as opposed to other patients who would improve or maintain their outcomes.

CONCLUSIONS

Postoperative cholesteatoma formation was observed in 13.5% of patients following tympanoplasty irrespective of the patient's age group. Even though the occurrence of these complications is not common, their emergence after years of the surgical procedure highlights the significance of follow-up treatment. Appropriate screening procedures need to be done in order to detect and treat the condition before any other complication arises from it.

KEYWORDS

Tympanoplasty, De novo cholesteatoma, Postoperative follow-up, Middle ear surgery, Long-term outcomes, Revision surgery, Chronic otitis media, Hearing results, Retrospective study, Otologic complications

OP-1422

Early-Term Outcomes Of Endolaryngeal Surgery In The Treatment Of Laryngeal Cancer

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BACKGROUND & AIM

Laryngeal squamous cell carcinoma (LSCC) is one of the most common head and neck malignancies. Tumor stage, anatomical subsite, histopathological features, and patient-related factors are known to influence prognosis.

This study aimed to evaluate early oncological outcomes in patients with LSCC treated with endolaryngeal surgery at our institution.

MATERIAL & METHODS

This retrospective study was conducted with institutional ethics approval. Patients who underwent primary surgical treatment for histopathologically confirmed LSCC between January 2020 and December 2025 were reviewed. Inclusion criteria were surgery performed at our center and availability of at least 12 months of follow-up. Patients with distant metastasis (M1) or synchronous second primary tumors were excluded.

Tumors were staged according to the AJCC 8th edition TNM system. Endolaryngeal procedures were performed using laser (diode, holmium:YAG) or cold instruments. Neck dissection was carried out when clinically indicated.

Data regarding tumor differentiation, surgical margin status (negative, close <2 mm, positive), lymphovascular invasion (LVI), perineural invasion (PNI), metastatic lymph nodes, and ENE were recorded.

Overall survival (OS) and disease-free survival (DFS) were analyzed using the Kaplan–Meier method. Group comparisons were performed with the log-rank test, and Cox regression analysis was used to evaluate independent prognostic factors. A p-value <0.05 was considered significant.

RESULTS

A total of 90 patients with laryngeal squamous cell carcinoma met the inclusion criteria and were included in the analysis. The cohort comprised tumors from different laryngeal subsites and stages, reflecting routine clinical practice.

Negative surgical margins were obtained in the majority of patients, while close or positive margins were observed in a smaller proportion. Neck dissection was performed in clinically indicated cases.

During the first 12 months of follow-up, recurrence patterns and survival outcomes were evaluated.. Detailed statistical analyses are currently ongoing.

CONCLUSIONS

Endolaryngeal surgery provides satisfactory early oncological outcomes in selected patients with LSCC. Identification of high-risk patients may support individualized postoperative surveillance strategies.

KEYWORDS

Laryngeal Cancer, Laryngeal Squamous Cell Carcinoma, Endolaryngeal Surgery, Surgical Margins, Oncological Outcomes

OP-1423

A Retrospective Analysis Of 215 Parotidectomy Patients: Clinical, Pathological, And Surgical Outcomes

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BACKGROUND & AIM

Parotid tumors are the most common tumors among the major salivary gland neoplasms. The majority of parotid tumors are benign. Surgery remains the primary treatment modality for parotid tumors. Superficial parotidectomy is generally preferred for benign tumors located in the superficial lobe, whereas total parotidectomy may be required in cases with deep lobe involvement, extensive disease, or suspected malignancy. Fine needle aspirationbiopsy is a widely used, minimally invasive, and safe method forpreoperative evaluation.

Frey syndrome is one of the most important late complications following parotidectomy and is characterized by sweating and flushing in the preauricular or temporal region during eating.

MATERIAL & METHODS

This retrospective chart review included 215 patients who underwent parotid surgery at Çukurova University Hospital between January 2015 and December 2025. Patientdemographics, fine-needle aspiration biopsy results, surgical procedures, histopathological findings, and the occurrence of Frey syndrome were evaluated.

RESULTS

Among the patients who underwent surgery, 85 (39.5%) were female and 130 (60.5%) were male. Histopathological examination revealed benign disease in 169 patients (78.6%) and malignant disease in 46 patients (21.4%). Superficial parotidectomy was performed in 152 patients (70.6%), whereas total parotidectomy was performed in 63 patients (29.4%).

Frey syndrome was observed in 21 patients (9.76%).

CONCLUSIONS

Most salivary gland tumors arise from the parotid gland, and approximately 80% are benign. In the present study, consistent with the literature, 78.6% of the operated cases were benign lesions. Although FNAB is highly specific for detecting malignancy in parotid tumors, its sensitivity remains relatively low. The incidence of Frey syndrome in our series was comparable to that reported in the literature.

KEYWORDS

parotid gland, SGT, salivary gland tumor

OP-1424

Artificial Intelligence In Romanian-Language ENT Patient Education: A Cross-Sectional Evaluation Of Accuracy, Readability And Safety

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BACKGROUND & AIM

Artificial intelligence, particularly large language models, is increasingly used by patients to obtain medical information. In otolaryngology, its role in patient education remains promising but insufficiently validated. This abstract aims to review current evidence regarding the accuracy, readability and safety of AI-generated information for common ENT conditions and procedures, and to highlight implications for clinical practice.

MATERIAL & METHODS

A structured literature search was performed in PubMed using combinations of the terms “artificial intelligence”, “large language model”, “ChatGPT”, “otolaryngology”, “ENT”, “patient education”, “readability” and “safety”. Recent English-language articles evaluating AI-generated information in otolaryngology were reviewed. Studies were analysed according to clinical topic, type of AI model, assessment method, reported accuracy, readability, completeness and potential safety concerns.

RESULTS

Recent studies suggest that generative AI can produce understandable and generally relevant answers to common ENT questions, and may improve the readability of patient education materials. However, performance is variable. In rhinology and common ENT procedures, AI responses have been reported as incomplete, occasionally inaccurate or lacking adequate discussion of risks, recovery and the need for specialist assessment. Evidence also indicates better performance in education and communication tasks than in complex clinical reasoning.

CONCLUSIONS

AI may become a useful adjunct for ENT patient education, but current evidence does not support unsupervised use. Clinician validation, transparent methodology and patient-safety safeguards are essential before integrating AI-generated information into routine otolaryngology practice.

KEYWORDS

Artificial intelligence; otolaryngology; ChatGPT; patient education; large language models; safety

OP-1425

Impact Of Intratympanic Steroid Injections On Eustachian Tube Function In Patients With Sudden Sensorineural Hearing Loss

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BACKGROUND & AIM

Intratympanic steroid injection (ITS) is a widely used treatment for Sudden Sensorineural Hearing Loss (SSNHL). While the anatomical proximity suggests a potential interaction, there is a lack of literature evaluating the specific effects of ITS on Eustachian tube (ET) function. This study aims to investigate whether ITS therapy impacts ET physiology in SSNHL patients.

MATERIAL & METHODS

This prospective study included 38 patients (aged 18–65) diagnosed with unilateral SSNHL between February 2024 and February 2026. All patients initially received 5 sessions of ITS. Patients without sufficient hearing recovery which means 10 decibel gain of their pure tone audiometry, received 5 additional sessions (totally 10 sessions). ET function was assessed using ET functional tests (Valsalva and Toynbee) and the Eustachian Tube Dysfunction Questionnaire-7(ETDQ-7) questionnaire at baseline, after the 5th session, and after the 10th session. Results were statistically analyzed.

RESULTS

A total of 38 patients were included in the study, 17 received 5 sessions and 21 received 10 sessions of ITS.In the 5-dose ITS group, the mean ETDQ-7 score demonstrated a decrease from 23.47 to 20.82, although this change did not reach statistical significance (p=0.165). Furthermore, ET functional assessments revealed that while two patients transitioned from dysfunctional to functional status, the overall functional improvement was not statistically significant (p>0.05).Regarding the 10-dose ITS group, the mean ETDQ-7 score showed a change from 23.28 to 22.76, which was statistically non-significant (p=0.941). Additionally, the functional status of the Eustachian tube remained stable in the majority (81%) of the patients in this group. No significant statistical difference was found within or between the groups regarding ET function (Table 1 & 2).

CONCLUSIONS

ITS do not appear to significantly alter Eustachian tube function or provoke Eustachian tube dysfunction in patients treated for SSNHL.The ETDQ-7 scores and functional tests remained stable regardless of the injection dose (5 vs. 10 sessions). Further studies with larger populations are required to further elucidate this relationship.

KEYWORDS

Intratympanic steroid injection (ITS),Sensorineural Hearing Loss (SSNHL),Eustachian tube (ET),Eustachian Tube Dysfunction Questionnaire-7(ETDQ-7)

OP-1426

Top Performers In A Decade Of Otolaryngology Research: A Bibliometric Analysis

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BACKGROUND & AIM

To analyze worldwide otorhinolaryngology publications from 2015-2024 and identify the top-performing countries, journals, funding agencies, organizations, and individual researchers.

MATERIAL & METHODS

A cross-sectional bibliometric analysis of the Web of Science Core Collection was conducted using Clarivate's InCites, restricting results to the "Otorhinolaryngology" research area from 2015-2024 (data updated March 28, 2025). Primary metrics included publication counts, total citations, and category-normalized citation impact (CNCI). Secondary measures included the percentage of publications in the top 1% and 10% by citations, in first-quartile (Q1) journals, and with international co-authorship.

RESULTS

A total of 95,435 otolaryngology publications were identified. The United States led in output (31,654 publications) and citations (342,724), with 1.57% in the top 1% by citations. Germany (7,036 publications) and China (6,447) were next largest. Italy achieved the highest citation impact among major countries (CNCI 1.77). The Laryngoscope was the most prolific journal (6,757 articles), whereas JAMA Otolaryngology-Head & Neck Surgery had the highest citation impact (CNCI

1.91). The US National Institutes of Health and the National Natural Science Foundation of China were the top funders, supporting 5,063 and 1,761 publications, respectively. Harvard University (including affiliates) produced over 7,000 publications, and Jerome R. Lechien was the most prolific author (387 publications, CNCI 3.64). International collaborations accounted for 13.5% of all publications.

CONCLUSIONS

Global otolaryngology research over the past decade has been dominated by a few countries and institutions, particularly in the United States. These findings highlight disparities in research output and can inform strategies to broaden international collaboration and strengthen emerging research centers.

KEYWORDS

Otorhinolaryngology; Bibliometrics; Research Collaboration; Citation Analysis; Global Contributions

OP-1427

Evaluation Of MRI Findings In Patients With Rhino-Orbital Cerebral Mucormycosis In The COVID-19 Era

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BACKGROUND & AIM

As COVID-19-positive patients are at a higher risk of developing rhino-orbital-cerebral mucormycosis (ROCM), it becomes crucial to identify and evaluate the signs of sinus involvement using imaging techniques, such as magnetic resonance imaging (MRI). This investigation aims to explore the role of sinus MRI findings in the detection and characterization of ROCM in the COVID-19 era.

MATERIAL & METHODS

In this cross-sectional study, patients more than 18 years old with pathology-confirmed ROCM infection were included. MRI was reviewed and intra and extra nasal involvements were evaluated.

RESULTS

The most common radiologic finding was involvement of the ethmoid sinus (98.0%), followed by the maxillary sinus (96.0%) and the frontal sinus (94.0%). The least common radiologic presentation was intracranial abscess (10.0%) and internal carotid artery obstruction (12.0%). The results of statistical analysis revealed that infra-temporal involvement was associated with a higher rate of dura (p=0.008), pterygopalatine fossa (PPF) (p=0.016), and alveolar ridge involvement (p=0.008). The results of statistical analysis showed that PPF involvement was associated with a higher rate of infra-temporal (p=0. 016), inferior orbital fissure (p<0.001), extra-conal (p=0.035), intra-conal (p=0.020), and orbital apex (p=0.021) involvement.

CONCLUSIONS

MRI can provide detailed information about the extent and severity of the infection, guiding healthcare professionals in developing appropriate treatment strategies.

KEYWORDS

Mucormycosis, Magnetic Resonance Imaging, Paranasal sinuses, Infra-temporal fossa, COVID-19.

OP-1428

Consultant Evaluation Of AI-Generated Patient Infographics For Post-Operative ENT Advice Using ENT UK Guidance

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BACKGROUND & AIM

Clear post-operative instructions are essential to optimise recovery and reduce complications following otolaryngological procedures. Artificial intelligence (AI) may offer a scalable method of generating patient education materials. This study evaluated consultant perceptions of AI-generated patient infographics with source material restricted to patient information leaflets published by ENT UK.

MATERIAL & METHODS

AI-generated post-operative infographics were produced using NotebookLM using only ENT UK patient information leaflets as source material. ENT consultants evaluated the infographics through using a survey assessing accuracy, completeness, safety, clinical acceptability, and usefulness using five-point Likert scales. Consultants were invited to review procedures within their subspecialty: adenotonsillectomy, septorhinoplasty, functional endoscopic sinus surgery (FESS), mastoidectomy, grommet insertion, and myringoplasty.

RESULTS

Six consultants responded (five male, one female): three rhinologists and three otologists with experience ranging from two to over fifteen years. Overall, 74% (17/23) of accuracy ratings were ≥3, indicating generally acceptable clinical validity of AI-generated advice derived from ENT UK guidance. Grommet insertion performed best, with 100% (4/4) rating accuracy ≥4, no unsafe advice identified, and universal willingness to use the infographic. For FESS, 75% (3/4) rated accuracy ≥3 and 75% would likely or definitely use the infographic, although half reported uncertainty regarding safety or completeness. Adenotonsillectomy demonstrated 80% accuracy ≥3, though 60% identified incomplete advice. Greater variability was observed for septorhinoplasty and mastoidectomy

CONCLUSIONS

AI-generated infographics derived from ENT UK guidance were generally perceived as accurate, safe and clinically useful, particularly for simpler procedures. Ongoing responses will further evaluate reliability and inform refinement of AI-assisted patient information tools.

KEYWORDS

Artificial intelligence, Patient education, Post-operative advice, Digital health, Patient safety

OP-1429

Simulation-Based Training In Otolaryngology-Head And Neck Surgery: A Systematic Review Of Modality Effectiveness And Learning Curve Outcomes

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BACKGROUND & AIM

Traditional surgical training in otolaryngology relies heavily on supervised operative experience, raising concerns about standardization and patient safety. Simulation-based training offers a controlled environment for skill development, yet evidence comparing different modalities across Otolaryngology-Head and Neck Surgery subspecialties remains limited. This review aims to evaluate the effectiveness of available simulation models and their impact on resident learning curves.

MATERIAL & METHODS

PubMed and Web of Science will be searched systematically for studies published between 2010 and 2026, using terms including "surgical simulation," "otolaryngology," "head and neck surgery," "virtual reality," "3D printing," and "learning curve." Preliminary screening has revealed a growing body of literature across multiple simulation modalities, and a comprehensive search is ongoing. Studies reporting quantitative simulation training outcomes in ORL-HNS trainees will be included. PRISMA guidelines will be followed throughout the review process.

RESULTS

Preliminary evidence suggests that simulation-based training in ORL-HNS encompasses five major modalities: cadaveric dissection, animal tissue models, bench-top synthetic models, 3D-printed replicas, and VR/AR simulators. Current literature indicates that VR/AR platforms show the most consistent evidence for endoscopic skill transfer, particularly in rhinology and otology. 3D-printed models demonstrate high anatomical accuracy and are increasingly used for pre-operative planning and trainee orientation in complex cases. Cadaveric training remains widely regarded as the gold standard for open surgical procedures. However, variability in outcome measures and training protocols across existing studies limits direct cross-modality comparisons.

CONCLUSIONS

Simulation-based training represents a valuable and evidence-supported component of modern ORL-HNS residency programs. A multimodal approach integrating VR/AR for endoscopic skills, 3D-printed models for anatomical familiarization, and cadaveric dissection for open surgical training appears most effective. Standardization of simulation curricula and outcome metrics remains a critical unmet need. Young ORL-HNS surgeons should advocate for structured simulation pathways within their training programs as both a patient safety and educational quality imperative.

KEYWORDS

surgical simulation; otolaryngology; head and neck surgery; residency training; virtual reality; learning curve; 3D printing

OTHER TOPICS

Oral Presentations · OP-1430 – OP-1433 · 4 abstracts

OP-1430

F101: Near-Peer Teaching Programme To Support The Transition From Medical Student To Junior Doctor

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BACKGROUND & AIM

The transition from medical student to Foundation Year 1 (FY1) doctor is a globally recognised pressure point, with UK graduates reporting gaps in practical readiness despite high-stakes assessments such as the Prescribing Skills Assessment and UK Medical Licensing Assessment.

MATERIAL & METHODS

We developed F101; a near-peer, pre-FY1 teaching intervention targeting nine GMC-aligned domains essential for early clinical practice, including ward-round skills, prescribing, death certification, communication and work-life balance. Interactive small-group sessions led by current FY1 doctors were delivered to three cohorts at distinct training stages (n=29), with self-reported confidence measured before and after.

RESULTS

Confidence improved significantly in all nine domains ($p<0.001$), with the greatest gains in death certification and the smallest in communication and work-life balance. Qualitative feedback highlighted the value of practical, experience-based teaching bridging undergraduate curricula and real-world clinical demands.

CONCLUSIONS

Despite the small sample size, single-centre design and reliance on self-reported confidence, brief targeted interventions can meaningfully enhance perceived preparedness. The findings support a longitudinal, multi-stage model of assistantship teaching delivered both before graduation and at FY1 induction. Future iterations should incorporate objective competence measures, multi-site delivery and follow-up into foundation training.

KEYWORDS

near peer teaching, foundation year

OP-1431

Paediatric Nasal Foreign Bodies: A Retrospective Audit Of A Teaching Hospital's Current Practice And Outcomes

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BACKGROUND & AIM

Paediatric nasal foreign bodies (NFB) are a common ENT presentation to the Emergency Department (ED). Management ranges from bedside removal to general anaesthesia (GA), with significant variation in practice. This audit aimed to characterise current outcomes and identify factors driving avoidable GA listing.

MATERIAL & METHODS

Data was retrospectively collected on paediatric NFB presentations over 6 months at a single teaching hospital, including clinician grade, techniques and outcomes.

RESULTS

74 cases were included; 72% were inorganic and 82% presented within 24 hours. As a regional ENT centre receiving referrals from surrounding hospitals and GPs, a proportion had failed removal prior to arrival.

ED clinicians achieved successful removal in 46% of cases. ENT were called following failed ED attempts in 22% of cases, achieving removal in 47%. Where ENT was first clinician (24%), success was 39%, potentially reflecting referred case complexity. Overall, two-thirds were resolved at the same visit without GA. Of the 12% listed for GA, the majority were emergency listings. The parent's kiss technique was used in a third of cases despite a 46% first-attempt success rate. 30-day reattendance was 5%, predominantly for a new foreign body, and no procedural complications were recorded. No child was admitted due to a foreign body and there were no complications as a result of this.

CONCLUSIONS

Two-thirds of paediatric NFB presentations can be resolved at the same visit without GA. The parent's kiss is underutilised despite a high success rate. Timely ENT escalation may prevent GA in a significant proportion of cases. Where GA listings are needed, elective listing demonstrates no complications compared to emergency listing, contradicting traditional ENT teaching. These findings support a standardised pathway for ENT referral and GA listing, with planned consensus between ENT and ED teams and reaudit.

KEYWORDS

Paediatric Nasal Foreign Body, foreign body, audit, quality improvement project

OP-1432

Patient Reported Outcomes In Surgical Intervention Of Zenker’s Diverticulum

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BACKGROUND & AIM

Zenker's diverticulum is the most common pharyngeal pouch, often presenting with dysphagia, regurgitation, and aspiration, for which surgical management is the mainstay of treatment. Surgical outcomes have traditionally been assessed using objective outcomes, such as complication and recurrence rates. There have been no prior systematic review of subjective patient-reported outcome measures (PROMs). This systematic review aims to evaluate how surgical intervention of Zenker’s diverticulum affects PROMs.

MATERIAL & METHODS

A systematic review was conducted in accordance with PRISMA 2020 guidelines and registered with PROSPERO. Five databases were searched; Embase, MEDLINE, PsycINFO, Web of Science, Cochrane CENTRAL from 1/1/2015. Studies were included if they consisted of adults undergoing surgical treatment for Zenker's diverticulum and reported at least one validated PROM pre- and post-operatively. Two independent reviewers screened all records using Covidence, with discrepancies resolved by a third reviewer. Risk of bias was assessed using the Newcastle-Ottawa Scale. A narrative synthesis was written.

RESULTS

Twenty-eight studies were included, comprising over 1,500 patients published between 2015 and 2025. No randomised controlled trials were identified. The most used PROM was EAT-10 (14 studies), which demonstrated improvement following surgery across all surgical approaches. Additional PROMs including FOSS, FOIS, RSI, Dakkak, Eckardt, SWAL-QOL, SF-36, and MDADI consistently showed post-operative improvement regardless of surgical technique. Median peri-operative complication and recurrence rates were approximately 5% and 8% respectively.

CONCLUSIONS

Surgical management of Zenker's diverticulum improves PROMs across all operative techniques. The heterogeneity and range of PROMs used across studies limits cross-study comparison, with EAT-10 being the most used PROM tool. Prospective studies with standardised PROM reporting are needed to strengthen the evidence base alongside some randomised control trials to compare operative approaches.

KEYWORDS

Zenker’s diverticulum, swallowing, patient reported outcomes, quality of life, pharyngeal pouch

OP-1433

Short-Term Vestibulo-Ocular And Postural Effects Of Virtual Reality In Healthy Young

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BACKGROUND & AIM

Background: Virtual reality can simulate the testing of cognitive, sensory, and motor skills using simulated environments. Eye stabilization is necessary to maintain visual acuity during rapid head movements; this is achieved through mechanisms such as the vestibulo-ocular reflex.

Objective: This study aimed to investigate the short-term effect of a passive, non-interactive virtual reality stimulus on dynamic visual acuity and postural sway in healthy young adults.

MATERIAL & METHODS

Methods: Twenty four healthy young adults (9 males, 15 females) aged 20-39, with an average age of 26.08 ± 4.14 were included in the study. All participants underwent the Sensory Organization Test (SOT), Static Visual Acuity Test (SVAT), Perception Time Test (PTT), Dynamic Visual Acuity Test (DVAT), Gaze Stabilization Test (GST), and Visual Analogue Scale (VAS) to assess symptoms that may arise from virtual reality. These tests were repeated for all participants after the virtual reality experience, and completed on the same day.

RESULTS

Results: Statistically significant differences were obtained in the balance score of the SOT (COMP, mean decrease 2.29 points, 95% CI 0.49-4.10, p=0.015, Cohen's d=0.54) and the left-side GST (mean increase 24.7 ms, 95% CI -45.82 to -3.64, p=0.024, Cohen's d=0.52) in the pre/post virtual reality experience comparison. Virtual reality had no statistically significant effect on SOT conditions 1-6 individually (all p>0.05), although CON6 and PTT were borderline (CON6: Wilcoxon Z= -1.668, p=0.095, r=0.34; PTT: Wilcoxon Z= -1.935, p=0.053, r=0.40). No statistically significant differences were found between pre- and post-treatment in PTT and DVAT (both p>0.05).

CONCLUSIONS

Conclusion: It has been demonstrated that virtual reality affects balance and gaze stabilization by increasing postural sway over a short, same-day time frame. Clinicians and researchers should exercise caution when using VR-based paradigms for vestibular assessment and rehabilitation, given its measurable short-term effects on postural control and gaze stabilization.

KEYWORDS

Keywords: virtual reality, postural stability, dynamic visual acuity, posturography, young adults

POSTER PRESENTATIONS

767 abstracts

ALLERGY

Poster / E-Poster Presentations · PP-001 – PP-003 · 3 abstracts

PP-001

Chronic Epicutaneous Sensitization Induces A Peak And Subsequent Attenuation Of Systemic Th2 Responses Following Intranasal Challenge In BALB/C Mice

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BACKGROUND & AIM

Epicutaneous sensitization (ES) is implicated in the development of allergic diseases, including atopic dermatitis and asthma. While ES is known to induce systemic Th2 responses, the effects of chronic and repeated epicutaneous antigen exposure on subsequent airway allergic responses remain unclear.This study aimed to investigate the impact of repeated ES on systemic Th2 responses and nasal allergic inflammation following intranasal antigen challenge.

MATERIAL & METHODS

Female BALB/c mice were epicutaneously sensitized with ovalbumin (OVA) at the same concentration as in our previous study, with repeated exposures of 10, 50, or 100 times. Following sensitization, mice were intranasally challenged with OVA. Serum levels of OVA-specific IgE and Th2 cytokines (IL-4, IL-5, and IL-13) were measured. Histological analyses of the nasal mucosa were performed using hematoxylin and eosin staining to evaluate mucosal thickness and eosinophilic infiltration.

RESULTS

OVA-specific IgE levels, as well as IL-4, IL-5, and IL-13 production, increased from 10 to 50 epicutaneous exposures. Histological analysis also demonstrated enhanced mucosal thickening and eosinophil infiltration in the 50-exposure group. However, these parameters were reduced in the 100-exposure group compared with the 50-exposure group.

CONCLUSIONS

These findings suggest that repeated epicutaneous sensitization induces a peak in systemic Th2 responses and nasal allergic inflammation, followed by attenuation with excessive antigen exposure. This attenuation may reflect the induction of tolerance-like mechanisms during chronic antigen exposure.

KEYWORDS

epicutaneous sensitization, systemic Th2 responses, nasal allergic inflammation, ovalbumin, IgE

PP-002

Dual Sublingual Immunotherapy Associated With Higher Treatment Persistence Compared To Single-Allergen Therapy: A Two-Center Retrospective Study

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BACKGROUND & AIM

Sublingual immunotherapy (SLIT) is a disease-modifying treatment for allergic rhinitis that induces sustained immune tolerance. In Japan, SLIT for Japanese cedar pollen (Cedarcure®) and house dust mite (Miticure®) has been available since 2014. Although guidelines recommend a minimum of 3 years of treatment, real-world persistence rates range from 7% to 59%, representing a substantial barrier to achieving full therapeutic benefit. As awareness of multi-allergen sensitization has grown, dual SLIT—concurrent administration of two allergens—has attracted clinical interest. However, evidence on its impact on treatment persistence remains limited. This study aimed to compare persistence between single-allergen and dual SLIT across two centers.

MATERIAL & METHODS

A total of 328 patients initiating SLIT were enrolled at two centers: Center A, a university hospital (n = 113;2020–2023), which employed a standardized protocol with universal antihistamine premedication and proactively scheduled follow-up; and Center B, a community clinic (n = 215;2019–2022), where antihistamines were prescribed case-by-case and follow-up was patient-initiated. Patients were classified into Cedarcure® monotherapy, Miticure® monotherapy, or Dual SLIT groups. The primary outcome was treatment persistence, defined as continuous SLIT without interruption. Discontinuation was defined as failure to attend scheduled follow-up or physician-initiated cessation due to adverse effects. Censoring was defined as completion of ≥3 years of treatment, transfer to another facility, or ongoing treatment at the data cutoff. Persistence rates were estimated using the Kaplan–Meier method, with group comparisons performed using the log-rank test and generalized Wilcoxon test. The study was approved by the ethics committee of the International University of Health and Welfare Narita Hospital.

RESULTS

At Center A, mean ages in the Cedarcure® mono (n = 48), Miticure® mono (n = 22), and Dual SLIT (n = 43) groups were 30, 29, and 31 years, with no significant differences. At Center B, the Cedarcure® mono group (n = 98; mean 26 years) was significantly older than the Miticure® mono (n = 30; 13 years) and Dual SLIT (n = 87; 14 years) groups. Dual SLIT consistently demonstrated the highest persistence at both centers. At Center A, 12-month persistence rates were 87.2%, 68.4%, and 55.2% for Dual SLIT, Cedarcure® mono, and Miticure® mono, respectively (combined mono vs. Dual SLIT: $p = 0.009$). Corresponding 36-month rates were 76.7%, 59.8%, and 37.2%. At Center B, 36-month rates were 73.6%, 58.8%, and 30.0%, respectively ($p < 0.001$). No significant difference was observed between the two monotherapy groups at either center, suggesting the persistence advantage is specific to Dual SLIT.

CONCLUSIONS

Dual SLIT demonstrated significantly higher treatment persistence than single-allergen SLIT at both a university hospital and a community clinic operating under different management protocols. The consistent findings across two centers suggest that the persistence advantage of dual SLIT is reproducible across varied clinical settings. Although limitations including retrospective design, non-randomized allocation, and potential confounding factors should be acknowledged, these results support the proactive introduction of dual-antigen SLIT for polysensitized patients without concern for compromised treatment continuation. Prospective studies with multivariate adjustment and formal adherence assessment are warranted to confirm these findings.

KEYWORDS

sublingual immunotherapy, dual SLIT, treatment persistence, adherence, allergic rhinitis, Japanese cedar pollen, house dust mite, Cedarcure, Miticure, real-world evidence

PP-003

Frontoethmoidal Mucocele With Posterior Frontal Sinus And Medial Orbital Wall Defect Extending Intracranially: An Unexpected Intraoperative Cerebrospinal Fluid Leak

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BACKGROUND & AIM

Frontoethmoidal mucoceles are benign lesions; however, due to their proximity to the orbit and anterior cranial fossa, they may lead to serious orbital and intracranial complications. We present a rare case initially suggestive of a mucocele or abscess with intracranial extension on imaging, which was found intraoperatively to be associated with a skull base defect and cerebrospinal fluid (CSF) leak.

MATERIAL & METHODS

A 27 year old male presented with a four day history of progressively worsening right sided eye pain, discharge. Physical examination revealed periorbital edema and hyperemia. Nasal endoscopy showed no significant purulent discharge or rhinorrhea. Ophthalmologic evaluation demonstrated normal visual acuity and intact extraocular movements.Paranasal sinus computed tomography revealed a lesion occupying the right frontal sinus and anterior ethmoid cells,extending into the orbit through a medial wall defect and air fluid level behind the posterior wall of frontal sinus.Magnetic resonance imaging

demonstrated a cystic lesion with erosion of the posterior wall of the frontal sinus and intracranial extension, raising suspicion for a mucocele or abscess.The patient subsequently underwent endoscopic sinus surgery.

RESULTS

Intraoperatively, purulent drainage was achieved from the anterior ethmoid and frontal recess. However, a 2–3 mm defect was identified in the posterior wall of the frontal sinus, with pulsatile cerebrospinal fluid (CSF) leakage. The defect was successfully repaired using an auricular lobule fat graft and fibrin sealant.Postoperatively, the patient received antibiotic therapy. No recurrence of CSF leak or neurological complications was observed, and orbital symptoms resolved completely.

CONCLUSIONS

Although frontoethmoidal mucoceles are benign, their expansile nature can erode the orbital walls and skull base, leading to serious complications. This case demonstrates that lesions radiologically suggestive of a mucocele or abscess may conceal underlying cerebrospinal fluid pathology. Cystic lesions lacking contrast enhancement or solid components, especially when associated with bony defects, should raise suspicion for CSF collections in the differential diagnosis. Endoscopic sinus surgery offers both diagnostic and therapeutic advantages, enabling effective drainage and simultaneous skull base repair. The coexistence of orbital findings with a CSF leak is rare and highlights the importance of careful preoperative assessment.

KEYWORDS

Frontoethmoidal mucocele, Intracranial extension, Orbital wall defect, Cerebrospinal fluid leak

AUDIOLOGY

Poster / E-Poster Presentations · PP-004 – PP-023 · 20 abstracts

PP-004

Transtympanic Electrocochleography In Long-Term Effects Of Blast-Induced Ear Injury

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BACKGROUND & AIM

Tone-speech dissociation is observed in casualities with blast-induced ear injury. These are speech discrimination difficulties, particularly in background noise, that are out of proportion compared to their pure-tone detection thresholdsas. Hidden hearing loss has recently been described. Cochlear synaptopathy, which underlies hearing impairment in hidden hearing loss, can influence the degree of sensory loss in hearing and determine the rehabilitation potential of patients after blast trauma of ear. Electrocochleography (ECoG) is one method for verifying the presence of cochlear synaptopathy.

Aim. To improve audiological diagnostics for blast injury of the ear, a method for transtympanical electrocochleography recording has been developed.

MATERIAL & METHODS

The proposed ECoG recording method is based on the ability to visualize electrode placement on the promontory wall in patients with a tympanic membrane defect. Positioning is monitored using an endoscope placed along with the active electrode and sound source in an earmold inserted into the external auditory canal. Patients and methods. ECoG recordings using the above-described recording method were performed in 25 patients in 6 months after blast injury of the ear. An electrodiagnostic system for objective audiometry (Neurosoft LLC, Russia) was used for ECoG recording; visualization was performed using endoscopic equipment (Karl Storz, Germany).

RESULTS

In 22 of 25 patients, the active electrode impedance after initial positioning consistently reached values less than 3.0 kOhm, allowing for artifact-free, high-amplitude EcoG recordings. In all patients, the proportion of poor-quality responses ("dropouts") was 0%, allowing for a recording time reduction of 30 seconds for each stimulus level studied.

CONCLUSIONS

The developed transtympanic ECoG method is a safe one, allowing for more informative recordings while significantly reducing the time required for the study. Further analysis of transtympanic ECoG data will enable the development of diagnostic criteria for verifying various forms of auditory perception impairment associated with acoustic damage to the peripheral auditory system.

KEYWORDS

Hidden hearing loss, transtympanic electrocochleography, blast-induced hearing loss

PP-005

High-Frequency Audiometry Thresholds In Adults: Relationship With Clinical And Demographic Factors

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BACKGROUND & AIM

This study aimed to evaluate the relationship between high-frequency audiometry (HFA) thresholds (8–20 kHz) and clinical and demographic factors including age, gender, noise exposure, ototoxic drug use, and comorbidities in adults with normal conventional audiograms, and to investigate whether HFA threshold shifts may serve as early indicators of subclinical cochlear damage.

MATERIAL & METHODS

This retrospective, cross-sectional observational study was conducted at the Department of Otorhinolaryngology, Istanbul Bakırköy Dr. Sadi Konuk Training and Research Hospital. A total of 131 adults (mean age 36.28 ± 14.62 years) who underwent HFA testing were included. Hearing thresholds were measured across conventional (0.25–8 kHz) and high-frequency (8–20 kHz) ranges. Speech recognition thresholds (SRT) and speech discrimination (SD) scores were also assessed. Statistical analyses were performed using Friedman, Wilcoxon signed-rank, and Mann–Whitney U tests with Bonferroni correction where appropriate.

RESULTS

High-frequency thresholds differed significantly across frequencies in both ears (right: χ^2=215.951, p<0.001; left: χ^2=209.768, p<0.001). The highest thresholds were observed at 14,000 Hz (right: 21.56±26.12 dB; left: 23.55±28.21 dB), while 20,000 Hz thresholds were significantly lower than all other frequencies (p<0.001). Left ear SRT was significantly higher than the right (7.63 vs. 5.99 dB, p=0.012), whereas SD scores showed no significant inter-aural difference (p=0.478). Noise exposure was present in 17.6% of participants; hypertension, diabetes mellitus, and hypothyroidism were identified as comorbidities in 10.7%, 3.8%, and 3.8%, respectively.

CONCLUSIONS

HFA reveals significant threshold variations in the ultra-high frequency range even among adults with normal conventional audiograms, particularly beyond 9,000 Hz. These findings suggest that HFA may be a valuable tool for detecting early cochlear dysfunction before conventional audiometric changes become apparent.

KEYWORDS

high-frequency audiometry, extended high-frequency audiometry, hearing thresholds, cochlear damage, noise exposure, speech recognition treshold, audiometric evaluation, demographic factors

PP-006

When Hearing Loss Speaks First: Bilateral SSNHL As The Initial Presentation Of Cogan's Syndrome

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BACKGROUND & AIM

Cogan's syndrome is a rare autoimmune disorder defined by the association of interstitial keratitis and audiovestibular dysfunction that often mimics Ménière's disease. The condition may extend to systemic vasculitis, making early diagnosis crucial in order to prevent irreversible hearing loss and potential cardiovascular complications. We report a case in which bilateral sudden sensorineural hearing loss (SSNHL) represented the initial manifestation of Cogan's syndrome, highlighting the diagnostic and therapeutic challenges.

MATERIAL & METHODS

A 26-year-old woman presented with rapidly progressive bilateral SSNHL accompanied by severe vertigo over a three-week period. Initial ophthalmologic assessment identified conjunctival hyperemia that was first treated as bacterial conjunctivitis but was subsequently confirmed as interstitial keratitis. Audiovestibular evaluation revealed bilateral severe-to-profound SNHL, vestibular areflexia, and oscillopsia. Laboratory investigations showed mildly elevated C-reactive protein, while immunologic and infectious work-ups were unremarkable. Gadolinium-enhanced MRI demonstrated bilateral labyrinthine enhancement, suggestive of active inflammation.

RESULTS

Systemic corticosteroid therapy was initiated, followed by a gradual taper and the addition of azathioprine, together with vestibular rehabilitation. Although initial stabilization was achieved, the patient's hearing deteriorated to profound bilateral deafness within a few months, requiring bilateral cochlear implantation. Ocular symptoms improved under immunosuppressive treatment, and vestibular compensation led to partial recovery of balance.

CONCLUSIONS

This case underscores the importance of a multidisciplinary approach in suspected Cogan's syndrome, where ocular and audiovestibular manifestations may occur asynchronously. Contrast-enhanced MRI can provide valuable evidence of labyrinthine inflammation. Early immunosuppressive therapy may slow disease progression, yet hearing outcomes remain unpredictable. In advanced stages, timely cochlear implantation represents an effective strategy for auditory rehabilitation.

KEYWORDS

Cogan's syndrome; bilateral sudden sensorineural hearing loss; autoimmune inner ear disease; interstitial keratitis; labyrinthine enhancement; vestibular areflexia; cochlear implantation; immunosuppressive therapy; audiovestibular dysfunction

PP-007

Relationship Between Hearing Loss Screening And Cognitive Function In Adults: A Scoping Review

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BACKGROUND & AIM

Many studies have reported a relationship between hearing loss and cognitive impairment in adults; however, the precise nature of the relationship remains unclear, and the literature is inconsistent. A scoping review was therefore conducted to explore the relationship between hearing loss screening and cognitive decline.

MATERIAL & METHODS

A scoping review was conducted in accordance with an a priori protocol. An exploratory literature search (MEDLINE and ERIC) was followed by an expanded search (CINAHL Plus Full Text, PsycINFO, and Web of Science). Identified English-language studies published between 2014 and 2024 were reviewed for inclusion by two independent reviewers, who also extracted data. Included studies comprised original research in adults who were screened for both hearing loss and cognitive function in any setting.

RESULTS

Of 3481 identified citations, 75 studies were included. Associations between hearing loss and cognitive impairment were identified in studies of individuals aged ≥40 years. Pure-tone audiometry and the Mini Mental State Examination were the most commonly used assessment tools. However, limitations were identified in the applicability of these measures in individuals with hearing loss or cognitive impairment. Overall, there is insufficient evidence to determine whether hearing loss screening reduces cognitive decline.However, it may support the early identification of individuals at risk. Additionally, there is insufficient evidence to suggest that hearing screening leads to reduced cognitive decline; further research is needed.

CONCLUSIONS

Although the available literature indicates that there is a relationship between hearing loss and cognitive decline in older adults, the precise nature of this relationship remains unclear. Future research should prioritise the use of standardised and appropriate assessment methods to strengthen the evidence base and enable more definitive evaluation.

KEYWORDS

hearing loss, hearing impairment, cognitive impairment, dementia, mild cognitive impairment

PP-008

Early Detection Of Ear Phone – Noise İnduced Hearing Loss (NIHL)

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BACKGROUND & AIM

The incidence of Noise induced Sensory neural hearing loss (NISNHL) has markedly increase by ten folds in the last decades due to the widespread use of ear phone by the young population and those working in call centers. Early detection allows early treatment and avoiding permenant hearing loss later on.

Aim: 1- to compare diffrent hearing evaluation using Pure tone audiometry with Distorsion Product Oto-Acoustic Emession. 2- trial of Ginkobiloba extract to treat early cases

Patients: GP1 (control) ten cases with normal hearing) GP2 & GP3 30 patients with suspected SNHL due to excessive use of ear phones after excluding other causes.

MATERIAL & METHODS

Methods: History Taking (HL, tinnitus), Hearing tests including Pure tone audiometry (PTA) speech audionetry (SA), Tympanometry and Distorsion Product Oto Acoustic Emission (OAE). The patients' ears were devided into two goups: GP2- patients with PTA normal but Poor response in Distorsion Produt Oto Acousti Emession. GP3- evident HL > 25 dB in PTA at any frequency.

RESULTS

Results: the earliest symptoms included sense of ear obstruction and tinnitus.PTA: was within normal (<25 dB) in groups 1&2 early dip occured maily at 4 dB in GP 3. Tympanometry was normal in all patients. DPOAE was completly or partially absent in GP2 despite of normal PTA. Ginko biloba 60mg/d showed improvement in all cases of GP2 also improved mainly tinnitus and variable results on hearing in GP3.

CONCLUSIONS

First audiological changes occure in OAE. DPOAE is a sensitve tool for detecting early noise induced hearing loss earlier than PTA. which appear later on as a dip in 4-6 KHZ . Early detection allows early treatment and hearing preservation.

Primary trial of Ginko biloba and Magnesium improved tinnitus and hearing losss but needs more controlled studies to confirm.

KEYWORDS

OAE, hearing loss, PTA, Ginko biloba, Magnesium, DPOAE, Tinnitus, Noise induced hearing loss, Ear phones.

PP-009

In-Ear-Tacs: Effect Of Tacs Stimulation On Tone Perception In Different Parts Of The Auditory Pathway

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BACKGROUND & AIM

Chronic, subjective tinnitus is a common but debilitating condition with limited treatment options. Electrical stimulation from cochlear implants has shown potential to suppress tinnitus, particularly for individuals with severe hearing loss. Transcranial alternating current stimulation (tACS) represents a novel, non-invasive approach for electrical stimulation of the cochlea. The mechanisms by which tACS stimulates different inner ear structures, and the resulting effects on auditory perception, are poorly understood. This study investigates the effects of tACS-stimulation of inner ear structures on auditory perception.

MATERIAL & METHODS

As part of the German BMFTR-Project tACSitus, participants with single-sided-deafness (SSD) underwent tACS applied to both the deaf and the healthy ear. Stimulation was delivered using a tACS-protocol consisting of two different electrode configurations and a predefined frequency spectrum (500 Hz – 2000 Hz). The Hearing Impression (HI), resulting from a stimulation of the hearing system, was recorded for both ears and compared to objective reference tones to determine perceived frequency. This HI and other parameters were then individually compared for the deaf and the hearing ear. The underlying hypothesis was a frequency-dependent HI in the hearing, but not in the deaf ear. This finding could point to a stimulation of the cochlea hair cells rather than the auditory nerve.

RESULTS

We will present the results of the ongoing study. Through systematic comparison of HI and the connected matching results, we aim to investigate the mechanics of electrically evoked hearing and its underlying processes in different parts of the auditory pathway, thereby contributing to the evidence base for non-invasive electrical stimulation in tinnitus therapy.

CONCLUSIONS

Previous studies suggest a frequency-dependent relationship between stimulation and HI during outer hair cell activation. This relationship seems to alter when stimulation bypasses hair cells and is directly applied to the auditory nerve. This alteration is yet not focused on in studies. Preliminary results and previous studies on other subjects suggest a high degree in individual variability regarding electrode placement and stimulation.

KEYWORDS

tACS, Tinnitus, Auditory Pathway, Stimulation, Cochlea

PP-010

Application Of Telemedicine Technologies In Objective Electrophysiological Hearing Tests.

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BACKGROUND & AIM

To evaluate the feasibility of using telemedicine technologies and a secure communication channel for conducting electrophysiological hearing assessments.

MATERIAL & METHODS

An electrophysiological hearing assessment was conducted remotely in five patients with a preliminary diagnosis of bilateral chronic sensorineural hearing loss. The study was carried out at two medical institutions in Saint Petersburg: Saint Petersburg Research Institute of Ear, Throat, Nose and Speech and City Audiology Center of the Saint Petersburg City Geriatric Medical and Social Center. The examination was performed using the remote access software “UK NII-LOR.”

RESULTS

In all five patients from the Geriatric Center, the diagnosis of bilateral chronic sensorineural hearing loss was confirmed based on auditory brainstem response (ABR) and auditory steady-state response (ASSR) testing. The assessments were performed both in person by specialists from the Geriatric Center and remotely by specialists from the Research Institute. The results of both examinations were completely identical, confirming the feasibility of using telemedicine technologies for electrophysiological hearing assessments.

CONCLUSIONS

The use of remote technologies for objective electrophysiological hearing assessments helps compensate for staff shortages, improves the effectiveness of early detection of pathologies, and ensures equal access to modern diagnostic methods for remote regions of Russia.

KEYWORDS

: telemedicine technologies, auditory brainstem response, ASSR test, electrophysiological hearing assessment.

PP-011

Evaluation Of Cochlear Efferent Function And Tinnitus Characteristics In Tinnitus Patients With Migraine: A Pilot Study

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BACKGROUND & AIM

Migraine and tinnitus frequently coexist; up to 45% of tinnitus patients are reported to suffer from migraine. Both conditions are thought to involve central hypersensitivity affecting the auditory and trigeminal pathways. We hypothesised that migraine-related central modulation may alter cochlear efferent — medial olivocochlear (MOC) — function and tinnitus perception, such that migraine-associated tinnitus could constitute a distinct subgroup with its own characteristics. The aim was to determine whether tinnitus characteristics, tinnitus perception, and contralateral suppression differ between tinnitus patients with and without migraine.

MATERIAL & METHODS

This prospective, comparative pilot study was conducted at the Audiology Unit, Faculty of Medicine, Trakya University. Twenty-seven normal-hearing (0–26 dB) young adults aged 18–65 years with type A tympanograms were evaluated: 13 with migraine plus tinnitus (cases) and 14 with tinnitus only (controls). All participants underwent pure-tone audiometry, tinnitus matching (frequency, intensity, minimum masking level, residual inhibition), transient-evoked otoacoustic emissions (TEOAE), the transient contralateral suppression emission (CLSE) test, and the Tinnitus Handicap Inventory (THI). The independent variable was the presence of migraine. Data were analysed using the Mann-Whitney U test. Ethics committee approval and written informed consent were obtained.

RESULTS

No significant differences were found between groups in tinnitus frequency, intensity, minimum masking level, or THI scores (all $p>0.05$). TEOAE responses appeared higher in the case group at all frequencies but the difference was not significant ($p>0.05$). CLSE signal responses were higher in the case group across all frequencies; this difference reached statistical significance at the right ear at 2 kHz ($p=0.007$) and at the left ear at 4 kHz ($p=0.029$), indicating reduced contralateral suppression in the migraine group.

CONCLUSIONS

Although tinnitus characteristics and handicap were comparable between groups, tinnitus patients with migraine showed reduced contralateral suppression at specific frequencies, suggesting altered MOC efferent function. Migraine-associated tinnitus may represent a distinct subgroup with central efferent involvement. As pilot findings, these results warrant confirmation in larger cohorts.

KEYWORDS

migraine, tinnitus, contralateral suppression, medial olivocochlear system, otoacoustic emissions

PP-012

Establishing Standardized Conditions For Clinically Available Sound-Localization Tests: A Multicenter Approach

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BACKGROUND & AIM

Sound localization is essential for auditory spatial awareness. The process relies on interaural differences in timing and level, and spectral cues. This study aimed to standardize sound-localization testing conditions across facilities in Japan, analyze the impact of early reflected sounds on localization accuracy, and compare outcomes between individuals with normal hearing and those with unilateral hearing loss.

MATERIAL & METHODS

This study included 77 participants with normal hearing and 45 individuals with unilateral hearing loss, at 11 facilities. Sound-localization tests were conducted using nine loudspeakers arranged in a 180° horizontal arc. The stimuli consisted of Comité Consultatif International Téléphonique et Télégraphique (CCITT) and low-pass CCITT noise bursts at randomized levels of 50 dB, 55 dB, and 60 dB SPL. The reflected sound measurements employed time-stretched pulses to analyze early reflections (4–7 ms). The localization accuracy was assessed using the root-mean-square error and mean deviation score (d).

RESULTS

Localization performance was negatively influenced by early reflections, with reflected sound envelope area and peak values within 4–7 ms correlating significantly with reduced accuracy ($r = -0.535$ to -0.555). Participants with normal hearing achieved a root-mean-square error of 2.0° ± 4.8°, whereas participants with unilateral hearing loss exhibited significantly greater errors (68.4° ± 40.7°, $p < .001$). Asymmetries in the left–right response accuracy correlated positively with the reflected sound characteristics ($r > 0.6$). Noise type (normal vs. low-pass CCITT) did not significantly impact performance in either group.

CONCLUSIONS

Early reflections significantly compromise sound-localization accuracy, particularly in smaller testing environments where reflections overlap with direct sounds. Standardized testing protocols, in which early reflections are controlled, are critical for reliable assessments. The use of sound-absorbing materials can enhance the test precision, particularly in the clinical evaluation of unilateral hearing loss. These findings emphasize the need for optimizing acoustic conditions to improve the reliability and accuracy of sound-localization testing.

KEYWORDS

single-sided deafness, sound localization, multi-center

PP-013

Incidence Of Hearing Loss In Pre-Schoolers Presenting With Delayed Speech

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BACKGROUND & AIM

The aim of this study was to assess hearing level of preschoolers with delayed speech in order to detect any underlying hearing loss

MATERIAL & METHODS

In this research we targeted preschool children with speech delay, who are medically free . A 54 preschool speech-delayed children were audiologically assessed in our clinic in the past year. The age at time of referral ranged from 2 to 7.4 years. In this study , we focused on ABR test done to assess level of hearing .

RESULTS

Out of the 54 children with delayed speech assessed in our clinic in year 2023 , 36 males and 18 females with ratio of 2:1 male to females . 20 (37%) children did not undergo the test as their parents noticed improvements in their speech denying any possibility of decreased hearing . Only 1 child was found to have sensory neural hearing loss . The other 33 children underwent the test and passed the test with normal hearing level . Chonductive hearing was not appreciated as otitis media was treated before the test

CONCLUSIONS

A great number of healthy pre-school children with speech delay were found to have normal hearing. In this case, the otolaryngologist should be aware of the possible underlying clinical entities, especially of psychiatric nature.

KEYWORDS

Delayed speech , Hearing loss

PP-014

Loss Of Mentalization In Adults With Bilateral Sensorineural Hearing Loss: A Cross-Sectional Study With Reading The Mind In The Eyes Test

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BACKGROUND & AIM

Adult-onset sensorineural hearing loss is a risk factor for cognitive decline, depression and social withdrawal. Its effect on mentalization, the ability to infer what another person is thinking or feeling, is less clear. Because vocal prosody and the social context of a conversation depend on intact hearing, we asked whether patients with bilateral sensorineural hearing loss (SNHL) perform worse on a mentalization test, and whether any such difference is simply explained by older age or less schooling.

MATERIAL & METHODS

We enrolled 160 adults aged 17-65: 40 normal-hearing controls and 120 bilateral SNHL patients, grouped by air-conduction pure tone average (PTA, 0.5-4 kHz) as mild (26-40 dB), moderate (41-55 dB) or severe (56-90 dB), 40 per group. Unilateral, asymmetric, conductive or mixed losses and patients with a known neurological or psychiatric disorder were excluded. All scored within normal limits on the Mini Mental State Examination. The Turkish version of the Reading the Mind in the Eyes Test (RMET) was administered face-to-face. We used one-way analysis of variance with Tukey HSD post-hoc tests for group comparisons, and partial correlation and multiple linear regression to see whether PTA still predicted RMET after adjusting for age, education and sex.

RESULTS

Mean RMET scores fell across groups: 23.0±5.9 in controls, 20.7±5.9 in mild, 14.0±4.8 in moderate and 13.5±3.5 in severe SNHL ($F(3,156)=34.9$, $p<0.001$, $\eta^2=0.40$). Post-hoc tests showed a step rather than a smooth gradient: moderate and severe patients scored well below both controls and mild patients (all $p<0.001$), while control-mild and moderate-severe contrasts were not significant. PTA correlated negatively with RMET ($r=-0.54$, $p<0.001$), and remained significant after adjustment (partial $r=-0.34$, $p<0.001$). In the regression model ($R^2=0.45$), each 1-dB rise in PTA was linked to a 0.09-point drop in RMET ($p<0.001$).

CONCLUSIONS

Bilateral SNHL is associated with lower mentalization, with what looks like a step change around the 40-dB boundary. The effect is not explained by age or education alone, although residual age confounding cannot be ruled out because controls were younger than patients. Social cognition may deserve more attention in the assessment and rehabilitation of adult SNHL.

KEYWORDS

sensorineural hearing loss; mentalization; theory of mind; Reading the Mind in the Eyes Test; social cognition.

PP-015

Acoustic Change Complex In Clinical Audiology: Case Study

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BACKGROUND & AIM

Acoustic Change Complex (ACC) is an exogenous component of long-latency (cortical) auditory evoked potentials (CAEP) which is essentially an additional complex of P1'-N1'-P2' CAEP components [Tavartkiladze G.A., 2018]. It appears in response to changes of stimulus parameters at 50-100 ms after a change [Fan et al, 2022].

Clinical applications of recording ACC:

- bio-marker of an auditory cortex ability to discern changes in the stimulus;
- ACC is correlated with SRT [Vonck et al, 2022].

ACC response maturation for normal-hearing children:

- Minimum age: 3 months [Meehan et al, 2024]
- Wave P1' is reliably detected at 1-2 years [Strahm et al, 2022]

MATERIAL & METHODS

Stimulus used in this study for ACC was /daba/. Stimulation was performed via inserts, headphones and loudspeakers. Total stimulus duration was 845 ms. Stimulus was switched from /da/ to /ba/ at 450 ms. A few recordings were made for children of varying age, normal-hearing and with hearing loss.

Stimulation (if not specified otherwise): binaural, insert earphones. Intensity: 65 and/or 70 dB SPL.

Device used for the study was Neurosoft Neuro-Audio unit with additional stimulator unit (for speech stimuli).

RESULTS

Case 1. A girl, 4 years, normal-hearing (binaural).

ACC detected.

Case 2. A boy 8 years old, normal-hearing (binaural).

ACC not present

Child has difficulties with reading/writing skills (text comprehension).

Case 3. Girl, 6 years old, binaural SNHL (sensorineural hearing loss) of the 1st degree (mild).

Without HA (hearing aid): SRT: 90% (silence), 60% (noise).

With HA: SRT: 90% (silence), 90% (noise).

ACC detected.

Case 4. Boy, 8 years old. Left-sided SNHL (average threshold: 55 dB), right ear normal-hearing..

Stimulation: left and right ears, inserts. 65 dB SPL.

Without HA: SRT: 100% (silence), 70% (noise).

With HA: SRT: 100% (silence), 90% (noise).

Left: ACC response inconclusive.

Right: ACC clear response.

Case 5: girl, 8 years. Deafness (bilateral), ineffective CI. Average threshold with CI: AD – 40 dB, AS – 40 dB)

Stimulation: binaural, sound-field, 70 dB SPL.

P1, ACC not detected.

First CI was done at 3.5 years, second CI at 4.5 years.

Partially understands directed speech, answers simple requests, uses gestures, mimic and imitating sounds.

CONCLUSIONS

- ACC is a promising tool in a scientific and clinical practice and can be used in assessment of auditory cortex maturation, cortical processes responsible for speech discrimination, as an objective bio-marker of speech recognition.
- This technique requires further studies, concerning correlation between ACC results and speech audiometry (word recognition scores) before wide-spread clinical use.
- There is a high interest in studies of changes in ACC response due to auditory cortex maturation both in normal-hearing children and patients with hearing loss, including the cases after hearing aid fitting or cochlear implantation.

KEYWORDS

ACC Speech CAEP HearingAid

PP-016

The Presence Of Hearing Loss In Patients With Viral Hepatitis

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BACKGROUND & AIM

Having in mind the increasing prevalence of viral hepatitis, especially type B (+D) virus but also C virus, as well as the multiple hepatic and non-hepatic complications, the authors of this study aim to draw attention to the impact on hearing function. Hearing dysfunction may be due to complex mechanisms, a direct consequence of the presence of the virus, but also as a result of therapeutic procedures. This first study aims to establish the initial hearing loss in people diagnosed with viral hepatitis, but also as a result of treatment, while taking into account the therapeutic protocols in force.

MATERIAL & METHODS

In this study, 139 patients (out of a group of 161) were evaluated over a period of 5 years, initially diagnosed with viral hepatitis, with no history of disease or other treatments until the time of diagnosis. They were selected for pure tone audiometric testing (PTA). Next, control audiometric tests were performed on a group of 150 patients with negative serology for viral hepatitis. Subjects in both groups were between 18 and 45 years of age. The authors excluded from the very beginning, anamnestically, as many possible causes as possible regarding other factors that have a negative impact on auditory function. The threshold was set at 30 db for hearing loss, compared to the hearing threshold considered normal.

RESULTS

Significant differences were found in auditory performance within the study group. There was also a significant difference between the groups in terms of auditory thresholds for different frequencies

CONCLUSIONS

The present study was able to obtain significant differences in auditory performance, by establishing the auditory threshold for pure tones, among patients confirmed with viral hepatitis.

KEYWORDS

hearing loss, viral hepatitis,

PP-017

Tinnitus Therapy With Botulinum Toxin In Palatal Myoclonus

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BACKGROUND & AIM

A palatal myoclonus is a rare movement disorder characterized by continuous rhythmic tractions of the palatine muscles: tensor veli palatini and levator veli palatini. There are two types of the palatal myoclonus: symptomatic and essential one. The symptomatic type is associated with the pathology of the central nervous system in contrast to essential one. The only sign of essential palatal myoclonus is “clicky” sounds perceived as tinnitus.

Aim: To study and compare the outcome of botulinum therapy in patients with palatal myoclonic tinnitus.

MATERIAL & METHODS

17 patients with palatal myoclonic tinnitus were observed. Clinical characteristics, audiological findings, psychological status, and other relevant medical history were reviewed. Responses to various treatment modalities were retrospectively analyzed.

RESULTS

The mean age of enrolled patients was 27 [23; 39] years, with female gender predominance. The patients complained of different tinnitus sensation with ‘clicky’ sounding in most cases. Seven patients had comorbid tinnitus of other type. Pharmacological treatment was effective in 39.6% of the patients but was not stable. Botulinum toxin injection in the pharyngeal opening region of the auditory tube led to complete resolution of symptoms in all patients (100%) with palatal myoclonic tinnitus for period of 6 [3; 15] months. Several treatment sessions were required in some cases.

CONCLUSIONS

Patients with tinnitus should be examined according to presence of palatal myoclonus. Botulinum therapy is an effective and safe treatment for persistent palatal myoclonus.

KEYWORDS

tinnitus, botulinum toxin, palatal myoclonus, auditory tube

PP-018

History Of A Patient With Positive Ear Pressure Tympanometry

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BACKGROUND & AIM

Tympanometry is the acoustic evaluation of the condition of the middle eardrum and conduction bones by creating air pressure changes in the ear canal. In tympanometry test, when the external ear canal pressure is equal to the middle ear pressure, impedance is lowest and compliance is highest. Classically there are there types of tympanometries according to Jerger’s classification: Type A; B and C. Positive pressure is referred as greater than >+50 mm H2O (49.03 decapascal daPa) pressure. We presented a rare case of positive middle ear pressure.

MATERIAL & METHODS

A 27-year-old young patient applied to the ENT outpatient clinic with the complaint of fullness in both ears. He had complaints for about 2-3 months. He traveled abroad by plane and his complaints increased. He had not any operation before. Family history was none specific. He was using Continuous Positive Airway Pressure (CPAP) during sleep for Obstructive Sleep Apnea Syndrome (OSAS) treatment. On physical examination his nose acute sinusitis was present. Septum was deviated to the left. Nasopharynx was natural. Ears: Both tympanic membranes appeared natural. In audiometry tests patient had bilateral mild conductive hearing loss in pure tone audiometry, The tympanometry test is done by Interacoustics Basic AT235 Tympanometry at 226 Hz and the right ear peak was measured.

RESULTS

Right ear peak was measured as +124 daPa (126 mmH20) and 1.82 ml Left ear peak was +110 daPa (112 mmH20) and 1.75 ml peak was measured in the tympanometry test . The patient received medical treatment. This patient is treated for acute sinusitis. He received amoxicillin+clavulanic acid combination 1 gr twice a day for 7 days per oral and nasal decongestant oxymetazoline for 5 days to both nostrils. Patient complaint was healed. He had been given information about myringotomy

and ventilation tube insertion if complaints reoccur. Written informed consent was obtained from the patient who agreed to take part in the study.

CONCLUSIONS

Positive type tympanometry result is rarely observed, Its causes are similar to negative tip C tympanometry but in the cases of positive pressure tympanometry results, it should be kept in mind whether the patient is receiving CPAP therapy. Our patient was had septal deviation and sinusitis, history of travelling by plane and CPAP treatment for OSAS. Valsalva maneuver could cause positive type tympanometry result but it does not last for 10 minutes

KEYWORDS

CPAP; Middle Ear; Audiometry; Tympanometry; Positive Pressure Tympanometry

PP-019

Effects Of Contralateral Acoustic Stimulation On Ipsilateral Cochlear Microphonics

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BACKGROUND & AIM

In complex acoustic environments, the auditory system relies on efferent mechanisms to enhance the processing of auditory signals (1). This study investigates the effect of contralateral acoustic stimulation on cochlear responses by comparing cochlear microphonic (CM) amplitudes for conditions with ipsilateral versus bilateral stimulation.

MATERIAL & METHODS

In two adult normal-hearing subjects (1 female, 1 male) CMs were elicited using three stimulation conditions: an 80 dB nHL tone burst presented ipsilateral, a bilateral 80 dB nHL tone burst, or an ipsilateral tone burst combined with an 80 dB SPL broadband noise presented contralateral. Cochlear microphonics were recorded using electrocochleography with an extratympanic membrane electrode placed on the right eardrum. Recordings were obtained with a clinical auditory evoked potential system. Each condition comprised 2000 stimuli and was repeated twice. All three conditions were conducted at stimulation frequencies of both 500 Hz and 2000 Hz. Signals exceeding a threshold of ±40 µV were excluded immediately. The stimuli were recorded over a 15 ms time window at a stimulus repetition rate of 57.8/s. The analysis will focus on comparing signal amplitudes across the three conditions.

RESULTS

Following pilot measurements, two measurements have been completed and are currently being analyzed. Thirteen additional measurements are planned. Preliminary results indicate that the chosen setup successfully captures CMs, highlighting its potential for detailed analysis in the upcoming measurements. The results of the first completed measurements will be presented and discussed at the conference.

CONCLUSIONS

Although final results are not yet available, the study may provide knowledge on the influence of contralateral stimulation and acoustic stimulus characteristics on CM modulation. The findings may contribute to future research on efferent auditory processing.

KEYWORDS

electrocochleography, cochlear microphonics, tympanic membrane electrode, auditory evoked potentials

PP-020

Speech-In-Noise Perception And Cognitive Processes: A Descriptive And Bibliometric Study

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BACKGROUND & AIM

Speech perception in noisy environments is one of the fundamental components of individuals' daily communication skills and is closely associated with cognitive processes. The peripheral and central auditory systems differentiate multiple auditory stimuli based on their temporal, spectral, and frequency characteristics. This enables the segregation, localization, lateralization, and perception of simultaneous auditory inputs as signal and noise. In individuals with neurodevelopmental disorders, maintaining a favorable signal-to-noise ratio (SNR) is essential for effective communication. This study aims to provide a descriptive and bibliometric analysis of the literature examining the relationship between speech-in-noise perception and cognitive functions.

MATERIAL & METHODS

This study was designed using a document analysis method. A total of 11 English-language articles were included following a search conducted in the Web of Science Core Collection database using the titles "speech in noise" and "cognitive function."

The data were analyzed using bibliometric methods with bibliometrix 3.0 and biblioshiny; annual scientific production, article types, keyword distributions, and citation trends were evaluated.

RESULTS

The analysis results indicate an increase in the number of scientific publications in this field in recent years. All included studies were identified as original research articles. Keyword analysis revealed that terms such as “cognition,” “speech perception,” “auditory processing,” and “cognitive aging” were prominent. The findings demonstrate a significant and strong relationship between speech-in-noise perception performance and cognitive processes.

CONCLUSIONS

Speech perception in noise is associated not only with auditory mechanisms but also with cognitive processes. Further comprehensive studies in this field will contribute significantly to understanding neurodevelopmental disorders and age-related cognitive changes.

KEYWORDS

Speech in noise; Cognition; Auditory processing; Speech perception; Cognitive aging

PP-021

Duplicated Ear Canal

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BACKGROUND & AIM

Congenital anomalies of the first branchial cleft are uncommon and may occasionally present as duplication of the external auditory canal. These anomalies can lead to chronic otorrhea, recurrent infections, and hearing loss. This case highlights the clinical and audiological findings in an infant with this rare condition, emphasizing the importance of early diagnosis and intervention.

MATERIAL & METHODS

An 18-month-old male infant presented with an accessory external auditory canal and a preauricular skin tag. A comprehensive audiological assessment was performed, including otoscopy, tympanometry, acoustic reflex testing, and auditory brainstem response (ABR) to evaluate hearing status.

RESULTS

ABR testing revealed mild conductive hearing loss in the right ear and moderate to severe mixed-type hearing loss in the left ear. These findings were consistent with structural abnormalities affecting both the outer and possibly inner auditory systems.

CONCLUSIONS

Duplication of the external auditory canal is a rare but significant anomaly that can result in hearing impairment. Early recognition and audiological assessment are essential for timely intervention. Management may include surgical correction and hearing rehabilitation to support normal speech and cognitive development.

KEYWORDS

Duplicated external auditory canal, ABR, Hearing sensitivity

PP-022

NEUROPROTECTIVE EFFECT OF NICOTINAMIDE MONONUCLEOTIDE ON AGE-RELATED HEARING LOSS IN HIGH-FAT DIET-FED MICE.

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BACKGROUND & AIM

Age-related hearing loss (ARHL) is a critical modifiable risk factor for cognitive decline. While metabolic syndrome is traditionally associated with auditory impairment, the influence of dietary lipids on the aging cochlea remains enigmatic. Nicotinamide mononucleotide (NMN), an NAD+ precursor, has emerged as a potential therapeutic agent for metabolic dysfunction. This study aimed to evaluate the neuroprotective efficacy of NMN on auditory function and cochlear histopathology under high-fat diet (HFD)-induced stress.

MATERIAL & METHODS

Male C57BL/6J mice were allocated into three groups: Control (normal diet), HFD, and HFD+NMN (100 mg/kg/day in drinking water). Dietary interventions commenced at 4 weeks of age. Auditory brainstem response (ABR) thresholds were assessed at 8, 16, and 32 kHz up to 34 weeks. Histological analysis quantified hair cell and spiral ganglion cell (SGC) densities. All animal procedures were approved by the Institutional Animal Ethics Committee.

RESULTS

Both HFD cohorts developed obesity and glucose intolerance. Paradoxically, the HFD group demonstrated superior preservation of ABR thresholds compared to the Control group. Supplementation with NMN provided additive benefits, with the HFD+NMN group exhibiting significantly lower thresholds at 32 kHz compared to the HFD-only group ($p < 0.05$). Histologically, while hair cell density was comparable across groups, SGC density in the HFD+NMN group showed a sustained trend toward higher preservation than Controls, suggesting targeted neuroprotection.

CONCLUSIONS

NMN administration exerts a neuroprotective effect on SGCs in the context of dietary stress, potentially via NAD+-mediated cellular resilience. Although HFD showed an unexpected protective trend in this specific model, NMN supplementation further optimized auditory outcomes. These findings support NMN as a promising candidate for maintaining cochlear neural integrity and mitigating auditory deprivation-linked cognitive decline.

KEYWORDS

Nicotinamide mononucleotide, Age-related hearing loss, metabolic syndrome, Auditory brainstem response

PP-023

Psychometric Evaluation Of A Digitally Recorded Mongolian Monosyllabic Word List For Word Recognition Score Testing

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BACKGROUND & AIM

Hearing loss affects approximately 430 million people worldwide, and speech audiometry plays a critical role in audiological rehabilitation. Accurate assessment requires standardized word materials developed in the listener's native language. Although Mongolian speech audiometry materials were first developed in 1988, no standardized monosyllabic word lists with psychometric validation currently exist for clinical use in Mongolia. This study aimed to develop phonetically balanced Mongolian monosyllabic word lists and evaluate their psychometric properties for Word Recognition Score (WRS) testing.

MATERIAL & METHODS

In the first phase, 220 Mongolian monosyllabic words that are widely recognized and commonly used in daily conversations by the general population were selected from various linguistic sources and phonemically balanced. These words were digitally recorded by a professional female voice artist in a sound studio, and their intensity levels were normalized using the Root Mean Square (RMS) value at 1000 Hz. In the second phase, word recognition tests were administered to 50 normal hearing participants aged 18 to 29 years. The test was conducted in a sound treated booth, with words presented at intensity levels ranging from -4 to 18 dB HL in 2 dB steps. The 220 words were randomly divided into four blocks of 55 words each. In the third phase, psychometric functions were generated using logistic regression analysis. To determine statistical differences between the lists and half-lists, chi-square (χ^2) test and one-way ANOVA were applied.

RESULTS

From the original pool of 220 words, the 200 most perceptible monosyllabic words were selected based on recognition accuracy. These were divided into four balanced 50-word lists and eight 25-word half-lists based on phonetic balance. Psychometric functions were derived using logistic regression. The slope at the 50% recognition threshold ranged from 9.94 to 10.70%/dB (M=10.43%/dB), and between 20–80% recognition from 8.61 to 9.38%/dB (M=9.07%/dB). Chi-square analysis revealed no significant differences across the four lists, χ^2 (3) = 0.12, P=.98, and one-way ANOVA confirmed equivalence in mean intensity levels, F=0.004, P=.9996. Similarly, no significant differences were found across the eight half-lists, χ^2 (7) = 2.63, P=.918. Minor intensity adjustments (≤±0.3 dB) standardized the 50% recognition threshold to 6.16 dB HL across all lists, confirming phonetic and perceptual equivalence for clinical use.

CONCLUSIONS

This study successfully developed and validated a set of 200 Mongolian monosyllabic words demonstrating homogeneous psychometric characteristics. The word lists were phonetically balanced, perceptually reliable, and statistically equivalent across both full 50 word lists and 25 word half-lists. These standardized materials fill a critical gap in Mongolian clinical audiology, providing validated tools for word recognition testing, speech audiometry, and hearing rehabilitation research in Mongolia. The developed lists are suitable for use by otologists and audiologists in both clinical and research settings. Future studies should extend this work by evaluating word recognition performance in noise at various signal-to-noise ratio levels.

KEYWORDS

Mongolia, Speech audiometry, Monosyllabic words, Word recognition, Psychometric function, Intensity level, Phonetic balance

COCHLEAR IMPLANTS AND IMPLANTABLE DEVICES

Poster / E-Poster Presentations · PP-024 – PP-045 · 22 abstracts

PP-024

COCHLEAR IMPLANTATION VIA RETROFACIAL APPROACH

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BACKGROUND & AIM

Although the round window approach is one of the most commonly preferred methods in cochlear implant (CI) surgery, alternative techniques are required in some patients due to reasons such as anatomical variations, a narrow facial recess, or restricted surgical exposure.This study aims to evaluate the clinical and surgical outcomes of a cochlear implantation case performed via the retrofacial approach.

MATERIAL & METHODS

A 1-year-old female patient presented to our clinic after failing the newborn hearing screening ABR (Auditory Brainstem Response) test. Temporal computed tomography (CT) imaging revealed no bilateral cochlear anomalies; however, bilateral stapes suprastructure were not observed. It was noted that the facial nerves were inferiorly positioned bilaterally, obscuring the round window niche. Following a CI multidisciplinary council meeting, we planned sequential bilateral cochlear implantation, starting on the left side using the round window approach.

During the procedure, neither the stapedial footplate nor the stapes suprastructure were observed. A posterior tympanotomy was performed; however, the round window niche could not be identified via the facial recess approach. Therefore it was decided to create exposure using the retrofacial approach. The round window niche was then identified. The cochlear implant electrodes were inserted into the scala tympani through the opened round window membrane, with all electrodes remaining inside.

RESULTS

"Ultimately, intraoperative evaluation yielded Neural Response Telemetry (NRT) responses from all electrodes.

CONCLUSIONS

While the round window approach remains the most prevalent technique in cochlear implantation, anatomical variations— as seen in our case—necessitate the use of alternative surgical approaches. To be prepared for such situations, preoperative imaging and careful surgical planning must be performed. In the use of alternative methods, the surgeon's experience should not be overlooked. In our case, the evaluation of preoperative temporal CT served as a guide for the implementation of CI via the retrofacial approach.

KEYWORDS

Anatomical variations , Cochlear implantation , Retrofacial approach

PP-025

Arabic CAP & SIR

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BACKGROUND & AIM

Categories of Auditory Performance II (CAP-II) is an established audiological test that consists of a rating scale that can be used for prospective assessment of the auditory performance of cochlear implant (CI) recipients.

MATERIAL & METHODS

In this cross-sectional study, 30 post-CI children (patients' group) along with 30 control subjects were included. The translated Arabic CAP-II scale has been used by speech-language pathologists and parents to evaluate the study subjects' auditory abilities. The interrater reliability, test-retest reliability, pre and postintervention score (responsiveness test), case versus control score comparison (discriminate validity), and cross-validation of the new Arabic version of CAP-II have been assessed.

RESULTS

The Arabic CAP-II demonstrated high test-retest and inter-rater reliability. There was a positive correlation between the Arabic CAP-II and Meaningful auditory integration scale. The Arabic CAP-II scores were higher in the patients' group compared with control subjects.

CONCLUSIONS

The Arabic CAP-II showed high inter-rater reliability with excellent concurrent and discriminate validity. The Arabic version of CAP-II seems to be a valid and reliable tool in assessing different auditory performance in Arabic speaking children with hearing impairment.

KEYWORDS

To create and validate an Arabic version of Categories of Auditory Performance scale II (CAP-II), and to evaluate its reliability.

PP-026

Clinical Silence And Vestibular Crisis: Two Faces Of Superior Semicircular Canal Electrode Misplacement

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BACKGROUND & AIM

Cochlear implantation is a safe and well-established procedure with a low rate of major complications. However, electrode array misplacement into vestibular structures remains a rare but significant event. We aim to describe two cases of superior semicircular canal misplacement during cochlear implantation, highlighting diagnostic challenges, clinical presentation variability, and surgical management.

MATERIAL & METHODS

Two male patients (68 and 69 years old) with bilateral sensorineural hearing loss underwent unilateral cochlear implantation following unremarkable preoperative computed tomography (CT) and magnetic resonance imaging (MRI). In the first case, an Advanced Bionics SLIM J electrode was inserted via posterior tympanotomy through the round window without resistance. Intraoperative neural response telemetry showed absent responses. Postoperative radiography and CT revealed electrode placement within the vestibule extending into the superior semicircular canal. The patient remained asymptomatic due to pre-existing ipsilateral vestibular hypofunction. In the second case (MED-EL implant), mild resistance was encountered but overcome during insertion. Intraoperative telemetry demonstrated neural responses suggestive of correct positioning. However, early postoperative vertigo, horizontal-rotatory nystagmus, and severe imbalance prompted imaging, confirming misplacement into the superior semicircular canal. Both patients underwent revision surgery with electrode removal and reinsertion into the scala tympani, with correct positioning radiologically confirmed.

RESULTS

Following revision, both patients demonstrated favorable auditory outcomes. The first patient achieved a pure tone average of approximately 50 dB after activation. The second patient experienced progressive resolution of vestibular symptoms. No further complications were observed.

CONCLUSIONS

Electrode array insertion into the superior semicircular canal is a rare major complication of cochlear implantation and may occur despite apparently correct surgical technique and reassuring intraoperative telemetry. Absence or presence of neural responses does not reliably exclude malposition. Postoperative imaging remains the gold standard when clinical suspicion arises. Prompt surgical revision enables satisfactory auditory rehabilitation and symptom resolution.

KEYWORDS

Cochlear Implantation, Electrode Array Misplacement, Superior Semicircular Canal, Revision Surgery

PP-027

Impact Of Cochlear Implant Surgery On Tongue Sensitivity

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BACKGROUND & AIM

During cochlear implantation, manipulation of the chorda tympani nerve is common. While taste disturbances are a recognized postoperative effect, increasing evidence suggests that the chorda tympani may also contribute to general sensory innervation of the anterior tongue, potentially affecting tactile discrimination.

MATERIAL & METHODS

Seventy-six patients who underwent unilateral cochlear implantation were prospectively evaluated more than one month postoperatively. Static two-point discrimination (2PD) testing was performed bilaterally on the anterior tongue, with the non-operated side serving as an internal control. The difference in discrimination thresholds between sides was recorded.

RESULTS

Among 76 patients, deterioration in two-point discrimination on the implanted side was observed in 46 (61%), while no difference between sides was found in 28 (37%). Improvement on the operated side occurred in 3 patients. Three patients were not tested. A one-sided sign test demonstrated a statistically significant difference between sides ($p < 0.001$), indicating reduced tactile discrimination on the implanted side.

CONCLUSIONS

Cochlear implantation may lead to mild but statistically significant impairment of anterior tongue tactile sensitivity, supporting the role of the chorda tympani in general sensory function. These findings emphasize the importance of meticulous surgical technique, particularly during posterior tympanotomy, to preserve the chorda tympani nerve and minimize postoperative sensory changes.

KEYWORDS

cochlear implantation, tongue sensory function, two-point discrimination, chorda tympani nerve

PP-028

Bone Conduction Hearing Implant In Treacher Collins Syndrome With Cholesteatoma: A Case Study

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BACKGROUND & AIM

Treacher Collins syndrome is a rare congenital condition associated with craniofacial anomalies, external auditory canal atresia, and conductive hearing loss. Management becomes more complex in the presence of cholesteatoma. The aim is to present a clinical case of bone conduction implant placement in such a patient.

MATERIAL & METHODS

A pediatric patient with Treacher Collins syndrome, external auditory canal atresia, and cholesteatoma was evaluated using clinical examination, CT imaging, and audiological tests. Surgical treatment included cholesteatoma removal followed by bone conduction implant placement.

RESULTS

Successful eradication of cholesteatoma was achieved. The bone conduction implant was placed without complications, providing significant hearing improvement and good postoperative outcomes.

CONCLUSIONS

Bone conduction implantation is an effective option for hearing rehabilitation in patients with congenital ear anomalies, even in complex cases with cholesteatoma, when proper surgical management is performed.

KEYWORDS

Treacher Collins syndrome; cholesteatoma; aural atresia; bone conduction hearing implant; auditory rehabilitation; congenital ear malformations; pediatric ENT

PP-029

Cochlear Implantation In CHARGE Syndrome With Concurrent Cochlear Anomaly And Profound Hearing Loss: A Case Report

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BACKGROUND & AIM

The purpose of this study is to present thepreoperative radiological evaluation, intraoperative challenges encountered, andpostoperative auditory performance of apediatric patient with CHARGE syndromewho underwent cochlear implantation in our clinic.

MATERIAL & METHODS

A 2-year-and-9-month-old female patient, referred after failing newborn hearing screening, was evaluated. Auditory brainstem response (ABR) confirmed bilateral profound sensorineural hearing loss. Her medical history included hypothyroidism, pulmonary stenosis, secundum ASD, bilateral vision loss, and repaired esophageal and anal atresia. Physical examination revealed bilateral microphthalmia, iris coloboma, low-set ears, and retrognathia. Genetic analysis identified a heterozygous c.6972T>A variant in the CHD7 gene, confirming CHARGE syndrome.

Preoperative temporal CT and contrast-enhanced MRI demonstrated characteristic inner ear malformations: fixed malleus heads, bilateral cochlear hypoplasia (absent interscalar septum, stenotic apertures), absent lateral/posterior semicircular canals, and an absent right oval window. Due to the presence of the left oval window and traceable vestibulocochlear nerves, the left ear was selected for intervention. Following a positive intraoperative ABR response, a left cochlear implantation via the round window approach was performed.

RESULTS

Left cochlear implantation was performed via the round window approach. Intraoperatively, the facial canal was intact, but the lateral semicircular canal could not be visualized. Due to severe cochlear hypoplasia, only electrodes 1–9 were successfully placed into the scala tympani, while electrodes 10–12 could not be inserted. Intraoperative neural response telemetry (NRT), auditory nerve response telemetry (ART), and stapes reflex tests yielded no responses across all active electrodes. No intraoperative cerebrospinal fluid gusher occurred.

Postoperatively, although reliable thresholds could not be established at 1 month, subjective behavioral responses to sound were reported by the family. At the 3-month follow-up, the patient demonstrated behavioral responses to her name and speech sounds at 65 dB. The family confirmed consistent awareness of moderate-to-high-intensity sounds. Due to the patient's severe visual impairment, postoperative audiological assessments were conducted under limited and adapted conditions.

CONCLUSIONS

CHARGE syndrome presents significant anatomical challenges, such as severe cochlear hypoplasia, which can restrict electrode insertion and prevent intraoperative electrophysiological responses (NRT/ART). However, our case demonstrates that a lack of intraoperative responses does not predict a poor prognosis. Despite partial placement (electrodes 1–9), the patient achieved meaningful auditory gains, responding to speech at 65 dB within three months. Precise preoperative CT and MRI are vital for surgical planning and side selection. Ultimately, cochlear implantation remains a crucial intervention that drastically improves communication and quality of life for syndromic children facing dual sensory (visual and hearing) loss.

KEYWORDS

CHARGE syndrome, cochlear anomaly, cochlear implantation, hearing loss, sensorineural hearing loss, Auditory Brainstem Response

PP-030

Cochlear Implant Electrode Extrusion Following Severe Vomiting: A Rare Reason For Revision Surgery In A Case Of Incomplete Partition Type II

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BACKGROUND & AIM

Cochlear implantation is a well-established and effective treatment for patients with severe-to-profound sensorineural hearing loss. Although the procedure is associated with high success rates and a low incidence of major complications, electrode migration or extrusion remains a rare but clinically significant event that may necessitate revision surgery. We report an unusual case of cochlear implant electrode extrusion following severe vomiting in a patient with incomplete partition type II inner ear malformation, and discuss the possible underlying pathophysiological mechanisms.

MATERIAL & METHODS

A patient with progressive bilateral hearing loss was diagnosed with bilateral incomplete partition type II based on radiological evaluation and underwent right cochlear implantation. Intraoperatively, a profuse gusher was encountered. The electrode array was inserted through the round window membrane after being passed through temporalis fascia, and full insertion was achieved. Early postoperative imaging confirmed appropriate intracochlear placement, and no implant-related complications were observed during the initial postoperative period. However, at the eighth postoperative month, the patient presented with severe vertigo following an episode of excessive vomiting and diarrhea. Temporal computed tomography revealed partial extrusion of the electrode array from the cochlea, displacement into the vestibule, and air densities within the cochlea and vestibule.

RESULTS

Revision surgery intraoperative findings included an extracochlear electrode array, granulation tissue within the mastoid cavity, electrode displacement into the vestibule, and profuse fluid leakage. The electrode array was removed and reinserted through the round window membrane using the same temporalis fascia-assisted technique, achieving full insertion. Correct positioning was confirmed both endoscopically and fluoroscopically. The vestibule and oval window were reinforced with muscle and conchal cartilage grafts to improve sealing and stability. Postoperative computer tomography confirmed satisfactory intracochlear positioning of the implant.

CONCLUSIONS

This case suggests that abrupt intracranial and intralabyrinthine pressure changes associated with severe vomiting may contribute to cochlear implant electrode extrusion in anatomically high-risk patients with inner ear malformations. In such patients, new-onset vertigo or other atypical otologic symptoms should raise suspicion for electrode displacement even in the absence of obvious external signs. Prompt radiological evaluation and timely revision surgery are essential for restoring implant function and minimizing morbidity.

KEYWORDS

Cochlear Implantations, Cochlear Abnormalities, Intracranial Pressure, Labyrinth Vestibule

PP-031

Feasibility Of Cochlear Implantation In An Irradiated Temporal Bone, Case Report And Literature Review

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BACKGROUND & AIM

Radiotherapy is an established treatment for nasopharyngeal carcinoma but often results in sensorineural hearing loss. Cochlear implantation has been shown to provide hearing rehabilitation in such cases. We report a case of cochlear implantation in a patient with profound deafness following radiotherapy for nasopharyngeal carcinoma.

MATERIAL & METHODS

A 51-year-old male presented with bilateral profound deafness four years after chemoradiotherapy for nasopharyngeal carcinoma. Audiological evaluation and imaging confirmed severe cochleovestibular damage. After a trial with no benefit from hearing aids, the patient underwent cochlear implantation with subtotal petrosectomy on the right side. Post-operative recovery was uneventful.

RESULTS

At one year follow-up, the patient was achieving open set speech understanding with the implant.

CONCLUSIONS

Cochlear implantation can provide hearing rehabilitation in selected patients with profound deafness due to radiation-induced cochleovestibular damage. A multidisciplinary team approach involving careful patient selection and counseling is important for successful outcomes in these challenging cases.

KEYWORDS

Cochlear implantation, irradiated temporal bone, CI complications

PP-032

Surgical Repair Of Facial Paralysis After Cochlear Implant Placement And Facial Nerve Stimulation Due To Implant Activation: A Case Report

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BACKGROUND & AIM

Although facial nerve-related complications after cochlear implantation are rare, they are clinically significant. This case report aimed to present the clinical course, diagnostic evaluation, and surgical management of delayed peripheral facial paralysis following cochlear implantation, along with facial nerve stimulation that emerged during long-term follow-up in the same patient.

MATERIAL & METHODS

The clinical findings, imaging results, surgical interventions, and follow-up course of a patient who developed progressive hearing loss after a febrile illness in childhood and subsequently underwent right cochlear implantation were evaluated. The patient's facial paralysis that developed in the early postoperative period and the facial nerve stimulation that occurred in the seventh postoperative year were examined in detail.

RESULTS

On postoperative day 8, the patient developed grade IV peripheral facial paralysis according to the House–Brackmann classification. Because the paralysis persisted despite steroid therapy, antiviral treatment, and physical rehabilitation, facial nerve decompression was performed. Intraoperatively, granulation tissue surrounding the implant and an exposed, edematous tympanic segment of the facial nerve were observed. Following decompression and interposition of temporal muscle fascia between the facial nerve and the implant, facial function recovered completely. In the seventh postoperative year, right-sided facial twitching, vertigo, and syncope developed after replacement of the external processor. Imaging revealed no central pathology; however, temporal bone computed tomography demonstrated granulation tissue around the facial nerve. As the symptoms persisted despite medical treatment and device reprogramming, revision surgery was undertaken, and a cartilage graft was placed between the facial nerve and the implant. During follow-up, the facial twitching and vestibular complaints resolved completely.

CONCLUSIONS

This case demonstrates that two distinct facial nerve-related complications may occur in the same patient at different time after cochlear implantation. In the presence of facial paralysis resistant to medical treatment, local inflammation and mechanical factors should be considered. Likewise, in late-onset facial nerve stimulation, not only device programming but also tissue reaction and the electrode–facial nerve relationship should be evaluated. Careful long-term follow-up and appropriate surgical management may lead to successful outcomes.

KEYWORDS

Cochlear Implantation; Facial Paralysis; Facial Nerve Diseases; Postoperative Complications; Granulation Tissue.

PP-033

Do Cochlear Implant Physical Characteristics Influence Manufacturer Selection? A Multicentre Questionnaire Development Proposal

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BACKGROUND & AIM

Choosing the right cochlear implant manufacturer for a child can be difficult and stressful for families. Decisions are guided by the multidisciplinary cochlear implant team along with independent family research, and usually require multiple consultations to allow time for discussion and informed choice. Parents are usually given sample devices to compare during consultations. Observationally, families tend to focus not only on specialist information but also on external features such as device shape, texture, weight, colour, and available processor cover designs. However, there is limited research on how much these visual and physical characteristics independently influence manufacturer selection beyond clinical counselling.

MATERIAL & METHODS

Previous studies investigating factors influencing parental decision-making in cochlear implant manufacturer selection; have included relatively small sample sizes, ranging from approximately 9 to 300 families. Therefore,there need for a lack of large-scale data enabling statistically significant evaluation of these factors.

This study proposes the development of a standardised questionnaire suitable for easy implementation across multiple cochlear implant centres. The questionnaire aims to investigate whether families who remain undecided between manufacturers are influenced by the physical characteristics of external device. In order to achieve this goal; this poster presentation aims to encourage discussion and multidisciplinary collaboration in the development of the questionnaire, including identification of relevant questions, optimal timing of administration, and appropriate methods of evaluation.

RESULTS

As this study is currently in the proposal stage, no results or conclusions are available at present.

CONCLUSIONS

As this study is currently in the proposal stage, no results or conclusions are available at present.

KEYWORDS

Cochlear İmplants, Decision Making

PP-034

Cochlear Implantation In Osteopetrosis-Associated Profound Hearing Loss With Skull Base Sclerosis: A Clinical Capsule Report

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BACKGROUND & AIM

To describe the diagnostic and surgical considerations of cochlear implantation in an adult patient with osteopetrosis-associated profound hearing loss and extensive skull base sclerosis.

MATERIAL & METHODS

A 42-year-old man with known osteopetrosis presented with progressive bilateral hearing loss over 17 years ago, eventually progressing to profound hearing loss. Despite severe auditory impairment, he retained normal speech production and voice quality. He had used hearing aids since the age of 25 year-old started with left ear then he used it for right ear, with limited recent benefit. Associated manifestations included progressive visual decline, right-sided trigeminal neuralgia-like facial pain, and right House–Brackmann grade II facial paralysis.

Intervention: The patient underwent right cochlear implantation through a posterior tympanotomy approach with intraoperative facial nerve monitoring.

Main Outcome Measure: Successful cochlear implant insertion and intraoperative feasibility in the setting of markedly thickened temporal bone secondary to osteopetrosis.

RESULTS

Pure tone audiometry demonstrated bilateral profound mixed hearing loss with absent speech discrimination in the right ear. High-resolution computed tomography showed diffuse skull base thickening and sclerosis, narrowing of the optic nerve canals and superior orbital fissures, and diffuse increased density of the visualized facial and neck bones. Right cochlear implantation was completed successfully. The main intraoperative challenge was a markedly thick temporal bone, but the procedure was otherwise uneventful, with no reported intraoperative complications.

CONCLUSIONS

Cochlear implantation may be feasible in selected patients with osteopetrosis-associated profound hearing loss. Detailed radiologic evaluation, individualized surgical planning, and facial nerve monitoring are important because skull base sclerosis and temporal bone thickening may create substantial operative challenges.

KEYWORDS

Osteopetrosis; Cochlear implantation; Profound hearing loss; Temporal bone sclerosis; Skull base sclerosis; Cranial neuropathy

PP-035

Cochlear Implantation In Internal Auditory Canal Hypoplasia: A Three-Case Series Avoiding Auditory Brainstem Implantation

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BACKGROUND & AIM

Internal auditory canal hypoplasia is commonly associated with cochlear nerve deficiency and is often considered a potential indication for auditory brainstem implantation. However, in selected cases, cochlear implantation may serve as both a diagnostic and therapeutic option, especially when imaging and electrophysiological findings suggest the possible presence of a functional cochlear nerve.

MATERIAL & METHODS

To present three clinical cases of patients with internal auditory canal hypoplasia and otocyst-related inner ear malformation who underwent cochlear implantation, avoiding the need for auditory brainstem implantation.

We retrospectively analyzed three patients diagnosed with internal auditory canal hypoplasia and associated otocyst/inner ear malformation. All patients underwent comprehensive preoperative assessment, including high-resolution computed tomography, magnetic resonance imaging, audiological evaluation, and electrophysiological testing where available. Despite anatomical limitations, diagnostic cochlear implantation was performed as the first surgical option. Intraoperative findings, electrode insertion, neural response telemetry, postoperative auditory development, device use, and rehabilitation outcomes were evaluated.

RESULTS

Cochlear implantation was successfully performed in all three cases. Intraoperative electrode insertion was achieved without major complications. Postoperative fitting and rehabilitation demonstrated auditory responses in all patients, confirming functional stimulation through the cochlear implant system. During follow-up, the patients showed progressive auditory development and meaningful benefit from cochlear implantation. None of the patients required subsequent auditory brainstem implantation.

CONCLUSIONS

This three-case series suggests that internal auditory canal hypoplasia should not automatically be considered an absolute indication for auditory brainstem implantation. In carefully selected patients, cochlear implantation may provide clinically useful auditory stimulation and can help avoid unnecessary brainstem implantation. A stepwise diagnostic and therapeutic approach, including detailed radiological, audiological, electrophysiological, and intraoperative assessment, may improve decision-making in complex congenital inner ear malformations.

KEYWORDS
Cochlear implantation; internal auditory canal hypoplasia; cochlear nerve deficiency; otocyst malformation; auditory brainstem implantation; congenital inner ear malformation; diagnostic cochlear implantation.

PP-036

Cochlear Implantation In Pediatrics: The Effect Of Cochlear Coverage

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BACKGROUND & AIM
Cochlear coverage by electrode arrays may influence speech outcomes in children with prelingual hearing loss. The optimal coverage threshold remains unclear.To evaluate the relationship between cochlear coverage and auditory and speech performance in pediatric cochlear implant users.

MATERIAL & METHODS
• Retrospective study of 57 children (85 ears) • FLEX 28 and FORM 24 electrode arrays • Outcomes: PTA, SRT, SDS, CAP, SIR • Cochlear coverage calculated using CDL software

RESULTS
Mean cochlear coverage: 82.78% • Greater coverage significantly improved Speech Discrimination Scores (p=0.009) • Coverage ≥82.78% associated with better SDS • No significant effect on SRT, CAP, or SIR.

CONCLUSIONS
Greater cochlear coverage is associated with improved speech discrimination in prelingually deaf children.

KEYWORDS
Cochlear Implantation in Pediatrics The Effect of Cochlear Coverage

PP-037

MRI-Related Magnet Extrusion Developing 15 Years After Cochlear Implantation

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BACKGROUND & AIM
Internal magnet extrusion following cochlear implantation (CI) is a rare condition. Magnetic Resonance Imaging (MRI) procedures can lead to the displacement of the internal CI magnet, subsequently resulting in skin necrosis and extrusion. The purpose of this case report is to present the diagnostic evaluation and clinical management process of a magnet extrusion that developed following an MRI scan 15 years after CI surgery.

MATERIAL & METHODS
Our case involves a 48-year-old female patient who underwent a right CI in 2011 and presented in the 15th postoperative year with the complaint of the internal magnet being exposed through the skin at the site of the receiver-stimulator unit. The patient's medical history revealed that she had undergone a knee MRI examination 2 years prior to the onset of the current clinical presentation. During the diagnostic workup, temporal computed tomography (CT) and four-view cranial radiography scans were analyzed to confirm the spatial orientation of the internal component and the magnet.

RESULTS
Radiological evaluations (temporal CT and cranial radiography) demonstrated that the internal CI magnet had dislocated from its pocket within the receiver-stimulator unit and extruded by perforating the skin flap. Signs of hyperemia and inflammation were observed in the skin flap at the region of the extruded magnet.

CONCLUSIONS
It has been demonstrated that the violation of MRI safety procedures in CI users can cause severe local surgical morbidity, even as long as 15 years post-surgery. Consequently, the critical importance of lifelong MRI compatibility surveillance in CI patients must be strongly emphasized. Clinicians should keep in mind that potential extrusion cases can develop as a late-term complication, even many years after the initial implantation.

KEYWORDS
Cochlear Implantation, Magnetic Resonance Imaging, Magnet Extrusion, Postoperative Complications, MRI Safety

PP-038

Ramsay Hunt Syndrome With Retrocochlear Signs: Cochlear Implantation Guided By Intraoperative Eabr: A Case Report

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BACKGROUND & AIM

Bilateral profound sensorineural hearing loss (SNHL) caused by different etiologies presents significant diagnostic and therapeutic challenges. Labyrinthitis ossificans may preclude cochlear implantation (CI), whereas Ramsay Hunt syndrome (RHS) can involve both cochlear and retrocochlear pathways, potentially compromising cochlear nerve function. In such situations, determining the optimal auditory rehabilitation strategy between CI and auditory brainstem implantation (ABI) is critical. This report aims to demonstrate the value of integrating radiological findings with intraoperative electrophysiological assessment, particularly electrically evoked auditory brainstem response (eABR), to evaluate cochlear nerve integrity and guide surgical decision-making.

MATERIAL & METHODS

A 43-year-old male with bilateral profound SNHL was evaluated. The patient had a history of meningitis-related deafness in the right ear at the age of three. And The patient recently developed Ramsay-Hunt syndrome on the left side, resulting in facial paralysis as well as progressive hearing loss. CT demonstrated complete ossification of the right cochlea, vestibule, and semicircular canals, consistent with labyrinthitis ossificans that makes CI unfeasible. MRI revealed enhancement of the left vestibulocochlear nerve complex and decreased fluid signal intensity in the internal auditory canal fundus, suggesting retrocochlear involvement of RHS. Intraoperative electrically evoked auditory brainstem response (eABR) testing using an intracochlear test electrode (ITE) was planned to assess left cochlear nerve functionality. Depending on the electrophysiological response, CI or ABI would be performed.

RESULTS

Intraoperative eABR testing demonstrated clear and reproducible wave V responses during both monopolar and bipolar stimulation modes, indicating preserved functional integrity of the left cochlear nerve and central auditory pathway despite radiological signs of retrocochlear inflammation. Based on these findings, CI was performed on the left ear without complications. Postoperative device activation showed normal electrode impedances and auditory perception across all electrodes. During follow-up fitting sessions, objective measures including AutoART responses were detected in several electrodes, confirming neural responsiveness. The patient reported perception of environmental sounds and voices after one month of device use. Free-field audiometric testing demonstrated progressive improvement in hearing thresholds over time. These findings confirmed that functional cochlear nerve integrity was sufficient to support CI despite imaging findings suggestive of retrocochlear involvement.

CONCLUSIONS

This case highlights the importance of combining radiological imaging with intraoperative electrophysiological evaluation when retrocochlear pathology is suspected. Although MRI suggested vestibulocochlear nerve involvement, eABR testing confirmed preserved cochlear nerve functionality, allowing successful CI instead of ABI. Intraoperative eABR therefore serves as a valuable tool for real-time assessment of neural viability and can significantly influence surgical decision-making. Integrating functional testing with imaging findings may expand cochlear implantation candidacy and improve auditory rehabilitation outcomes in complex cases of profound hearing loss.

KEYWORDS

Cochlear Implants, Electrically Evoked Auditory Brainstem Response, Ramsay Hunt Syndrome, Sudden Sensorineural Hearing Loss

PP-039

COCHLEAR IMPLANT….. 2026 UPDATES

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BACKGROUND & AIM

This work is devoted to focusing, in brief but complete, the most recent trends in Biologic Ear procedures including different surgical approaches, new processors, audiological fittings, and rehabilitation.

MATERIAL & METHODS

Collection of the most recent researches and advancements in this field

RESULTS

CI necessitates cooperation of many specialties pre-, intra- and postoperative.

CONCLUSIONS

Being updated in this field is mandatory as the progress is very fast.

KEYWORDS

Cochlear Implant, Biologic Ear, Profound SNHL

PP-040

RELATIONSHIP BETWEEN THE FACIAL NERVE AND THE ROUND WINDOW IN COCHLEAR IMPLANTATION: PRELIMINARY RESULTS OF A CT-BASED MORPHOMETRIC STUDY USING OTOPLAN

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BACKGROUND & AIM

The round window (RW) approach is widely used for electrode insertion in cochlear implantation because of its atraumatic characteristics. However, surgical exposure of the RW niche may be affected by the anatomical relationship between the facial nerve (FN) and the round window. Variability in the course of the FN within the facial recess can partially obscure the surgical field and increase operative complexity. High-resolution temporal bone CT analysis using dedicated surgical planning software such as OTOPLAN enables detailed assessment of these anatomical relationships and may improve individualized surgical planning.

MATERIAL & METHODS

A combined retrospective and prospective radiological study was performed using high-resolution temporal bone CT scans obtained during preoperative evaluation for cochlear implantation. A total of 116 patients were included, comprising 99 retrospective and 17 prospective cases.

All CT datasets were analyzed using OTOPLAN (CAScination AG, Bern, Switzerland) with multiplanar reconstruction tools. The following parameters were assessed: patient gender, ear side, position of the facial nerve relative to the Modiolus–Round Window reference line, RW–FN distance, EAC–FN distance, FN-trajectory distance, FN-burr distance, facial recess dimensions, shortest FN–RW distance, cochlear duct length (CDL), cochlear diameter, cochlear width, cochlear height, and scala tympani volume.

The FN position relative to the Modiolus–RW reference line was classified as above, touching, intersecting, or below the reference line.

RESULTS

The mean RW–FN distance was 6.7 mm in the retrospective cohort and 7.1 mm in the prospective cohort.

In the retrospective group, FN position relative to the Modiolus–RW line was above in 36 cases (36.4%), below in 2 (2.0%), intersecting in 41 (41.4%), and touching in 20 (20.2%). In the prospective group, FN position was above in 9 cases (52.9%), intersecting in 7 (41.2%), and touching in 1 (5.9%).

Additional morphometric measurements showed similar values between cohorts, including EAC–FN distance (3.5 vs 3.7 mm), facial recess width (3.03 vs 3.2 mm), shortest FN–RW distance (3.4 vs 3.5 mm), cochlear duct length (35.2 vs 34.1 mm), and scala tympani volume (42.2 vs 41.4 mm^3).

Overall, moderate anatomical variability of the FN–RW relationship was observed, with the facial nerve most commonly intersecting or contacting the Modiolus–RW reference line.

CONCLUSIONS

Preoperative high-resolution CT analysis using OTOPLAN provides valuable morphometric information regarding the anatomical relationship between the facial nerve and the round window in cochlear implantation.

Moderate anatomical variability of the facial recess and cochlear anatomy was identified. The facial nerve most frequently demonstrated an intersecting or superior position relative to the Modiolus–RW reference line, findings that may affect surgical exposure of the round window niche and operative strategy.

These preliminary results support the importance of individualized CT-based surgical planning to improve safety and optimize surgical access during cochlear implantation.

KEYWORDS

Cochlear implantation; Facial nerve; Round window; OTOPLAN; Temporal bone CT; Morphometric analysis; Facial recess; Surgical planning; Cochlear anatomy; Round window niche; High-resolution computed tomography; Electrode insertion.

PP-041

Long-Term Outcomes Of Pediatric Auditory Brainstem Implant In A Child With Congenital Blindness And Cochlear Nerve Aplasia: A Case Report

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BACKGROUND & AIM

The auditory brainstem implant (ABI) is a prosthetic device surgically placed on the cochlear nucleus to provide hearing in patients for whom cochlear implantation (CI) is not feasible. The first pediatric ABI was performed by Colletti et al. (2000) in a four-year-old child. Auditory responses in children with ABI are typically unclear during the first 6-12 months but improve over

subsequent years, with at least three years required to reach age-appropriate auditory performance. We report the long-term outcomes of a pediatric ABI user with bilateral congenital cochlear nerve aplasia and bilateral congenital total visual loss.

MATERIAL & METHODS

A 10-year-old male patient (born November 2015) was diagnosed with bilateral profound sensorineural hearing loss at a different center at 7 months of age. He had concurrent bilateral congenital total visual loss. Temporal bone computed tomography and magnetic resonance imaging performed at the age of 4 revealed bilateral absence of the cochlear nerve, while the cochlea and inner ear structures were normal. ABI was applied to the patient's right ear. Pre- and post-operative evaluations included auditory perception skills, social-emotional skills, speech perception, and cortical responses (P1-N1-P2) elicited by 75 dB SPL live-voice-like, isolated phoneme stimuli. The Meaningful Auditory Integration Scale (MAIS) and Categories of Auditory Performance (CAP) were used. During the postoperative period, the patient wore the processor willingly; changes in latencies and amplitudes of cortical responses were observed, with improvements in CAP scores and speech perception.

RESULTS

The co-occurrence of bilateral cochlear nerve aplasia and total visual loss is rare in the literature and represents a clinical scenario in which lip-reading and visual-cue-based rehabilitation strategies—routinely employed in pediatric ABI rehabilitation—are not available. Despite this limitation, the MAIS, CAP, and cortical response data obtained in our patient support the conclusion that meaningful auditory perception and cortical maturation can be achieved with consistent device use and structured auditory rehabilitation, even in the absence of visual input. Serial monitoring of cortical responses provided objective guidance for fitting optimization and individualization of the rehabilitative process.

CONCLUSIONS

In children with ABI, language and communication skills develop through appropriate rehabilitative methods. Objective monitoring with serial cortical responses is valuable for fitting optimization and structuring of the rehabilitative process. This case highlights the considerations required when visual input cannot be utilized in communication and demonstrates that meaningful auditory development is achievable in pediatric ABI users with dual sensory loss.

KEYWORDS

: auditory brainstem implant; cochlear nerve aplasia; pediatric ABI; cortical auditory evoked potentials; dual sensory loss; auditory rehabilitation

PP-042

Cochlear Implantation In A Patient With MYH9-Related Disease: A Case With Post-Transplant Immunosuppression And Adrenocortical Carcinoma

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BACKGROUND & AIM

MYH9-related disease (MYH9-RD) is a rare autosomal dominant disorder caused by mutations in the MYH9 gene, characterized by congenital macrothrombocytopenia with leukocyte inclusions, progressive sensorineural hearing loss, renal dysfunction, and cataracts. We here report the first known case of cochlear implantation (CI) in a patient with MYH9-RD who was receiving both post-transplant immunosuppressive therapy and adjuvant chemotherapy for adrenocortical carcinoma, with favorable surgical and auditory outcomes.

MATERIAL & METHODS

A 34-year-old man with a history of progressive hearing loss since childhood was referred to our department due to bilateral deterioration. At age 20, he developed renal failure, received peritoneal dialysis, and subsequently underwent living-donor kidney transplantation. Since then, he has been on continuous immunosuppressive therapy. At age 26, he underwent surgery for an enlarging adrenal tumor, diagnosed as adrenocortical carcinoma, followed by adjuvant chemotherapy. By age 33, he experienced profound bilateral sensorineural hearing loss and was considered for CI. Genetic analysis revealed a heterozygous MYH9 mutation (c.2104C>T, p.A702C), with no pathogenic variant detected in exon 16. Preoperative platelet count was severely reduced (11,000/μL); therefore, platelet transfusions (4× 20 units) were administered before and after surgery. Hydrocortisone supplementation was provided perioperatively for adrenal insufficiency.

RESULTS

The patient’s preoperative platelet count increased to 49,000/μL, and right CI (CI422, Cochlear Ltd., Lane Cove, Australia) was performed via the round window approach. All electrodes were smoothly inserted and verified inside the cochlea via intraoperative X-ray. Although the patient developed extensive subcutaneous hemorrhage in the postauricular region postoperatively, he was discharged without complications. Ten months postoperatively, the functional outcome of the CI was favorable, with aided hearing thresholds averaging 20–25 dB. Speech intelligibility testing revealed 96% word recognition and 100% sentence recognition, indicating excellent results.

CONCLUSIONS

We report a very rare case of CI in a patient with MYH9-RD undergoing post-transplant immunosuppressive therapy and adjuvant chemotherapy for adrenocortical carcinoma. CI was safely performed with meticulous perioperative management, including platelet transfusions and steroid support. The favorable auditory outcome suggests that CI is a viable and effective treatment option for patients with MYH9-RD, even in the presence of complex systemic comorbidities.

KEYWORDS

Cochlear implantation, MYH9-related disease, Sensorineural hearing loss, Perioperative management, Genetic analysis

PP-043

STUDY OF TELEMETRY CHANGES OVER TIME IN COCHLEAR IMPLANT CHILDREN

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BACKGROUND & AIM

Integrity of this cochlear implant can be assessed intraoperatively and followed postoperatively through objective measures. Objective measures are a widely used and valuable tool in the field of cochlear implants (CIs) because during surgery they provide first indications of successful implantation and after surgery they are used to facilitate the individual fitting of stimulation parameters especially in young children.

MATERIAL & METHODS

Data were collected from 15 deaf children implanted unilaterally with med-el sonata implant system with opus 2 speech processor. All Subjects had used hearing aids for at least three months prior to cochlear implant surgery and had received auditory verbal rehabilitation.

Impedance measurement o In the current study Impedance was measured intraoperatively and the accepted results was that with average one with no open–short circuit. Any result exceed 20ohm was discard and implant was re assessed. o The measurement was repeated in the initial stimulation visit (fitting) twice time later each one month from other. ECAP measurements o During The intraoperative period, the (ART) was recorded in selected electrodes E1, E5, E8, E11 and E12 because of restricted operating time,recorded postoperatively, the participants were evaluated at three moments: One month after operation. Two months after operation. Three months after operation.

RESULTS

15 children with med-el cochlear implant was included in this study, 7 were male and 8 female. Intraoperative impedance was the lowest among all postoperative readings in all electrodes. The highest value was that measured I month post-surgery after which impedance values remain to decrease significantly but not to the intraoperative values

There was no significant difference between ECAP threshold measured in the intraoperative and 1 month, 2 month and 3 months post-surgery. Although basal electrodes (11 and 12) showed different pattern there was no response intraoperatively and in the first stimulation period but start to show. ECAP thresholds 2months after surgery that was stable to the last reading that was 3rd months cession.

CONCLUSIONS

Impedance measurement shows significant increase in the impedance in the first month postoperative compared to intraoperative measure and decrease significantly in the following periods up to 3 months post-surgery. There was no significant difference between ECAP threshold measured in the intraoperative and 1 month, 2 month and 3 months post-surgery. o Impedance measurement should be carried at each follow up time till stabilization of values. o ECAP threshold obtained intraoperatively can be used for interpreting map in children if could not be done postoperative in the measured electrodes.

KEYWORDS

ECAP, threshold, map, electrodes

PP-044

Does The Length Of Electrode Array Affect The Hearing Preservation Rate And Speech Recognition? A Systematic Review And Meta-Analysis

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BACKGROUND & AIM

To evaluate whether long versus medium-length cochlear implant electrode arrays

affect speech recognition and hearing preservation outcomes.

MATERIAL & METHODS

A systematic review and meta-analysis was conducted using PubMed, Scopus, Web of

Science, and the Cochrane Library for studies published from 2020 to 2025. Eligible studies compared long (≥28 mm) versus medium-length (24–26 mm) electrode arrays and reported speech recognition and/or hearing preservation outcomes. Data were pooled using random-effects meta-analysis with hazard ratios (HRs) and 95% confidence intervals (CIs).

RESULTS

Eight studies involving 956 patients were included. Meta-analysis of speech recognition outcomes showed a significant advantage for longer electrodes (HR 1.11, 95% CI 1.06-1.16; p < .0001) with no heterogeneity (I^2 = 0%). For hearing preservation, seven studies showed a pooled HR of 1.14 (95% CI 1.06-1.22; p = .0001) with moderate heterogeneity (I^2 = 36.6%). SubgrouP findings suggested that soft-surgery techniques and flexible lateral wall designs reduce the risk of cochlear trauma during deeper insertions.

CONCLUSIONS

Longer electrode arrays were associated with better speech recognition without clear compromise in hearing preservation when atraumatic insertion techniques were used. Electrode selection should remain individualized according to cochlear anatomy, preoperative hearing, and patient goals.

KEYWORDS

cochlear implant; electrode length; hearing preservation; speech recognition; lateral wall array; insertion depth; electro-acoustic stimulation.

PP-045

COCHLEAR IMPLANTATION WITH POSTERIOR EXTERNAL AUDITORY CANAL WALL RECONSTRUCTION IN A CHILD WITH OTITIS MEDIA WITH EFFUSION AND TYMPANIC MEMBRANE RETRACTION. CASE REPORT

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BACKGROUND & AIM

Cochlear implantation in patients with chronic middle ear disease, including otitis media with effusion and tympanic membrane retraction, remains surgically challenging due to persistent inflammation and altered anatomy of the middle ear and mastoid. In such cases, anatomical constraints, such as a narrow sinodural angle, may further complicate standard surgical access and require modification of the operative technique.

The aim of this study is to evaluate the feasibility and safety of cochlear implantation combined with simultaneous sanitation of the middle ear and reconstruction of the posterior wall of the external auditory canal in a pediatric patient with chronic middle ear pathology.

MATERIAL & METHODS

A 10-year-old child with a history of recurrent purulent otitis media and progressive hearing loss since the age of 5 years was evaluated. Preoperative assessment included auditory brainstem response (ABR), which revealed sensorineural hearing loss grade III on the right and grade IV on the left. Temporal bone computed tomography demonstrated bilateral total opacification of the mastoid and antrum with a narrow sinodural angle, while otoscopic examination showed bilateral tympanic membrane retraction.

A single-stage surgical procedure was performed, including middle ear exploration and sanitation, removal of granulation tissue, tympanoplasty using cartilage graft, antromastoidotomy with partial removal of the posterior external auditory canal wall due to anatomical constraints, posterior tympanotomy, cochlear implantation via the round window approach, and reconstruction of the posterior canal wall using a cortical bone graft harvested from the mastoid cortex.

RESULTS

The postoperative period was uneventful, with no surgical or infectious complications. Wound healing occurred by primary intention. Cochlear implant activation was performed according to the standard protocol.

Postoperative computed tomography confirmed correct positioning of the electrode array within the cochlea. No displacement of the reconstructed posterior external auditory canal wall was observed. The tympanic membrane reconstruction remained stable without signs of retraction or graft failure.

During follow-up, a stable anatomical condition of the middle and external ear was noted, with preservation of the reconstructed structures and satisfactory postoperative healing.

CONCLUSIONS

The presented clinical case demonstrates that cochlear implantation can be safely and successfully performed in a child with chronic middle ear pathology, including otitis media with effusion and tympanic membrane retraction, when appropriate surgical modifications and adequate middle ear sanitation are applied.

Anatomical challenges, such as a narrow sinodural angle and intraoperative need for partial posterior external auditory canal wall removal, may increase surgical complexity; however, they do not represent an absolute contraindication for cochlear implantation.

Careful preoperative assessment, individualized surgical planning, and the possibility of simultaneous reconstruction allow achievement of stable anatomical and functional outcomes in such complex cases.

KEYWORDS

Cochlear implantation; chronic otitis media; tympanic membrane retraction; pediatric otology.

EQUILIBRIUM

Poster / E-Poster Presentations · PP-046 – PP-060 · 15 abstracts

PP-046

Clinical Optimization Of Monothermal Caloric Testing For A Screening Unilateral Vestibular Dysfunction Using Air And Water Stimulation.

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BACKGROUND & AIM

To optimize monothermal caloric testing (MCT) as a screening tool for unilateral vestibular dysfunction by establishing clinically appropriate cutoff values for air and water stimulation and by evaluating its diagnostic performance relative to bithermal caloric testing (BCT) and other vestibular function tests.

MATERIAL & METHODS

We retrospectively analyzed air and water caloric test data from patients who underwent comprehensive vestibular evaluation. Unilateral vestibular weakness was defined using BCT canal paresis thresholds of ≥20% and ≥25%. Screening performance of monothermal warm caloric testing was assessed using sensitivity, specificity, and negative predictive value (NPV).

RESULTS

Using BCT ≥20 as the reference standard, the optimal mono warm cutoff was ≥12% for air caloric testing and ≥14% for water caloric testing, with reliable screening performance achieved only when the sum of bilateral warm responses was ≥15. Under the stricter BCT ≥25 criterion, the optimal mono warm cutoff increased to ≥15% for air caloric testing, while it remained ≥14% for water caloric testing; in both modalities, a summed bilateral warm response ≥15 was required to ensure stable screening performance. Under these modality- and severity-specific criteria, monothermal warm testing consistently demonstrated high sensitivity and negative predictive value for ruling out clinically significant unilateral vestibular weakness. In comparisons with other vestibular function tests, MCT showed moderate predictive performance for posturography abnormalities but limited prediction of video head impulse testing and cervical vestibular-evoked myogenic potentialabnormalities, whereas BCT showed higher predictive performance for vHIT abnormalities, particularly under the BCT ≥25 threshold.

CONCLUSIONS

: Optimized monothermal warm caloric testing provides a reliable screening strategy for unilateral vestibular dysfunction when interpreted using stimulation- and severity-specific cutoff values with confirmed response adequacy.

KEYWORDS

caloric test, monothermal caloric test, vestibular function test.

PP-047

Comprehensive Vestibular Laboratory Findings Following Head Injury: A Retrospective Clinical Cohort Study

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BACKGROUND & AIM

Persistent dizziness, imbalance, visual motion sensitivity, and spatial disorientation are common yet frequently under-recognized sequelae following head injury. Despite increasing awareness of post-traumatic vestibular dysfunction, objective peripheral vestibular abnormalities may remain undetected without comprehensive vestibular laboratory assessment. Advances in vestibular diagnostics now allow detailed evaluation of semicircular canal and otolith pathway integrity following traumatic injury. This study aimed to characterize peripheral vestibular laboratory abnormalities and associated functional disability in patients presenting with persistent vestibular symptoms following head injury.

MATERIAL & METHODS

A retrospective clinical cohort study was performed reviewing patients referred to a vestibular laboratory with persistent vestibular symptoms following head injury. Comprehensive vestibular assessment included video Head Impulse Testing (vHIT), Suppression Head Impulse Paradigm (SHIMP), cervical Vestibular Evoked Myogenic Potentials (cVEMP), ocular Vestibular Evoked Myogenic Potentials (oVEMP), videonystagmography (VNG), bithermal caloric irrigation, positional testing, and Dizziness Handicap Inventory (DHI) evaluation. Clinical variables including mechanism of injury, symptom chronicity, vestibular laboratory findings, and functional disability scores were reviewed and analyzed. Ongoing subgroup and correlation analyses are currently being completed.

RESULTS

At the time of abstract submission, 50 patients had undergone comprehensive vestibular laboratory assessment following head injury. Preliminary review demonstrated a high prevalence of objective peripheral vestibular abnormalities involving both semicircular canal and otolith pathways. Frequently observed abnormalities included reduced vestibulo-ocular reflex gains on vHIT, abnormal SHIMP responses consistent with vestibular hypofunction, caloric asymmetry, positional nystagmus, and abnormal cVEMP/oVEMP responses suggestive of otolith dysfunction. Elevated DHI scores reflected substantial functional impairment and persistent symptom burden. Multisystem vestibular involvement was commonly identified, suggesting complex post-traumatic vestibular injury patterns not fully characterized through isolated vestibular testing modalities alone. Final statistical analyses and symptom correlation assessments remain ongoing.

CONCLUSIONS

Comprehensive vestibular laboratory assessment identified a substantial burden of objective peripheral vestibular dysfunction in patients following head injury. Combined multimodal testing incorporating vHIT, SHIMP, VEMP assessment, caloric testing, and positional evaluation may improve diagnostic sensitivity and characterization of post-traumatic vestibular phenotypes. These findings support the growing role of advanced vestibular diagnostics in precision vestibular medicine and targeted rehabilitation pathways following traumatic injury. Further analysis will evaluate relationships between vestibular laboratory abnormalities, symptom severity, and persistent functional disability.

KEYWORDS

Post-traumatic dizziness, Vestibular dysfunction, vHIT, VEMP, Head injury, Vestibular laboratory testing, Otolith dysfunction

PP-048

From A Horrible To An Enjoyable Life

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BACKGROUND & AIM

Vestibular hypofunction is a disabling condition that can significantly affect balance, mobility, daily functioning, and quality of life. Vestibular Rehabilitation Therapy (VRT) has been shown to improve vestibular compensation and functional performance in individuals with vestibular disorders. This case report aims to describe the physiotherapy assessment, rehabilitation process, and clinical outcomes of a 28-year-old male with severe vestibular hypofunction and vestibular migraine symptoms following recurrent instability episodes. Written informed consent was obtained from the patient for presentation and publication of this case.

MATERIAL & METHODS

A 28-year-old male presented with a four-year history of recurrent instability that began following severe sinusitis, with worsening symptoms in recent weeks. Symptoms included continuous imbalance aggravated by head and body movement, visually busy environments, phonophobia, photophobia, and nausea. Previous cervical vestibular evoked myogenic potential (cVEMP) testing demonstrated reduced amplitude on the right side and absent responses on the left side.

Initial physiotherapy assessment identified limited head movement, cautious gait, neck muscle spasm, positive Head Impulse Test (HIT), abnormal Fukuda Stepping Test, and impaired balance. The patient was unable to maintain standing balance with

eyes closed for more than five seconds. Dix–Hallpike testing was negative. Symptoms significantly affected driving ability, academic performance, and social participation.

The patient underwent seven sessions of Vestibular Rehabilitation Therapy between 2/10/2025 and 26/11/2025. The program included vestibulo-ocular reflex exercises, balance retraining, postural control exercises, vestibular habituation exercises, and a customized home exercise program.

RESULTS

Following seven rehabilitation sessions, the patient demonstrated noticeable improvement in balance, coordination, and functional confidence. Initially, the patient lacked confidence in movement and preferred remaining seated on the floor due to fear of instability and falling. By the end of the rehabilitation period, he progressed to participating in more dynamic and recreational activities, including playing on a roller coaster, reflecting a substantial improvement in functional ability and symptom tolerance.

The patient also progressed from being unable to maintain eyes-closed standing balance for more than five seconds to maintaining balance on a foam surface with eyes closed for one minute. Improvements were observed in gait coordination and functional activities, including walking and ball-catching tasks. Furthermore, improvement in the Dizziness Handicap Inventory (DHI) score indicated a reduction in symptom severity and dizziness-related functional limitations. The patient additionally reported improved stability and confidence during movement.

CONCLUSIONS

This case highlights the potential effectiveness of individualized Vestibular Rehabilitation Therapy in improving balance, coordination, and functional performance in patients with severe vestibular hypofunction. Early physiotherapy assessment, progressive vestibular exercises, and adherence to a tailored home exercise program may support vestibular compensation and improve quality of life in individuals with chronic vestibular dysfunction.

KEYWORDS

Vestibular Rehabilitation Therapy, Vestibular Hypofunction, Vestibular Migraine, Balance Training, Vestibulo-Ocular Reflex, Physiotherapy, Case Report.

PP-049

Screening Of Osteoporosis Drugs For Their Effects On Otolith Formation Using A Zebrafish Model

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BACKGROUND & AIM

BPPV is associated with osteoporosis and calcium metabolism, but the mechanisms linking systemic calcium homeostasis to otolith formation remain unclear. Using transparent and pharmacologically tractable zebrafish larvae, we examined the effects of calcium-disrupting agents and osteoporosis-related drugs on otolith formation.

MATERIAL & METHODS

Zebrafish larvae were exposed to cadmium, dexamethasone, and osteoporosis-related drugs. Otolith size was measured after Alizarin Red S staining, and whole-body calcium content was quantified by colorimetric assay.

RESULTS

Cadmium reduced calcium levels and otolith size, whereas dexamethasone decreased calcium but induced otolith enlargement with structural disruption. Most osteoporosis drugs had no effect, but ipriflavone partially suppressed otolith enlargement.

CONCLUSIONS

Otolith formation is regulated by local mechanisms beyond systemic calcium levels. Ipriflavone may modulate otolith homeostasis, and zebrafish provide a useful model for drug screening relevant to vestibular disorders such as BPPV.

KEYWORDS

Zebrafish; Otolith formation; Osteoporosis drugs; Calcium metabolism

PP-050

Development Of Real-Time 3D Video-Oculography Using 9-Axis Sensor And Galvanic Evoked Vestibulo-Ocular Response.

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BACKGROUND & AIM

Video-oculography (VOG) is crucial for vestibular diagnosis, but accurately measuring nystagmus during Galvanic Vestibular Stimulation (GVS) remains challenging. Building on our previous HI-VOG system, we developed 'yVOG-Glass,' a high-quality

video Frenzel system. This study aims to present yVOG-Glass and demonstrate its capability for real-time, quantitative 3D nystagmus analysis to facilitate the precise evaluation of GVS-induced responses.

MATERIAL & METHODS

The video image from a Frenzel with high quality image camera was captured at 60 frames per second at a resolution of 640*480 pixels. For real-time analysis of the horizontal and vertical components, the X-Y center of the pupil was calculated. For real-time analysis of torsional components, the whole iris pattern was overlaid with the same area of the next iris pattern, and the angle at which both iris patterns showed the greatest match was calculated. Furthermore, a 9-axis sensor was integrated into the yVOG-Glass to monitor head movement in real-time, allowing for the correction of eye movement data. Galvanic evoked vestibulo-ocular response was monitored.

RESULTS

Accurate measurements of horizontal, vertical and torsional eye movement were taken while recording the video image in real-time. For quantitative analysis, the slow phase velocity of each occurrence of nystagmus and the average value of the slow phase velocity were analyzed automatically. it was possible to carry out accurate recording and evaluation of nystagmus.

CONCLUSIONS

Using the yVOG-Glass system, it was possible to perform real-time quantitative 3D analysis of nystagmus from video images recorded with high quality video Frenzel. Recent technological developments, including the use of improved VOG, might lead to the rediscovery of GVS.

KEYWORDS

video-oculography, nystagmus, galvanic vestibular stimulation

PP-051

Vestiheal: An AI-Supported Holistic Digital Therapeutic Platform For Vestibular Disorders — Early Findings From An Ongoing Prospective Clinical Trial

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BACKGROUND & AIM

Chronic vestibular disorders are frequently associated with dizziness, imbalance, vestibular migraine, anxiety, and reduced quality of life. Conventional vestibular rehabilitation often focuses primarily on exercise-based therapy with limited integration of psychological support and symptom-responsive care. VestiHeal is a novel artificial intelligence (AI)-supported digital therapeutic platform designed as a holistic vestibular care companion integrating adaptive rehabilitation exercises, cognitive behavioural therapy (CBT)-informed strategies, migraine support pathways, real-time symptom monitoring, eye movement recording, and clinician-supervised remote monitoring. This study evaluates the feasibility, usability, patient engagement, and early clinical observations associated with VestiHeal in chronic vestibular disorders.

MATERIAL & METHODS

An ongoing prospective pilot study is being conducted in adults diagnosed with peripheral vestibular hypofunction, vestibular migraine, or persistent postural-perceptual dizziness (PPPD). Participants engage in a structured home-based therapeutic program delivered through the VestiHeal platform. Integrated platform components include AI-guided exercise progression, dynamic symptom tracking, CBT-informed support tools, migraine education modules, eye movement recording capability, and remote clinician oversight with adaptive intervention monitoring. Outcome measures include Dizziness Handicap Inventory (DHI), Visual Analogue Scale (VAS) dizziness severity, adherence metrics, patient engagement analytics, and user-reported usability outcomes. Interim descriptive analyses were performed on participants actively enrolled in the study protocol at the time of abstract submission.

RESULTS

At abstract submission, 18 participants had been recruited into the ongoing clinical trial, with enrolment and longitudinal follow-up continuing toward the planned study cohort. Early observations demonstrate high patient engagement with the integrated therapeutic platform, sustained adherence to prescribed rehabilitation activities, and positive usability feedback across multiple symptom domains. Participants reported increased confidence in independently managing vestibular symptoms and highlighted the value of combining rehabilitation exercises, symptom-responsive guidance, migraine resources, and psychological support strategies within a single accessible platform. Clinicians reported enhanced ability to remotely monitor symptom progression, patient engagement, and rehabilitation tolerance throughout therapy. Final longitudinal outcome analyses remain ongoing and will be completed prior to congress presentation.

CONCLUSIONS

Early findings suggest that VestiHeal is a feasible and clinically promising AI-supported holistic vestibular therapeutic platform capable of integrating rehabilitation, behavioural support, symptom-responsive intervention, and remote clinician monitoring within a unified digital care pathway. This multidimensional model may support improved accessibility, adherence, patient

empowerment, and individualized vestibular care delivery across geographically diverse populations. Ongoing analysis will further evaluate clinical effectiveness and the future role of integrated digital therapeutics within modern vestibular medicine.

KEYWORDS

Vestibular rehabilitation, Artificial intelligence, Digital therapeutics, Vestibular disorders, Persistent postural-perceptual dizziness (PPPD), Cognitive behavioural therapy, Remote monitoring, Vestibular migraine,

PP-052

Assessment Of Saudi Physicians And Physical Therapists' Adherence To The Updated Clinical Practice Guideline For Benign Paroxysmal Positional Vertigo: A Cross-Sectional Study

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BACKGROUND & AIM

Introduction Variations in clinical practice regarding the management of benign paroxysmal positional vertigo (BPPV) among clinicians have been noted in previous studies. Such variations might be related to the different adherence to clinical practice guidelines.

Objective To evaluate clinicians' adherence to BPPV guidelines and investigate the variations in the adherence between different specialties and qualifications.

MATERIAL & METHODS

This is a cross-sectional study with a vignettes-based survey conducted between June and August, 2020. We included clinicians engaged in managing BPPV that had at least one year of clinical experience. We excluded students, and clinicians who were not involved in the management of individuals with BPPV. Participants were asked to make their management choices based on four hypothetical patient vignettes. The sample ranged from 77 participants for the first vignette to 45 participants for the last vignette.

RESULTS

We included 77 clinicians in the study, with the majority being Otolaryngologists (31.2%). The respondents' mean adherence to the guideline was of 63.3%. Result showed that Otolaryngologists' adherence was higher than that of clinicians from different specialties ($p = 0.006$, $d = 0.72$). Furthermore, clinicians with a postgraduate degree were more likely to adhere than those with a bachelor's degree only ($p = 0.014$, $d = 0.58$) and participants who were aware of the guideline were more likely to adhere to it ($p < 0.001$, $d = 1.05$). Lastly, regression analysis exhibited that adherence was affected by postgraduate degree and guideline awareness

CONCLUSIONS

Otolaryngologists were more likely to adhere to the guideline than other specialties. Among all specialties, higher adherence was associated with guideline awareness and postgraduate degrees.

KEYWORDS

benign paroxysmal positional vertigo; guideline adherence; otolaryngologist; physical therapist; vertigo.

PP-053

Postural Bias In Acute Unilateral Vestibulopathy: Interpretation With The Velocity-Storage Function

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BACKGROUND & AIM

There have been arguments and ambiguities regarding the clinical utility and mechanism of characteristic postural biases in patients with acute unilateral vestibulopathy.

MATERIAL & METHODS

We studied 30 patients (59.8±11.4 years) with acute and subacute unilateral vestibulopathy with 27 controls (44.2±14.5 years). Postural biases were evaluated using the body rotation angle and displacement in the stepping test. The body rotation angle was the angle of interaural lines at starting and at final position. The displacement was the position after stepping on polar coordinates, expressed by the displacement distance and angle. The postural biases were compared with modern vestibular tests and the mechanisms were investigated using a velocity-storage function model.

RESULTS

In the patient group, the body rotation angle was 24.0° (±24.3°) and the displacement angle was 31.3° (±34.1°). The displacement distance was 33.0 cm (±18.8 cm). Only around half of the patients exhibited abnormal or ipsilesional postural biases. However, the displacement and body rotation angles were well correlated with the findings of modern vestibular tests, highlighting the supplementary role of postural biases in determining the lesions. When comparing postural biases between patients and controls, we observed that the stepping-induced forward displacement and body rotation were insufficient to

explain the patients' displacement angle and distance. Instead, the incorporation of the inertia formed by the velocity-storage circuit provided a better explanation for the observed displacement distance and angle.

CONCLUSIONS

Postural biases in patients with acute unilateral vestibulopathy can vary but be predicted precisely by considering the function of the velocity-storage circuit.

KEYWORDS

Acute unilateral vestibulopathy; Vestibulospinal reflex; Posture; Stepping test; Velocity-storage

PP-054

Posturographic Quantification Of Sway Misperception Enables Accurate Identification Of Persistent Postural-Perceptual Dizziness In Neurotology Clinics

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BACKGROUND & AIM

Persistent postural-perceptual dizziness (PPPD) is characterized by chronic dizziness that develops after a precipitating vestibular disorder and are exacerbated by body motion and visual stimulation. These symptoms may reflect altered sensory thresholds across visual, vestibular, and proprioceptive systems, leading patients to perceive postural imbalance as greater than is objectively present.

MATERIAL & METHODS

We retrospectively reviewed medical records of patients who underwent the posturographic assessment of sway misperception. Using a force platform, center-of-pressure sway was first measured during upright standing with eyes closed. Participants then opened their eyes and were asked to reproduce, as accurately as possible, the magnitude of sway they had subjectively experienced during the preceding eyes-closed condition. For each metric, a reproduction rate (RR) was calculated as the ratio of the reproduction (eyes open) value to the original eyes-closed value. RR for postural sway area (PSA) and velocity of path length (VPL) were compared between patients with PPPD (n=19) and those with peripheral balance disorders (n=20) using Mann-Whitney U-test. Receiver operating characteristic (ROC) analyses assessed the ability of RRs to discriminate PPPD from peripheral balance disorders.

RESULTS

The RR for PSA was significantly higher in PPPD (4.00(1.51), mean(SD)) than in peripheral balance disorders (1.70(0.74); P<0.001). The RR for VPL was also higher in PPPD (1.61(0.45)) than in peripheral balance disorders (1.12(0.37); P=0.001). On ROC analysis, the PSA RR identified PPPD with sensitivity 1.00 and specificity 0.75 (cutoff 1.89; AUC 0.94; 95% CI, 0.87–1.00). The VPL RR yielded sensitivity 0.63 and specificity 0.90 (cutoff 1.55; AUC 0.81; 95% CI, 0.67–0.95).

CONCLUSIONS

Patients with PPPD demonstrated marked over-reproduction of postural sway, supporting the presence of sway misperception and providing a potentially useful adjunctive marker for diagnosis of PPPD. This tendency to overestimate imbalance is consistent with prior evidence of heightened subjective vertical misperception reported using the Subjective Visual Vertical test.

KEYWORDS

persistent postural perceptual dizziness

PP-055

Normal And Abnormal Inner Ear Third Windows (Atypical Third Window Case Presentation)

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BACKGROUND & AIM

Conductive hearing loss (CHL) is defined as an air-bone gap on audiometry, in patients without obvious middle ear pathologic findings. Recent investigations have suggested that many of these cases are due to disorders of the inner ear, resulting in pathologic third windows. The aim of this presentation is To provide an overview of lesions of the inner ear resulting in a CHL due to a third-window mechanism. The mechanism of the CHL is explained along with a classification scheme for these disorders.

MATERIAL & METHODS

Conductive hearing loss (CHL) is defined as an air-bone gap on audiometry, in patients without obvious middle ear pathologic findings. Recent investigations have suggested that many of these cases are due to disorders of the inner ear, resulting in pathologic third windows. The aim of this presentation is To provide an overview of lesions of the inner ear resulting in a CHL

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KEYWORDS

third windows, CHL. inner ear

PP-056

The Evolving Role Of ENT Specialists: From Surgeons To System-Based Physicians

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BACKGROUND & AIM

Growing evidence indicates that many common ENT conditions—such as chronic tinnitus, vertigo, rhinosinusitis, and olfactory disorders—result from the complex interplay of various systemic interactions involving neuroinflammation, hormonal influences, metabolic dysfunction, and microbiome imbalances. This paradigm shift emphasizes the need for moving beyond the conventional to a more holistic approach to patient care. In this study, we aimed to explore the role of the future ENT specialist in light of the above paradigm shift.

MATERIAL & METHODS

We reviewed current evidence related to the intricate relationship between ENT diseases and various systemic disorders. We focused on systemic mechanisms underlying common ENT disorders and plausible approaches to guide individualized interventions. Key aspects included lifestyle and dietary optimization, micronutrient and antioxidant support, neurovascular and autonomic modulation, and precision diagnostics.

RESULTS

Recognizing ENT diseases as systemic conditions enables early intervention, symptom reduction, and improved quality of life. Multidisciplinary, non-surgical strategies complement conventional surgical and pharmacologic therapies, fostering patient-centered, individualized care.

CONCLUSIONS

The future ENT specialist must balance surgical expertise with integrative, evidence-based, non-surgical management. Embracing this shift will transform ENT practice from reactive treatment to proactive, holistic patient care.

KEYWORDS

ENT, non-surgical management, systemic medicine, tinnitus, rhinosinusitis, personalized care

PP-057

Prevalence Of Meniere's Disease In Japan: A Nationwide Study Using The National Database Of Health Insurance Claims

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BACKGROUND & AIM

Estimating the prevalence of Meniere's disease (MD) is challenging because of methodological limitations and disease rarity. To our knowledge, the prevalence of MD throughout Japan has not been previously reported. This study aims to clarify the prevalence of MD in Japan.

MATERIAL & METHODS

Data from January 2014 through December 2022 were obtained from the National Database of Health Insurance Claims of Japan. Patients with MD were defined as those with insurance claims listing MD as a diagnosis and indicating the use of steroids or isosorbide. The number of patients with MD was counted for each year, and population data for October, published by the Ministry of Internal Affairs and Communications, were obtained. Poisson regression analyses were performed using the number of patients as the dependent variable, slope change (increasing by 1 from 2014 to 2022) and pulse change (1 in 2020 and 0 otherwise) as independent variables, and population size as the offset term. Pulse change was included to account for the impact of the COVID-19 pandemic. Subgroup analyses were conducted according to sex and age (10-year age groups).

RESULTS

The prevalence of MD in 2022, the most recent year analyzed, was 440.9 per 100,000 people (259.6 in men and 612.5 in women). The age group with the highest prevalence was 40-49 years. In both men and women, prevalence increased gradually between 2014 and 2022 (p for slope change < 0.001), with a temporary decline in 2020 (p for pulse change < 0.001). The average annual change in prevalence was 14.0 per 100,000 population (95% confidence interval: 13.8, 14.1). Prevalence increased gradually in age groups younger than 70 years, whereas it decreased gradually in those aged 70 years and older.

CONCLUSIONS

This study clarified the prevalence of MD in Japan using a comprehensive insurance claims database. These findings provide valuable baseline data for the prevention and treatment of MD.

KEYWORDS

Meniere's disease, prevalence, database of health insurance claims, poisson regression analysis

PP-058

Management Of BPPV: Knowledge And Practice Among Physicians And Physical Therapists In Saudi Arabia

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BACKGROUND & AIM

Benign paroxysmal positional vertigo (BPPV) is the most common peripheral vestibular disorder, with effective management depending on adherence to clinical practice guidelines (CPGs). However, evidence suggests variability in the awareness and application of recommended diagnostic and treatment maneuvers among healthcare providers. This study aimed to assess the knowledge and clinical practices of physicians and physical therapists in Saudi Arabia regarding BPPV management.

MATERIAL & METHODS

A cross-sectional questionnaire survey was conducted among 134 clinicians. The survey assessed professional characteristics, knowledge of BPPV diagnostic and treatment maneuvers, and referral practices. Associations between characteristics and outcomes were examined using Chi-square tests, with odds ratios and 95% confidence intervals (CIs) calculated. Binary logistic regression was applied to identify factors associated with familiarity and performance of BPPV maneuvers.

RESULTS

Of the respondents, 66.4% were aware of BPPV CPGs. While familiarity with diagnostic and treatment maneuvers was relatively high, their application in practice was lower. Only 3.7% of physicians referred patients to physical therapy, primarily due to a lack of awareness. Specialty, postgraduate degree, work setting, and awareness of CPGs were significantly associated with greater knowledge and practice. Logistic regression identified that age, specialty, postgraduate degree, and CPGs awareness were associated with familiarity, while gender, work setting, and experience were associated with performance.

CONCLUSIONS

Clinicians demonstrated good knowledge of BPPV management, but limited application and referral practices. These findings highlight the need for structured, hands-on training workshops and educational initiatives to enhance clinical competence and promote the role of physical therapy in vestibular rehabilitation.

KEYWORDS

Clinical practice guidelines, diagnostic maneuvers, therapeutic maneuvers, vestibular disorders, vestibular rehabilitation

PP-059

Incidence Of Peripheral Vestibular Disorders Based On Population Data Of Korea

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BACKGROUND & AIM

There have been no comprehensive studies on the incidence of peripheral vestibular disorders based on population-based data for a long-term period. We investigated the incidence of peripheral vestibular disorders using population-based data representing the whole population of Korea.

MATERIAL & METHODS

This study used the National Health Insurance Service data in Korea from 2008 to 2020. Peripheral vestibular disorders such as benign paroxysmal positional vertigo (BPPV), vestibular neuritis (VN), and Meniere's disease (MD) were defined with diagnostic, treatment, or audiovestibular test codes. The annual incidence in total and according to sex, age, and residence was analyzed.

RESULTS

The annual incidence of BPPV, VN, and MD per 100,000 was 51.4, 22.7, and 12.4 in 2008 and 346.4, 62.9, and 50.5 in 2020, respectively. The incidence of each was significantly different by sex ($p < 0.001$), age ($p < 0.001$), and residence ($p < 0.001$), with the highest value in female, people aged 60 years or older, and people who resided in metropolitan cities.

CONCLUSIONS

The annual incidence of BPPV, VN, and MD had increasing trends from 2008 through 2020 in Korea, and all were significantly higher in female, people aged 60 years or older, and people who resided in metropolitan cities.

KEYWORDS

Incidence, peripheral vestibular disorder, benign paroxysmal positional vertigo, vestibular neuritis, Meniere's disease, population-based study

PP-060

Evaluation Of The Protective And Therapeutic Effects Of Alpha Lipoic Acid In Cisplatin Vestibulotoxicity

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BACKGROUND & AIM

Although cisplatin is a widely used antineoplastic agent, its ototoxicity poses a significant clinical limitation. While cisplatin-induced cochleotoxicity has been extensively studied, its effects on the vestibular system remain poorly understood. Due to its potent antioxidant properties, alpha-lipoic acid (ALA) has emerged as a promising protective agent. In this study, the aim was to comparatively evaluate the efficacy of prophylactic and therapeutic ALA administration against cisplatin-induced cochlear and vestibular toxicity in a rat model using electrophysiological, biochemical, and histopathological methods. It was hypothesized that prophylactic administration would provide superior protection compared to therapeutic administration.

MATERIAL & METHODS

Forty-two Wistar albino rats (84 ears) were divided into five groups: Group 1 control; Group 2 ototoxic (cisplatin 12 mg/kg single dose intraperitoneal, IP); Group 3 ALA alone (100 mg/kg/day × 3 days IP); Group 4: prophylactic (ALA + cisplatin); and Group 5: therapeutic (cisplatin + ALA). Distortion product otoacoustic emissions (DPOAE), auditory brainstem response (ABR), and cervical vestibular evoked myogenic potential (c-VEMP) measurements were performed on days 0, 3, 7, and 14. Serum Ribeye/CtBP2, total antioxidant capacity (TAC), and Otolin-1 levels were measured by ELISA on days 7 and 14. Histopathological evaluation was performed using light microscopy, immunohistochemistry (inducible nitric oxide synthase, iNOS), and scanning electron microscopy. Institutional review board approval was obtained.

RESULTS

In Group 2, a progressive decrease in the signal-to-noise ratio at all DPOAE frequencies, a significant increase in ABR thresholds, and marked deterioration in c-VEMP parameters were observed ($p<0.001$). Prophylactic ALA (Group 4) provided significant protection across all electrophysiological parameters, whereas therapeutic ALA (Group 5) demonstrated only partial protection. Serum Ribeye levels were highest in Group 2 and significantly lower in the prophylactic group ($p<0.001$). Otolin-1 levels were significantly higher in Group 2 on day 7 ($p=0.032$). Histopathological evaluation revealed severe damage in Group 2, while significant protection was observed in the ALA groups; no deviations from the control were detected in any parameter in Group 3.

CONCLUSIONS

This study is the first experimental study to evaluate the protective effect of ALA against cisplatin-induced vestibulotoxicity using c-VEMP. Prophylactic administration demonstrated a clear superiority over therapeutic administration at both the cochlear and vestibular levels. The fact that ALA alone does not cause adverse effects on inner ear function provides important safety data for clinical translation. The findings support the evaluation of prophylactic antioxidant strategies, including vestibular protection, in patients scheduled for cisplatin chemotherapy.

KEYWORDS

Cisplatin, vestibulotoxicity, alpha-lipoic acid, vestibular evoked myogenic potentials, antioxidants

FACIAL PLASTIC SURGERY

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PP-061

Orbital Floor Fracture Reduction With Prelacrimal Approach

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BACKGROUND & AIM

Orbital floor fractures may cause herniation or entrapment of orbital contents, resulting in diplopia, enophthalmos, and functional impairment. Surgical reduction is required in selected cases to restore orbital anatomy and volume. Conventional approaches—including transorbital, transantral, and intranasal routes—have limitations such as visible scarring, sensory disturbance, or restricted surgical view. The endoscopic prelacrimal approach provides direct access to the orbital floor with minimal invasiveness. This study aimed to present three cases of orbital floor fracture reduction using the prelacrimal approach and reconstruction with an autologous bone chip harvested from the medial maxillary sinus wall.

MATERIAL & METHODS

Three patients with orbital floor fractures underwent endoscopic reduction using the prelacrimal approach. A vertical incision was made at the anterior border of the inferior turbinate, and the nasal mucosa was elevated to expose the medial wall of the maxillary sinus while preserving the nasolacrimal duct. A bony window was created in the medial maxillary sinus wall using an osteotome, and the harvested bone chip was preserved. Through this window, the maxillary sinus and fractured orbital floor were directly visualized. Herniated orbital contents were reduced, and the autologous bone chip was trimmed according to the size of the defect and inserted to reinforce the reduced orbital floor. Fibrin glue was applied for stabilization. Postoperative clinical outcomes and radiologic findings were evaluated.

RESULTS

All three patients underwent successful reduction of orbital floor fractures using the prelacrimal approach with autologous bone chip reconstruction. Postoperative symptoms such as diplopia and ocular discomfort improved in all cases. Follow-up computed tomography performed in the early postoperative period and several months later demonstrated well-maintained reduction of the orbital floor without recurrent herniation of orbital contents. No significant complications, including nasolacrimal duct injury, facial numbness, or postoperative sinusitis, were observed. During follow-up periods of up to six months, patients showed stable anatomical outcomes and satisfactory functional recovery without persistent ophthalmologic abnormalities.

CONCLUSIONS

The endoscopic prelacrimal approach offers a minimally invasive and effective option for orbital floor fracture reduction. This technique provides direct visualization of the fracture site and allows reconstruction using an autologous bone chip harvested during the approach. Our cases suggest that this method can achieve stable fracture reduction with favorable clinical outcomes and minimal complications.

KEYWORDS
Orbital floor fracture; Prelacrimal approach; Autologous bone chip

PP-062

AURICULAR AMPUTATION SECONDARY TO A HUMAN BITE: A RARE CASE REPORT

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BACKGROUND & AIM

Human bites are injuries associated with a high risk of infection and can lead to severe tissue loss, including auricular amputation (1). This case report aims to highlight the clinical significance of this rare condition by presenting the management of a patient who sustained an auricular amputation during a physical altercation.

MATERIAL & METHODS

Case Report: A 35-year-old male patient presented to the emergency department following the traumatic amputation of his right auricle due to a human bite sustained during an altercation. The patient brought the amputated segment with him. Following the debridement of the amputation stump and evaluation of the surgical margins, the amputate was primarily sutured. Given the high risk of infection, broad-spectrum antibiotic therapy was initiated. However, the patient failed to comply with the recommended postoperative care and was subsequently lost to follow-up.

RESULTS

Human bites constitute a significant medical emergency due to their high bacterial load and propensity to cause mixed infections (1). Cartilaginous structures, such as the auricle, are particularly vulnerable to infection due to their poor vascularity (2). In bite injuries involving tissue loss, prompt debridement and surgical repair are essential approaches to mitigate the risk of infection. Furthermore, common pathogens isolated from human bites include Eikenella corrodens, Streptococcus species, and various anaerobic organisms (2).

CONCLUSIONS

Auricular amputations secondary to human bites are rare injuries that can lead to severe complications. Early surgical intervention, meticulous tissue management, and the administration of broad-spectrum antibiotics significantly enhance treatment success. Ultimately, patient compliance with treatment and follow-up protocols is of vital importance in the prevention of complications.

KEYWORDS
Human Bite; Auricular Reconstruction

PP-063

A Novel Single Stage Reconstruction Of Midline Nasal Dorsum Skin Defects Using An Auricular Composite Graft

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BACKGROUND & AIM

Reconstruction of midline nasal dorsum skin defects following oncologic excision is challenging because of the aesthetic prominence of the region and the limited mobility of surrounding soft tissues. Flap-based techniques are commonly recommended; however, they may be associated with donor-site morbidity, visible scarring, and multistage procedures. Auricular composite grafts are well established for select nasal subunits, but their intentional use for midline nasal dorsum skin reconstruction has not been routinely described.

MATERIAL & METHODS

We describe a novel single-stage reconstructive strategy in which an auricular chondrocutaneous composite graft was deliberately utilized for midline nasal dorsum skin reconstruction following basal cell carcinoma excision. The technique was applied in a carefully selected patient with preservation of the underlying cartilaginous framework. Simultaneous structural support of the nasal dorsum and internal nasal valve was achieved without additional cutaneous incisions.

RESULTS

Complete graft survival was observed without partial or total necrosis. At the 6-month follow-up, the reconstructed nasal dorsum skin demonstrated stable contour with satisfactory color and texture match. No graft contraction, secondary deformity, or late complications were noted. Nasal airway patency was preserved throughout the follow-up period.

CONCLUSIONS

This technical experience suggests that auricular composite grafts may represent a feasible single-stage, low-morbidity alternative to flap-based reconstruction for midline nasal dorsum skin defects in selected cases, while preserving future reconstructive options.

KEYWORDS
Nasal dorsum skin reconstruction, Auricular composite graft, Basal cell carcinoma , Innovative reconstructive technique

PP-064

ODONTOGENIC TEMPORAL FOSSA ABSCESS AND SUSPECTED OSTEOMYELITIS: A CASE REPORT

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BACKGROUND & AIM

Temporal fossa and deep temporal space infections are rare but potentially life-threatening due to proximity to critical neurovascular structures.

Odontogenic infections are a major source of deep head and neck infections (2). They most commonly involve the submandibular, buccal, and masticator spaces, whereas extension to the temporal fossa is rare and infrequently reported (1,3).

We present a rare case of odontogenic temporal fossa abscess with extension to deep facial spaces and radiological suspicion of maxillary osteomyelitis. The aim is to highlight this atypical spread pattern and the role of early imaging and multidisciplinary management in preventing complications.

MATERIAL & METHODS

A 71-year-old male presented with progressive left facial swelling following extraction of a left upper molar tooth one week prior. Despite 3 days of initial treatment with amoxicilline-clavulanate and clindamycin therapy, symptoms progressed with diffuse swelling extending to the temporal region.

Examination revealed edema of the left hemiface with fluctuant swelling extending to the frontal and temporal regions, without trismus or neurological deficit. Periorbital edema was present without acute ophthalmologic pathology. Medical history included COPD and coronary artery disease.

Imaging demonstrated soft tissue swelling with air densities in the left temporal and temporoparietal regions. MRI revealed loculated abscess collections within the temporalis muscle extending superiorly to the scalp. Radiological findings raised suspicion of early osteomyelitis in the mandibular ramus.

Empirical intravenous ampicillin-sulbactam and vancomycin were initiated. Surgical drainage was performed under local anesthesia via frontotemporal incisions. A drainage tract was established and maintained with cannulation, followed by daily irrigation and wound care.

RESULTS

Culture grew Streptococcus constellatus; antibiotics were de-escalated. Initial partial improvement was followed by secondary progression. Dental extraction of the infectious focus resulted in rapid clinical response. After 16 days of drainage and intravenous antibiotics, complete regression and normalization of inflammatory markers were achieved (WBC: 6.22, CRP: 6.7). The patient was discharged with oral antibiotics to complete 6 weeks. Follow-up imaging was planned for suspected osteomyelitis.

CONCLUSIONS

Odontogenic infections can rarely extend to the temporal fossa and may progress rapidly, especially in patients with comorbidities which lead to impaired tissue oxygenation and delayed healing. Successful management requires appropriate surgical drainage to prevent re-accumulation and ensure continuous evacuation of purulent material, targeted antibiotic therapy, and elimination of the primary odontogenic focus. The adjunctive use of hydrogen peroxide irrigation can further support local wound hygiene by facilitating debridement in selected cases. Early recognition and multidisciplinary management are crucial not only to prevent life-threatening complications but also to preserve function and significantly improve the patient's quality of life.

KEYWORDS
TEMPORAL FOSSA ABSCESS, ODONTOGENIC INFECTIONS, SUSPECTED OSTEOMYELITIS, HEAD AND NECK ABSCESS

PP-065

A Systematic Review And Meta-Analysis On The Role Of Vertical Alar Division And Resection In Nasal Tip Rhinoplasty

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BACKGROUND & AIM

Vertical dome division (VDD) and vertical alar resection (VAR) are key rhinoplasty techniques developed to improve nasal tip projection, definition, and stability. While VDD remodels the dome through controlled division of the lower lateral cartilage, VAR expands this concept by incorporating cartilage resection and graft reinforcement for long-term tip support

This study aims to systematically evaluate and compare the clinical, aesthetic, and structural outcomes of Vertical Dome Division (VDD) and Vertical Alar Resection (VAR) in rhinoplasty.

MATERIAL & METHODS

A systematic review was conducted according to PRISMA guidelines using the PubMed, Scopus, and Google Scholar databases. five studies met the inclusion criteria and evaluated VDD and VAR techniques in terms of projection, rotation, revision rates, complications, and satisfaction. Study quality was assessed using the Newcastle-Ottawa Scale (NOS) and the GRADE system.

RESULTS

VDD significantly increased nasal tip projection by 15.8% with over 90% patient satisfaction (10). The VAR provided sustained stability of projections beyond seven years with satisfaction rates greater than 85% (6). Revision rates remained low (2 to 6%) with both methods, and major complications were rare. VAR demonstrated superior long-term stability and contour definition due to graft-supported reinforcement

CONCLUSIONS

Both VDD and VAR are commonly used techniques for nasal tip refinement and are associated with favorable aesthetic outcomes and low reported complication rates. However, the available evidence is largely retrospective and heterogeneous. While VAR appears to offer improved long-term projection stability in selected cases, further prospective comparative studies are required to confirm these findings.

KEYWORDS

Rhinoplasty, Nasal tip surgery, Vertical dome division, Vertical alar resection, systemic review

PP-066

From Rabbit Model To Human: Histopathological Impact Of Dermal Fillers On Nasal Cartilage – A Case Report

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BACKGROUND & AIM

Nonsurgical rhinoplasty using hyaluronic acid (HA) dermal fillers has gained widespread popularity due to its safety profile, immediate results, and high patient satisfaction. However, limited data exist regarding the histopathological effects of HA fillers on nasal cartilage and surrounding soft tissue. Our study group previously demonstrated chondrocyte nucleus loss, fibrosis, chronic inflammation, and foreign body–type giant cell formation following HA filler application in a rabbit model. This case report aims to present, for the first time, histopathological findings in human nasal cartilage and surrounding soft tissue exposed to HA filler in a patient who underwent septorhinoplasty after prior nonsurgical rhinoplasty.

MATERIAL & METHODS

A patient who had undergone nonsurgical rhinoplasty with HA filler injection two years prior presented with aesthetic dissatisfaction and nasal obstruction. Septorhinoplasty was planned. Intraoperatively, filler material was found in direct contact with the medial crura, lateral crura, and cartilaginous dorsum, as well as the surrounding soft tissue. The cephalic portion of the lateral crus with adjacent soft tissue in contact with the filler were resected for histopathological analysis (Figure 1). Specimens were fixed in 10% neutral formalin (pH 7.0) for 24 hours, processed through graded alcohols, and embedded in paraffin. Sections of 3–4 µm were stained with Hematoxylin–Eosin (H&E) and Masson's Trichrome (MT) and evaluated by pathologist. Chondrocyte nucleus loss, fibrosis, acute and chronic inflammation, abscess, giant cells, granulation tissue, and necrosis were evaluated.

RESULTS

Histopathological examination of the resected specimen revealed mild chronic inflammation and mild fibrosis in the perichondrial and surrounding soft tissue on H&E and MT–stained sections. Partial chondrocyte nucleus loss (grade 1; 25–50%) was identified in the cartilage tissue, indicating compromised chondrocyte viability in the region exposed to the filler material (Figure 2). No acute inflammation, abscess formation, necrosis, granulation tissue, or foreign body–type giant cells were detected in the examined specimen. The immediate postoperative views demonstrated satisfactory correction of the nasal dorsal profile and improved tip definition (Figure 3). At the one-year follow-up, stable aesthetic outcomes were maintained with a well-defined nasal dorsum, refined tip projection, and improved overall nasal harmony, along with resolution of the patient's nasal obstruction (Figure 4).

CONCLUSIONS

This case report provides the first human histopathological evidence of nasal cartilage and surrounding soft tissue changes following nonsurgical rhinoplasty with HA fillers. Partial chondrocyte nucleus loss, mild fibrosis, and chronic inflammation corroborate our previous rabbit model findings. However, unlike the rabbit model—where foreign body–type giant cells were

present in all filler-applied samples—no giant cells were observed, possibly reflecting differences in filler duration, volume, or host immune response. HA fillers may compromise the viability of underlying cartilage and adjacent tissue. Surgeons should consider these when planning rhinoplasty in patients with prior filler injections. Further studies with larger cohorts are warranted.

KEYWORDS

chondrocyte nucleus loss; chronic inflammation; dermal filler; fibrosis; histopathology; hyaluronic acid; nasal cartilage; nonsurgical rhinoplasty.

PP-067

Bilateral Buccal Abscess Following Bichectomy: A Case Report

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BACKGROUND & AIM

Buccal fat pad excision (bichectomy) is an increasingly popular aesthetic procedure with generally low complication rates. However, postoperative complications such as infection, abscess formation, hematoma, and ductal or nerve injury have been reported in the literature, despite the overall safety of the procedure. We aimed to present a case of bilateral buccal abscess following bichectomy and to emphasize clinical management.

MATERIAL & METHODS

A 26-year-old female with no known comorbidities presented with bilateral facial swelling and purulent intraoral discharge five days after undergoing bichectomy at another center. Symptoms progressively worsened. Physical examination showed bilateral buccal swelling, more prominent on the left side. Hyperemia was present. Purulent discharge was noted from the intraoral incision sites. CT demonstrated minimal subcutaneous air and premasseteric edema. Ultrasonography revealed heterogeneous changes with minimal free fluid. No defined abscess cavity was detected. C-reactive protein was elevated (61.6 mg/L), while the leukocyte count was normal. The patient was admitted. Intravenous ampicillin-sulbactam treatment was started.

RESULTS

Clinical findings were consistent with bilateral buccal infection with evolving abscess formation. During hospitalization, inflammatory markers improved (CRP decreased to 11 mg/L), and clinical symptoms regressed under medical treatment. Clinical improvement was observed within a few days of treatment. No surgical drainage was required. The patient was discharged on oral amoxicillin-clavulanate therapy after four days of inpatient follow-up.

CONCLUSIONS

Bichectomy is generally regarded as a safe procedure; however, infectious complications may occur and lead to clinically significant morbidity. Early recognition and appropriate medical management may prevent progression and allow successful treatment without surgical intervention in selected patients.

KEYWORDS

Bichectomy, abscesses, complication, buccal fat pad

PP-068

Transmastoid Facial Nerve Decompression: A Single-Center Case Series

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BACKGROUND & AIM

Peripheral facial paralysis is a complex clinical condition with prognosis varying significantly according to etiology and duration. Transmastoid facial nerve decompression is a surgical intervention indicated in selected patients with severe neurophysiological damage unresponsive to medical treatment. This study aimed to evaluate the impact of surgical timing — specifically decompression performed within versus after 14 days of symptom onset — on functional outcomes in patients undergoing transmastoid facial nerve decompression.

MATERIAL & METHODS

This retrospective case series included 14 patients who underwent transmastoid facial nerve decompression at Zonguldak Bülent Ecevit University Hospital, Department of Otorhinolaryngology between 2022 and 2026. Patients with incomplete follow-up data or concurrent neurological disease were excluded. Preoperative and postoperative facial nerve function was graded using the House-Brackmann (HB) scale. Electroneurography (ENoG) and electromyography (EMG) findings, together with computed tomography (CT) and magnetic resonance imaging (MRI) results, were retrieved from patient records. Patients were stratified into two groups based on time from symptom onset to surgery: Early group (≤14 days, n=3) and Late group (>14 days, n=11). HB grade I–II was defined as the primary success criterion and HB grade I–III as the secondary success criterion.

Due to the limited sample size and heterogeneous etiology distribution, descriptive analysis was performed without formal statistical comparison.

RESULTS

The mean age was 55.1 ± 17.7 years; 9 patients were male. Etiologies included idiopathic Bell's palsy (n=7), traumatic paralysis (n=3), complicated chronic otitis media (COM) (n=3), and facial neuroma (n=1). Preoperative HB grade was V–VI in 13 patients and III in one patient. Time from symptom onset to surgery ranged from 7 to 105 days (mean 54.6 days, median 54 days). Postoperative HB grading was performed at a minimum follow-up of 6 months (range 6 months–5 years). The primary success criterion (HB I–II) was achieved in 10 of 14 patients, and the secondary criterion (HB I–III) in 11 of 14 patients. In the early group, all 3 patients achieved HB grade I–II. In the late group, 7 of 11 patients reached this level.

CONCLUSIONS

Early transmastoid decompression within 14 days of symptom onset appeared to be associated with higher primary success rates, possibly reflecting the time-dependent nature of endoneurial edema and ischemic injury. Although statistical comparison was not feasible due to sample size limitations, findings suggest that surgical timing may be a critical determinant of functional recovery. Even in delayed presentations, decompression should not be categorically excluded, as meaningful improvement was observed up to 2–3 months after onset in selected cases. Multicenter prospective studies stratified by etiology are needed to generate stronger evidence in this field.

KEYWORDS

Peripheral facial paralysis, Facial nerve decompression, Transmastoid approach, Surgical timing

PP-069

Can Functional Recovery Be Expected After Accidental Facial Nerve Injury ? (A Case Report)

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BACKGROUND & AIM

Post-traumatic facial paralysis represents one of the leading causes of peripheral facial paralysis after Bell's palsy, while parotid surgery remains one of the most feared iatrogenic causes.

The aim of our study is to report a case of management of an accidental facial nerve transection during parotidectomy, while detailing the underlying pathology, the mechanism of injury, the therapeutic management, and the functional outcomes obtained.

MATERIAL & METHODS

We report the case of a 21-year-old woman with no significant medical history, who presented with a chronic pretragal swelling that had been evolving for more than two years.

A cervicofacial MRI performed as part of the etiological workup suggested a benign cystic lesion of parotid origin.

Given the risk, described in the literature, of overlooking an associated malignant lesion, as well as the aesthetic concern, an exofacial parotidectomy was indicated.

RESULTS

During surgery, an accidental transection of the facial nerve occurred. Immediate microsurgical repair was performed using end-to-end neurorrhaphy with 9/0 Vicryl® sutures under an operating microscope, followed by coverage with a layer of fat tissue.

In the immediate postoperative period, a grade V peripheral facial paralysis according to the House–Brackmann classification was observed.

The patient underwent regular follow-up for 12 months, combined with corticosteroid therapy, vitamin supplementation, and treatment with nimodipine 30 mg.

The postoperative course was marked by gradual clinical improvement over the months, ultimately reaching House–Brackmann grade II at the last follow-up, performed 11 months after surgery.

CONCLUSIONS

The facial nerve remains the primary concern for parotid surgeons. Although benign parotid lesions are generally straightforward to manage, the risk of nerve injury persists despite all operative precautions.

Through this case report, we wish to emphasize that complete facial nerve transection is not necessarily irreversible. Early microsurgical repair and rigorous postoperative follow-up can allow satisfactory functional recovery and provide genuine therapeutic hope.

KEYWORDS

Facial nerve, Injury, Parotidectomy, Surgical repair

PP-070

BILATERAL AURICULAR ABSCESS FOLLOWING OTOPLASTY: A RARE COMPLICATION

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BACKGROUND & AIM

Otoplasty is one of the most frequently performed surgical procedures for aesthetic and functional purposes. Although postoperative infection is rare, it can lead to severe complications. In this case report, we present the management of a patient who developed bilateral auricular abscess formation following otoplasty, highlighting the critical importance of early diagnosis and intervention.

CASE PRESENTATION

A 16-year-old female patient presented with a one-week history of swelling, erythema, and discharge in both ears. The patient had undergone an otoplasty procedure at an external center two weeks prior to admission. Clinical evaluation revealed bilateral auricular abscess formation.

MANAGEMENT AND OUTCOME

The abscesses were surgically drained, and a pressure dressing was applied. Following pediatric consultation, empirical broad-spectrum antibiotic therapy was initiated, and cultures were obtained. Dressing changes were performed twice daily. Upon the isolation of Pseudomonas aeruginosa in the culture, the antibiotic regimen was adjusted according to the culture-antibiogram results. At the conclusion of a two-week treatment period, an aesthetically acceptable result was achieved, despite a minimal residual deformity in the auricular structure.

RESULTS

Infection following otoplasty is a rare yet serious complication. In cases such as bilateral auricular abscess, the risk of permanent deformity can be minimized through early diagnosis, prompt surgical drainage, obtaining cultures, and the administration of appropriate antibiotic therapy.

CONCLUSIONS

The infection rate after otoplasty is reported to be between 1–5% in the literature. The most common causative agents include Staphylococcus aureus and Pseudomonas aeruginosa [1]. Pseudomonas infections, which particularly prefer moist environments, can develop more frequently if dressing and hygiene rules are not followed after otoplasty. Successful results can be obtained with drainage, pressure dressing, and culture-based antibiotic treatment in abscesses detected in the early stages [2]. Delayed treatment can lead to cartilage necrosis, deformity, and permanent aesthetic losses [3].

KEYWORDS

Otoplasty, Pseudomonas Aeuroginosa Infection, Auricular Abscess

PP-071

Outcomes Of Dorsal Preservation Septorhinoplasty In The Management Of Rhinosseptal Deformities: A Prospective Study From Bolivia

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BACKGROUND & AIM

There is a growing trend toward dorsal preservation techniques and a comprehensive structural approach in rhinoplasty, aiming to achieve improved outcomes with fewer complications and revision surgeries. Rhinoplasty has evolved toward preservation techniques that maintain the structural integrity of the nasal dorsum. Dorsal preservation septorhinoplasty emphasizes conservation of anatomical structures rather than traditional resection and reconstruction.

The aim is to evaluate the management of rhinosseptal deformity using dorsal preservation septorhinoplasty at Clínica Los Olivos Cochabamba Bolivia between May 1, 2019, and October 31, 2023.

MATERIAL & METHODS

A Observational, prospective, longitudinal, descriptive study with a quantitative approach was conducted, including 126 patients who underwent primary septorhinoplasty using the dorsal preservation technique. Data collection from pre and postoperative facial photographs, surgical records, and the Rhinoplasty Outcome Evaluation (ROE) questionnaire were used for assessment.

RESULTS

Correction of deviated nasal pyramid and convex dorsal deformities exceeded 90%. Improvements were observed in nasal tip definition, projection, and rotation. Patients reported statistically significant satisfaction in both functional and aesthetic outcomes (ROE questionnaire). A lower rate of complications and revision surgeries was also observed.

CONCLUSIONS

Dorsal preservation septorhinoplasty proved to be a safe and effective technique for the correction of rhinosseptal deformities, achieving high rates of anatomical correction and significant functional and aesthetic improvement. The technique demonstrated high patient satisfaction, a low complication rate, and a reduced need for revision surgery. By maintaining the structural integrity of the nasal dorsum and avoiding unnecessary resection, dorsal preservation offers natural postoperative results. When indicated and anatomically possible, this approach should be considered a preferred technique in primary septorhinoplasty.

KEYWORDS

Septorhinoplasty, dorsal preservation, nasal dorsum, dorsal lowering, nasal pyramid repositioning.

PP-072

Facial Changes After Closed Approach Rhinoplasty Assessed Using The 10–7–5 Method

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BACKGROUND & AIM

Rhinoplasty is one of the most frequently performed procedures in facial plastic surgery, yet postoperative evaluation often remains subjective. The 10–7–5 method provides a structured approach to facial analysis by assessing frontal, lateral, and basal views, but its clinical applicability in closed approach rhinoplasty has been insufficiently studied.

To objectively evaluate facial changes following closed approach rhinoplasty using the 10–7–5 method, comparing preoperative and postoperative facial parameters.

MATERIAL & METHODS

An observational, retrospective, descriptive, and comparative study was conducted. A total of 42 patients (29 females and 13 males), with a mean age of 27.9 years (range 14–76 years), who underwent closed approach rhinoplasty were included. Standardized preoperative and postoperative photographic records were analyzed. Preoperative photographs were obtained within 24 hours before surgery, and postoperative photographs were taken between 14 and 20 days after surgery. Facial analysis was performed using the 10–7–5 method, which evaluates facial parameters in frontal (10 parameters), lateral (7 parameters), and basal (5 parameters) views. Patients with previous nasal surgery, facial trauma, congenital facial deformities, or incomplete photographic documentation were excluded. Preoperative and postoperative findings were compared using paired statistical analysis. A p-value < 0.05 was considered statistically significant. All patients provided informed consent.

RESULTS

Statistically significant postoperative improvements were observed in multiple nasal and facial parameters. In the frontal view, improvements were noted in nasal symmetry, dorsal aesthetic lines, osseous vault, mid-vault, nasal tip definition, alar borders, and alar base width. Lateral view analysis demonstrated significant changes in the nasofrontal angle, nasal dorsum contour, nasal projection, and nasal rotation ($p < 0.05$). Basal view evaluation showed significant improvement in nasal projection, columella position, alar base width, and nasal flaring. Parameters unrelated to rhinoplasty, including periapical hypoplasia and mentolabial relationship, showed no statistically significant changes. These findings confirm that the observed postoperative changes were specific to nasal surgical intervention and could be objectively identified using the 10–7–5 method.

CONCLUSIONS

Closed approach rhinoplasty produces significant, measurable facial aesthetic improvements that can be objectively evaluated using the 10–7–5 method. This study shows that the method identifies specific postoperative changes across frontal, lateral, and basal views, while parameters unrelated to nasal surgery remain unchanged. The 10–7–5 method offers a structured, practical, and reproducible approach for postoperative assessment, supporting its routine clinical use. Additionally, it aids surgical planning and enhances surgeon–patient communication by providing an objective framework for facial analysis. These findings support the clinical applicability of the 10–7–5 method for outcome assessment after closed approach rhinoplasty in daily practice.

KEYWORDS

Rhinoplasty; Closed; Nasal; Surgery; Facial; Analysis; Objective; Assessment; Methodology; Aesthetics; Harmony; Outcomes; Postoperative; Morphology; Symmetry; Projection; Rotation; Columella; Alar; Base; Basal; Frontal; Lateral; Evaluation; Clinical; Research; Plastic; Otolaryngology; IFOS

PP-073

Subcutaneous Hemangioma On Nasal Dorsum: A Case Report And Literature Review

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BACKGROUND & AIM

Vascular anomalies including hemangiomas, which have slow blood flow, can develop anywhere on the body. They are mostly isolated lesions and more common in women. The deformity does not regress on its own. A rare variety known as subcutaneous hemangioma grows aggressively and occasionally returns after excision. In this report, we present a case of 44 years old female who experienced slowly growing painful nasal hump as a result of nasal trauma she sustained seven years ago

MATERIAL & METHODS

Case report of a post traumatic subcutanoues nasal dorsum hemangioma

RESULTS

Nasal hemangioma is a benign tumor of blood vessels with rare occurrence especially in adult patients. Management can be medical, using laser or surgically. Surgical excision is the gold standard method for managing these tumors.

CONCLUSIONS

Nasal hemangioma is a benign tumor of blood vessels with rare occurrence especially in adult patients. Management can be medical, using laser or surgically. Surgical excision is the gold standard method for managing these tumors.

KEYWORDS

Hemangioma, nasal, dorsum, nose

GLOBAL OUTREACH (REGIONAL OR ENT RELATED ORGANIZATIONS SYMPOSIA)

Poster / E-Poster Presentations · PP-074 – PP-080 · 7 abstracts

PP-074

Contemporary Global Management Of T3 Laryngeal Carcinoma: Balancing Oncological Control And Functional Laryngeal Preservation

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BACKGROUND & AIM

The optimal management of T3 laryngeal squamous cell carcinoma remains controversial, as it requires achieving maximal oncological control while preserving laryngeal function. Advances in transoral surgery, chemoradiotherapy (CRT), imaging, and multidisciplinary treatment have expanded organ-preservation strategies. However, appropriate patient selection remains the key determinant of treatment success. We hypothesized that individualized treatment based on tumor characteristics, pretreatment laryngeal function, and multidisciplinary decision-making yields oncological outcomes equivalent to those of a uniform treatment strategy while improving functional preservation.

MATERIAL & METHODS

This narrative review summarizes current evidence and international recommendations regarding the management of T3 laryngeal carcinoma. Recent clinical guidelines, consensus statements, and major retrospective and prospective studies published between 2020 and 2026 were reviewed. Treatment modalities included transoral laser microsurgery, open partial laryngectomy, definitive concurrent chemoradiotherapy, total laryngectomy, and salvage surgery. Primary outcome measures included overall survival (OS), disease-free survival (DFS), laryngeal preservation rate, functional voice and swallowing outcomes, and quality of life. Independent variables included tumor subsite, vocal cord mobility, cartilage invasion, nodal status, pretreatment laryngeal function, and patient comorbidities.

RESULTS

Current evidence demonstrates that carefully selected patients with T3 laryngeal carcinoma can achieve oncological outcomes comparable to primary surgery using organ-preserving approaches. Several contemporary series have shown no statistically significant difference in overall survival or disease-free survival between primary surgery and definitive CRT ($p>0.05$), while preserving functional laryngeal outcomes in a substantial proportion of patients. Conversely, patients with extensive cartilage invasion, poor pretreatment laryngeal function, or bulky tumors demonstrated improved local control following total laryngectomy. Recent international consensus statements emphasize that treatment decisions should rely on multidisciplinary evaluation rather than T stage alone. Emerging perioperative systemic therapies and immunotherapy may further improve functional preservation without compromising survival.

CONCLUSIONS

Management of T3 laryngeal carcinoma has shifted from a stage-based approach to an individualized treatment paradigm. Organ-preserving strategies are appropriate for carefully selected patients and yield excellent functional outcomes without

compromising survival. Total laryngectomy remains the preferred option for patients with unfavorable anatomical or functional characteristics. Future prospective multicenter studies that incorporate molecular biomarkers, advanced imaging, and immunotherapy are expected to refine patient selection and optimize oncological and functional outcomes.

KEYWORDS

laryngeal carcinoma, T3, biomarkers, therapy

PP-075

The Effectiveness Of Tele-Training In Delivering ENT-Head And Neck Imaging Education To Healthcare Professionals In Low-Resource Settings

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BACKGROUND & AIM

Tele-training has emerged as a potential strategy to widen access to specialist postgraduate medical education, particularly in low-resource settings where traditional in-person training is limited. The 3-Day Multidisciplinary Team (MDT) Head and Neck Imaging Course was adapted for hybrid delivery to extend access internationally.

MATERIAL & METHODS

A structured platform evaluation was conducted in 2023 to select an appropriate virtual learning environment for hybrid delivery. Vedamo was used for the 2023 pilot course delivered in Copenhagen. In 2025, the course was delivered in London using Zoom Workplace Pro following technical refinements. Two anonymised questionnaires (pre- and post-course) were administered to remote participants in both iterations. Outcomes assessed included participant demographics, baseline familiarity with imaging modalities and MDT working, perceived educational value, platform performance, and intention to implement learning into practice.

RESULTS

In 2023, 60 participants attended at least one live session; 66 attended in 2025. Pre-course questionnaire completion was 92% in 2023 (55/60) and 65% in 2025 (43/66). Participants represented diverse geographic regions across Asia, Africa, Europe, North America and the Middle East. Across both cohorts, case-based discussions and MDT-focused teaching were rated highly. Post-course responses demonstrated increased familiarity with MDT working and strong endorsement of its clinical relevance. Engagement with recorded sessions was high (>80% rating recordings as useful). Technical refinements in 2025 were associated with improved reported audiovisual clarity.

CONCLUSIONS

Hybrid delivery of specialist, postgraduate head and neck education is feasible and accomplishable across international contexts. Iterative technical and organisational refinements improved delivery without increasing barriers to access, supporting the use of hybrid models for specialist MDT-focused education in low-resource settings.

KEYWORDS

Tele-training, hybrid medical education, head and neck imaging, multidisciplinary team (MDT), case-based discussion, low-resource settings, global medical education, simulation-based learning

PP-076

Unseen, Uninvited, Unacceptable: Tracheostomal Myiasis And The Call For Vigilant Stoma Care

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BACKGROUND & AIM

Myiasis, the infestation of living tissue by dipterous fly larvae, is an exceptionally rare complication of tracheostomy, predominantly reported in tropical and subtropical regions. When involving the tracheostoma, it poses serious risks including airway obstruction, secondary infection, and significant morbidity if unrecognized. This report describes a case of tracheostomal myiasis in a patient with a long-standing tracheostomy, highlighting its clinical presentation, management, and preventive implications, while advocating for optimum home care and dedicated family support as essential cornerstones of long-term tracheostomy management.

MATERIAL & METHODS

A 36-year-old man with severe traumatic brain injury and tracheostomy performed four years earlier presented to the emergency department with a five-day history of foul odor from the tracheostomy tube and a contaminated tracheostomal wound. The patient had been living alone and had defaulted routine tracheostomy care. Clinical examination revealed labored breathing with foul-smelling blood-stained discharge from the stoma and numerous live larvae surrounding the tracheostomy tube, which was nearly obstructed with secretions and maggots. Approximately 40 larvae were mechanically removed from the peristomal region. Further wound debridement was performed under sedation and local anesthesia. Turpentine-soaked gauze was applied to facilitate migration of residual larvae. The extracted larvae were sent for entomological analysis.

RESULTS

The larvae were identified as Chrysomya bezziana (Old World screwworm), an obligate parasite capable of invading living tissue and triggering severe systemic inflammatory responses if untreated. Patients with long-term tracheostomies are uniquely vulnerable, facing challenges such as impaired airway clearance, caregiver dependence, and stomal complications including granulation, crusting, and wound maceration creating ideal conditions for larval colonization. Without timely intervention, myiasis can progress to tissue necrosis, sepsis, and life-threatening airway compromise. Treatment comprised intravenous antibiotics and daily wound care, with manual larval removal remaining the cornerstone of management, supplemented by occlusive agents and wound irrigation. Within 48 hours, no larvae were observed and healthy granulation tissue was evident. The patient was discharged on day six and remained recurrence-free at two-week follow-up, underscoring that early intervention, structured wound care, and dedicated family support are paramount in managing this rare but preventable complication.

CONCLUSIONS

Tracheostomal myiasis is a rare but preventable complication of long-term tracheostomy. Neglected tracheostomy care, poor hygiene, and lack of caregiver support are important risk factors. Early recognition, prompt mechanical removal of larvae, and meticulous wound care are essential to prevent airway compromise and secondary infection. Patient and caregiver education regarding proper tracheostomy care remains crucial in preventing this potentially life-threatening condition. This case highlights tracheostomal myiasis as a rare but preventable complication of long-term tracheostomy, emphasizing the critical importance of caregiver education and proper tracheostomy hygiene.

KEYWORDS

Tracheostomy, Myiasis, Airway complication, Chrysomya bezziana, Wound infestation

PP-077

Contemporary Management Of Salivary Gland Tumors: From Accurate Diagnosis To Personalized Treatment

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BACKGROUND & AIM

Salivary gland tumors constitute a heterogeneous group of neoplasms with diverse histopathological, biological, and clinical behavior. Accurate preoperative diagnosis and individualized treatment planning are essential to achieve optimal oncological control while preserving facial nerve function and quality of life. We hypothesized that a modern multidisciplinary approach combining advanced imaging, cytopathology, molecular diagnostics, and risk-adapted surgery improves treatment precision and patient outcomes.

MATERIAL & METHODS

This review evaluates current concepts in the diagnosis and management of benign and malignant salivary gland tumors. The review drew on contemporary literature, clinical guidelines, and expert recommendations. Diagnostic methods included ultrasonography, MRI, CT, fine-needle aspiration cytology, core needle biopsy, and molecular testing. Treatment strategies included extracapsular dissection, superficial or total parotidectomy, submandibular gland excision, neck dissection, facial nerve management, postoperative radiotherapy, systemic therapy, and targeted treatment. Outcome measures included diagnostic accuracy, recurrence, survival, facial nerve morbidity, margin status, and quality of life. Independent variables included tumor site, size, grade, histology, perineural invasion, nodal status, and molecular profile.

RESULTS

Current evidence supports MRI and ultrasound-guided cytologic or core biopsy assessment as key components of preoperative evaluation. For benign parotid tumors, selective approaches such as extracapsular dissection may yield low recurrence rates with reduced facial nerve morbidity in appropriately selected cases. In malignant tumors, complete surgical excision with clear margins remains the mainstay of treatment. Neck dissection is recommended for clinically positive neck disease and high-risk histologies. Postoperative radiotherapy improves local control in high-grade tumors, positive margins, perineural invasion, advanced T stage, or nodal metastasis. Molecular testing has become increasingly important in selected tumors, particularly adenoid cystic carcinoma, secretory carcinoma, and salivary duct carcinoma, where targeted or systemic therapies may be considered.

CONCLUSIONS

Contemporary management of salivary gland tumors requires precise diagnosis, histology-based risk stratification, and individualized treatment. Surgery remains central, but modern imaging, pathology, molecular profiling, and adjuvant therapy have improved decision-making. Functional preservation, especially facial nerve protection, should be balanced with oncologic safety. Future directions include broader use of molecular biomarkers, targeted therapy, and multicenter outcome registries.

KEYWORDS

salivary gland tumors, salivary duct carcinoma, advanced imaging, cytopathology, molecular diagnostics

PP-078

Evaluation Of A Low-Cost Epistaxis Simulator For Primary Care Training In Rwanda

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BACKGROUND & AIM

Epistaxis is a common otolaryngology emergency in primary care and can sometimes be fatal. Prior studies show substantial provider knowledge gaps, with only 19–43% correctly identifying basic first-aid measures. In settings where new graduates transition directly into primary care, structured epistaxis training may be particularly valuable. We hypothesized that a simulation-based epistaxis training program for primary care providers in Rwanda would improve short-term knowledge and confidence and yield high post-training technical proficiency.

MATERIAL & METHODS

University of Global Health Equity medical students in Rwanda (n=41) completed a one-week simulation-based otolaryngology bootcamp including an epistaxis module using a low-cost three-dimensional print-to-cast silicone molded nasal task trainer. Knowledge (6-item multiple-choice questionnaire) and confidence (5-point Likert) were assessed pre/post-intervention (matched n=23 and n=22). Technical proficiency was measured post-training via an Objective Structured Clinical Examination using a standardized rubric. Paired t-tests were used; effect sizes are reported as Hedges' g_z.

RESULTS

9/23 (39.1%) matched respondents and 12/31 (38.7%) of the full sample had previously observed epistaxis management or nasal packing. Knowledge increased from 2.57/6 (41.7%) pre-training to 5.17/6 (86.7%) post-training (mean Δ=2.61, SDΔ=1.56; 95% CI 1.93–3.28; t(22)=8.02; $p=5.6\times10^{-8}$; g_z=1.61 [large]). Confidence improved for epistaxis management (2.65/5 to 4.56/5; p<0.0001) and nasal packing (2.5/5 to 4.6/5; p<0.0001). Post-training clinical assessment showed high skill acquisition: skills items averaged 2.8/3 (93.5%), with 97.6% (40/41) achieving ≥80%; knowledge items averaged 6.73/7 (96.2%), with 100% (41/41) achieving ≥80%. Appropriateness was high: 96.8% (30/31) strongly agreed epistaxis skills are relevant to general practice and expressed strong interest in learning them.

CONCLUSIONS

Simulation-based epistaxis training increased short-term knowledge, confidence, and technical proficiency among primary care trainees in Rwanda. High appropriateness and acceptability support integration of low-cost otolaryngology emergency simulation into primary care medical education where specialty training access is limited. Future work should evaluate skill retention, clinical transfer, and comparative effectiveness.

KEYWORDS

Epistaxis management, nasal packing, low-cost simulation, primary care, Rwanda, medical education, otolaryngology emergencies, capacity building

PP-079

Ethnic Nose Rhinoplasty: Contemporary Concepts In Preserving Identity While Achieving Facial Harmony

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BACKGROUND & AIM

Ethnic rhinoplasty has evolved significantly over the past two decades from standard reduction techniques toward individualized, preservation-oriented procedures that respect each patient's unique anatomical characteristics and cultural identity. The increasing demand for aesthetic refinement without ethnic erasure has challenged surgeons to balance functional improvement, facial harmony, and preservation of distinguishing ethnic features. We hypothesized that modern structural ethnic rhinoplasty, guided by detailed preoperative facial analysis and patient-centered planning, achieves high aesthetic satisfaction while maintaining nasal function and ethnic identity.

MATERIAL & METHODS

This narrative review summarizes contemporary concepts in ethnic rhinoplasty, drawing on the current literature, international consensus recommendations, and expert surgical experience. Anatomical variations in noses from African, Asian, Middle Eastern, Hispanic, and mixed-ethnicity populations were evaluated. Current surgical techniques, including structural

grafting, preservation rhinoplasty, dorsal augmentation, tip-support reconstruction, soft-tissue management, and alar-base modification, were reviewed. Outcome measures included patient satisfaction, revision rates, nasal airway function, aesthetic harmony, and preservation of ethnic characteristics. Independent variables included skin thickness, cartilage strength, dorsal height, tip projection, nasal width, and patient expectations. Published comparative studies and systematic reviews were critically assessed.

RESULTS

Recent evidence demonstrates that individualized surgical planning based on ethnic anatomy provides superior aesthetic and functional outcomes compared with standardized rhinoplasty techniques. Structural grafting techniques improve long-term tip support and reduce postoperative deformities, particularly in patients with weak lower lateral cartilages. Preservation of characteristic dorsal contours and careful management of soft tissue thickness contribute significantly to natural postoperative appearance. Studies consistently report high patient satisfaction, low revision rates, and stable functional outcomes when ethnic identity is incorporated into surgical planning. Successful outcomes are closely associated with comprehensive preoperative communication, digital simulation, and realistic expectation management. Contemporary approaches emphasize enhancement rather than Westernization of nasal aesthetics.

CONCLUSIONS

Modern ethnic rhinoplasty is no longer defined by changing ethnic characteristics but by enhancing nasal aesthetics while preserving cultural identity and function. Individualized anatomical assessment, structural surgical techniques, and patient-centered decision-making are fundamental for achieving predictable long-term results. Future developments involving artificial intelligence-assisted facial analysis, three-dimensional surgical planning, and objective outcome assessment tools are expected to further improve personalization and surgical precision in ethnic rhinoplasty.

KEYWORDS

rhinoplasty, ethnic rhinoplasty, dorsal height, tip projection, nasal width,

PP-080

Is Lip Aesthetics Synonymous With Lip Augmentation? Contemporary Concepts Beyond Volume Enhancement

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BACKGROUND & AIM

Lip aesthetics has become one of the fastest-growing areas in facial cosmetic medicine. While lip augmentation with fillers is increasingly popular, attractive lips result from multiple anatomical and dynamic factors, including symmetry, proportion, vermilion definition, Cupid's bow, dental show, lip support, and harmony with the nose, chin, and overall facial profile. Excessive volume alone can produce unnatural results and compromise facial balance. We hypothesized that a comprehensive aesthetic assessment, rather than simply increasing lip volume, yields superior aesthetic outcomes and higher patient satisfaction.

MATERIAL & METHODS

Recent evidence indicates that lip attractiveness is influenced more by overall facial balance than by lip volume alone. Moderate augmentation, combined with restoration of anatomical landmarks, consistently yields more natural and durable outcomes than aggressive volumization. Excessive filler placement is linked to higher complication rates, aesthetic dissatisfaction, and distortion of normal lip anatomy. Studies also show that correcting perioral aging, optimizing upper incisor show, and preserving dynamic lip movement significantly improve patient-reported outcomes. Individualized treatment planning based on facial proportions and patient goals has become the cornerstone of modern lip aesthetics.

RESULTS

Recent evidence indicates that lip attractiveness is influenced more by overall facial balance than by lip volume alone. Moderate augmentation, combined with restoration of anatomical landmarks, consistently yields more natural and durable outcomes than aggressive volumization. Excessive filler placement is linked to higher complication rates, aesthetic dissatisfaction, and distortion of normal lip anatomy. Studies also show that correcting perioral aging, optimizing upper incisor show, and preserving dynamic lip movement significantly improve patient-reported outcomes. Individualized treatment planning based on facial proportions and patient goals has become the cornerstone of modern lip aesthetics.

CONCLUSIONS

Lip aesthetics should not be equated with lip augmentation. Successful treatment requires a comprehensive understanding of facial proportions, functional anatomy, and patient expectations. The objective of modern lip aesthetic procedures is to achieve natural harmony, balanced proportions, and a youthful appearance rather than maximal lip volume. Future advances in three-dimensional facial analysis, artificial intelligence-assisted treatment planning, and objective aesthetic assessment tools are expected to further refine personalized lip enhancement strategies.

KEYWORDS

Lip aesthetics, lip augmentation, fillers, facial profile, lip attractiveness

HEAD AND NECK ONCOLOGY

Poster / E-Poster Presentations · PP-081 – PP-297 · 217 abstracts

PP-081

Preoperative Neutrophil-To-Lymphocyte Ratio (NLR), Systemic Immune Inflammation Index (SII), Systemic Inflammation Response Index (SIRI) And Pan Immune-Inflammation Value (PIV) As A Prognostic Indicator In Head And Neck Malignancies : A Retrospective Analysis Of 115 Patients

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BACKGROUND & AIM

Hemogram-derived inflammatory biomarkers have been proposed as simple and inexpensive predictors of adverse pathologic features in head and neck malignancies. However, evidence remains heterogeneous across cohorts.

MATERIAL & METHODS

To investigate the association between preoperative inflammatory indices (NLR, PLR, LMR, SII, SIRI) and postoperative pathologic outcomes in patients undergoing tumor resection with neck dissection.

We retrospectively analyzed 115 patients who underwent resection and neck dissection for head and neck malignancies. Preoperative complete blood count values were used to calculate NLR, PLR, LMR, SII (platelets×neutrophils/lymphocytes), and SIRI (neutrophils×monocytes/lymphocytes). Primary outcomes included lymph node metastasis (LN+), and adverse pathologic features (deep invasion, PNI, LVI, positive margins). Group comparisons were performed using non-parametric tests. Discrimination was evaluated using ROC analysis. Multivariable logistic regression adjusted for age and sex.

RESULTS

The cohort had a mean age of 60.2±12.7 years and was 77.4% male. LN metastasis was present in 53.9%. Deep invasion was observed in 59.6%, PNI in 56.0%, and LVI in 44.4%. For LN metastasis, SII showed a borderline difference between groups (p=0.064) with modest discrimination (AUC 0.60). In multivariable analysis, SII independently predicted deep invasion (adjusted OR 1.106 per 100-unit increase; 95% CI 1.012–1.209; p=0.027). In the subgroup with available nodal staging (n=49), higher SII and SIRI were associated with higher nodal stage (N2–3 vs N0–1) and demonstrated moderate discrimination (SII AUC 0.689, SIRI AUC 0.677), although findings were exploratory.

CONCLUSIONS

Preoperative SII is an independent predictor of deep tumor invasion in patients undergoing neck dissection for head and neck malignancies. Hemogram-derived indices may help preoperative risk stratification; prospective validation is warranted.

KEYWORDS

head and neck cancer, neck dissection, SII, inflammatory markers, deep invasion,scc

PP-082

Comparative Effectiveness Of Total Laryngectomy Versus Organ Preservation In T3 Laryngeal Cancer: A Systematic Review And Meta- Analysis

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BACKGROUND & AIM

Background The management of T3 laryngeal cancer involves balancing disease control and preserving laryngeal function. Studies show comparable survival outcomes between total laryngectomy (TL) and organ-preserving therapy (OPT), such as radiotherapy (RT) and chemoradiotherapy (CRT). However, OPT is suitable for only a subset of patients, and its protocols vary by institution. While OPT offers functional benefits, TL is associated with reduced risk of recurrence. In this review, we compare both TL and OPT in terms of locoregional control, salvage rates, and survival rates.

MATERIAL & METHODS

Methods We searched PubMed, Scopus, Web of Science, and the Cochrane Library for relevant articles up to February 2025. Two independent reviewers extracted data from the selected studies, including baseline information, outcomes, complications, and survival rates.

RESULTS

Results Thirty-seven articles were eligible for inclusion in our review. Local recurrence in TL was notably less than that seen with OPT, whereas CRT and RT demonstrated fewer regional relapses compared to TL. OPT patients who experienced recurrence often required a salvage of TL; most of those received RT alone as the primary treatment. For TL, the 5-year DFS was 60%, the 5-year DSS was 66%, and the 5-year OS was 54%, as opposed to 53%, 61%, and 49% for OPT ($p = 0.0087$, $p = 0.0094$, $p < 0.0001$). Common complications with total laryngectomy included pharyngocutaneous fistulas, whereas OPT was associated with post-radiation laryngeal edema and esophageal strictures. Treatment-related mortality was reported similarly for both modalities.

CONCLUSIONS

Conclusion TLofferssuperiorsurvivaloutcomes(DFS,DSS,OS)overOPTforT3laryngealcancer,withhighercancer-free survival rates at one and five years. While total laryngectomy was associated with statistically higher survival outcomes, the absolute differences were modest. These findings support careful, individualized treatment selection that incorporates patient preference, functional outcomes, and institutional expertise.

KEYWORDS

Total laryngectomy, Laryngeal cancer, Organ preservation

PP-083

Occult Squamous Cell Carsinoma In A Presumed Branchial Cyst With Right-Sided Chyle Leak

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BACKGROUND & AIM

Cystic neck masses in adults increasingly represent metastatic disease rather than benign branchial cysts, especially in HPV-related OPSCC. Imaging and FNAB may be misleading due to hypocellularity. Therefore, a high index of suspicion is essential, and frozen section may be required for definitive diagnosis. Chyle leak after neck dissection is uncommon (1–2.5%) and typically left-sided; right-sided cases are rare.

MATERIAL & METHODS

A 54-year-old male presented with a long-standing right neck mass previously followed as a branchial cyst. Recent enlargement prompted reevaluation. Endoscopic examination was normal. Trucut biopsy was non-diagnostic.

Intraoperatively, invasion of the sternocleidomastoid muscle raised suspicion, and frozen section revealed SCC, leading to right modified radical neck dissection.

Postoperatively, a low-output (~100 cc/day) right-sided chyle leak developed and was successfully managed conservatively. Final pathology demonstrated p16-positive, EBV-negative SCC. Adjuvant chemoradiotherapy was planned. The patient remains disease-free.

RESULTS

In patients >40 years, cystic neck masses should be considered metastatic until proven otherwise. HPV-related OPSCC frequently presents with cystic nodal disease without an obvious primary. Preoperative diagnostics may yield false-negative results; thus, frozen section is crucial.

p16 positivity is not entirely specific for oropharyngeal origin and should be interpreted cautiously.

Chyle leak is usually left-sided; right-sided cases are rare and often due to anatomical variation. Low-output leaks are typically managed conservatively.

CONCLUSIONS

Adult cystic neck masses require high suspicion for malignancy despite negative preoperative tests. Frozen section is key for intraoperative decision-making. Although rare, right-sided chyle leak can occur and is effectively managed conservatively in low-output cases.

KEYWORDS

squamoz cell carsınoma, branchial cleft cyst, chylous fistula, modıfied radıcal neck dıssection

PP-084

Diagnosis And Management Of Plasma Cell Neoplasia Presenting As A Mandibular Ramus And Buccal Mucosa Mass

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BACKGROUND & AIM

Plasma cell neoplasms (PCN) are mature B-cell lymphoid neoplasms characterized by monoclonal plasma cell proliferation . While extramedullary involvement is uncommon, oral manifestations can rarely serve as the primary clinical sign of a systemic disorder . This report evaluates the hypothesis that destructive oral cavity lesions may represent the initial clinical manifestation of multicentric systemic plasma cell disease.

MATERIAL & METHODS

This clinical case report describes a 65-year-old female (65F) patient who presented at a tertiary care hospital with a 4-month history of a 3x4 cm hemorrhagic mass in the left buccal mucosa and retromandibular region . Diagnostic interventions included contrast-enhanced Computed Tomography (CT), Positron Emission Tomography-Computed Tomography (PET-CT), and an incisional biopsy of the oral lesion . Outcome measurements were derived from radiological findings, histopathological analysis, and Immunohistochemical (IHC) profiling. Analyses focused on the evaluation of tumor morphology, mitoses, and monoclonal light chain restriction. Following the diagnostic phase, the patient was evaluated by a multidisciplinary oncology board.

RESULTS

CT imaging revealed a 27x37 mm destructive lytic lesion in the left mandibular ramus and multiple similar lesions in the skull, scapula, and axial skeleton. PET-CT confirmed multiple skeletal foci with low Fluorodeoxyglucose (FDG) uptake (SUVmax: 2.9) and pathological fractures in the pelvis. Histopathological examination showed diffuse neoplastic infiltration of atypical pleomorphic plasmacytic cells with 14-15 mitoses per 2 mm^2 . IHC demonstrated diffuse positivity for Cluster of Differentiation 138 (CD138) and Multiple Myeloma Oncogene 1 (MUM1) . Monoclonality was confirmed by Kappa light chain restriction, while Lambda, PAX5, and Cluster of Differentiation 20 (CD20) were negative. The final diagnosis was established as PCN.

CONCLUSIONS

Oral cavity masses can be the first herald of systemic plasma cell disorders . A multidisciplinary approach is essential for accurate staging and management. Following the multidisciplinary oncology board's decision, the patient was referred to the hematology department for the initiation of systemic treatment. Long-term follow-up is critical due to the aggressive nature and potential for disease progression.

KEYWORDS

Plasma cell neoplasia, multiple myeloma, mandible, buccal mucosa, CD138, case report

PP-085

Burkitt Lymphoma Presenting As An Inflammatory Submandibular Mass With Mandibular Destruction In A Pediatric Patient: A Case Report

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BACKGROUND & AIM

Burkitt Lymphoma (BL) is a highly aggressive, B-cell non-Hodgkin lymphoma characterized by rapid cellular proliferation and MYC oncogene translocation. While the endemic variant frequently involves the maxillofacial region, sporadic cases presenting with atypical, insidious bone destruction mimicking inflammatory processes are rare. Early diagnosis is critical due to the exceptionally short doubling time of the tumor cells. The aim of this case report is to present a pediatric patient with sporadic BL who initially presented with clinical and radiological features resembling a locally destructive, inflammatory submandibular pathology.

MATERIAL & METHODS

A 9-year-old female patient with a known history of Cerebral Palsy (CP) presented with a painless swelling in the right submandibular region, reportedly present for one year. Physical examination revealed a 2x1 centimeter, hard, hyperemic mass with increased local temperature overlying the right mandible. Computed Tomography (CT) imaging demonstrated extensive subcutaneous tissue edema in the right facial half. The right medial and lateral pterygoid muscles, as well as the masseter muscle, exhibited thickened and edematous appearances, completely obscuring the borders and adjacent fat planes of the submandibular and parotid glands. Furthermore, significant osseous destruction was observed at the level of the right mandibular condyle and ramus, accompanied by periosteal reactions and sclerotic changes in the ramus and corpus.

RESULTS

An incisional biopsy was planned under general anesthesia due to the suspicious destructive nature of the mass. An incision parallel to the skin creases was made over the hyperemic, fixed lesion in the right submandibular region. Following dissection of the platysma, the mass was exposed. Intraoperative frozen section analysis was performed, and the preliminary evaluation indicated malignancy. Consequently, extensive tissue sampling was conducted, and the surgical operation was concluded without any complications. The final histopathological evaluation of the surgical specimen confirmed the definitive diagnosis of BL.

CONCLUSIONS

In pediatric patients presenting with submandibular masses accompanied by localized soft tissue inflammation, hyperemia, and significant mandibular destruction, highly aggressive hematologic malignancies such as BL must be considered in the differential diagnosis. Even in cases presenting with prolonged or atypical histories mimicking benign inflammatory processes, prompt histopathological evaluation via early biopsy is crucial to initiate life-saving immunochemotherapy regimens.

KEYWORDS

Burkitt Lymphoma, Mandibular Destruction, Submandibular Mass, Pediatric Head and Neck Oncology

PP-086

Primary Palatine Tonsillar Hodgkin Lymphoma Mimicking Peritonsillar Abscess: A Rare Extranodal Presentation In An Adolescent — A Case Report

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BACKGROUND & AIM

Hodgkin lymphoma (HL) is a malignant lymphoid neoplasm derived from germinal-center B cells, predominantly involving the lymphatic and reticuloendothelial systems. Although HL commonly presents with nodal disease, primary extranodal involvement is rare, accounting for less than 1% of cases. Such presentations may mimic inflammatory conditions and lead to diagnostic delay. We report a rare case of primary tonsillar HL mimicking a peritonsillar abscess in an adolescent.

MATERIAL & METHODS

A 16-year-old female presented with a two-week history of progressive sore throat and dysphagia with decreased oral intake. Physical examination revealed asymmetric left tonsillar hypertrophy, peritonsillar bulging, and uvular deviation without B-symptoms. Initial needle aspiration yielded a dry tap.

CT demonstrated asymmetric soft tissue density in the left peritonsillar region, initially interpreted as a peritonsillar abscess. MRI showed enlargement of the left palatine tonsil (38×23×44 mm) with homogeneous contrast enhancement and diffusion restriction on DWI, suggestive of a lymphoproliferative process. Diagnostic tonsillectomy was performed due to discordant findings.

RESULTS

Histopathological examination demonstrated diffuse CD30 and EBER positivity with focal CD15 expression and B-cell lineage markers, consistent with classical Hodgkin lymphoma. These findings supported exclusion of key differential diagnoses including T- and B-cell lymphomas. The patient was referred to Pediatric Oncology for staging and management.

Extranodal HL may mimic inflammatory disease. CT suggested peritonsillar abscess and aspiration was negative. Although DWI restriction is non-specific, combined with homogeneous enhancement it raised suspicion for lymphoproliferative disease. Absence of B-symptoms contributed to diagnostic ambiguity.

CONCLUSIONS

Primary tonsillar HL should be considered in adolescents with tonsillar asymmetry and negative aspiration. MRI with diffusion-weighted imaging is useful but non-specific. Early recognition and tonsillectomy are essential for definitive diagnosis.

KEYWORDS

HODGKIN LYMPHOMA, DWI, PERITONSILLAR ABSCESS, LYMPHOPROLIFERATIVE DİSEASE

PP-087

Evaluation Of Oncological And Surgical Outcomes In Patients With Early-Stage Glottic Laryngeal Cancer Undergoing Transoral Microlaryngeal Laser Cordectomy

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BACKGROUND & AIM

Transoral Laser Microsurgery (TLM) is widely preferred in the treatment of early-stage glottic laryngeal cancers (Tis, T1, T2) due to its significant advantages in organ function preservation and low morbidity rates.

MATERIAL & METHODS

Thirty patients (n=30) who underwent TLM between [2023-2026] were retrospectively analyzed. All cases were staged, and cordectomy types were documented according to the European Laryngological Society (ELS) classification. Surgical margin status, local control (LC) rates, larynx preservation (LP) success, and postoperative complications were analyzed. Survival data were evaluated using the Kaplan-Meier method for statistical analysis.

RESULTS

The majority of patients included in the study were in the T1 stage. The mean follow-up period was 36 months. While surgical margins were negative in 80-90 % of the patients, additional resection or a close follow-up protocol was applied to 10-20 patients with positive surgical margins. During the follow-up period, local recurrence was observed in 3 patients, and these patients were successfully managed with salvage surgery or radiotherapy. The local control rate was 90%, and the larynx preservation rate was 95%. No serious permanent complications or requirements for tracheotomy were observed.

CONCLUSIONS

Our findings support that TLM is a reliable and minimally invasive method providing high local control and larynx preservation rates in early-stage glottic cancers. This 30-patient series demonstrates that functional outcomes can be preserved without compromising oncological safety.

KEYWORDS

Laryngeal cancer, Laser cordectomy, Oncological outcomes, Transoral microsurgery

PP-088

Low-Grade Thyroid-Like Nasopharyngeal Papillary Adenocarcinoma In A 14-Year-Old Male Arising From The Posterior Nasal Septum: A Rare Pediatric Case

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BACKGROUND & AIM

Low-grade nasopharyngeal papillary adenocarcinoma (LGNPPA) is an extremely rare malignant epithelial tumor characterized by indolent behavior, low metastatic potential, and favorable prognosis. Its occurrence in the pediatric population is exceptionally uncommon. We aimed to present a rare pediatric case of LGNPPA arising from the posterior nasal septum and to highlight the importance of differential diagnosis, particularly in the presence of focal thyroglobulin expression.

MATERIAL & METHODS

A 14-year-old male presented with progressive nasal obstruction and intermittent epistaxis. Clinical examination, nasal endoscopy, and magnetic resonance imaging (MRI) were performed. The lesion was excised endoscopically and evaluated histopathologically with immunohistochemical analysis. Thyroid assessment included ultrasonography, serum thyroid-stimulating hormone (TSH) measurement, and positron emission tomography/computed tomography (PET/CT) to exclude metastatic thyroid carcinoma.

RESULTS

Endoscopy revealed a 1.5 cm pedunculated polypoid lesion originating from the left posterior nasal septum and extending into the nasopharynx. MRI demonstrated a 16 × 13 × 10 mm soft tissue mass partially obliterating the left choana without bone erosion or cervical lymphadenopathy. Histopathology showed complex papillary structures with fibrovascular cores lined by columnar epithelial cells with minimal atypia. Immunohistochemistry demonstrated strong nuclear TTF-1 positivity, CK7 positivity, PAX8 and EBER negativity, and focal cytoplasmic thyroglobulin positivity. The Ki-67 index was approximately 10% in hotspot areas. Surgical margins were negative. Thyroid evaluation was unremarkable. The patient remains disease-free after 14 months.

CONCLUSIONS

LGNPPA should be considered in pediatric nasopharyngeal masses. Focal thyroglobulin positivity necessitates thorough thyroid evaluation to exclude metastatic carcinoma. Complete surgical excision ensures excellent prognosis.

KEYWORDS

Low-grade nasopharyngeal papillary adenocarcinoma; Pediatric; Thyroid-like adenocarcinoma; Thyroglobulin; TTF-1

PP-089

Lateral Cervical Kaposi's Sarcoma In An HIV-Negative Patient: A Case Report

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BACKGROUND & AIM

Kaposi's sarcoma (KS) is a rare vascular tumor, classically associated with HIV infection and HHV-8. Its occurrence as an isolated lateral cervical mass in a non-immunocompromised patient is exceptional.The aim of this study is to report a rare case of Kaposi's sarcoma presenting as a solitary lateral cervical mass in an immunocompetent, HIV-negative patient, and to emphasize its inclusion in the differential diagnosis of cervical tumors.

MATERIAL & METHODS

This is a clinical case report of a 68-year-old male patient , presenting with a progressively enlarging left lateral cervical mass.

RESULTS

A 68-year-old male with no significant medical history presented with a progressively enlarging left lateral cervical mass of 4 cm, firm, with intact overlying skin. HIV serology was negative. Cervical ultrasound revealed a solid hypoechoic mass with increased Doppler vascularity. CT scan demonstrated a 6×5×4 cm well-defined soft tissue mass with heterogeneous contrast enhancement and no neurovascular involvement. MRI showed T2 hyperintensity with gadolinium enhancement.

A left cervicotomy was performed under general anesthesia. Intraoperatively, the mass was soft, reddish, and adherent to the platysma muscle. Complete excision was achieved with clear margins. Frozen section analysis concluded a spindle cell tumor.

Histological examination showed a proliferation of spindle cells arranged in storiform fascicles, admixed with numerous vessels, siderophages, and erythrocyte extravasation. Immunohistochemistry revealed positive CD34 expression; AML, PS100, and HHV-8 were negative. Kaposiform hemangioendothelioma was excluded given the patient's age. A diagnosis of Kaposi's sarcoma was retained despite HHV-8 negativity.

CONCLUSIONS

This case highlights that KS should be included in the differential diagnosis of lateral cervical masses, even in the absence of immunodeficiency and HHV-8 positivity. Rigorous clinico-radiological and pathological correlation remains essential to establish this rare diagnosis

KEYWORDS

Kaposi's sarcoma, Lateral cervical mass, HHV-8, cervicotomy

PP-090

Adult Epiglottitis: Diverse Presentations And Outcomes In Four Cases

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BACKGROUND & AIM

Adult epiglottitis is an uncommon but potentially life-threatening condition characterized by variable clinical presentation and unpredictable course. While its incidence has declined in children following Haemophilus influenzae type b (Hib) vaccination, adult cases remain clinically significant. Adults often present without overt airway compromise despite significant supraglottic inflammation, which may delay diagnosis. This series aims to illustrate diverse clinical presentations, microbiological findings, and management strategies in adult epiglottitis, and to highlight that laboratory parameters may not reliably reflect disease severity.

MATERIAL & METHODS

We present a retrospective case series of four adult patients diagnosed with epiglottitis at a tertiary referral otolaryngology clinic between February and October 2025. Diagnosis was established by clinical, laboratory, endoscopic visualization and confirmed by contrast-enhanced computed tomography (CE-CT) and, where indicated, magnetic resonance imaging (MRI). Outcome measures included clinical resolution, need for airway intervention, complications, length of hospital stay (LOS), and microbiological findings.

RESULTS

Patients ranged in age from 42 to 68 years (two male, two female) and presented with sore throat and dysphagia; none exhibited severe respiratory distress or required airway intervention. Inflammatory markers were elevated in three of four patients, while one had a near-normal white blood cell count (WBC: 5.9×10^9/L) despite significant endoscopic inflammation. Case 1 (43F) developed fungal superinfection after prolonged antibiotic therapy, requiring antifungal treatment (LOS: 20 days); Case 2 (68M) was refractory to medical therapy and underwent surgical drainage of an MRI-confirmed vallecular abscess (LOS: 4 days); Case 3 (42F) responded to standard intravenous antibiotics and corticosteroids (LOS: 5 days); and Case 4 (55M) demonstrated intralesional air on CE-CT and cytomegalovirus (CMV) seropositivity yet improved within 48 hours (LOS: 7 days).

CONCLUSIONS

Adult epiglottitis presents with heterogeneous clinical, laboratory, and radiological features. Laboratory parameters alone are insufficient for severity assessment, underscoring the essential role of early endoscopy. Atypical findings — including fungal superinfection, intralesional air, and viral co-infection — must be considered in refractory cases. Management should be individualized and guided by clinical evolution; imaging is warranted to exclude complications such as abscess formation.

KEYWORDS

Adult epiglottitis, supraglottitis, airway management, vallecular abscess, CMV, case series

PP-091

HYDATID CYST DISEASE IN THE HEAD AND NECK REGION: A REPORT OF TWO CASES WITH ATYPICAL LOCALIZATION

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BACKGROUND & AIM

Hydatid disease is a zoonotic parasitic infection caused by Echinococcus granulosus ; most commonly affects the liver and lungs. Head and neck involvement is extremely rare, even in endemic regions, and represents a diagnostic challenge due to nonspecific clinical and radiological findings. These atypical presentations may mimic congenital cysts, benign soft tissue tumors, or deep neck infections, increasing the risk of inappropriate invasive procedures. This study presents two rare head and neck hydatid cyst cases with unusual anatomical locations and clinical courses, emphasizing diagnostic pitfalls in otolaryngology practice.

MATERIAL & METHODS

Two patients presenting to a tertiary otorhinolaryngology center, with clinical and radiological findings consistent with hydatid cyst disease, were retrospectively analyzed. Clinical presentation, physical examination and endoscopic findings, magnetic resonance imaging and ultrasonography results, administered medical therapy, and early clinical outcomes were evaluated descriptively.

The primary outcome measures were as follows:

- Lesion localization and extent of spread,
- Radiological findings of infection and associated complications,
- Response to medical therapy,
- Requirement for surgical intervention,
- Multidisciplinary management approach.

RESULTS

The outcomes of two patients with hydatid cyst disease were evaluated. The patients were 33 and 42 years old, presenting with swelling and pain in the facial and cervical regions; one also had trismus and restricted oral intake. Lesions were located in the left masticator and parapharyngeal spaces in one case, and in the right posterior cervical triangle and paravertebral muscles in the other. Facial nerve function was preserved, and endoscopic and otoscopic findings were normal. Imaging revealed multiloculated cystic lesions with septations and focal calcifications; one case suggested superimposed infection.

- Patient 1: Had long-standing disease with symptom progression after aspiration; a large multiloculated lesion was identified, and clinical improvement was achieved with albendazole therapy.
- Patient 2: Presented with a short symptom history; imaging suggested an infected cyst, and significant clinical and radiological remission was observed after treatment.

No surgery was required, and no major complications occurred during follow-up.

CONCLUSIONS

Hydatid disease should be considered in the differential diagnosis of cystic head and neck masses, particularly in endemic regions. Recognition of atypical radiological features and avoidance of invasive diagnostic procedures are essential to reduce misdiagnosis and prevent serious complications. These cases demonstrate the importance of clinical and radiological awareness in unusual head and neck presentations of hydatid disease.

KEYWORDS

* Echinococcosis * Head and neck hydatid cyst * Cervical cystic mass * Parapharyngeal space * Differential diagnosis

PP-092

Parotid Lymphomas Mimicking Benign Salivary Tumors: A 15-Case Retrospective Single-Center Series

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BACKGROUND & AIM

Primary and secondary lymphomas of the parotid gland are uncommon and frequently mimic benign salivary neoplasms. We hypothesized that parotid lymphomas are often clinically and radiologically misinterpreted as benign tumors, resulting in low preoperative diagnostic accuracy.

MATERIAL & METHODS

This retrospective single-center study included 15 patients who underwent parotid surgery and were postoperatively diagnosed with lymphoma. Demographic data, clinical presentation, fine-needle aspiration biopsy (FNAB) results, surgical procedure, histopathological subtype, and follow-up data were analyzed. Diagnostic accuracy of FNAB and distribution of lymphoma subtypes were evaluated descriptively.

RESULTS

The cohort included 10 males (66.7%) and 5 females (33.3%), with a mean age of 60 ± 17 years. The most common presentation was a painless parotid mass. Preoperative FNAB correctly suggested lymphoma in only 1 case (6.7%), while 93.3% were interpreted as benign or non-specific. Sjögren syndrome was present in 3 patients (20%).

Superficial parotidectomy was performed in 60% of cases, reflecting preoperative benign suspicion. Histopathological analysis revealed extranodal marginal zone B-cell lymphoma in 40%, diffuse large B-cell lymphoma in 20%, follicular lymphoma in 20%, classic Hodgkin lymphoma in 6.7%, and small lymphocytic lymphoma infiltration in 6.7%.

Mean follow-up duration was 4.7 years (range: 1.5–9 years). Two patients were lost to early follow-up.

CONCLUSIONS

Parotid lymphomas frequently mimic benign salivary tumors both clinically and radiologically. Preoperative cytological diagnosis is limited, and most cases are diagnosed after surgical excision. Sjögren syndrome remains an important associated risk factor. Clinicians should maintain a high index of suspicion, particularly in patients with atypical imaging features or autoimmune background.

KEYWORDS

Parotid gland, Lymphoma, Fine-needle aspiration biopsy, Sjögren syndrome, Salivary gland neoplasms

PP-093

Role Of Surgery In The Treatment Of Cervical Lymph Node Tuberculosis

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BACKGROUND & AIM

Tuberculosis remains a major public health issue worldwide. In Algeria, the extrapulmonary form predominates, accounting for 69.2% of all reported cases, thereby illustrating an epidemiological particularity that requires tailored diagnostic and therapeutic strategies. The aim of the present study is to evaluate the role of surgery as a therapeutic option in managing failures of medical treatment for cervical lymph node tuberculosis and to describe the epidemiological characteristics of the disease in the region of Sétif, Algeria.

MATERIAL & METHODS

This is a prospective, descriptive, and analytical study conducted over a period of two years. The study included patients consulting our ENT department at the Sétif University Hospital for cervical lymph node tuberculosis without other associated localizations. 95 patients were included. Following confirmation of the diagnosis of cervical tuberculous lymphadenitis, all patients were initiated on standard antituberculous medical therapy (2RHZ/RH) after completion of a comprehensive pre-therapeutic assessment. Patients were subsequently monitored throughout the course of treatment. After completion of medical therapy, those exhibiting clinical or radiological evidence of treatment failure were managed surgically for therapeutic purposes. Surgical intervention consisted of selective cervical lymph node dissection performed under general anesthesia.

RESULTS

The male-to-female ratio was 0.61. The mean age was 28.7 years. A vaccination scar was observed in 80% of patients. The consumption of raw milk and unpasteurized dairy products was reported by 86.3% of patients. No patient was HIV-positive. Mantoux test was positive in 67% of cases. Cervical ultrasound revealed a hypoechoic aspect in 84.2% of cases, necrosis in 75.5% of cases and calcifications in 16.8% of cases. Fine-needle aspiration cytology was performed in 81 patients; yielding a positive result in 50,6% of cases and providing contributory diagnostic information in 93,8% of cases. The histological study allowed diagnostic confirmation in 100% of cases. Bacteriological examination was conducted in only 5 patients. The mean duration of antituberculous treatment was 7.4 ± 1.6 months. In 48.6% of cases the failure of medical treatment led to a selective lymph node dissection. A single case of disease recurrence was observed over a two-year follow-up.

CONCLUSIONS

Histological examination remains the cornerstone for establishing a definitive diagnosis in our setting. Our study suggests that the consumption of raw milk and unpasteurized dairy products may be a significant exposure factor in the development of the disease. Our results reflect a significant recourse to surgery, highlight the low efficacy of antituberculous chemotherapy, whose

underlying causes remain to be elucidated, and suggest a possible involvement of Mycobacterium bovis. Surgery remains a pertinent and legitimate therapeutic option, reinforcing its place in the treatment arsenal against this pathology, especially in cases where medical treatment fails.

KEYWORDS

Cervical lymph node tuberculosis, ultrasound, histopathology, raw milk and unpasteurized dairy products, Mycobacterium bovis, ENT surgery.

PP-094

Post-Thyroidectomy Hematoma And Hypocalcemia As Separate Complications: Risk Factors And Management —A Systematic Review And Meta-Analysis

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[1]*Moh*

BACKGROUND & AIM

Thyroidectomy is a common surgical procedure for various thyroid conditions, including benign nodules, multinodular goiters, hyperthyroidism, and malignancies. Despite its widespread use, it is associated with significant complications such as post-thyroidectomy hematoma and hypocalcemia. This systematic review aims to evaluate the risk factors and management strategies for these complications to enhance patient outcomes.

MATERIAL & METHODS

This systematic review and meta-analysis followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A comprehensive search was conducted across multiple electronic databases, including Scopus, Cochrane Library, Web of Science, PubMed, and ScienceDirect, using keywords related to post-thyroidectomy hematoma and hypocalcemia. Only studies published between 2010 and 2024 were considered. Studies were included if they focused on adult patients undergoing thyroidectomy and reported on the incidence or management of these complications. Studies were excluded if they were letters to the editor, case reports, opinion pieces, non-peer-reviewed articles or not in English. Pooled rates for hematoma and hypocalcemia were calculated using R software. A random-effects model was used to address study heterogeneity and calculate the pooled incidence estimate. The Newcastle-Ottawa Scale (NOS) was used to assess bias and select high-quality studies, improving the reliability of the results.

RESULTS

The present study identified 10 studies meeting the inclusion criteria (253,941 participants), with most scoring 9/9 on the NOS. The meta-analysis revealed that the pooled incidence of post-thyroidectomy hematoma is approximately 1.43% [95% confidence interval (CI): 1.07% to 1.80%, P<0.001], with significant heterogeneity across studies (I 2 =88.01%, P<0.001). Notable risk factors include older age, vitamin D deficiency, and thyroid malignancy. For hypocalcemia, the pooled incidence is around 23.14% (95% CI:

10.96% to 35.32%, P<0.001), also showing substantial heterogeneity (I2 =99.97%, P<0.001). Risk factors

included older age, female sex, malignancy, total thyroidectomy, and Graves' disease. Effective management strategies for hematoma included reoperation and tracheostomy, while for hypocalcemia, calcium and vitamin D supplementation and intravenous calcium were critical.

CONCLUSIONS

Post-thyroidectomy hematoma and hypocalcemia are major complications that affect patient outcomes and increase healthcare costs. Identifying risk factors and applying effective surgical and postoperative strategies can help reduce these risks.

KEYWORDS

Post thyroidectomy; hematoma; hypocalcemia; risk factor; management

PP-095

Periosteal Preservation In Total Exenteration: Evaluation Of A New Surgical Technique

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BACKGROUND & AIM

Total exenteration is a well-established procedure for managing orbital and eyelid tumors. However, the impact of preserving the periosteum of the orbital cavity has never been evaluated. This study aimed to assess a modified periosteum-sparing total exenteration (PSTE) compared with conventional radical total exenteration (CRTE), focusing on oncological outcomes and postoperative rehabilitation using full-thickness skin graft (FTSG) reconstruction.

MATERIAL & METHODS

A single-center retrospective comparative study was conducted on patients who underwent total exenteration over a 20-year period. The exposure was the surgery strategy defined by CRTE versus PSTE approaches. The outcome was the three-years disease free survival (DFS) using an inverse probability of therapeutic weighting cox modeling. Secondary objectives were the evaluation of healing time and prosthetic rehabilitation rate.

RESULTS

Among 105 patients, 76 underwent CRTE and 29 PSTE. Three-year DFS did not differ between groups (weighted hazard ratio = 0.89, 95% CI 0.43–2.33, p = 0.75 for PSTE approach). PSTE enabled FTSG reconstruction, with complete epithelialization achieved in 88.9% of cases within a mean of 45.8 days and without major complications. Prosthetic rehabilitation was more frequent and faster in the PSTE group (63.1% of patients at a mean of 6.6 months) compared with other techniques.

CONCLUSIONS

Periosteum-sparing total exenteration with FTSG reconstruction is a safe and effective alternative to conventional radical exenteration. It may be considered as a preferred approach when total exenteration is required for tumors remaining distant from the orbital bony walls offering comparable oncological outcomes with enhanced rehabilitation.

KEYWORDS

Orbital tumors, orbital exenteration, periosteum, orbital reconstruction, skin graft, prosthesis

PP-096

Malignanicies Of Hypopharynx - Standard Of Care In Montenegro

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BACKGROUND & AIM

Hypopharyngeal carcinoma is known as a rare, aggressive cancer, often diagnosed at an advanced stage. The aim of the study was to analyze the local treatment standards and outcomes of patients with hypopharyngeal carcinoma at the Clinical Center of Montenegro.

MATERIAL & METHODS

A retrospective analysis of patients treated between 2019 and 2025 at the Clinic for Otorhinolaryngology and the Institute of Oncology of the Clinical Center of Montenegro. The diagnosis was confirmed histopathologically. Tumors were classified according to cTNM.. The applied therapies (surgery, radiotherapy, chemotherapy, immunotherapy), Two- year survival was recorded.

RESULTS

Analysis resulted in 43 patients, 83.7% men, 16.3% women. The average age at diagnosis was 63.4 years; men 65.5 years, women 51.71 years. Most patients had histological grade 2 (65.1%). Localizations were piriform sinus 55.8%, posterior pharyngeal wall 4.7%, postcricoid area 39.5%. All patients had squamous cell carcinoma. Most patients had T3/T4 (69.8%) and N2 stage (71.1%). Only one patient had distant metastases (2.3%). Therapeutic approach was combined surgery and adjuvant therapy in 7%, or primary oncological treatment (RT/CT) in 93%. Standard radiotherapy doses (66 -70 Gy) were applied in most patients (89.1%). Patients received cisplatin (68.4%), carboplatin (5.3%), and cetuximab (26.3%). Two-year overall survival was 14%. The largest number of patients had local recurrence (47.6%). Distant metastases included lungs 11.9%, liver 4.8% and bone 2.3%. The average follow-up time (from presentation to last check-up) was 11.6 months (women 21.6, men 9.7).

CONCLUSIONS

In Montenegro, hypopharyngeal carcinomas predominantly occur in the piriform sinus and are of the squamous type, with significantly higher incidence in men. Outcomes align with international data: early-stage disease has a significantly better prognosis. In our study, Women presented at earlier age compared to men. Worse outcome was found for men. Most patients were treated with radiotherapy and chemotherapy. Where possible, surgery combined with adjuvant therapy is applied.

KEYWORDS

Carcinoma, Hypopharynx, Care, Montenegro

PP-097

Parapharyngeal Neuroendocrine Carcinoma With Nasopharyngeal Projection - A Rare Case Report

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BACKGROUND & AIM

Small cell neuroendocrine carcinomas (SCNEC) of the ENT region are very rare and highly aggressive tumors, representing less than 1% of cancers of the upper aerodigestive tract.

The aim of our publication is to review a case of SCNEC with a parapharyngeal location and nasopharyngeal projection, highlighting the diagnostic challenges and the therapeutic management strategies involved.

MATERIAL & METHODS

This was a 40-year-old man with no significant past medical history, who presented with severe, chronic, sleep-disturbing right-sided headaches that had been evolving over several months, associated with ipsilateral facial hypoesthesia and dysgeusia.

A thorough clinical examination, craniofacial MRI, and biopsy followed by histopathological analysis were performed.

RESULTS

Clinical examination, guided by the purely unilateral neurological symptomatology, prompted evaluation of the nasopharynx. Nasofibroscopy revealed a smooth juxtachoanal bulging of the right lateral wall of the nasopharynx.

Craniofacial MRI showed a large mass involving the right infratemporal and parapharyngeal fossae, with low T1 and moderately high T2 signal intensity, diffusion restriction, and homogeneous gadolinium enhancement. The lesion infiltrated the pterygoid muscles and deep lobe of the parotid gland, encased the internal carotid artery, and extended to the pterygopalatine fossa and Meckel's cave.

Endoscopic biopsy of the lateral nasopharyngeal submucosal mass was performed under general anesthesia.

Histopathological and immunohistochemical analysis confirmed small-cell neuroendocrine carcinoma with a Ki-67 index of 80%, strong CD56 expression, and negative chromogranin A and synaptophysin staining.

Staging workup, including thoraco-abdomino-pelvic computed tomography and bone scintigraphy, revealed hepatic metastases without thoracic involvement.

Follow-up MRI demonstrated loco-regional tumor progression despite the introduction of appropriately administered systemic chemotherapy.

CONCLUSIONS

Head and neck small-cell neuroendocrine carcinomas are rare tumors with a poor prognosis, characterized by aggressive loco-regional behavior and a high metastatic potential.

This case highlights the importance of rigorous histopathological diagnosis, comprehensive staging workup, and multidisciplinary management.

The poor response to chemotherapy underscores the need to develop new therapeutic strategies tailored to these rare entities.

KEYWORDS

Neuroendocrine carcinoma, Nasopharynx, Tumor aggressiveness, Metastases

PP-098

Fatal Emphysematous Tonsillopharyngitis With Laryngocele Involvement Revealing Acute Myeloid Leukemia M5 Subtype: A Previously Undescribed Presentation

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BACKGROUND & AIM

Emphysematous infections in the tonsillopharyngeal area are exceptionally unique; this type of infection occurs in immuno-compromised patients. Extramedullary disease can occur in acute myeloid leukemia (AML), but oropharyngeal involvementis rare and diagnostically challenging. Furthermore, a laryngocele is defined as an abnormal dilation of the laryngeal sacculethat is filled with air and fluid if infected. Although infections and cancers rarely extend to the laryngocele, they can be foundin patients with laryngeal or hypopharyngeal cancer.

MATERIAL & METHODS

We describe a 65-year-old male presenting with progressive sore throat,halitosis, and airway compromise. Contrast-enhanced computed tomography demonstrated bilateral emphysematous tonsillitiswith parapharyngeal extension, severe supraglottic narrowing, and rare secondary involvement of a laryngocele.

RESULTS

This case highlights an important diagnostic principle: Atypicalgas-forming infections of the upper aerodigestive tract shouldprompt evaluation for underlying hematologic malignancy,particularly when accompanied by cytopenias or abnormal leu-kocyte counts. Early recognition may alter airway planning, an-timicrobial selection, and oncologic management

CONCLUSIONS

The present case illustrates an exceptionally rare and fulminantpresentation of a sequela of AML-related emphysematous tonsil-litis with rapid progression into a life-threatening laryngocele,emphasizing the immunocompromised sequela of AML-relatedand expanding the spectrum of extramedullary AML manifesta-tions in cases of severe deep head and neck infections

KEYWORDS
: acute myeloid leukemia | airway compromise | computed tomography | emphysematous tonsillopharyngitis | extramedullary leukemic infiltration | gas-forming infection | laryngocele

PP-099

Systemic Inflammatory Parameters In Pleomorphic Adenoma And Warthin Tumor Of The Parotid Gland: A Retrospective Study

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BACKGROUND & AIM

This study aims to compare systemic immunological and inflammatory parameters — including the systemic immune-inflammatory index (SIII), systemic inflammation response index (SIRI), neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), and lymphocyte-to-monocyte ratio (LMR) — between patients with pleomorphic adenoma, Warthin tumor, and healthy controls, and to investigate the potential role of these inflammatory factors in the pathogenesis of the most common benign parotid tumors.

MATERIAL & METHODS

Sociodemographic data (age, gender, smoking status), systemic immune inflammatory index (SIII), systemic inflammation response index (SIRI), neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), and lymphocyte-to-monocyte ratio (LMR) were compared. The study included data from 174 patients who underwent parotidectomy and 42 healthy patients without parotid masses as the control group. The patients' demographic data, preoperative blood count values, and postoperative pathology results were evaluated.

RESULTS

The study included 137 men and 79 women (216 individuals total), of whom 42 had no parotid pathology. Pleomorphic adenoma was detected in 91 patients and Warthin tumor in 83. SIII was higher in pleomorphic adenoma compared to the control group ($p=0.037$), PLR was higher in pleomorphic adenoma compared to Warthin tumor ($p=0.021$), and SIRI was higher in Warthin tumor compared to the control group ($p=0.012$). NLR and LMR showed no statistically significant differences. Six multinomial logistic regression models were constructed using demographic data, inflammatory markers, and blood values in various combinations. Age and female gender were significant predictors of pleomorphic adenoma, while age and elevated lymphocyte count were significant for Warthin tumor ($p<0.001$, Nagelkerke $R^2=0.645$). SIRI was identified as a supportive diagnostic marker for Warthin tumor ($p=0.012$, Nagelkerke $R^2=0.124$).

CONCLUSIONS

While inflammatory markers alone are significant in the preoperative evaluation of pleomorphic adenoma and Warthin tumor —the most common benign parotid tumors—the reliability of this assessment decreases when inflammatory markers are evaluated in conjunction with demographic data. Further studies are needed to assess the impact of demographic data (age, smoking status, gender) on inflammatory markers.

KEYWORDS

pleomorphic adenoma, Warthin tumor, parotid neoplasm, parotidectomy, systemic immune inflammatory index (SIII), systemic inflammatory response index (SIRI), neutrophil-to-lymphocyte ratio (NLR), lymphocyte-to-monocyte ratio (LMR), platelet-to-lymphocyte ratio (PLR)

PP-100

ONE SESSION, TWO SIDES: SIMULTANEOUS BILATERAL PARTIAL PAROTIDECTOMY FOR BILATERAL PAROTID MASSES

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BACKGROUND & AIM

Bilateral parotid masses are rare in clinical practice, and their surgical management remains controversial. Simultaneous bilateral parotidectomy in a single session is generally avoided due to the risk of bilateral facial nerve injury and postoperative complications. This case report aims to evaluate the efficacy, complications, and surgical outcomes of simultaneous bilateral partial parotidectomy performed in a single session.

MATERIAL & METHODS

A 52 year old male patient with no known comorbidities presented with a one month history of neck swelling.Ultrasonography revealed a 27x18 mm thick cortex lesion in the inferior pole of the right parotid gland. In the left parotid gland, multiple lymph nodes were observed, the largest measuring 15x7.5 mm.Contrast-enhanced neck MRI demonstrated an approximately 20 mm lesion in the right parotid gland with peripheral enhancement and central cystic/necrotic areas, along with adjacent nodular

structures.Fine needle aspiration biopsy of both parotid glands was reported as bilateral Warthin tumor.The patient underwent simultaneous bilateral partial parotidectomy with mass excision in a single session.

RESULTS

Histopathological examination revealed; Lymphoepithelial cyst in the right parotid gland and Multifocal Warthin tumor in the left parotid gland.On postoperative day 0, the patient developed House-Brackmann (HB) Grade V facial paralysis on the left side. Intravenous prednisolone (1 mg/kg) therapy was initiated and tapered over 10 days.After discharge, the patient continued rehabilitation under the guidance of the Physical Therapy Department.On postoperative day 8, the patient presented with swelling in the left parotid region, which was consistent with a seroma. The seroma was drained and managed with pressure dressing.By postoperative day 18, the seroma had completely resolved.At the 6 month follow up, complete recovery of facial nerve function was observed.

CONCLUSIONS

Simultaneous bilateral partial parotidectomy in a single session may be a safe and effective surgical option in selected patients when combined with appropriate patient selection and intraoperative facial nerve monitoring.A single stage surgical approach eliminates the need for a second operation, reduces repeated exposure to anesthesia, and shortens the overall treatment course.However, careful postoperative monitoring is essential due to the risk of complications such as facial nerve paralysis, seroma, and hematoma following bilateral surgery.

KEYWORDS

Bilateral partial parotidectomy, Warthin tumor, Facial nerve, Lymphoepithelial cyst

PP-101

Impact Of Radiofrequency Ablation For Thyroid Nodules On Voice Quality

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BACKGROUND & AIM

Thyroid nodules are a common endocrine disorder. While most are benign, an increase in size can lead to compressive symptoms or voice changes. Radiofrequency Ablation (RFA) has become increasingly widely used in clinical practice as a minimally invasive treatment that does not require general anesthesia. Previous literature indicates that the overall incidence of voice changes following RFA is approximately 1.44%; however, studies focusing on both subjective and objective voice analysis remain relatively limited. This study aims to evaluate changes in voice parameters after RFA through speech analysis to explore its safety and potential for improvement.

MATERIAL & METHODS

This study retrospectively enrolled patients with thyroid nodules who underwent RFA treatment. Voice assessments were conducted pre-treatment and at three months post-treatment. The voice analysis included objective parameters—such as Jitter, Shimmer, and Noise-to-Harmonic Ratio (NHR)—and subjective assessment tools, including the GRBAS scale and the Voice Handicap Index-10 (VHI-10), to capture changes in voice quality before and after the procedure.

RESULTS

This study enrolled 17 patients with thyroid nodules (8 solitary, 9 multinodular). RFA primarily targeted the largest nodules, achieving a 74% average volume reduction at the 3-month follow-up (from 11.08 ml to 2.89 ml). Subjective analysis showed no significant differences in GRBAS sub-scores or VHI-10 ($p = 0.109$). In objective analysis, Jitter (2.46% to 2.22%, $p = 0.109$) and Shimmer (6.56% to 5.64%, $p = 0.107$) remained stable. Notably, NHR significantly improved from 0.21 to 0.19 ($p = 0.031$). Overall, voice performance did not deteriorate, and the incidence of vocal cord paralysis was extremely low.

CONCLUSIONS

Radiofrequency Ablation is a safe, low-risk treatment option for thyroid nodules with the advantage of preserving voice quality. Voice analysis tools serve as an important clinical basis for evaluating vocal changes before and after treatment. Future large-scale prospective studies targeting specific nodule types are warranted.

KEYWORDS

Radiofrequency Ablation (RFA) , Voice Analysis

PP-102

A Rare Cervical Foregut Duplication Cyst Mimicking Lesion In An Adolescent: Diagnostic Dilemma Between Foregut Duplication Cyst And Dermoid Cyst

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BACKGROUND & AIM

Foregut duplication cysts are rare congenital malformations of the embryonic foregut, most commonly located in the thoracic and abdominal regions. Cervical localization is exceedingly uncommon and represents a significant diagnostic challenge, as

their presentation may mimic other cervical cystic lesions including dermoid cysts, ranula, lymphatic malformations, branchial cleft cysts, and thyroglossal duct cysts. Definitive diagnosis frequently requires histopathological confirmation. We present a rare case of a large submental and sublingual cystic lesion in an adolescent male, radiologically interpreted as a foregut duplication cyst but ultimately diagnosed as a dermoid cyst, highlighting the diagnostic dilemmas and surgical considerations.

MATERIAL & METHODS

An 18-year-old male presented with a one-year history of left submandibular swelling, progressively enlarging over the past 2–3 months. Neck ultrasonography demonstrated a deep, well-defined, mildly lobulated, semi-cystic/semi-solid echogenic mass measuring 60 × 55 × 30 mm in the submental subcutaneous region, with no significant vascularity on color Doppler. Contrast-enhanced neck MRI revealed a T2-hyperintense, non-enhancing cystic lesion in the left sublingual space extending caudally toward the submental midline, measuring 60 × 47 mm in maximal axial dimension, with mass effect narrowing the airway column and left epiglottic vallecula. Neuroradiological interpretation favored a foregut duplication cyst. The patient underwent transcervical excision via a 10 cm horizontal incision from the left submandibular region to the submental midline. After dissection through the platysma and mylohyoid muscle, the cyst was identified deep to the suprahyoid musculature, without communication with the floor of the mouth, and excised en bloc with its tract.

RESULTS

The procedure was completed without intraoperative complications. The lesion was successfully removed in its entirety, with preservation of surrounding neurovascular and muscular structures. The postoperative course was uneventful, with no airway compromise, hematoma, infection, or wound-healing complications. Despite the strong preoperative radiological suspicion of a foregut duplication cyst supported by characteristic MRI features—T2 hyperintensity, absence of contrast enhancement, and characteristic location in the sublingual and submental spaces—histopathological examination of the excised specimen revealed findings consistent with a dermoid cyst. This unexpected discrepancy between radiological and pathological diagnoses underscores the overlap of imaging features among congenital cervical cystic lesions. The patient was discharged in good clinical condition and remained free of recurrence on follow-up, with no functional deficit, no swallowing difficulty, and a satisfactory cosmetic outcome from the cervical incision.

CONCLUSIONS

Cystic lesions of the submental and sublingual region pose a significant diagnostic challenge due to overlapping radiological features. Although MRI strongly suggested a foregut duplication cyst, the definitive diagnosis was dermoid cyst, illustrating that imaging alone may be insufficient for characterization of cervical cystic masses. A broad differential including foregut duplication cyst, dermoid cyst, ranula, lymphatic malformation, branchial cleft cyst, and thyroglossal duct cyst should be considered. Complete transcervical en bloc excision with histopathological confirmation remains the gold standard, particularly in lesions causing airway compromise. Otolaryngologists should be aware of potential discrepancies between radiological and pathological diagnoses.

KEYWORDS

foregut duplication cyst; dermoid cyst; cervical cystic mass; submental swelling; sublingual space; differential diagnosis.

PP-103

Biweekly Cetuximab-Docetaxel In Advanced Head And Neck Cancer Patients With Intermediate Performance Status

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BACKGROUND & AIM

Taxane-cetuximab combinations are commonly used in advanced head and neck cancer (HNC) in daily clinical practice. We evaluated the efficacy and safety of biweekly cetuximab-docetaxel in patients with intermediate performance status treated at our institution.

MATERIAL & METHODS

We retrospectively analyzed patients with advanced HNC treated between January 2010 and December 2019 with cetuximab 500 mg/m² plus docetaxel 50 mg/m² every two weeks. Clinical data were obtained from medical records. Progression-free survival (PFS), overall survival (OS), response rate, and toxicity were assessed.

RESULTS

Fifty-eight patients were included, with a median age of 64.5 years and a marked male predominance. Most tumors originated in the larynx and oropharynx, and squamous cell carcinoma represented the vast majority of cases. At treatment initiation, over two-thirds of patients had metastatic disease. The median number of treatment cycles administered was four. Treatment-related toxicity occurred in 79.3% of patients, with grade 3–4 adverse events in 28.3%. Non-hematologic toxicity, mainly cetuximab-related cutaneous reactions, was more frequent than hematologic toxicity. The overall response rate was 24.1%, while 39.7% of patients achieved stable disease. Median progression-free survival was 4 months and median overall survival was 9 months. Interestingly, patients who developed treatment-related toxicity demonstrated significantly better outcomes,

with improved progression-free and overall survival compared with patients without toxicity. Non-hematologic toxicity was particularly associated with prolonged survival, suggesting a possible relationship between treatment activity and clinical benefit.

CONCLUSIONS

Biweekly cetuximab-docetaxel demonstrated manageable toxicity and clinically meaningful activity in frail patients with advanced HNC and ECOG 2 in real-world practice. The development of treatment-related toxicity may correlate with improved survival outcomes.

KEYWORDS

Biweekly cetuximab-docetaxel; advanced HNC; ECOG 2

PP-104

Epithelioid Hemangioendothelioma Localized In The Left Neck: A Challenging Diagnosis

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BACKGROUND & AIM

Epithelioid hemangioendothelioma (EHE) is an extraordinarily rare vascular sarcoma with a prevalence less than 1 in 1,000,000, occurring even less frequently in the pediatric population. While generally localized in the extremities, liver, or lungs, its manifestation in the head and neck region is exceptionally rare, and it mimics inflammatory or infectious processes, leading to diagnostic delays.

MATERIAL & METHODS

An seventeen-year-old female patient presented with a rapidly progressing, painful left-sided, fixed neck mass. Empirical intravenous antibiotherapy regimens at external centers were ineffective. After ruling out various infectious etiologies, she received anti-tuberculosis therapy for six months, which also proved ineffective. Subsequent excisional biopsies were unfeasible and the following incisional biopsy, along with fine needle aspiration biopsies, remained non-diagnostic. After the emergence of a new, tender left-sided lymphadenopathy alongside the fixed mass, a repeat position emission tomography obtained upon referral to our clinic revealed a heterogeneous posterior cervical mass with vertebral expansion but no distant metastasis. Following multidisciplinary oncology board consensus, surgical exploration was performed, achieving excision of the Level II lymph node and a wedge resection of the Level V mass.

RESULTS

The Level II lymph node was benign, but histopathological analysis of the Level V specimen revealed a CAMTA1-positive epithelioid hemangioendothelioma. Magnetic resonance imaging showed tumor extension into the parapharyngeal space with contrast enhancement of the carotid sheath and paraspinal/occipital muscle invasion. Deemed completely unresectable with clear margins, the patient was referred to pediatric oncology. Treatment with sirolimus was initiated, resulting in a favorable clinical response at start and relief of the symptoms. Unfortunately, the symptoms recurred during the course due to expansion of the mass in the contralateral paraspinal and occipital muscles.

CONCLUSIONS

This diagnostic challenge highlights EHE's rarity and clinical overlap with mesenchymal tumors or granulomatous infections, which impede early recognition. An adequate tissue biopsy essential for morphological and immunohistochemical differentiation. While complete en bloc resection is standard treatment for unifocal EHE, it was unfeasible here due to extensive local invasion. The absence of standardized protocols poses difficulty in treatment of unresectable/advanced disease. Consequently, medical therapy with sirolimus was utilized in accordance with the decision of the head & neck board, which underscores the necessity of a tailored, multidisciplinary approach at every stage of EHE management.

KEYWORDS

epithelioid hemangioendothelioma, tuberculosis, head and neck surgery

PP-105

A Case Of Cervical Necrotising Fasciitis Precipitated By Hypopharyngeal Squamous Cell Carcinoma

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BACKGROUND & AIM

Cervical necrotising fasciitis (CNF) is a rare but life-threatening soft tissue infection of the head and neck, associated with high morbidity and mortality despite advances in disease detection and antimicrobial therapy. It most commonly arises from odontogenic or pharyngeal sources, and presentation secondary to underlying head and neck malignancy is uncommon.

MATERIAL & METHODS

We report the case of a 54 year old female who presented with rapidly progressive anterior neck swelling, subcutaneous emphysema, and septic shock. Cross-sectional imaging demonstrated extensive gas-forming infection involving multiple

cervical fascial planes with mediastinal extension. The patient underwent radical surgical debridement, left hemithyroidectomy, and thoracic washout for descending mediastinitis. Intraoperative laryngoscopy revealed ulcerated mucosa in the left pyriform fossa, with biopsy confirming moderately differentiated squamous cell carcinoma. Despite broad-spectrum antimicrobial therapy, intensive care support and multidisciplinary management, the patient developed refractory septic shock and died five days following admission.

RESULTS

This case represents a rare presentation of CNF arising secondary to an occult oropharyngeal squamous cell carcinoma. Tumour-associated mucosal breach and local tissue invasion likely facilitated bacterial spread into deep cervical spaces. The presence of mediastinal extension, septic shock, and underlying malignancy contributed to the poor prognosis despite timely surgical intervention.

CONCLUSIONS

CNF may represent a first manifestation of head and neck malignancy. In the absence of an identifiable odontogenic or traumatic source, clinicians should maintain a high index of suspicion for underlying malignancy. Early recognition, prompt surgical management, and multidisciplinary care remain cornerstones in management of CNF, although outcomes remain poor in advanced disease.

KEYWORDS

Necrotising fasciitis; SCC; squamous cell carcinoma; mediastinitis; cervical necrotising fasciitis; necrotizing fasciitis

PP-106

Multifactorial Dysphagia In Carotid Body Paraganglioma Accompanying Multinodular Goiter: Neural And Compressive Mechanisms

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BACKGROUND & AIM

Dysphagia is a non-specific but clinically important symptom in head and neck pathologies. It may result from mechanical compression, neurogenic dysfunction, or both. Carotid body paragangliomas are rare neuroendocrine tumors that may present with compressive symptoms or cranial nerve involvement, particularly affecting the vagus nerve. In addition, coexisting thyroid pathologies such as multinodular goiter may further contribute to swallowing dysfunction. This study aims to present a case of multifactorial dysphagia caused by carotid body paraganglioma and multinodular goiter, and to discuss underlying mechanisms.

MATERIAL & METHODS

A 53-year-old female patient presenting with neck swelling and dysphagia was evaluated. Clinical examination, endoscopic assessment, ultrasonography, MRI, CT angiography, fine needle aspiration biopsy, and intraoperative findings were retrospectively analyzed.

RESULTS

The patient presented with a 3-month history of dysphagia and neck swelling. MRI and CT angiography revealed a hypervascular mass measuring approximately 27×33 mm at the right carotid bifurcation, consistent with carotid body paraganglioma, and a contralateral smaller lesion. Thyroid ultrasonography demonstrated multinodular goiter, and fine needle aspiration biopsy was benign (Bethesda II).

The patient underwent total thyroidectomy and right carotid body tumor excision with intraoperative neuromonitoring. Histopathology confirmed carotid body paraganglioma with a GAPP score of 4 (moderately differentiated) and multinodular colloid goiter.

Postoperatively, dysphagia resolved completely, and no cranial nerve dysfunction or residual disease was observed during follow-up.

CONCLUSIONS

Dysphagia in patients with carotid body paraganglioma may result from a combination of neurogenic mechanisms (vagal involvement) and mechanical compression. Coexisting thyroid enlargement may further exacerbate symptoms. A comprehensive multidisciplinary evaluation is essential for accurate diagnosis and effective surgical management.

KEYWORDS

Dysphagia, Carotid body paraganglioma, Vagus nerve, Multinodular goiter, Neck mass

PP-107

Management Of A Giant Plunging Ranula With Transcervical Extension: A Case Report

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BACKGROUND & AIM

Ranula is a mucus extravasation pseudocyst arising predominantly from the sublingual gland. Plunging ranula is a less common variant characterized by extension beyond the mylohyoid muscle into the cervical spaces. Due to its rarity and variable presentation, diagnosis and management may be challenging.

MATERIAL & METHODS

25 years old female patient was admitted to our ENT clinic one month ago. Physical examination demonstrated a soft, fluctuant cervical mass and a bluish translucent swelling in the floor of the mouth extended to the neck. She has been complaining about the growing mass swelling under the chin and neck for two years. She also complain about dysfagia and difficulty in speaking. No cervical lymphadenopathy or signs of infection were observed. Magnetic resonance imaging revealed a cystic lesion originating from the sublingual space with extension through the mylohyoid muscle into the neck, consistent with plunging ranula. The lesion appeared hyperintense on T2-weighted images and showed no significant contrast enhancement. The characteristic “tail sign” supported the diagnosis of plunging ranula. The patient underwent total excision of the sublingual gland and evacuation of the giant ranula. Histopathological examination was ranula.

RESULTS

We present a case of giant plunging ranula with transcervical extension successfully managed through an cervical surgical approach. No complication was occurred.

CONCLUSIONS

Plunging ranula is a rare but important differential diagnosis of cystic cervical swelling in young patients. Comprehensive clinical and radiological evaluation is necessary for accurate diagnosis. Surgical excision of the affected sublingual gland via an intraoral or cervical approach remains the preferred treatment strategy for preventing recurrence.

KEYWORDS

Plunging ranula, Sublingual gland, Cervical swelling, Oral cyst, Otolaryngology

PP-108

A Diagnostic Challenge In The Oral Cavity: Extranodal Follicular Lymphoma Of The Hard Palate Mimicking An Inflammatory Ulcer

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BACKGROUND & AIM

Extranodal follicular lymphoma of the hard palate is an exceptionally rare clinical entity that often mimics benign inflammatory ulcers or salivary gland tumors, leading to significant diagnostic challenges. The objective of this report is to present a rare case of palatal follicular lymphoma and to emphasize the critical importance of deep tissue biopsy and high clinical suspicion in preventing diagnostic delays for oropharyngeal ulcerative lesions.

MATERIAL & METHODS

A retrospective clinical and pathological analysis was conducted for a 44-year-old male patient presenting with a persistent palatal ulcer. The diagnostic workup included a detailed physical examination, multiple incisional biopsies, and histopathological evaluation with immunohistochemical staining (CD20). Systematic staging was performed using PET-CT imaging to assess extranodal involvement. Clinical data, radiologic findings, and the subsequent treatment plan were reviewed in accordance with the principles of the Declaration of Helsinki

RESULTS

Clinical evaluation revealed a 3x2 cm ulcerative mass involving the left hard palate and extending to the hard-soft palate junction. While the initial superficial biopsy was non-diagnostic, a subsequent deep re-biopsy confirmed the diagnosis of Follicular Lymphoma with CD20 positivity. PET-CT imaging identified a 39x25 mm hypermetabolic primary lesion in the palate, accompanied by hypermetabolic bilateral cervical lymphadenopathy at Levels 1b, 2a, and 2b. No distant organ involvement was detected. Based on these findings, the patient was diagnosed with Stage IIB extranodal follicular lymphoma. Following the definitive diagnosis, the patient was successfully referred to the hematology department, where a treatment protocol consisting of R-CHOP chemotherapy was initiated.

CONCLUSIONS

In conclusion, extranodal follicular lymphoma of the hard palate is a rare but significant diagnostic consideration for persistent oral ulcers. This case underscores the high risk of diagnostic failure associated with superficial biopsies in malignancies of the minor salivary glands or lymphoid tissues. Clinicians must maintain a high index of suspicion and perform deep tissue sampling when clinical findings suggest malignancy. Furthermore, accurate staging via PET-CT is essential for determining the systemic extent of the disease and initiating appropriate chemo-immunotherapy protocols

KEYWORDS

Follicular Lymphoma , Hard Palate , Extranodal Lymphoma , Oral Cavity Malignancies , Diagnostic Pitfall , Deep Biopsy

PP-109

A RARE CASE: ILLIAC WING SYNOVIAL SARCOMA WITH MASSIVE NECK METASTASIS

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BACKGROUND & AIM

Synovial sarcoma (SS) accounts for approximately 5–10% of all soft tissue sarcomas and most commonly arises in the lower extremities. Involvement of the head and neck region is rare, and metastatic spread to this region is even less frequently reported. Cases with simultaneous iliac origin and metastases to both the lungs and cervical region are exceedingly uncommon. This study aims to present a rare case of SS with an unusual metastatic pattern and to highlight diagnostic and therapeutic challenges. We hypothesize that early imaging and histopathological evaluation are critical for accurate diagnosis in atypical presentations.

MATERIAL & METHODS

A 38-year-old male presented with swelling on the right side of the neck. Physical examination revealed a 17X6 cm mass in the right cervical region. USG, CT AND MRI were performed to evaluate the lesion. PET-CT demonstrated a hypermetabolic mass in the right cervical region, a lesion in the left iliac wing and multiple pulmonary nodules. Tru-cut biopsies were obtained from both the cervical mass and pulmonary nodules. Histopathological examination confirmed spindle cell type synovial sarcoma. Due to the extent and location of the tumor, surgical resection was not feasible. The patient was referred for chemotherapy and treatment with ifosfamide and doxorubicin was initiated.

RESULTS

Imaging revealed extensive metastatic disease involving the cervical region, lungs, and iliac bone. Histopathological findings confirmed the diagnosis of synovial sarcoma. Due to advanced disease, surgical intervention was not performed, and systemic therapy was initiated.

CONCLUSIONS

Synovial sarcoma is an aggressive malignancy that may present with metastatic patterns. This case emphasizes the importance of comprehensive imaging and biopsy in diagnosing atypical presentations. While surgery remains the mainstay of treatment, it may not be feasible in advanced cases, where chemotherapy and radiotherapy play a crucial role. Despite multimodal treatment, prognosis remains poor in metastatic disease.

KEYWORDS

synovial sarcoma with neck metastasis

PP-110

A Rare Nasal Tip Sebaceous Carcinoma Masquerading As Basal Cell Carcinoma: Case Report

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BACKGROUND & AIM

Sebaceous carcinoma is a rare adnexal malignancy with aggressive potential, most commonly arising in the periocular region. Extraocular localization at the nasal tip is extremely uncommon and may clinically and histopathologically mimic basal cell carcinoma (BCC), leading to diagnostic pitfalls. We present a rare case of nasal tip sebaceous carcinoma initially diagnosed as BCC and discuss its multidisciplinary management and short-term oncologic outcome.

MATERIAL & METHODS

A 79-year-old woman presented with a 2×2 cm nodular lesion on the nasal tip without palpable regional lymphadenopathy. Incisional biopsy was reported as BCC. The lesion was excised with approximately 5-mm clinical margins, and reconstruction was performed using a superiorly based nasolabial flap. Final histopathology revealed sebaceous carcinoma characterized by atypical basaloid cells with sebaceous differentiation. The deep surgical margin was 2 mm, while all other margins were ≥5 mm. No perineural or lymphovascular invasion was identified.

RESULTS

Given the close deep margin and the reconstructive limitations for re-excision, the case was evaluated by a multidisciplinary head and neck tumor board. Adjuvant radiotherapy was recommended and completed without major complications. During more than one year of follow-up, no evidence of local recurrence, regional lymph node metastasis, or distant spread has been observed.

CONCLUSIONS

Sebaceous carcinoma of the nasal tip is rare and may closely resemble BCC both clinically and on limited biopsy specimens. Accurate diagnosis requires thorough histopathological evaluation. In cases with close surgical margins where re-excision is not feasible, adjuvant radiotherapy is a valid option. Careful long-term follow-up is essential due to the tumor's potential for recurrence and metastasis. This case highlights the importance of multidisciplinary decision-making in managing rare nasal malignancies.

KEYWORDS
Sebaceous carcinoma, basal cell carcinoma,adnexal malignancy

PP-111

Transoral Endoscopic Diverticulotomy For Neopharyngeal Pseudodiverticulum After Total Laryngectomy With Free-Flap Reconstruction: A Case Series

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BACKGROUND & AIM

Dysphagia is a frequent complication after total laryngectomy, affecting approximately 17%–72% of patients, with even higher rates in the salvage setting. One recognized cause is a neopharyngeal pseudodiverticulum—an outpouching of the neopharynx—which may be asymptomatic or associated with dysphagia and regurgitation and is more commonly reported after primary pharyngeal closure. In contrast, pseudodiverticulum following TL with free-flap reconstruction has been only sparsely described, resulting in limited guidance for management in this population, despite the significant impact of dysphagia on quality of life. We report a case series of patients with symptomatic pseudodiverticulum who reported early symptomatic relief following transoral lysis.

MATERIAL & METHODS

This is a single-center case series of three patients undergoing transoral endoscopic-associated lysis of a pseudodiverticulum using a stapler. All patients had previously undergone a TL with free flap reconstruction. All patients underwent a preoperative modified barium swallow study (MBS) to confirm the diagnosis. Under general anesthesia, diverticulotomy was performed transorally under direct laryngoscopy and suspension using a modified 45-mm endoscopic stapler to divide the pseudodiverticular septum and reestablish a linear neopharyngeal lumen. Perioperative and postoperative data were collected, including operative details, intraoperative photo and video documentation, and available pre- and post-intervention swallowing assessments. Patient-reported swallowing-related quality of life was assessed when available using the MD Anderson Dysphagia Inventory (MDADI) global and composite scores.

RESULTS

Two males and one female were included with a mean age of 73 years (range, 66–80). Indications for TL were advanced laryngeal squamous cell carcinoma in two patients and oncocytic thyroid carcinoma with laryngeal structural invasion in the third. Reconstruction consisted of primary pharyngeal closure with overlay free-flap reinforcement in two patients (anterolateral thigh and vastus lateralis free flaps) and circumferential pharyngoesophageal reconstruction with an ulnar artery perforator flap in one patient. The mean interval from TL to pseudodiverticulum diagnosis was 51.8 weeks (range, 25.7–70.9), and mean pseudodiverticular depth was 2.3 cm (range, 1.6–3.0). Available MDADI data included pre-diverticulotomy assessments in two patients (global 90 [range, 80–100]; composite 66.84 [range, 61.05–72.63]) and a post-diverticulotomy assessment in one patient (global 80; composite 73.68). There were no perioperative complications, and all patients reported immediate symptom relief and same-day discharge.

CONCLUSIONS

Neopharyngeal pseudodiverticulum is a potentially debilitating structural cause of dysphagia and regurgitation after TL. In cases where symptoms result primarily from bolus trapping, open revision surgery may be excessively morbid. In this case series, transoral endoscopic diverticulotomy was feasible, safe, and associated with immediate symptom relief, suggesting it may be considered early in appropriately selected patients.

KEYWORDS

Total laryngectomy, Free-flap reconstruction, Dysphagia, Swallowing outcomes, Pseudodiverticulum

PP-112

Ganglioneuroma Of The Parapharyngeal Space: A Rare Case Report

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BACKGROUND & AIM

Parapharyngeal space tumors are rare among head and neck neoplasms. This case report aims to present a rare case of ganglioneuroma located in the parapharyngeal space and to contribute to the literature.

MATERIAL & METHODS

Case Presentation: A 70-year-old male patient presented with a progressively enlarging swelling on the right side of the neck for approximately 10 years. On physical examination, a firm and fixed mass measuring 4 × 2 cm was palpated in the right upper neck at level II. Laboratory tests were within normal limits.

Magnetic resonance imaging and computed tomography angiography revealed a well-circumscribed heterogeneous mass adjacent to the deep lobe of the right parotid gland. The lesion displaced the internal and external carotid arteries. The initial biopsy suggested a malignant mesenchymal tumor; however, the specimen was insufficient for a definitive diagnosis.

RESULTS

Following complete surgical excision, histopathological examination revealed findings consistent with ganglioneuroma. Immunohistochemical staining showed positivity for S100 and synaptophysin in both stromal Schwann cells and ganglion cells. The final histopathological diagnosis was reported as ganglioneuroma

CONCLUSIONS

Ganglioneuroma should be considered in the differential diagnosis of masses located in the parapharyngeal space. Surgical excision is important for preventing complications and establishing a definitive diagnosis.

KEYWORDS

Parapharyngeal space, ganglioneuroma, head and neck masses

PP-113

Atypical Origin And Extension Pattern Of Nasopharyngeal Squamous Cell Carcinoma Presenting With Abducens Nerve Palsy

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BACKGROUND & AIM

Nasopharyngeal carcinoma (NPC) typically arises from the lateral wall of the nasopharynx, most commonly the fossa of Rosenmüller. Tumors originating from atypical locations are rare and may mimic sinonasal malignancies, leading to diagnostic challenges.

MATERIAL & METHODS

Case Presentation:We report a 57-year-old male presenting with diplopia and isolated left abducens nerve palsy. Physical examination revealed a 5 × 5 cm left level II cervical lymphadenopathy. Endoscopic evaluation demonstrated a mass arising from the posterior nasal septum with extension into the nasopharynx, without involvement of the fossa of Rosenmüller. Imaging revealed skull base invasion and sphenoid sinus involvement. Histopathological analysis confirmed keratinizing squamous cell carcinoma (WHO Type I). The tumor was staged as T4 according to the TNM classification.

RESULTS

Atypical presentations of NPC may arise from non-classical anatomical sites and mimic other sinonasal malignancies. Cranial nerve palsies indicate advanced disease and are associated with skull base involvement and poorer prognosis. Recognition of such unusual presentations is essential to avoid diagnostic delay.

CONCLUSIONS

NPC should be included in the differential diagnosis of posterior nasal septal masses, particularly in patients presenting with cranial nerve deficits and cervical lymphadenopathy. Early recognition of atypical presentations is critical for timely diagnosis and appropriate multidisciplinary management.

KEYWORDS

Nasopharynyx carsinoma, abducens palsy, nasal septum, neck metastasis

PP-114

Giant Pleomorphic Adenoma With Facial Nerve Invasion

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BACKGROUND & AIM

Pleomorphic adenoma is a benign salivary tumor of epithelial and connective tissue origin, primarily affecting the superficial parotid lobe, and occurring more frequently in women. Carcinoma ex pleomorphic adenoma can develop from a primary or recurrent pleomorphic adenoma, accounting for 3.6% of all salivary tumors. Metastatic pleomorphic adenoma is a rare,

histologically benign variant that presents with distant metastases, frequently to the bone, lung, and lymph nodes. Here, we present a rare case pathologically diagnosed as a cellular pleomorphic adenoma but presenting with facial nerve invasion.

MATERIAL & METHODS

A 28-year-old male patient presented to our clinic with a 6 cm mass in the right parotid gland. The patient had a history of operations for recurrent pleomorphic adenoma in the right parotid gland in 2015 and 2017. He presented with right-sided grade 4 facial paralysis and was evaluated as having a recurrent parotid pleomorphic adenoma. During the operation, the tumor in the parotid gland was found to invade the branches of the facial nerve and extend to the skull base in the parapharyngeal space; subsequently, a right total parotidectomy was performed, and the mass was totally excised. Two main branches of the invaded facial nerve were sacrificed; the upper main branch was repaired with an end-to-end anastomosis, while the defect between the lower main branch and the trunk was repaired using a great auricular nerve graft.

RESULTS

Histopathological examination of the excision material was reported as cellular pleomorphic adenoma, with no malignant formation observed. However, the examination showed that the tumor caused perineural invasion of the facial nerve. The patient received postoperative radiotherapy. He has been followed up for 1 year postoperatively without any tumor recurrence, and his facial paralysis has regressed to grade 3 in his current examination.

CONCLUSIONS

Cellular pleomorphic adenomas can rarely cause facial nerve invasion and subsequent facial paralysis despite the complete absence of malignant or atypical cells upon histopathological examination. This presentation highlights a rare clinical entity and emphasizes the critical importance of careful intraoperative management and nerve reconstruction when evaluating recurrent parotid masses.

KEYWORDS

pleomorphic adenoma, parotid, parotidectomy, facial nerve

PP-115

Feasibility Of The Implementation Of A High-Resolution PET/CT Scanner In The Operative Room For Margins Assessment In Head And Neck Cancer

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BACKGROUND & AIM

Intraoperative high-resolution 18F-FDG PET/CT may improve surgical margin assessment in head and neck cancer, particularly during complex procedures requiring flap reconstruction. However, given the prolonged operative times and the large number of staff involved, evaluating occupational radiation exposure is essential, which is the focus of this pilot radiation safety study.

MATERIAL & METHODS

We conducted a prospective, single-center pilot study including ten patients with head and neck squamous cell carcinoma requiring flap reconstruction. Specific radiation protection measures were implemented to limit operating room staff exposure. Each patient received an administered activity of 0.7 MBq/kg. The average radiation dose received per operating room shift was subsequently assessed. We also analyzed the concordance between definitive pathological analysis and high-resolution PET/CT imaging with respect to the margin status on specific, defined axes of the specimen.

RESULTS

The median intervention time was 450 min [240–530].

After normalization to an injected activity of 0.7 MBq/kg, the estimated mean absorbed doses per procedure were 21 µSv (± 6), 19 µSv (± 7), and 11 µSv (± 3) for surgeons, surgical assistants, and instrumenting scrub nurses, respectively. The estimated median absorbed doses per procedure were 23 µSv [7–35], 15 µSv [5–24], and 10 µSv [5–16] for surgeons, surgical assistants, and instrumenting scrub nurses, respectively.

The implementation of specific radiation protection measures resulted in a 25% reduction in radiation exposure among operating room staff. We reached a good concordance on the margin status for each of the analyzed axes between the definitive histological analysis and the high-resolution PET/CT, with a cut-off point set at 20% of the SUV max value.

CONCLUSIONS

In terms of radiation protection, the device appears safe and can easily be transposed to head and neck surgery. While further performance studies are needed before it can be used routinely in clinical practice, this approach is a highly promising method that could potentially transform head and neck surgery. Using this novel tool could significantly improve the precision of surgical procedures, thereby enhancing intraoperative accuracy. Furthermore, the radiation protection strategies proposed in this study could facilitate its wider adoption in future clinical practice.

KEYWORDS

Head and Neck cancer, Positron-Emission Tomography, margins of Excision, surgical oncology, radiation protection

PP-116

Sarcopenic Obesity As A Predictor Of Postoperative Complications Following Total Laryngectomy: A Pilot Cohort Study

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BACKGROUND & AIM

Sarcopenic obesity (SO), defined as low skeletal muscle mass combined with excess adiposity, has been linked to adverse surgical outcomes in various cancers. However, its role in patients undergoing total laryngectomy (TL) for laryngeal cancer remains unclear. The cervical skeletal muscle index (C3-SMI), derived from routine preoperative CT, provides a practical method for body composition assessment. This study aimed to evaluate the association between CT-defined SO and postoperative complications in TL patients and to explore its potential as a preoperative risk stratification marker.

MATERIAL & METHODS

This retrospective cohort study included 100 consecutive patients who underwent total laryngectomy for laryngeal cancer at a single tertiary referral center. Preoperative cervical CT scans were used to quantify skeletal muscle mass at the level of the third cervical vertebra (C3). The cervical skeletal muscle index (C3-SMI) was calculated by normalizing muscle area to height squared. Sarcopenic obesity (SO) was defined as C3-SMI below the cohort median combined with body mass index (BMI) ≥25 kg/m². Patients were categorized into four groups: normal, obesity only, sarcopenia only, and SO. The primary outcome was the occurrence of any postoperative complication. Statistical analyses were performed using Fisher's exact test and the Mann–Whitney U test. A post-hoc power analysis was conducted to estimate the sample size required for a confirmatory study.

RESULTS

Median age was 63 years (IQR 58–67), and the overall postoperative complication rate was 33% (n=33). Sarcopenic obesity (SO) was identified in 15% of patients (n=15). Complication rates were 28% in the normal group, 28% in the obesity-only group, 31% in the sarcopenia-only group, and 53% in the SO group. Patients with SO had a higher complication rate compared to all other groups combined (53% vs 29%; odds ratio 2.74, 95% CI 0.90–8.38; p=0.081), although this did not reach statistical significance. Postoperative complications were associated with significantly prolonged hospital stay (median 17 vs 13 days; p=0.007). Post-hoc power analysis indicated that the current cohort had 42% power, with an estimated sample size of 325–434 patients required for adequate statistical power.

CONCLUSIONS

SO, identifiable from routine preoperative CT without additional cost or imaging, was associated with a clinically meaningful difference in complication rates following TL (OR 2.74), though this did not reach statistical significance in the current pilot cohort. This study establishes effect size estimates and sample size requirements for a definitive multicentre investigation. Preoperative body composition assessment via C3-SMI merits prospective validation as a surgical risk stratification tool in laryngeal cancer.

KEYWORDS

Sarcopenic obesity; total laryngectomy; complication

PP-117

Staged Endovascular Embolization And Surgical Excision Of A Left Subauricular Congenital Arteriovenous Malformation In A Adolescent

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BACKGROUND & AIM

Head and neck arteriovenous malformations (AVMs) are rare congenital high-flow vascular lesions that may present as pulsatile masses and can lead to diagnostic and therapeutic challenges because of their risk of hemorrhage, proximity to critical neurovascular structures, and potential systemic complications. This report aims to present the diagnostic work-up and staged treatment of a congenital cervicofacial AVM in an adolescent patient and to emphasize the importance of angiographic evaluation, multidisciplinary planning, and nerve-preserving surgical management.

MATERIAL & METHODS

A 15-year-old boy presented with a slowly progressive pulsatile left upper neck mass located inferior to the earlobe and present since birth. Doppler ultrasonography and CT angiography were performed, revealing a high-flow vascular lesion consistent with AVM. Biopsy was avoided because of the risk of bleeding. The patient was evaluated by a multidisciplinary team, and staged treatment was planned. Preoperative selective angiography with partial embolization using Onyx was followed by surgical excision one week later.

RESULTS

CT angiography demonstrated multiple dilated tortuous vascular channels extending from the submandibular region to the masticator space, with connections to the jugular vein and the external carotid artery. Selective angiography identified a nidus

measuring approximately 49 × 45 mm, predominantly supplied by the ascending pharyngeal branch of the left external carotid artery, with direct drainage into the jugular vein. More than 50% nidus embolization was achieved without major vascular compromise. During the external carotid artery dissection, hypoglossal nerve was identified and preserved. Anomalous vascular connections to the internal jugular vein and external carotid artery were ligated, resulting in marked reduction of pulsation. Postoperatively, transient marginal mandibular weakness developed and improved during follow-up. At 3 months, pulsation was markedly reduced.

CONCLUSIONS

High-flow cervicofacial AVMs require thorough vascular mapping before intervention, and biopsy or blind excision should be avoided until vascular anatomy is clearly defined. Staged management with preoperative embolization followed by surgical resection can reduce nidus burden, facilitate safer dissection, and improve intraoperative control in selected cases. In subauricular and preauricular lesions, meticulous preservation of adjacent neural structures, particularly the marginal mandibular and hypoglossal nerves, is essential. This case highlights the value of a multidisciplinary approach in minimizing complications and achieving satisfactory early clinical outcomes in complex congenital head and neck AVMs.

KEYWORDS

Neck Neoplasm, Arteriovenous Malformations,Congenital Abnormalities

PP-118

Comparative Evaluation Of TIRADS Score, Bethesda System Cytology, And Histopathology In Diagnosing Thyroid Cancer In Patients With Thyroid Nodules: Systematic Review

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BACKGROUND & AIM

Accurate risk stratification of thyroid nodules is essential for guiding clinical management and surgical decision-making. Ultrasound-based Thyroid Imaging Reporting and Data Systems (TI-RADS) and cytology-based Bethesda classification are the most widely used diagnostic tools for this purpose. Despite their routine use the concordance between TI-RADS categories Bethesda cytology and final histopathological outcomes remains variably reported across the literature leading to uncertainty in preoperative risk assessment. The aim of this systematic review was to evaluate the concordance between TI-RADS Bethesda classification and final histopathology in thyroid nodules.

MATERIAL & METHODS

A systematic review was conducted in accordance with established methodological standards. Studies were included if they evaluated thyroid nodules using ultrasound-based TI-RADS fine-needle aspiration cytology reported according to the Bethesda system and subsequent histopathological diagnosis. Data extracted included study design patient and nodule characteristics diagnostic criteria and reported associations between TI-RADS Bethesda categories and final histopathology. Findings were synthesized qualitatively to assess concordance patterns and diagnostic performance.

RESULTS

Higher TI-RADS categories were consistently associated with increasing Bethesda categories and higher rates of malignancy on final histopathology. Bethesda V and VI categories demonstrated strong concordance with malignant histopathological outcomes while Bethesda III and IV showed variable correlation reflecting diagnostic uncertainty. TI-RADS effectively stratified malignancy risk at both low and high ends of the spectrum although overlap persisted in intermediate-risk categories. Combined interpretation of TI-RADS and Bethesda classifications improved diagnostic confidence compared with either system used independently.

CONCLUSIONS

There is substantial concordance between TI-RADS Bethesda classification and final histopathology particularly in low- and high-risk thyroid nodules. However notable discordance persists in intermediate-risk categories (III and IV) highlighting the limitations of single-modality assessment. Integrated use of ultrasound and cytological findings remains essential for optimal thyroid nodule risk stratification and clinical decision-making.

KEYWORDS

TIRADS: Thyroid Imaging Reporting and Data System.

PP-119

A Rare Case Of Unilateral Seronegative Igg4-Related Sialadenitis Presenting As A Submandibular Tumor

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BACKGROUND & AIM

Immunoglobulin G4-related disease (IgG4-RD) is a rare systemic fibroinflammatory condition characterized by a dense lymphoplasmacytic infiltrate and tissue fibrosis with a storiform pattern. Salivary gland involvement often manifests as chronic sclerosing sialadenitis, also known as Küttner tumor (KT), which is frequently regarded as a "pseudotumor" because it mimics malignant neoplasms in clinical practice. The hypothesis of this report is that despite its rare and atypical presentation, the 2023 revised diagnostic criteria facilitate the definitive diagnosis of isolated, asymmetric, and seronegative cases.

MATERIAL & METHODS

A 39-year-old female presented with a rare 1.5-year history of a firm, painless, and fixed mass in the right submandibular region. Diagnostic evaluation using ultrasonography (US) and computed tomography (CT) revealed a hypertrophic right submandibular gland and associated pathologic lymphadenopathy (LAP) with a loss of fatty hilum. Due to a high suspicion of malignancy and non-diagnostic imaging, a total excision of the right submandibular gland and level 2A-2B lymph nodes was performed as the rational first step for both diagnosis and treatment. Histopathological analysis and immunohistochemical (IHC) staining were utilized to evaluate tissue architecture and immunoglobulin G4-positive (IgG4+) plasma cell infiltration

RESULTS

Histopathological examination confirmed storiform fibrosis and a dense lymphoplasmacytic infiltrate, which are hallmark features of the disease. IHC analysis demonstrated 80 IgG4+ plasma cells per high-power field (HPF) and an IgG4+/IgG+ ratio of approximately 90%, meeting the definitive diagnostic thresholds. Notably, the serum IgG4 concentration was 1.47 g/L, which is within the normal reference range, confirming a seronegative presentation seen in approximately 30-40% of cases with isolated organ involvement. Differential diagnoses, such as Sjögren's syndrome (SS) and lymphoma, were excluded based on negative antinuclear antibodies (ANA), anti-SSA/SSB, and the presence of specific fibrotic patterns

CONCLUSIONS

This case highlights that immunoglobulin G4-related sialadenitis (IgG4-RS) is a rare but critical differential diagnosis for unilateral submandibular masses, even in seronegative patients. Histopathology remains the gold standard for diagnosis, especially when clinical and serological findings are atypical. Multidisciplinary follow-up and the consideration of systemic corticosteroid treatment are essential to manage potential systemic involvement or relapses.

KEYWORDS

IgG4-related disease; IgG4-related sialadenitis; Küttner tumor; submandibular gland mass; seronegative IgG4-RD; chronic sclerosing sialadenitis; differential diagnosis; storiform fibrosis; salivary gland pathology

PP-120

INVESTIGATION OF THE ETIOLOGIC RELATIONSHIP BETWEEN WARTHİN'S TUMOR AND OBESITY

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BACKGROUND & AIM

The incidence of Warthin's tumor (WT) has increased significantly in recent years. This study aims to investigate the potential etiologic relationship between WT and obesity/metabolic syndrome, evaluating whether metabolic parameters and Body Mass Index (BMI) are risk factors alongside smoking.

MATERIAL & METHODS

A retrospective analysis was conducted on 162 patients who underwent surgery for benign parotid tumors between 2020 and 2024. Patients were divided into two groups: Warthin's tumor (n=72) and non-Warthin benign tumors (n=90). Demographic data, BMI, smoking history, and preoperative serum lipid profiles (Total Cholesterol, HDL, LDL, Triglycerides, VLDL) were compared. Multivariate logistic regression and ROC analyses were performed to identify independent risk factors.

RESULTS

The WT group was significantly older (mean 56.1 years) and predominantly male (p=0.001). Smoking was identified as the strongest independent risk factor (OR: 19.226, p=0.001). Although the mean BMI was higher in the WT group (29.13 kg/m^2) compared to the control group, the difference was not statistically significant (p=0.316). However, significant metabolic differences were observed; the WT group exhibited significantly lower HDL levels (p=0.001) and higher triglyceride levels (p=0.001). Multivariate analysis revealed that low HDL (≤47 mg/dL) is an independent risk factor, increasing the risk of WT by 5.9 times.

CONCLUSIONS

While BMI alone did not demonstrate a statistically significant difference, likely due to the high prevalence of obesity in the general population, the significant association with dyslipidemia (low HDL and high triglycerides) supports a metabolic etiology in WT pathogenesis. These findings suggest that metabolic syndrome-related oxidative stress plays a crucial role in the development of Warthin's tumor.

KEYWORDS

Warthin Tumor, Obesity, Metabolic Syndrome, Dyslipidemia, Parotid Gland

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Dermoid Cyst Of The Parotid Gland

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BACKGROUND & AIM

Dermoid cysts (DCs) are rare benign lesions of the head and neck, with the parotid gland being an extremely uncommon site of involvement. Their clinical and radiological presentation often mimics other benign or malignant parotid tumors, making preoperative diagnosis challenging. Diagnostic tools such as ultrasonography, MRI, and fine-needle aspiration cytology (FNAC) provide essential clues, but definitive diagnosis remains histopathological. The aim of this report is to present a rare case of a parotid gland dermoid cyst and highlight a conservative surgical approach that avoids traditional parotidectomy in well-encapsulated cases.

MATERIAL & METHODS

A 37-year-old male presented with a two-year history of a slowly enlarging, painless swelling in the left parotid region. Physical examination revealed a 3×3 cm, mobile, and fluctuant mass; facial nerve functions were intact (House–Brackmann Grade I). Ultrasonography identified a well-circumscribed, non-vascularized cystic lesion adjacent to the parotid gland. MRI demonstrated a 30×20 mm subcutaneous cystic mass, hyperintense on T2-weighted and hypointense on T1-weighted sequences, without contrast enhancement. FNAC was interpreted as benign keratinous material. Based on these findings, surgical intervention was planned. Given the well-encapsulated nature of the lesion and lack of glandular invasion on imaging, a conservative approach was prioritized. Instead of a standard superficial parotidectomy, the mass was carefully dissected in toto from the adjacent parotid tissue while strictly preserving the facial nerve branches and the integrity of the parotid gland parenchyma.

RESULTS

Intraoperatively, a well-defined, encapsulated cyst was identified adjacent to the anterior aspect of the parotid gland. The lesion was successfully excised in its entirety without the need for superficial parotidectomy or sacrifice of glandular tissue. The postoperative period was uneventful, and the patient maintained normal facial nerve function (House–Brackmann Grade I). Histopathological examination confirmed the diagnosis of a dermoid cyst, characterized by an epithelial-lined cavity containing skin appendages. At the follow-up visit, there was no evidence of recurrence or neurological deficit. This case demonstrates that in selected instances where the dermoid cyst is clearly demarcated and does not invade the gland, total cystectomy alone can achieve complete resolution. This conservative surgical strategy minimized surgical morbidity, preserved salivary function, and effectively reduced the potential risks associated with more extensive parotid surgery.

CONCLUSIONS

Dermoid cysts should be considered in the differential diagnosis of soft, painless, and slow-growing parotid masses. While imaging and FNAC are valuable for narrowing the differential, they may not always provide a definitive preoperative diagnosis. Although nerve-sparing parotidectomy is the traditionally recommended treatment, total excision of the cyst alone is a safe and curative alternative in cases where the lesion is well-encapsulated and lacks parenchymal invasion. This conservative approach preserves healthy parotid tissue and minimizes the risk of facial nerve trauma while ensuring excellent long-term clinical outcomes.

KEYWORDS

Dermoid cyst, parotid gland

PP-122

Challenges For The Head And Neck Surgeon At The Transition To The Second Quarter Of The 21 Century

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BACKGROUND & AIM

Head and neck cancer (HNC) poses increasing demands on surgical care. Over the past decades, groundbreaking studies have shifted the concepts of treatment for advanced laryngeal and hypopharyngeal cancers from primarily surgical treatment through laryngectomies to organ-preserving chemoradiotherapy (CRT). On the one hand, it improved functional outcomes for many patients, but, on the other, it created new challenges for head and neck surgeons (HNS).

MATERIAL & METHODS

This review highlights emerging issues at the transition into the second quarter of the 21 century.

RESULTS

The increased implementation of CRT reduced indications for primary surgical treatment while increasing the frequency of salvage procedures, which are technically demanding, longer, and associated with higher complication rates, including impaired wound healing and pharyngocutaneous fistula. Advances in microvascular reconstruction improved functional and aesthetic outcomes but require specialized expertise, extended operating times, and greater institutional resources. The

growing numbers of elderly patients add further complexity due to comorbidities and higher perioperative risks. Additionally, organizational burdens—such as prolonged hospitalizations, increased treatment costs, longer surgeries, limited operating theatre availability, and decreased capacity of hospital beds - are intensifying. To meet these challenges, HNS must balance the preservation of traditional surgical skills with the adoption of new technologies, maintain competence in less commonly used procedures, and adapt to evolving interdisciplinary consultations and new technologies. Continuous professional training, investment in infrastructure, and tailored patient-centered strategies will be crucial to ensuring optimal outcomes.

CONCLUSIONS

The findings illustrate that surgeons will have to work more and will likely stay on the job longer in the future.

KEYWORDS

head and neck cancer; ground-breaking studies; laryngectomy; chemoradiotherapy; complications; reconstruction.

PP-123

Metachronous Triple Primary Malignancies Of The Head And Neck: A Case Involving Larynx, Nasal Cavity, And External Ear

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BACKGROUND & AIM

Multiple primary malignancies (MPMs) in the head and neck region present significant diagnostic and therapeutic challenges, often attributed to the concept of field cancerization. While synchronous tumors are observed in approximately 15% of cases, metachronous triple primary malignancies are exceedingly rare. This case represents an exceptionally rare example of three distinct primary tumors developing over a 38-year period, emphasizing the necessity of lifelong multidisciplinary surveillance.

MATERIAL & METHODS

A 78-year-old male with an 80 pack-year smoking history presented with a 1-year history of a painful, ulcerative mass measuring 2×3 cm in the right cavum concha.

His medical history included: Total laryngectomy performed in 1988

Excision of a nasal malignancy at an outside institution 6 years prior

Histopathological records of the nasal lesion were unavailable; therefore, the exact tumor type could not be confirmed, although it had been reported as malignant. Importantly, the patient had no history of radiotherapy.

Imaging studies (MRI and CT) revealed:

A 12 mm infiltrative lesion involving the external auditory canal

A 26×22 mm necrotic lymph node at Level 2A, abutting the carotid bifurcation

The tumors were anatomically distinct and temporally separated, consistent with metachronous multiple primary malignancies. No distant metastasis was detected.

RESULTS

The patient underwent: Wide local excision of the auricular mass Superficial parotidectomy Level 2B–5 neck dissection Intraoperative frozen section analysis confirmed: Negative surgical margins Metastasis in Level 2B lymph nodes Reconstruction was performed using a cervicofacial advancement flap. Surgical management achieved satisfactory local disease control.

CONCLUSIONS

This case highlights the critical importance of lifelong surveillance in patients with significant carcinogen exposure, particularly heavy tobacco use, due to the persistent risk of developing multiple primary malignancies. The absence of prior radiotherapy strengthens the role of field cancerization and chronic tobacco exposure in tumor development.

Additionally, incomplete histopathological documentation may limit precise tumor classification, underscoring the importance of meticulous medical record-keeping.

Clinicians should maintain a high index of suspicion for new primary tumors in high-risk patients, even decades after the initial malignancy.

KEYWORDS

Metachronous multiple primary malignancies, Head and neck cancers , Field cancerization , Triple primary tumors ,Tobacco exposure , Oncologic surveillance

PP-124

Surgical Excision Of A Malignant Phymatous Rosacea - Case Report And Review Of The Literature

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BACKGROUND & AIM

Rhinophyma, a severe manifestation of rosacea, is a condition characterized by thickening of skin on the nose, often leading to a bulbous, enlarged appearance. While rhinophyma primarily affects external nose, it can significantly impact a person's appearance and self-esteem.

MATERIAL & METHODS

This article describes a case of phymatous rosacea. This disfiguring condition typically develops gradually and is most commonly seen in individuals with a history of rosacea. The described phymatous form of rosacea in 82 y.o. woman, with a 21-year history of rhinophyma, was late, severe presentation of this disease that required hospitalization and surgery. Medical history revealed that the patient suffered from stage II hypertension, bronchial asthma and stage II cardiopulmonary insufficiency. A neck ultrasound showed normal-appearing lymph nodes. Patient underwent successful excision surgery using electrocautery under general anesthesia in June 2024. The incision of skin and subcutaneous tissue of elliptic form was made around the tumor. The excised tissue of 5,0 x 3,0 x 3,0 cm was sent for histopathological evaluation. Post-surgical therapy included topical treatment with ointment neomycin sulphate and bacitracin.

RESULTS

The histopathological evaluation revealed papillary squamous cell carcinoma (ICD-O-3: 8052/3) (PSCC), a rare variant of squamous cell carcinoma (SCC) with infiltrative invasive growth and special histological differentiation grade. This observation justifies surgical tactics that included surgical excision of the tumor along with skin and subcutaneous tissue, local treatment leading to epithelization of the wound, and restoration of adequate breathing.

CONCLUSIONS

Although unusual, there are case reports of various cutaneous malignancies detected histologically by pathological examination. These malignancies have included basal cell carcinoma, sebaceous carcinoma, squamous cell carcinoma, angiosarcoma, and lymphoma. Literature review revealed over 50 cases describing detection of malignancy in rhinophyma tissue. Microscopic evaluation of tumor tissue described by Lazeri et al. also identified squamous cell carcinoma in one case and basal cell carcinoma in two cases.

KEYWORDS

Rhinophyma, Malignancy, Squamous Cell Carcinoma, Rosacea-Associated Neoplasms

PP-125

Buccinator Myomucosal Flap

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BACKGROUND & AIM

Soft palate squamous cell carcinoma accounts for less than 2% of all mucosal head and neck malignancies. Reconstruction following tumor resection presents significant functional and aesthetic challenges. This case report aims to present the buccinator myomucosal flap as an effective reconstructive option for soft palate defects following tumor excision, highlighting its favorable outcomes with low morbidity.

MATERIAL & METHODS

A 65-year-old male patient with a 3×2 cm squamous cell carcinoma of the soft palate involving the uvula underwent transoral tumor excision with safe surgical margins. Bilateral neck dissection (levels I, IIa, IIb, III, IV) was performed simultaneously. Reconstruction was achieved using a posteriorly pedicled buccinator myomucosal flap (approximately 5×3 cm) elevated with a buccal fat pad. The flap was rotated into the defect and sutured to reconstruct the soft palate. Postoperative feeding was managed via nasogastric tube with transition to oral intake.

RESULTS

Pathological examination confirmed moderately differentiated squamous cell carcinoma (3.5×2.6 cm), 9 mm depth of invasion, negative surgical margins, and pT2N1 staging with metastatic nodes in right levels IIa, IV and left level IV. Flap perfusion and palatal refill were confirmed intraoperatively. The postoperative course was uneventful with no complications or recurrence observed during follow-up. The patient successfully transitioned to oral feeding and demonstrated satisfactory functional and aesthetic outcomes.

CONCLUSIONS

The buccinator myomucosal flap provides reliable, single-stage reconstruction of soft palate defects following squamous cell carcinoma excision. With its adequate reach, similar tissue texture, and minimal donor site morbidity, it offers effective functional and aesthetic restoration. This technique should be considered among the primary reconstructive options for T1–T2 intraoral soft palate defects.

KEYWORDS

soft palate carcinoma - buccinator myomucosal flap

PP-126

Osteosarcoma And Ewing's Sarcoma Of The Head & Neck In Pediatric Practice, Surgical Treatment. Experience Of Dmitry Rogachev National Medical Research Center Of Pediatric Hematology, Oncology And Immunology.

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BACKGROUND & AIM

Osteosarcoma and Ewing's sarcoma are malignant tumors that develop from bone tissue and are rare tumors in pediatric practice.The localization of the primary focus of these tumors can be any anatomical area, however, they most often occur in the upper and lower extremities and pelvic bones. The primary localization of tumor in head & neck region to according the various data, with range from 1% to 9.8%.

MATERIAL & METHODS

A retrospective analysis of surgical interventions and long-term results for osteosarcoma and Ewing's sarcoma of maxillofacial bone localization was carried out, including both an analysis of surgical local control and reconstructive approaches of this group of patients.

From 2015 to January 2026, 33 patients with primary osteosarcoma and Ewing's sarcoma with localization of the tumor of the maxillofacial region received surgical treatment at Dmitry Rogachev NMRC of PHOI. All patients with osteosarcoma were treated according to the EURAMOS protocol, with Ewing's sarcoma - according to the Euro-Ewing 2008/2012 protocols. Also, during this period, three patients were treated for secondary osteosarcoma after radiotherapy.

RESULTS

The lesion of the mandible occurred in 13 patients (in 6 clinical cases - osteosarcoma, in 7 clinical cases - Ewing's sarcoma). Upper jaw lesion in 10 patients (osteosarcoma in 4 clinical cases, Ewing's sarcoma in 6 patients). Localization of the tumor process at the base of the skull occurred in 6 patients (1 patient with osteosarcoma, 5 patients with Ewing's sarcoma). Temporal bone lesion was found in 2 clinical cases (histologically, Ewing's sarcoma was present in all patients). In 2 patients, the tumor affected the frontal bone (2 patients with Ewing's sarcoma). The report presents the results of the effect of radiation therapy on the reconstructive treatment of patients with osteosarcoma and Ewing's sarcoma of head and region.

CONCLUSIONS

Modern technologies - individual planning using resection STL-templates, microsurgical technologies, the use of endoprosthesis technologies with a sliding mechanism that allow “growing” a endoprosthesis whith pediatric patients followed by complex maxillofacial rehabilitation allow to achieve functional and aesthetic results of surgical treatment with good clinical outcome.

KEYWORDS

pediatric oncology, head and neck surgery, maxillofacial surgery, plastic surgery, osteosarcoma, Ewing's sarcoma, radiation therapy

PP-127

Papillary Microcarcinoma Arising In Ectopic Thyroid Tissue Of The Lateral Neck: Diagnostic And Surgical Challenges

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BACKGROUND & AIM

Ectopic thyroid tissue is a rare developmental anomaly resulting from abnormal migration of the thyroid gland during embryogenesis. Although it is most commonly located in the midline neck, lateral cervical localization is uncommon and may mimic other benign or malignant neck masses. We aimed to present a rare case of papillary microcarcinoma arising in ectopic thyroid tissue located in the lateral neck and to emphasize the diagnostic and surgical challenges associated with this entity.

MATERIAL & METHODS

A 41-year-old woman presented with progressive swelling in the right lateral neck that had gradually enlarged over the previous two years. Radiological evaluation with ultrasonography, computed tomography, and magnetic resonance imaging demonstrated a multicystic mass in the right level II–III cervical region causing compression of the internal jugular vein. Fine-needle aspiration biopsy was reported as Bethesda category III, and tru-cut biopsy findings were consistent with thyroid tissue. Surgical excision of the mass was performed, followed by histopathological evaluation.

RESULTS

Complete surgical excision was achieved despite close proximity to the carotid sheath and internal jugular vein. Histopathological examination revealed multifocal papillary microcarcinoma arising in ectopic thyroid tissue. Thyroid hormone levels were within normal limits, and the orthotopic thyroid gland was preserved. Total thyroidectomy was recommended as additional treatment; however, the patient declined further surgery.

CONCLUSIONS

Although ectopic thyroid tissue is usually benign, malignant transformation may occur in rare cases. Ectopic thyroid tissue should therefore be considered in the differential diagnosis of lateral neck masses. Comprehensive preoperative thyroid evaluation is important for accurate diagnosis, surgical planning, and prevention of postoperative hypothyroidism.

KEYWORDS

Ectopic thyroid tissue; lateral neck mass; papillary microcarcinoma; ectopic thyroid carcinoma; thyroid ectopia; neck surgery.

PP-128

Cervicothoracic Neuroendocrine Tumor Causing SVC Syndrome With Synchronous Medullary Thyroid Carcinoma

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BACKGROUND & AIM

Head and neck neuroendocrine neoplasms are heterogeneous and uncommon, and their diagnosis may be challenging because clinical and radiologic features overlap with paraganglioma and other cervicothoracic tumors. This case highlights an unusual presentation of a cervical well-differentiated neuroendocrine neoplasm with internal jugular vein and SVC involvement, complicated by synchronous medullary thyroid carcinoma.

MATERIAL & METHODS

A 64-year-old man presented with progressive right neck swelling, dyspnea, dysphagia, and hoarseness. Flexible laryngoscopy initially showed mobile vocal folds and no mucosal primary lesion. Cross-sectional imaging demonstrated a right cervical mass lateral to the carotid sheath with right internal jugular vein thrombosis and extension into the SVC, causing complete obstruction and extensive venous collateralization. Core biopsy review confirmed a low-grade neuroendocrine neoplasm, and functional assessment showed no evidence of catecholamine hypersecretion. Following multidisciplinary tumor board review, the patient underwent combined right modified radical neck dissection, sternotomy, and SVC reconstruction.

RESULTS

Final histopathology demonstrated a well-differentiated grade 2 neuroendocrine neoplasm involving the right internal jugular vein and extending into the SVC. An incidental 6 mm medullary thyroid carcinoma confined to the right thyroid lobe was also identified, with metastatic disease in 3 of 15 lymph nodes. The patient subsequently underwent completion thyroidectomy and left selective neck dissection, which showed benign follicular nodular disease and no residual medullary thyroid carcinoma. Postoperatively, he developed right vocal fold paralysis, managed with injection laryngoplasty. Given the anatomically extensive surgical bed and uncertain benefit of wide-field adjuvant radiotherapy, surveillance with interval imaging and endocrine follow-up was favored.

CONCLUSIONS

This case highlights the complexity of cervicothoracic neuroendocrine tumors presenting with major vascular involvement. Carefully selected patients may benefit from aggressive, multidisciplinary surgical management for symptom control and local disease management. The coexistence of medullary thyroid carcinoma emphasizes the importance of comprehensive histopathological evaluation and individualized postoperative planning, particularly when balancing potential oncologic benefit against treatment-related morbidity.

KEYWORDS

Neuroendocrine tumors, medullary, SVC, thyroid

PP-129

THE INDICATIONS FOR ORBITAL EXENTERATION IN ADVANCED SINONASAL MALIGNANCIES

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BACKGROUND & AIM

Orbital exenteration remains a radical yet sometimes necessary surgical option in the management of advanced sinonasal malignancies with orbital invasion. Establishing clear indications (invasion of the orbit, optic nerve, extraocular muscles and skin overlying the muscles) and recognizing anatomical and surgical limits are essential in achieving oncological control while preserving quality of life when possible

MATERIAL & METHODS

This paper aims to present the case of a 74-year-old patient admitted to “Prof. Dr. Dorin Hociota” Institute of Phonoaudiology and Functional ENT Surgery, diagnosed with advanced squamous cell carcinoma originating from the left maxillary sinus, with

erosion of the orbital floor and direct involvement of the ipsilateral eyeball. The diagnostic methods, surgical treatment and postoperative care are discussed

RESULTS

The patient underwent a left subtotal maxillectomy and total left orbital exenteration with en bloc removal of the tumor. The postoperative evolution was favourable, with no surgical complications. After hospital discharge, he completed adjuvant radiotherapy. He currently shows no signs of locoregional recurrence

CONCLUSIONS

Orbital exenteration has clear indications and limitations in the treatment of advanced sinonasal tumors. Tumor histology is fundamental for the disease treatment. In this case, radical surgery combined with correct adjuvant therapy resulted in a favourable outcome for the patient.

KEYWORDS

Orbital exenteration- orbital invasion- squamous cell carcinoma-subtotal maxillectomy

PP-130

Is Thyroidectomy Safe In Obese Patients? A Systematic Review And Meta-Analysis Of Cohort Studies

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BACKGROUND & AIM

The number of patients with high BMI undergoing different surgical procedures is increasing, including thyroid surgery. Many surgeons consider obesity to be associated with more adverse surgical outcomes. Despite the presence of several studies in literature, the impact of obesity on thyroidectomy remains controversial. This study aimed to assess the safety of thyroidectomy in obese patients by comparing the rates of post-operative complications in obese and non-obese patients.

MATERIAL & METHODS

Searches were performed using PubMed, Cochrane Library, Web of Science, Clinical Trials, and Google Scholar. This review was conducted in accordance with the PRISMA guidelines. Studies were included based on predefined eligibility criteria and assessed for quality using the MINORS criteria.

RESULTS

We included 12 studies with a total of 102,658 patients. All studies were of moderate to good quality. The obese group showed relatively lower odds of transient hypocalcemia (OR: 0.91, 95% CI: 0.83 to 0.99) (P= 0.027). The obese group showed relatively higher odds of transient RLN palsy (OR: 1.11, 95% CI: 1.02 to 1.22) (P= 0.020). The obese group showed relatively higher odds of wound infections (OR: 1.67, 95% CI: 1.14 to 2.44) (P= 0.008). We did not find any significant difference in the rates of permanent hypocalcemia, hematoma, seroma, permanent RLN injuries, and 30-day readmissions.

CONCLUSIONS

Our findings show that increased BMI is protective against transient postoperative hypocalcemia. We found that wound infections and transient RLN palsy were significantly higher in obese patients. We highlight a longer operative time and duration of postoperative stay in obese patients. This meta-analysis concludes that thyroidectomy is a safe procedure in patients with a high body mass index.

KEYWORDS

thyroidectomy, obesity, postoperative complications, length of stay

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Recurrent Spindle Cell Sarcoma Of The Head And Neck With Orbital Involvement

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BACKGROUND & AIM

Spindle cell sarcomas of the head and neck are rare malignant mesenchymal tumors characterized by aggressive local behavior and a high risk of recurrence. Their management is challenging due to complex regional anatomy and heterogeneous histopathological features. We hypothesize that inadequate follow-up and the intrinsic aggressive nature of these tumors may contribute to advanced local recurrence, including perineural spread and orbital involvement. This report aims to present a recurrent case with extensive local progression and to emphasize the aggressive clinical course and the importance of close follow-up.

MATERIAL & METHODS

A 48-year-old male initially presented in 2022 with right cheek swelling and was found to have a mass in the right hard palate.Following an incisional biopsy reported as a malignant mesenchymal tumor, partial maxillectomy was performed.Due to suspected residual disease, maxillary sinus resection and bilateral neck dissection were carried out in February

2023.Histopathology revealed grade 2 spindle cell sarcoma with focal residual tumor; inflammatory myofibroblastic tumor was considered in the differential diagnosis.The patient received adjuvant radiotherapy in March 2023 but remained without follow-up until January 2026.Upon re-presentation, clinical evaluation, magnetic resonance imaging(MRI), and positron emission tomography-computed tomography(PET-CT) were performed. Imaging demonstrated a 62×32×30 mm mass involving the sphenoid and ethmoid sinuses, nasal cavity, and pterygopalatine fossa, with suspected perineural spread along the maxillary nerve.Biopsy confirmed recurrent spindle cell malignancy.The patient underwent orbital exenteration and right radical maxillectomy, followed by reconstruction of the surgical defect using a pectoralis major flap.

RESULTS

Imaging findings indicated extensive local disease, bone destruction, and suspected perineural invasion. Histopathological examination confirmed recurrent tumor with myxoid stromal features. Complete macroscopic resection was achieved, and the defect was successfully reconstructed with a pectoralis major flap.

CONCLUSIONS

Head and neck spindle cell sarcomas are rare but highly aggressive tumors with significant recurrence potential. This case underscores that, despite combined surgical and radiotherapeutic approaches, recurrence with advanced features such as perineural spread and orbital involvement may occur, particularly in the absence of regular follow-up. Early diagnosis, close surveillance, meticulous radiological assessment, and appropriate surgical planning—including reconstruction—are critical for optimal disease control.

KEYWORDS

Recurrent Spindle Cell Sarcoma, orbital exenteration, radical maxillectomy, pectoralis major flap

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Ectopic Cervical Thyroid Tissue Mimicking A Thyroglossal Duct Cyst: A Case Report

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BACKGROUND & AIM

Ectopic thyroid tissue (ETT) is a rare developmental anomaly resulting from the failure of the thyroid gland to migrate from the foramen caecum to its final pretracheal position during embryonic life. While it most commonly occurs at the base of the tongue, its presence near the hyoid bone can clinically and radiologically mimic a thyroglossal duct cyst (TGDC). The aim of this case report is to emphasize that ETT should be a primary consideration in the differential diagnosis of midline neck masses to prevent the inadvertent surgical removal of patient's only functional thyroid tissue, discussed in light of current literature.

MATERIAL & METHODS

This study presents a 32-year-old female patient referred to our clinic with a midline neck swelling present since childhood, fatigue, and hair loss. Diagnostic interventions included serum thyroid stimulating hormone (TSH) measurement, thyroid ultrasonography (USG), fine-needle aspiration biopsy (FNAB), contrast-enhanced computed tomography (CT), and technetium-99m (Tc-99m) scintigraphy. Outcome measurements focused on identifying the localization of the mass, its histopathological nature via the Bethesda classification system, and the presence or absence of orthotopic thyroid tissue.

RESULTS

Initial laboratory results revealed a TSH of 10 mIU/L. USG identified a 11 x 25.5 x 33 mm solid mass adjacent to the hyoid bone, alongside agenesis of the right thyroid lobe and isthmus. While the initial FNAB was non-diagnostic (Bethesda Category I), a repeat USG-guided FNAB confirmed benign thyroid tissue (Bethesda Category II). Tc-99m scintigraphy demonstrated intense tracer uptake exclusively at the site of the ectopic mass, confirming it as the patient's sole functional thyroid tissue. The patient was managed non-surgically with levothyroxine sodium at 50 mcg/day.

CONCLUSIONS

Ectopic cervical thyroid tissue is a critical diagnostic consideration for midline head and neck masses. In cases where orthotopic thyroid tissue is absent or hypoplastic, functional evaluation via scintigraphy is mandatory before any surgical intervention to avoid permanent iatrogenic hypothyroidism. This case confirms that conservative management with hormone replacement is an effective strategy when malignancy is excluded via repeat FNAB.

KEYWORDS

Ectopic thyroid tissue, thyroglossal duct cyst, midline neck mass, thyroid dysgenesis

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Papillary Thyroid Carcinoma Arising In A Thyroglossal Duct Cyst: A Case Report

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BACKGROUND & AIM

Thyroglossal duct cysts (TGDCs) are the most common congenital midline neck masses. Malignant transformation is rare, occurring in approximately 1% of cases, most commonly as papillary thyroid carcinoma. This study aims to present a rare case of papillary thyroid carcinoma, follicular variant, arising in a TGDC and to highlight its diagnostic and therapeutic considerations.

MATERIAL & METHODS

A 25-year-old female patient presenting with a midline neck mass was evaluated clinically and radiologically. Neck ultrasonography and magnetic resonance imaging (MRI) were performed. The patient underwent surgical excision via the Sistrunk procedure. Histopathological examination of the specimen was carried out for definitive diagnosis.

RESULTS

Imaging findings were consistent with a thyroglossal duct cyst. Histopathological evaluation revealed papillary thyroid carcinoma, follicular variant, measuring 0.4 cm, without lymphovascular invasion and with negative surgical margins. No evidence of thyroid gland involvement or cervical lymph node metastasis was identified. The case was classified as low-risk TGDC carcinoma.

CONCLUSIONS

TGDC carcinoma is a rare condition that is usually diagnosed incidentally following surgery. The Sistrunk procedure alone is generally sufficient in low-risk patients. Accurate diagnosis relies on histopathological evaluation, and management should be individualized based on risk factors. Prognosis is excellent with appropriate treatment.

KEYWORDS

sistrunk procedure, thyroglossal cyst, thyroglossal duct cyst malignancies, thyroid papillary cancer, total thyroidectomy

PP-134

Giant Parotid Pleomorphic Adenoma With Parapharyngeal Extension: A Case Report

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BACKGROUND & AIM

Approximately 70% of salivary gland tumors arise in the parotid gland, with pleomorphic adenoma being the most common. It is a benign epithelial tumor that typically presents as a slow-growing, painless mass.

Although most cases originate from the superficial lobe, rare extensions into the deep lobe and parapharyngeal space have been reported. Here, we present a rare case of pleomorphic adenoma with parapharyngeal extension.

MATERIAL & METHODS

A 33-year-old woman presented with a 2–3-year history of left-sided neck swelling, pain, and dysphagia. Physical examination revealed a firm, painless mass in the left parotid region with oropharyngeal asymmetry and uvular deviation. Facial nerve function was intact, and no cervical lymphadenopathy was detected.

Imaging demonstrated a 7 cm lobulated mass originating from the deep lobe of the left parotid gland, extending into the parapharyngeal space and causing airway deviation. Fine-needle aspiration biopsy was consistent with pleomorphic adenoma.

The tumor was excised via a transcervical approach with superficial parotidectomy and en bloc resection. Postoperatively, the patient developed House–Brackmann Grade IV facial paralysis, likely due to traction injury. Histopathology confirmed pleomorphic adenoma, and the patient remains under follow-up.

RESULTS

Parapharyngeal space tumors are rare, with approximately 80% being benign. Nearly half originate from salivary glands, with pleomorphic adenoma being the most common.

Although typically small, 10–12% of pleomorphic adenomas arise from the deep lobe of the parotid gland and may extend into the parapharyngeal space. These tumors are often asymptomatic and detected incidentally, but may present with oropharyngeal asymmetry, neck swelling, or symptoms related to airway or Eustachian tube involvement.

In the differential diagnosis of parapharyngeal masses, deep lobe parotid tumors should be considered. Giant pleomorphic adenomas with parapharyngeal extension are rare but have been reported, as demonstrated in the present case.

CONCLUSIONS

This report presents a rare case of a parotid tumor extending into the parapharyngeal space. Such tumors may remain asymptomatic and present with symptoms like dysphagia or obstructive sleep apnea.

Imaging plays a key role in diagnosis and surgical planning, while fine-needle aspiration aids in confirming the diagnosis. The main goal of surgery is complete excision with preservation of neurovascular structures. The transcervical approach allows safe identification of critical anatomy.

Early surgical intervention is important in large pleomorphic adenomas to prevent malignant transformation and avoid functional and cosmetic complications.

KEYWORDS
pleomorphic adenoma, head and neck tumor, Deep lobe parotid tumor

PP-135

Mandibular Osteosarcoma: Clinical Presentation, Surgical Management And Multidisciplinary Approach In A Rare Case

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BACKGROUND & AIM

Osteosarcoma (OS) is a malignant bone tumor characterized by the direct production of osteoid tissue or immature bone by tumor cells. Although it most commonly affects the long bones, mandibular involvement is relatively rare, accounting for approximately 6–10% of all osteosarcomas. Gnathic osteosarcomas involving the mandible and maxilla demonstrate distinct clinical and biological characteristics compared to long-bone osteosarcomas. While long-bone osteosarcomas typically occur during the first two decades of life, mandibular osteosarcomas are more frequently observed in older patients, predominantly during the third and fourth decades, with a reported mean age of 33–36 years.

MATERIAL & METHODS

A 28-year-old male patient presented with a 3-month history of swelling in the right mandibular region. Physical examination revealed an approximately 4 cm mass located on the medial aspect of the right mandible. Maxillofacial computed tomography demonstrated an ill-defined expansile lesion measuring 42×35×38 mm in the right mandibular corpus, causing bone destruction. Magnetic resonance imaging revealed a malignant bone lesion involving the right hemimandible. PET/CT demonstrated a hypermetabolic mass extending into the submandibular region with destruction of the mandibular bone structure (SUVmax: 9.1). Incisional biopsy was reported as a malignant mesenchymal tumor, with osteosarcoma considered the primary diagnosis. The patient underwent right hemimandibulectomy and fibula osteomyocutaneous free flap reconstruction through a multidisciplinary surgical approach performed in collaboration with the plastic surgery team.

RESULTS

Gnathic osteosarcomas are rare malignant tumors that demonstrate locally aggressive behavior despite having lower rates of distant metastasis compared to long-bone osteosarcomas. Achieving local disease control is considered one of the most important prognostic factors in head and neck osteosarcomas. Previous studies have identified tumor size, histological grade, and metastatic disease at diagnosis as major determinants of survival in mandibular osteosarcoma.

In our case, intraoperative frozen-section analysis demonstrated negative surgical margins. Postoperative histopathological examination revealed tumor-free margins, absence of tumor necrosis, and 10–19 mitoses per 10 high-power fields. The tumor was reported as a well-differentiated Grade 1 osteosarcoma.

At the third postoperative month, biopsy demonstrated malignant mesenchymal tumor infiltration consistent with osteosarcoma infiltration. Following multidisciplinary evaluation by medical and radiation oncology teams, chemotherapy was initiated. The patient remains under close clinical follow-up.

CONCLUSIONS

Early diagnosis is critical for improving prognosis in mandibular osteosarcoma because of its variable clinical presentation, ranging from painless swelling to severe pain and facial asymmetry. Favorable survival is associated with younger age, lower histological grade, smaller tumor size, absence of metastasis, and wide surgical resection, whereas advanced age, metastatic disease at diagnosis, and lack of surgical excision are associated with poorer overall survival. Radical surgical resection with negative margins remains the cornerstone of treatment and the most important prognostic factor. Management of mandibular osteosarcoma requires a multidisciplinary approach involving maxillofacial surgeons, medical oncologists, radiologists, pathologists, and reconstructive surgeons.

KEYWORDS
Mandibular osteosarcoma, Gnathic osteosarcoma, Hemimandibulectomy, Fibula free flap, Head and neck sarcoma, Multidisciplinary management

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Radiologic Assessment As An Independent Predictor Of Malignancy In Neck Masses: Radiologic–Pathologic Correlation In A Retrospective Cohort

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BACKGROUND & AIM

Accurate preoperative differentiation between benign and malignant neck masses remains challenging despite advances in imaging and cytological techniques. This study aimed to evaluate radiologic–pathologic correlation and the diagnostic performance of preoperative assessment methods in patients who underwent surgical treatment for neck masses.

MATERIAL & METHODS

This retrospective cohort study included 332 patients who underwent surgical excision for neck masses at a tertiary referral center between January 2012 and December 2020. Final histopathological diagnosis was available for 331 patients. Preoperative radiologic findings, biopsy results, and clinical variables were analyzed. The diagnostic performance and agreement of radiologic assessment and fine-needle aspiration biopsy (FNAB) were evaluated. Factors associated with malignancy were assessed using univariable and multivariable logistic regression analyses.

RESULTS

Benign lymphadenopathy was the most frequent histopathological diagnosis (49.5%). Radiologic assessment demonstrated moderate agreement with histopathology ($\kappa = 0.425$, $p < 0.001$), with high specificity (91.9%) but limited sensitivity (46.3%) for detecting malignant lesions, and an overall diagnostic accuracy of 79.6%. FNAB showed moderate diagnostic performance (sensitivity 62.5%, specificity 84.2%). Among radiologically suspicious lesions, 34.6% were found to be malignant on final histopathological examination. Age was associated with malignancy in univariable analysis ($p = 0.006$), whereas lesion size showed no significant association. In multivariable logistic regression analysis ($n = 136$), radiologic diagnosis remained the only statistically significant predictor of malignancy (OR = 5.55, 95% CI: 2.05–15.00, $p = 0.001$), and this finding remained consistent in an adult-only sensitivity analysis.

CONCLUSIONS

Radiologic evaluation plays a central role in the preoperative assessment of neck masses and represents the only statistically significant predictor of malignancy. Although clinical factors such as patient age and lesion characteristics may provide supportive diagnostic information, an integrated diagnostic approach combining imaging findings, cytological assessment, and clinical evaluation is essential for optimal management.

KEYWORDS

Neck mass; Cervical lymphadenopathy; Radiologic–pathologic correlation; Fine-needle aspiration biopsy; Diagnostic imaging

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A RARE LARYNGEAL TUMOR : LARYNGEAL NEUROENDOCRINE TUMOR

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BACKGROUND & AIM

Laryngeal neuroendocrine tumors are rare entities, accounting for less than 1% of all laryngeal neoplasms. They most commonly arise in the supraglottic region, while involvement of the ventricular band is extremely uncommon. Due to their ability to mimic benign laryngeal lesions, diagnosis may be delayed. The aim of this case report is to present a rare Grade 2 laryngeal neuroendocrine tumor originating from the ventricular band and to emphasize its diagnostic and therapeutic considerations.

MATERIAL & METHODS

A 51-year-old male patient presented with a foreign body sensation in the throat and persistent throat clearing. Flexible laryngoscopy revealed a hyperemic, vascular-appearing polypoid lesion extending from the anterior surface of the right arytenoid to the ventricular band. Contrast-enhanced neck MRI demonstrated an intensely enhancing 9×5 mm lesion. The patient underwent excisional biopsy under direct laryngoscopy. Histopathological and immunohistochemical analyses were performed, including neuroendocrine markers and Ki-67 proliferation index. Postoperative imaging and endoscopic follow-up were used for surveillance.

RESULTS

Histopathological examination revealed a Grade 2 laryngeal neuroendocrine tumor with a Ki-67 index of 4–5% and a mitotic rate of 4–5 per 10 high-power fields. Immunohistochemical staining was positive for synaptophysin, chromogranin, CD56, and pancytokeratin. No necrosis was observed. PET-CT showed no distant metastasis. A second surgery was performed for safety margins, and no residual tumor was detected. No recurrence was observed during 12 months of follow-up.

CONCLUSIONS

Laryngeal neuroendocrine tumors located in the ventricular band are extremely rare and may mimic benign lesions. Awareness of this entity is essential for accurate diagnosis. Complete surgical excision with clear margins and close follow-up are crucial for optimal management of Grade 2 tumors.

KEYWORDS

Laryngeal neuroendocrine tumor Atypical carcinoid Ventricular band

PP-138

Trends In Salivary Gland Tumors: A 14-Year Study Of Incidence, Outcomes, And Recurrence In Jeddah, Saudi Arabia

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BACKGROUND & AIM

Purpose: To determine the epidemiology of salivary gland tumors and the factors associated with their incidence, outcome, and recurrence rates across 2008-2022 in KAMC (King Abdulaziz Medical City), Jeddah, Saudi Arabia.

MATERIAL & METHODS

Methods: A retrospective chart review study to All cases from 2008 to 2022 including all patients who have been diagnosed with a salivary gland tumor. The data includes both patient, tumor, and management related variables. Patient-related variables include age, sex, smoking history, and history of radiation exposure. Tumor-related variables include the site, pathology, FNA, clinical staging and surgical margins. Management-related variables include treatment received, postoperative complications including facial nerve, outcomes, and recurrence rates.

RESULTS

Salivary gland malignancies were diagnosed in 70 with the majority in the 4th to 7th decades of life. The results revealed that the most common gland affected among participants is Parotid, with the most common histological types being encountered were Adenoid Cystic Carcinoma and Mucoepidermoid Carcinoma.

significant bias towards males in the Parotid gland with a contrasting bias towards females in the Submandibular. no relation between incidence and age or smoking being found. Outcomes were observed as 60% of the participants with improvement,14.3% deceased, and 25.7% on palliative care. No relation was found between outcomes and gender, age, or involvement of surgical margins with a possible relationship to discordance of preoperative and postoperative clinical staging. Recurrence was measured at 17.1% with higher rates being found in younger age groups and with specific types of cancers with Mucoepidermoid Carcinoma showing a particularly alarming rate.

CONCLUSIONS

Conclusion: while many of our finding were similar to those in literature, there exists significant variations such as in gender disparity and Mucoepidermoid Carcinoma recurrence. As such further and more comprehensive investigations into SGT is well warranted. Cases from KAMC hospital and their characteristics are presented to contribute to the information found in local and international literature.

KEYWORDS

Salivary gland neoplasm, benign, malignant

PP-139

Systemic Resveratrol Mitigates Radiation-Induced Oral Mucositis: A Histopathological And Biochemical Analysis In Rats

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BACKGROUND & AIM

This study aimed to evaluate the effects of systemic administration of resveratrol, which possesses antioxidant and anti-inflammatory properties, on the prevention and reduction of severity of radiation-induced oral mucositis.

MATERIAL & METHODS

The study included 36 rats divided into four groups (n=9): Control, Radiation, Radiation + Resveratrol (10 mg/kg, i.p.), and Radiation + Dimethyl sulfoxide. Target volumes were optimized for dose using the Intensity Modulated Radiotherapy technique based on computed tomography images. A single dose of 18 Gray radiation was administered to the head and neck region of the anesthetized subjects. Resveratrol administration was initiated 30 minutes before radiation and continued for 5 days. During the follow-up period, punch biopsies were taken from the tongue on days 7 and 14, and blood samples were collected on day 7 to determine oxidative stress (malondialdehyde and superoxide dismutase). On the 21st day of the experiment, sacrifice was performed, and the tongue tissue was totally excised. All samples underwent histopathological and immunohistochemical (bax, bcl-2, ki-67) examination.

RESULTS

During the experiment, it was demonstrated that the severe weight loss observed on the 9th day after radiation was compensated by resveratrol, showing a trend similar to the control group (p=0.084). Biochemical analyses revealed that resveratrol reduced malondialdehyde levels and increased superoxide dismutase activity (p=0.0025). Histopathological

examination showed that resveratrol preserved epithelial height on day 7 compared to the radiation group (p=0.004) and significantly limited cellular atypia such as hyperchromasia, pleomorphism, and binucleation (p=0.003). Immunohistochemical analyses revealed that resveratrol suppressed pro-apoptotic Bax expression (p=0,0025) and triggered Bcl-2 increase on day 14, while significantly increasing Ki-67 expression (p<0.001) and accelerating tissue regeneration on day 21."

CONCLUSIONS

Our findings suggest that resveratrol can regulate the mucosal effects caused by radiation by reducing oxidative stress, inhibiting apoptosis, and accelerating tissue regeneration, and may be a radioprotective treatment option.

KEYWORDS

Resveratrol, Oral Mucositis, Intensity-Modulated Radiotherapy, Radioprotection

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Pectoralis Major Myocutan Flap Pedicle Metastasis Seven Years After Tongue Cancer: A Rare Case Report

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BACKGROUND & AIM

Head and neck squamous cell carcinoma may show complex recurrence patterns and delayed metastatic spread, particularly in patients with multiple metachronous mucosal lesions. Infraclavicular or pectoral metastatic involvement along a pectoralis major flap pedicle is extremely rare and may create diagnostic and surveillance challenges. We present a patient initially treated for T2N0M0 tongue squamous cell carcinoma who subsequently developed metachronous laryngeal squamous cell carcinoma involving the left aryepiglottic fold, received chemoradiotherapy, and seven years later developed metastatic squamous cell carcinoma in the pectoral/infraclavicular region requiring mass excision followed by chemotherapy.

MATERIAL & METHODS

A single-patient case report of a 64-year-old man was prepared through retrospective review of clinical records, operative notes, radiological findings, histopathological reports, and treatment history. The chronological disease course was analyzed, including the initial T2N0M0 tongue squamous cell carcinoma, subsequent metachronous laryngeal squamous cell carcinoma involving the left aryepiglottic fold treated with chemoradiotherapy, and the development of metastatic squamous cell carcinoma in the pectoral/infraclavicular region seven years later, requiring surgical mass excision followed by systemic chemotherapy.

RESULTS

Histopathological evaluation of the excised pectoral/infraclavicular mass confirmed metastatic squamous cell carcinoma. The metastatic pattern was considered highly unusual because the lesion developed after a prolonged disease interval, outside the conventional primary mucosal and cervical nodal recurrence sites, and in relation to the pectoralis major flap pedicle region. Potential mechanisms include altered lymphatic drainage after previous surgery and reconstruction, tumor cell implantation, delayed regional metastatic spread, or tumor progression through surgically modified tissue planes.

CONCLUSIONS

Delayed pectoral/infraclavicular squamous cell carcinoma metastasis along a pectoralis major flap pedicle is extremely rare in head and neck malignancies. Potential mechanisms include altered lymphatic drainage after previous surgery and reconstruction, tumor cell implantation, delayed regional metastatic spread, or progression through surgically modified tissue planes.In long-term survivors of head and neck squamous cell carcinoma reconstructed with pedicled regional flaps, surveillance should extend beyond the primary tumor bed and cervical lymphatic basins to include the flap pedicle course, infraclavicular region, and donor-site area.

KEYWORDS

Head and neck squamous cell carcinoma; pectoralis major myocutaneous flap; infraclavicular metastasis; flap pedicle metastasis; metachronous tongue cancer

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“Hidden Malignancy In Chronic Otalgia: A Case Of External Auditory Canal Adenoid Cystic Carcinoma With Delayed Diagnosis”

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BACKGROUND & AIM

Adenoid cystic carcinoma (ACC) of the external auditory canal (EAC) is a rare malignancy arising from ceruminous glands. It demonstrates slow growth but a marked tendency for perineural invasion, which increases the risk of local recurrence and delayed distant metastasis. It may mimic benign conditions such as chronic otitis externa, leading to diagnostic delay. This study presents a case with prolonged diagnostic delay and emphasizes that clinical suspicion and biopsy remain crucial even when initial imaging findings are normal

MATERIAL & METHODS

A 39-year-old female presented with a 12-month history of persistent unilateral otalgia, intermittent otorrhea, and aural fullness. She had previously been treated multiple times for chronic otitis externa and otomycosis with only temporary symptomatic relief.

Initial temporal bone computed tomography (CT) and magnetic resonance imaging (MRI), performed at an external center, were reported as normal, with no evidence of mass lesion or bony erosion.

Due to persistent and progressively neuropathic-type pain, the patient was referred to our tertiary care center. Otoscopic examination revealed a subtle, firm, and slightly tender skin swelling in the posterosuperior wall of the external auditory canal. The tympanic membrane was intact, and no facial nerve dysfunction was observed.

A deep punch biopsy was performed under local anesthesia. Histopathological examination demonstrated a malignant epithelial tumor with a characteristic cribriform pattern, consistent with adenoid cystic carcinoma. Repeat high-resolution CT revealed subtle erosion of the posterior canal Wall.

RESULTS

The patient underwent comprehensive surgical management lateral temporal bone resection, superficial parotidectomy, and selective neck dissection (levels II–IV), followed by reconstruction with full thickness skin graft .Final histopathological analysis confirmed T3N0M0 adenoid cystic carcinoma with perineural invasion. Surgical margins, including deep margins and facial nerve sheath margins, were free of tumor involvement.

Adjuvant external beam radiotherapy (60 Gy) was administered postoperatively to improve local disease control.

At 12-month follow-up, the patient demonstrated no clinical or radiological evidence of local recurrence or distant metastasis.

CONCLUSIONS

Adenoid cystic carcinoma of the external auditory canal may present with nonspecific symptoms and mimic benign inflammatory conditions, resulting in significant diagnostic delays, even in the presence of initially normal imaging.

Persistent otalgia, particularly with neuropathic characteristics, should raise suspicion for malignancy. This case highlights the limitations of early imaging and the critical importance of thorough clinical evaluation and timely biopsy in atypical or refractory cases.

Early diagnosis and aggressive multidisciplinary management, including radical surgery and adjuvant radiotherapy, are essential for optimal oncologic outcomes in EAC ACC.

KEYWORDS

Adenoid cystic carcinoma; external auditory canal; ceruminous gland tumor; perineural invasion;

PP-142

A Novel Landmark For Intraoperative Identification Of The Spinal Accessory Nerve In The Posterior Triangle During Neck Dissection

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BACKGROUND & AIM

The spinal accessory nerve needs to be identified and preserved during modified neck dissection and various skull base procedures. Despite multiple landmarks described for nerve identification, anatomical variations in the trajectory of the nerve can sometimes present challenges in accurate identification, even for experienced professionals. This pilot study describes an additional anatomical landmark to facilitate the identification of the nerve within the posterior triangle, particularly in cases where localization is challenging

MATERIAL & METHODS

This pilot observational study included consecutive patients who underwent unilateral modified neck dissection as part of the therapeutic resection for oral cavity carcinoma at our institute. The Institutional Ethics Committee approved the study. During neck dissection, as the upper part of the posterior triangle was exposed, the lesser occipital nerve (LON) was followed in a retrograde fashion to reach the area where the nerve skirted around the posterior border of the muscle. The relationship between the two nerves was documented

RESULTS

Of the 10 patients, nine had the SAN passing medial to the LON at the location where the nerve skirted the posterior border of the SCM muscle or more proximally, deeper to the muscle. One patient was found to have the LON passing medial to the SAN, deeper to the muscle.

CONCLUSIONS

This pilot study describes the lesser occipital nerve as a novel and reliable landmark to identify the spinal accessory nerve. The relationship between the two nerves was reliably uniform, with the LON overriding SAN in 90% of cases.

KEYWORDS
Neck dissection; Accessory Nerve; Quality of Life; Head and Neck Neoplasms

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Rare Primary Tumor And Distant Metastases Of The Parotid Gland: Five Cases

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BACKGROUND & AIM

Approximately 80% of parotid gland tumors are benign, and most malignancies arise from primary gland tissue. Metastasis to the parotid is rare, usually associated with head and neck squamous cell carcinomas or melanomas. However, both rare primary parotid malignancies and unexpected metastases from distant organs may occur. This study presents one rare primary tumor and four unusual metastases to the parotid gland, emphasizing a broad differential diagnosis.

MATERIAL & METHODS

Data were retrospectively collected from the national e-health system and hospital information system. Radiological images (MRI, CT) and intraoperative photographs were evaluated. Five cases were analyzed for demographic characteristics, clinical course, histopathological diagnosis, and treatment.

RESULTS

Five cases (3 males, 2 females; age 17–78) were evaluated.

Primary parotid intraductal carcinoma : superficial parotidectomy for suspected Warthin tumor, pathology confirmed intraductal carcinoma, adjuvant radiotherapy.

Merkel cell carcinoma metastasis: from right upper eyelid, 16 mm parotid metastasis with two ipsilateral cervical nodes, treated with total parotidectomy and neck dissection.

Peritoneal carcinoma metastasis: 5 cm parotid mass, treated with total parotidectomy and neck dissection.

Secretory breast carcinoma metastasis : extremely rare pediatric/adolescent entity, treated with total parotidectomy and neck dissection.

Laryngeal SCC metastasis: from right vocal cord, synchronous 5 cm parotid metastasis (not second primary), treated with total parotidectomy and neck dissection.

All patients underwent oncologically appropriate surgery; adjuvant chemoradiotherapy was given in indicated cases.

CONCLUSIONS

In patients presenting with a parotid mass, both rare primary tumors (e.g., intraductal carcinoma) and unexpected metastases (Merkel Cell, peritoneal, secretory breast, laryngeal) should be considered in the differential diagnosis. This series adds to the limited literature. Aggressive surgery including total parotidectomy and neck dissection, combined with multidisciplinary oncologic management, remains critical for local control and survival.

KEYWORDS
Parotid, Primary Tumor, Metastasis, Rare, Merkel, Peritoneum, Breast

PP-144

Retrospective Analysis Of Factors Affecting Hypocalcemia Developing In The First 24 Hours After Thyroidectomy

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BACKGROUND & AIM

To retrospectively evaluate the frequency and associated risk factors of hypocalcemia developing in the first 24 hours postoperatively in patients undergoing thyroidectomy.

MATERIAL & METHODS

A total of 98 consecutive patients (108 operations) who underwent thyroidectomy in our clinic between January 2020 and September 2025 were included in the study. The relationship between hypocalcemia developing in the first 24 hours and gender, age, preoperative FNAB and thyroid function, surgical procedure, malignancy status in postoperative final pathology results, nodule or tumor size, and incidental parathyroidectomy was evaluated. Additionally, the effect of neck dissection on hypocalcemia in malignant cases was examined. Continuous variables were analyzed with t-test, and categorical variables were analyzed with Chi-square or Fisher's Exact Test; $p < 0.05$ was considered statistically significant.

RESULTS

In the study evaluating a total of 108 thyroidectomy cases, postoperative hypocalcemia was found to develop in 29 (26.8%) of the patients within the first 24 hours. When factors associated with hypocalcemia were examined, female gender ($p = 0.0439$),

tumor size of 2 cm and above in malignant cases (p ≈ 0.049), and incidental parathyroidectomy (p < 0.01) were identified as significant risk factors.

CONCLUSIONS

The risk of postoperative hypocalcemia was found to be higher in female patients, patients with large tumors, and cases with incidental parathyroidectomy.

KEYWORDS

Thyroidectomy, hypocalcemia, postoperative, pathology

PP-145

Total Laryngopharyngectomy And Esophageal Reconstruction With A Radial Forearm Flap: A Multidisciplinary Approach And Functional Outcomes

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BACKGROUND & AIM

Extensive resections performed in recurrent or advanced-stage laryngopharyngeal cancers require a careful balance between reconstructive surgery and functional outcomes. This case report discusses esophageal reconstruction using a radial forearm flap following total laryngopharyngectomy in an advanced-stage glottic squamous cell carcinoma patient with a history of radiotherapy. Additionally, we highlight the contribution of an early stenting approach and a multidisciplinary treatment plan to the final functional outcomes.

MATERIAL & METHODS

A 75-year-old male with a history of coronary bypass and chemoradiotherapy (33 fractions RT, 7 cycles CT) for T4N1M0 glottic carcinoma five years ago presented with recurrence. PET-CT and MRI revealed an epiglottic mass (SUV_{max}: 12\text{ g/mL}) and left aryepiglottic fold involvement. Biopsy confirmed moderately differentiated supraglottic squamous cell carcinoma, with an oligometastatic focus in the left gluteus muscle.The patient underwent total laryngopharyngectomy, bilateral level II–V neck dissection, and radial forearm flap esophageal reconstruction. Pathology showed surgical margins >5 mm, with perineural and lymphovascular invasion. Oral diet started on postoperative day 7. Due to a suspected tracheostomal posterior wall fistula on day 10, a covered metallic esophageal stent was placed early, preventing nutritional interruption. The fistula completely healed upon stent removal at day 30. Following oligometastatic radiotherapy and ongoing chemotherapy, the 12-month follow-up demonstrated successful oral intake (soft diet) and functional esophageal speech.

RESULTS

Esophageal reconstruction with a radial forearm flap after total laryngopharyngectomy is an effective and safe option in terms of both oncological control and functional gain, provided that careful surgical planning and early complication management are implemented.

CONCLUSIONS

The radial forearm flap is one of the preferred methods in post-laryngectomy esophageal reconstructions due to its thin pliable structure, adequate length, and reliable vascularity. In patients with a history of radiotherapy and systemic comorbidities, early-period stenting can reduce fistula-related complications and accelerate the healing process. This case demonstrates that a multidisciplinary approach and timely interventions can significantly improve functional outcomes in advanced-stage and complex patient groups.

KEYWORDS

Laryngopharyngectomy, radial forearm flap, esophageal reconstruction, early stenting, multidisciplinary approach, functional outcomes

PP-146

Occult Clear Cell Renal Cell Carcinoma Presenting With An Aggressive Floor-Of-Mouth Mass: A Rare Case Report

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BACKGROUND & AIM

Renal Cell Carcinoma (RCC) is the most common renal malignancy in adults. RCC is characterized by its unpredictable metastatic behavior. Metastases to the head and neck region account for less than 15% of all cases, and initial presentation as an intraoral mass mimicking a primary oral malignancy is exceedingly rare. In this case report, we aimed to present an unusual case of occult clear cell RCC that initially manifested as an aggressive oral cavity mass.

MATERIAL & METHODS

A 66-year-old female patient presented with a rapidly enlarging intraoral mass involving the anterior mandible and ventral tongue, with a clinical history of approximately one month. Physical examination revealed a 3 × 5 cm hemorrhagic, exophytic,

and ulcerative lesion within the oral cavity. The patient had no history of tobacco or alcohol use. Histopathological evaluation of the incisional biopsy specimen obtained from the lesion demonstrated metastatic Clear Cell Renal Cell Carcinoma. One week after the initial diagnosis, the patient developed a pathological femoral fracture. Contrast-enhanced computed tomography (CT) scans of the neck, thorax, brain, and knee, together with whole-body positron emission tomography (PET), revealed a 5 × 6 cm left renal mass consistent with renal cell carcinoma, as well as multiple metastatic lesions involving the mandible, lungs, brain, humerus, femur, scapula, and sacrum. The patient was subsequently referred to the Department of Medical Oncology for systemic chemotherapy.

RESULTS

Squamous Cell Carcinoma represents more than 90% of oral cavity carcinomas. When clear cells predominate in oral lesions, diagnosis may be challenging. As clear cells are common in salivary gland tumors, the differential diagnosis includes epithelial-myoepithelial carcinoma, mucoepidermoid carcinoma, adenocarcinoma, oncocytoma, and odontogenic tumors. Renal Cell Carcinoma frequently presents with distant metastases, and accounts for approximately 1–1.5% of oral cavity malignancies. It is the third most common primary tumor metastasizing to the oral cavity after lung and breast carcinomas. Although previously reported, RCC metastases most commonly involve the gingiva, alveolar mucosa, or jaws. Presentation as an aggressive floor-of-mouth mass is rare. Recent studies show that oro-facial RCC metastases most frequently affect the tongue, gingiva, and mandible, while floor-of-mouth involvement is uncommon. In the series by Granberg et al. (206 cases), one case (0.4%) involved the floor of the mouth. Therefore, this case is notable due to its rare floor-of-mouth presentation.

CONCLUSIONS

Renal Cell Carcinoma may present atypically as a rapidly enlarging, destructive, and aggressive oral cavity lesion. This case underscores the importance of including metastatic RCC in the differential diagnosis of oral cavity masses and highlights the critical role of immunohistochemistry and whole-body PET-CT imaging in the detection of primary occult malignancies.

KEYWORDS

Oral cavity tumors, Renal Cell Carcinoma,

PP-147

Parotis Bezinin Tükürük Kanalı Karsinomunda Klinikopatolojik Deneyimimiz Ve Cerrahi Sonuçlarımız

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BACKGROUND & AIM

Salivary gland duct carcinoma (SDC) is a highly aggressive and rare malignancy that particularly affects the parotid gland. Histologically, it resembles high-grade breast ductal carcinoma. SDC typically presents in the 6th or 7th decade of life, with a male predominance. Its prognosis is poor due to early lymph node metastasis, perineural invasion, and a tendency towards distant metastasis.

MATERIAL & METHODS

The study included 5 cases who underwent surgery for parotid masses in our clinic between 2025 and 2026 and whose histopathological examination revealed salivary gland ductal carcinoma.

RESULTS

The ages of the patients ranged from 56 to 81 years. All were male. One of the 5 patients had SDC on preoperative pathology, two had uncertain malignant potential, and two had malignant epithelial tumors. Preoperative facial nerve paralysis was present in 1 of 5 patients.

Total parotidectomy was performed in 4 patients. Radical parotidectomy and mastoidectomy were performed in 1 patient. Level 1-5 neck dissection was performed in 5 patients.

The average tumor diameter in 5 patients was 4-4.7 cm. Perineural invasion was observed in 5 patients. Lymphovascular invasion was observed in 4 of 5 patients. Dermal invasion was present in 3 patients. Levels 2-3-4 were the most frequent areas of metastasis in neck dissection specimens. ENE(+) was present in all 5 patients.

CONCLUSIONS

Salivary gland ductal carcinoma is characterized by high perineural spread capacity and early regional lymph node metastasis. The fact that they are often in an advanced stage (T4a) at the time of diagnosis and have a high rate of ENE(+) necessitates extensive surgical resection and chemoradiotherapy treatment. AR and HER2 positivity creates a targeted therapy option in SDC.

KEYWORDS

salivary duct carsinoma,parotid gland, neck dissection,extranodal extension,perineural invasion

PP-148

Correlation Between Great Auricular Nerve Diameter And Facial Nerve Trunk And Division Diameters During Parotidectomy: A Prospective Clinical Study

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BACKGROUND & AIM

To investigate the correlation between the great auricular nerve (GAN) diameter and the facial nerve trunk (FNT) and its temporofacial and cervicofacial division diameters during parotidectomy, and to evaluate the clinical utility of the GAN diameter in predicting facial nerve branch thickness.

MATERIAL & METHODS

A prospective study was conducted on 25 patients undergoing parotidectomy via a modified Blair incision. Intraoperative measurements of the GAN, FNT, temporofacial division (TFD), and cervicofacial division (CFD) diameters were obtained using a vernier caliper. Pearson and Spearman correlation analyses, linear regression, and comparative statistical tests were performed.

RESULTS

The mean diameters were as follows: GAN 2.22 ± 0.40 mm, FNT 2.50 ± 0.37 mm, TFD 2.32 ± 0.48 mm, and CFD 2.14 ± 0.38 mm. A significant positive correlation was observed between the GAN and FNT diameters ($r = 0.536$, $p = 0.006$). The strongest correlation was found between the GAN and TFD diameters ($r = 0.630$, $p < 0.001$). The FNT diameter correlated significantly with both the TFD ($r = 0.495$, $p = 0.012$) and CFD ($r = 0.694$, $p < 0.001$). However, no significant correlation was found between the GAN and CFD diameters ($r = 0.244$, $p = 0.240$). No significant side differences were observed for any nerve measurement ($p > 0.05$).

CONCLUSIONS

The GAN diameter serves as a significant intraoperative predictor of FNT and, most notably, TFD thickness. In patients with a large GAN diameter, a retrograde surgical approach via the temporofacial division may be more feasible owing to thicker peripheral branches. This finding has practical implications for surgical planning in parotidectomy.

KEYWORDS

great auricular nerve, facial nerve, parotidectomy, nerve diameter, correlation, surgical anatomy

PP-149

Determinants Of Outcomes After Total Laryngectomy: The Role Of Surgical Technique And Prior Radiotherapy

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BACKGROUND & AIM

Pharyngocutaneous fistula (PCF) remains the most frequent and clinically significant complication following total laryngectomy. Pharyngeal closure technique has been widely investigated as a potentially modifiable surgical factor, particularly with the introduction of mechanical stapling devices aimed at reducing operative time and tissue manipulation. At the same time, prior radiotherapy is consistently reported as a major risk factor for impaired wound healing and fistula formation. However, the extent to which technical modifications in pharyngeal closure may influence postoperative outcomes relative to the biological impact of previous irradiation remains a matter of clinical interest.

MATERIAL & METHODS

A retrospective case-control study was conducted including 28 patients who underwent total laryngectomy between 2018 and 2025. Patients were divided according to pharyngeal closure technique: manual suture (Group A, n=15) and stapled closure (Group B, n=10). Demographic characteristics were comparable between groups. Perioperative variables analyzed included operative time, postoperative complications, PCF incidence, surgical site infection, positive margins, length of hospital stay, and duration of nasogastric feeding. The association between prior radiotherapy and PCF was also evaluated.

RESULTS

Stapled closure was associated with a significantly shorter operative time compared with manual closure (3.7 ± 0.8 hours vs 4.8 ± 0.9 hours; $p = 0.01$). No statistically significant differences were observed between closure techniques regarding overall postoperative complications ($p = 0.69$), PCF incidence ($p = 0.68$), surgical site infection ($p = 0.64$), positive margins ($p = 0.57$), length of hospital stay, or duration of nasogastric feeding. Independent of closure technique, prior radiotherapy was significantly associated with the development of PCF ($p = 0.02$).

CONCLUSIONS

In this cohort, surgical technique influenced operative efficiency but did not significantly impact postoperative complication rates or fistula incidence. Prior radiotherapy was associated with an increased risk of pharyngocutaneous fistula, regardless of closure method. These findings suggest that, while technical factors may optimize surgical efficiency, patient-related biological factors—particularly previous irradiation—play a critical role in determining postoperative outcomes after total laryngectomy.

KEYWORDS
Total Laryngectomy; Pharyngocutaneous Fistula; Surgical Technique; Radiotherapy; Postoperative Complications

PP-150

CHALLENGES IN CHOOSING SURGICAL APPROACHES FOR RETRO- AND PARAPHARYNGEAL TUMORS: A RETROSPECTIVE STUDY

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BACKGROUND & AIM

Accessing the retro-/parapharyngeal space represents a challenge for head and neck surgeons due to its complex anatomy. The purpose of retro-/parapharyngeal space surgery is to achieve optimal visualization, allowing the removal of entire tumors while preserving the vessels and the nerves. One of the most important stage is the choice between transoral and transcervical approach.

MATERIAL & METHODS

We performed a retrospective analysis of 21 patients who had undergone transoral, transcervical or combined resection of retro-/parapapharyngeal space tumors from January 2015 to December 2025 in our hospital. Clinical manifestations, paraclinical aspects, surgical approaches, complications and histopathological results are discussed.

RESULTS

The most often reported symptoms were: dysphagia and cervical swelling. We performed surgery in all patients: 12 transoral, 8 transcervical, 1 combined. In every case the tumor was removed radically. In terms of histopathological findings, benign lesions exceeded (17). Most of these were pleomorphic adenomas (6) and schwanomas (5). Other histopathologycal diagnosis included: cysts, lipoma-like hibernoma, rhabdomyoma, hemangioma, fibroconjunctival hyperplasia. Postoperative complications occurred in 3 patients and presented as bleeding and dyspnoea due to recurrent laryngeal paresis.

CONCLUSIONS

The transoral approach is one of the most disputed approaches for retro-/parapharyngeal tumors, starting from the challenge of obtaining an adequate exposure. It is mandatory for ENT surgeons to be well trained in different approaches for this region delimited by the carotid sheath, skull base, prevertebral fasci and posterior pharyngeal wall. A variety of factors guide the choice of the optimal surgical approach: tumor size, nature of the tumor, relation with critical structures and notably, the surgeon`s training level.

KEYWORDS
parapharyngeal, retroparyngeal, transoral, transcervical

PP-151

Delayed Sinonasal Metastasis Of Renal Cell Carcinoma: A Case Report

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BACKGROUND & AIM

Renal cell carcinoma (RCC) is a malignant renal tumor most commonly metastasizing to the lungs, bones, and liver. Sinonasal involvement is rare, and the available literature remains limited. Metastatic spread to the sinonasal region occurs via two hematogenous pathways: the classical route through the renal vein, inferior vena cava, and lungs; and the Batson paravertebral venous plexus, bypassing pulmonary filtration. Epistaxis, nasal obstruction, and pain are the most common presentations. We report a rare case of late RCC metastasis to the nasal cavity, occurring 8 years after nephrectomy with no prior evidence of metastatic disease.

MATERIAL & METHODS

A 64-year-old male presented with a 7-month history of right-sided nasal obstruction, epistaxis, and anosmia. Otorhinolaryngological examination revealed a highly vascular mass nearly completely obliterating the right nasal cavity. Contrast-enhanced CT showed an expansile mass measuring 28 × 43 × 49 mm, originating from the right ethmoidal fovea, with deformation of the medial maxillary sinus wall and nasal septum. Systemic imaging revealed no additional metastatic foci. The patient had undergone right radical nephrectomy 8 years previously for RCC (pT1N0M0). Biopsy of the nasal mass was consistent with metastatic renal cell carcinoma. Following multidisciplinary tumor board discussion, induction systemic therapy with pazopanib (800 mg/day for 6 weeks) was initiated prior to surgical planning. Preoperative chemoembolization of the internal maxillary artery was performed given the marked hypervascularity of the lesion, after which the tumor was completely excised endoscopically. At 24-month follow-up, no recurrence or residual disease was detected.

RESULTS

The classic triad of flank pain, hematuria, and palpable mass is observed in fewer than 10% of patients with RCC, whereas nearly one-third present with distant metastases at diagnosis. Although metastatic spread most commonly involves the lungs, liver, brain, and bones, sinonasal involvement remains rare. Among the paranasal sinuses, the maxillary sinus is most frequently affected, followed by the ethmoid, frontal, and sphenoid sinuses. In our case, ethmoid fovea metastasis developed 7 years after nephrectomy, consistent with the prolonged latency described in the literature. Immunohistochemistry demonstrated positivity for vimentin, EMA, CD10, and CKAE1/AE3, with negative CK7 staining, supporting metastatic RCC origin. Up to 30% of patients develop metastases after nephrectomy, with sinonasal involvement occurring after a mean interval of approximately 7 years.

CONCLUSIONS

We present a rare case of isolated sinonasal metastatic RCC involving the right nasal cavity. In patients with a history of RCC, late-onset nasal symptoms should prompt consideration of metastatic disease. Preoperative chemoembolization followed by endoscopic surgical resection provided effective local control, consistent with previously reported management strategies. Although sinonasal metastases are generally associated with poor prognosis, our patient has exceeded the reported median survival threshold at 24 months. The 7-year interval between nephrectomy and metastasis underscores the unpredictable biological behavior of RCC and highlights the importance of long-term clinical surveillance in all patients, regardless of initial tumor characteristics.

KEYWORDS

Metastasis, Renal cell carcinoma, Sinonasal tumor

PP-152

A CASE REPORT WARTHIN-LIKE PAPILLARY THYROID CARCINOMA

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BACKGROUND & AIM

Papillary thyroid carcinoma is the most common endocrine malignancy and comprises various histopathological subtypes. Warthin-like papillary thyroid carcinoma is a rare variant, accounting for approximately 0.2–1.9% of cases, and is characterized by morphological similarity to Warthin tumor. It is frequently associated with Chronic lymphocytic thyroiditis and generally has a favorable prognosis.The aim of this study is to present a rare case of Warthin-like papillary thyroid carcinoma in a young patient and to highlight its clinical, radiological, and pathological features.

MATERIAL & METHODS

A 21-year-old female patient presented with a progressively enlarging neck swelling over four years. Neck ultrasonography revealed a suspicious nodule in the left thyroid lobe. Fine-needle aspiration biopsy was performed and reported as Bethesda category V. Laboratory tests including thyroid function tests and thyroid autoantibodies were evaluated. Cervical lymph nodes were assessed by ultrasonography and Thyroglobulin washout. The patient subsequently underwent Total thyroidectomy. Histopathological examination was performed postoperatively.

RESULTS

Ultrasonography demonstrated an 11 × 9 × 17 mm hypoechoic nodule with microcalcifications in the left thyroid lobe. Cervical lymph nodes appeared reactive, and thyroglobulin washout was negative. Thyroid function tests were within normal limits, while anti-thyroglobulin and anti-TPO levels were elevated.

Postoperative histopathological examination revealed Warthin-like papillary thyroid carcinoma in the left lobe and chronic lymphocytic thyroiditis in the right lobe. The tumor measured 1.3 cm in greatest dimension, with negative surgical margins. No extrathyroidal extension or lymphovascular invasion was identified. The patient did not receive radioactive iodine therapy and is under regular follow-up.

CONCLUSIONS

Warthin-like papillary thyroid carcinoma is a rare subtype of papillary thyroid carcinoma with favorable prognosis. It may occur in younger patients and is commonly associated with chronic lymphocytic thyroiditis. Accurate diagnosis relies on histopathological evaluation. Surgical management alone may be sufficient in selected low-risk cases, and careful follow-up is essential.

KEYWORDS

Papillary thyroid carcinoma; Warthin-like papillary thyroid carcinoma; Chronic lymphocytic thyroiditis; thyroid nodule; Total thyroidectomy

PP-153

Life-Threatening Recurrent Epistaxis Due To Traumatic Cavernous Internal Carotid Artery Pseudoaneurysm: A Case Report

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BACKGROUND & AIM

Although epistaxis is generally benign, recurrent, unilateral, posterior bleeding requiring repeated transfusions—particularly after craniofacial trauma—necessitates urgent evaluation for occult vascular injury. Traumatic pseudoaneurysms of the cavernous internal carotid artery (ICA) are rare but may carry rupture mortality of up to 50%. Diagnosis is often delayed, as anterior rhinoscopy and nasal endoscopy frequently fail to detect an active bleeding source, leading to misinterpretation as routine ENT epistaxis. Delayed presentation weeks after trauma further complicates recognition. We present a life-threatening case of transfusion-dependent epistaxis caused by a traumatic cavernous ICA pseudoaneurysm, highlighting the importance of early vascular imaging and timely endovascular management.

MATERIAL & METHODS

In the presented case, a 33-year-old male patient who developed intermittent profuse epistaxis approximately four weeks after a non-vehicle traffic accident and required repeated erythrocyte suspension transfusions showed no identifiable bleeding focus on initial otorhinolaryngologic evaluations; cauterization of the Little's area and nasal packing were performed. Subsequent vascular imaging, prompted by a progressive decrease in hemoglobin levels accompanied by headache and visual loss, revealed a pseudoaneurysm originating from the cavernous segment of the right ICA with extension into the sphenoid sinus.

RESULTS

Brain CT angiography demonstrated a pseudoaneurysm in the cavernous segment of the right internal carotid artery (ICA) extending into the sphenoid sinus. The patient underwent endovascular treatment, occluding the patent ICA segment while confirming collateral flow through the anterior and posterior communicating arteries (AComA and PComA). One day post-procedure, anterior and posterior nasal tampons were removed without active bleeding. Follow-up MRI revealed two punctate diffusion-restricted lesions in the right frontal and parietal lobes, microhemorrhages in the left parietal and right temporal lobes, and flow loss in the petrous and cavernous ICA segments. Two-week MR angiography confirmed distal cervical, petrous, and cavernous ICA occlusion with adequate collateral filling. Neurologically, the patient was alert, with mild left arm pronation and slight hypoesthesia on the dorsum of the left hand. Ophthalmologic evaluation showed traumatic optic neuropathy of the right optic disc. At one-year follow-up, there was no recurrent epistaxis or neurological deterioration.

CONCLUSIONS

When this case is evaluated together with the literature, ICA pseudoaneurysm should be considered a primary differential diagnosis in patients with a history of trauma presenting with unilateral, recurrent, posterior, and transfusion-dependent epistaxis, even in the absence of an identifiable bleeding focus on nasal endoscopy. Early vascular imaging—preferably DSA—and timely endovascular intervention in appropriate cases are crucial in reducing the risk of catastrophic rupture and mortality.

KEYWORDS

Epistaxis; Internal carotid artery; Pseudoaneurysm; Cavernous sinus; MR angiography.

PP-154

Kimura Disease As A Retroauricular Mass

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BACKGROUND & AIM

Kimura disease is a rare, benign chronic inflammatory disorder that typically presents as painless subcutaneous masses in the head and neck region

We report the case of an 18-year-old male with a one-week history of a left retroauricular swelling that was initially treated as an infectious abscess.

MATERIAL & METHODS

Imaging revealed a subcutaneous lesion without bony involvement, and an excisional biopsy was performed. Histopathological examination demonstrated eosinophil-rich granulomatous inflammation with lymphoid follicular hyperplasia and vascular proliferation, consistent with Kimura disease.

RESULTS

The lesion was completely excised, and the patient recovered well.Patient had no recurrence of the mass and all investigations were negative for any associations

CONCLUSIONS

Kimura disease is a rare idiopathic inflammatory disease that should be included in the differential diagnosis of persistent head and neck swellings, particularly when histology shows eosinophil-rich infiltrates

KEYWORDS

Kimura disease , retroauricular mass

PP-155

Progressive Temporal Arteriovenous Malformation Developing During Pregnancy: Surgical Management Of A Rare Case

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BACKGROUND & AIM

Arteriovenous malformations (AVMs) are rare high-flow vascular anomalies that may progressively enlarge, particularly during hormonal changes such as pregnancy. Temporal extracranial AVMs are uncommon and may present with pulsatile swelling, tinnitus, and cosmetic deformity. Due to their complex vascular structure and recurrence potential, management remains challenging. We aimed to present a rare case of a progressive temporal arteriovenous malformation developing during pregnancy that was successfully treated with total surgical excision without recurrence during follow-up.

MATERIAL & METHODS

A 47-year-old woman presented with a progressively enlarging right temporal and auricular mass associated with pulsatile tinnitus and buzzing sounds. The lesion initially appeared during the seventh month of a triplet pregnancy approximately 20 years earlier. Contrast-enhanced computed tomography demonstrated a 42 × 30 mm extracranial arteriovenous malformation extending from the temporal region to the mandibular level. The patient underwent total surgical excision under general anesthesia. The lesion was carefully dissected using sharp and blunt dissection techniques, and feeding vascular pedicles were identified and ligated intraoperatively. Histopathological examination confirmed the diagnosis of arteriovenous malformation. Preoperative, intraoperative, and postoperative clinical findings were evaluated.

RESULTS

Total surgical excision of the temporal arteriovenous malformation was successfully achieved without major intraoperative complications. Feeding vascular pedicles were adequately controlled with ligation, allowing complete removal of the lesion. Histopathological examination confirmed the diagnosis of arteriovenous malformation. Postoperatively, the patient demonstrated satisfactory cosmetic and functional outcomes with significant improvement in pulsatile tinnitus and buzzing symptoms. No wound complications were observed during follow-up. At the sixth postoperative month, no evidence of recurrence was detected clinically.

CONCLUSIONS

Temporal extracranial arteriovenous malformations are rare vascular lesions that may progressively enlarge during pregnancy. Accurate radiological evaluation and meticulous surgical planning are essential for successful treatment. Complete surgical excision with proper vascular control can provide favorable functional and cosmetic outcomes while minimizing recurrence risk. Early diagnosis and timely intervention remain important in the management of these lesions.

KEYWORDS

Arteriovenous malformation; Temporal region; Pregnancy; Vascular malformation; Surgical excision; Tinnitus; Case report

PP-156

Tumor Size, TIRADS, And Lymph Node Status As Predictors Of Central Neck Dissection In Thyroid Cancer

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BACKGROUND & AIM

To evaluate the predictive value of tumor size, TIRADS classification, lymph node involvement, and demographic factors in guiding central neck dissection (CND) in patients with thyroid cancer.

MATERIAL & METHODS

This retrospective cross-sectional study included 437 patients, selected through convenience sampling, who underwent total thyroidectomy for thyroid cancer at a tertiary hospital in Riyadh, Saudi Arabia, from 2010 to 2023. Data collected included age, sex, BMI, tumor size, TIRADS level, lymph node status, and fine-needle aspiration (FNA) results. Associations with the performance of CND were analyzed using Pearson correlation coefficients and descriptive statistics.

RESULTS

Lymph node involvement, defined as histopathologically confirmed central lymph node metastasis, was the strongest independent predictor of CND ($r = 0.5285$, $p < 0.0001$), followed by tumor size ($r = 0.4200$, $p < 0.0001$) and TIRADS score ($r = 0.2128$, $p = 0.0467$). Age showed a weak but statistically significant association with CND ($r = 0.1426$, $p = 0.0031$), while sex and BMI had no significant impact. The majority of nodules were classified as TIRADS 3 to 5 (87.17%), and patients undergoing CND tended to be older with larger tumors and higher TIRADS categories.

CONCLUSIONS

Lymph node involvement, tumor size, and TIRADS classification are meaningful predictors of surgical management in thyroid cancer. Integrating these factors into preoperative evaluation supports a personalized approach to CND, potentially reducing

unnecessary procedures and improving patient outcomes. These findings support the development of standardized, risk-adapted surgical criteria for central neck dissection in thyroid cancer.

KEYWORDS

Thyroid cancer, Central neck dissection, Tumor size, TIRADS, lymph node metastasis

PP-157

Large And Deep Cervical Abscess Involving Parapharyngeal And Retropharyngeal Spaces And Extending To The Upper Mediastinum: Case Report

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BACKGROUND & AIM

Deep neck infections are clinical conditions that can progress rapidly and lead to serious complications such as airway obstruction and mediastinal spread. If left untreated, complications can develop, even resulting in death.This study presents a case of a deep neck abscess with extensive anatomical spread.

MATERIAL & METHODS

A 27-year-old male patient presented with complaints of swelling and pain in the right cervical region that had been ongoing for approximately one week. Despite oral antibiotic treatment initiated at an external center, no clinical response was obtained. At the time of presentation, he had trismus, restricted oral intake, and significant cervical swelling.

Contrast-enhanced neck MR imaging revealed a collection consistent with an abscess, approximately 80x72x120 mm in size, extending from the mastoid level to the T1 vertebra level in the right lateral neck, showing peripheral contrast enhancement and diffusion restriction. The lesion was found to extend into the parapharyngeal and retropharyngeal spaces, causing significant airway narrowing. The lesion was adjacent to the submandibular gland anteriorly and the paravertebral muscles posteriorly.

Flexible nasopharyngolaryngoscopy showed significant edema in the posterior pharyngeal wall, medialization of the right lateral wall, and narrowing of the laryngeal airway.

RESULTS

The patient was admitted to the hospital and treatment with intravenous ceftriaxone (2x2 g), ciprofloxacin (2x400 mg), and metronidazole (3x500 mg). Clinical evaluation revealed the most pronounced fluctuation in the posterior cervical triangle, and incision and drainage were performed. Microscopic examination and culture of the drainage material showed no growth. Significant improvement in clinical findings was observed during follow-up. After a total of 10 days of intravenous antibiotic therapy, the patient was discharged with oral antibiotic therapy (cephalexin 500 mg 3x1, moxifloxacin 1x1, and ornidazole 2x1). Endoscopic evaluation before discharge showed significant improvement in airway patency.

CONCLUSIONS

Deep cervical abscesses, representing severe infections occurring in the potential fascial planes of the head and neck, highlight a significant global health problem due to their morbidity, mortality, and evolving epidemiology. Characterized by the accumulation of pus in anatomically distinct deep cervical compartments (e.g., parapharyngeal, retropharyngeal, submandibular, and masticatory spaces).The complex fascial structure facilitates rapid downward spread into the mediastinum or upward extension into adjacent cranial spaces, increasing the risk of catastrophic complications including airway obstruction, descending necrotizing mediastinitis, jugular venous thrombosis, and intracranial spread. The introduction of broad-spectrum antibiotics has led to a significant decrease in deep neck infections.

KEYWORDS

deep neck space abscesses, neck infections, suppurative abscesses

PP-158

RNF152 Methylation And Expression Alterations In Oral Squamous Cell Carcinoma

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BACKGROUND & AIM

Oral squamous cell carcinoma (OSCC) is a common subtype of head and neck cancer associated with high mortality and poor survival rates. Environmental risk factors, particularly tobacco and alcohol use, contribute to OSCC development through genetic and epigenetic alterations. Among epigenetic mechanisms, DNA methylation plays a critical role in tumor suppressor gene silencing. Although RNF152 epigenetic alterations have been reported in several malignancies, its methylation and

expression profile in OSCC remains poorly understood. This study aimed to evaluate the methylation and expression status of RNF152 in OSCC and investigate its potential role in oral carcinogenesis.

MATERIAL & METHODS

The methylation status of RNF152 was analyzed by quantitative methylation-specific PCR in tumor tissues and matched-adjacent normal tissues obtained from 25 OSCC patients. Gene expression levels were evaluated using quantitative real-time PCR.

RESULTS

RNF152 hypermethylation was detected in 32% of OSCC tumor tissues and 20% of matched-adjacent normal tissues, whereas no methylation was observed in healthy control mucosal tissues. Gene expression analyses revealed decreased RNF152 expression in 40% of OSCC cases, while increased expression relative to matched adjacent normal tissues was observed in 36% of the cases. Reduced RNF152 expression was detected in 50% of hypermethylated samples, whereas increased expression was observed in all hypomethylated samples.

CONCLUSIONS

These findings suggest that alterations in RNF152 methylation and expression may contribute to the molecular heterogeneity of OSCC and indicate a potential role for RNF152 in a subset of oral carcinogenesis. However, larger-scale studies are required to further clarify the biological and clinical significance of RNF152-associated epigenetic alterations in OSCC.

KEYWORDS

RNF152, oral squamous cell carcinoma, DNA methylation, gene expression, epigenetics

PP-159

Supraglottik Basal Cell Adenocarsinoma: A Rare Case Presentation And Literature Review

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BACKGROUND & AIM

Basal cell adenocarcinoma (BCAC) is a rare, low-grade malignant salivary gland tumor [1]. First described in 1990, it was included in the WHO classification in 1991 [2]. Lacrimal gland, breast, tongue, and ethmoid sinus involvements have been reported [3-6]. Immunohistochemistry is critical for differential diagnosis, as BCAC mimics benign basal cell adenomas, aggressive adenoid cystic, or basaloid squamous cell carcinomas. Laryngeal minor salivary gland tumors comprise <1% of laryngeal malignancies; specifically, laryngeal BCAC is limited to only two cases [7,8]. To contribute to this non-standardized treatment algorithm involving surgical resection and chemoradiotherapy, we discuss a rare supraglottic BCAC case [1].

MATERIAL & METHODS

A 34-year-old female smoker (2 pack-years) presented with a 2-month history of worsening sore throat and viscous sputum, with no relevant family history. Endoscopic examination revealed a vegetative supraglottic mass, while physical neck palpation was unremarkable. Biopsy histology demonstrated a basaloid component, ductal differentiation, invasive growth pattern, increased mitotic activity, high proliferation index, and cellular atypia, confirming basal cell adenocarcinoma. Workup with neck ultrasonography, contrast-enhanced computed tomography of the neck/thorax, neck magnetic resonance imaging, and positron emission tomography-computed tomography staged the tumor as clinical T2N0M0. The patient underwent supraglottic horizontal partial laryngectomy (thyrohyoidopexy) combined with left level II, III, and IV neck dissection. The postoperative course was uneventful without complications. Histopathological re-evaluation of the surgical specimen confirmed the initial diagnosis with negative surgical margins and no lymph node metastasis. The patient remains under regular follow-up with no clinical or radiological evidence of recurrence.

RESULTS

Minor salivary glands are distributed throughout the larynx, primarily in the glottis, subglottis, and supraglottis [9]. Laryngeal minor salivary gland tumors comprise <1% of laryngeal malignancies, predominantly presenting as adenoid cystic (46%), mucoepidermoid (35%), and adenocarcinoma, NOS (12%) [10]. Rare histologies include basal cell adenocarcinoma (BCAC), first described in 1978 [1,11-14]. These submucosal tumors lack common risk factors and grow silently until reaching advanced stages [11]. In our patient, this painless growth caused symptoms within two months. Supraglottic localization is most common (52%) [10]. Although partial or total laryngectomy is performed in 80% of laryngeal minor salivary gland tumors, local recurrence affects 37% of cases, while regional and distant metastases occur in 8% and 4%, respectively [1,7,11]. While unresectable BCAC cases utilize chemoradiotherapy, accepted surgical resection with negative margins remains the primary treatment [1,7,15,16]. Consistently, our patient was treated surgically and remains recurrence-free at her 10-month follow-up.

CONCLUSIONS

Laryngeal basal cell adenocarcinoma (BCAC) is an exceptionally rare salivary gland tumor lacking defined long-term management strategies. Due to its non-specific symptoms and submucosal growth, immunohistochemical profiling is crucial to avoid misdiagnosis. In our supraglottic BCAC case, negative-margin partial laryngectomy and neck dissection achieved early-stage recurrence-free survival without adjuvant therapy; however, high literature recurrence rates necessitate long-term,

close clinical surveillance. This case emphasizes considering minor salivary gland malignancies in atypical head-and-neck masses without typical risk factors. While surgery remains paramount, chemoradiotherapy offers alternative options for unresectable cases [15]. Accumulating more case reports will optimize treatment algorithms for this rare tumor.

KEYWORDS

Basal cell adenocarcinoma, Minor salivary gland tumors, Supraglottic neoplasms, Laryngeal adenocarcinoma

PP-160

SCHWANNOMA OF THE TONGUE

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BACKGROUND & AIM

Schwannoma is a benign, encapsulated, slow-growing tumor originating from Schwann cells of peripheral nerve sheaths. Approximately 25–45% of schwannomas occur in the head and neck region, while intraoral localization is relatively rare. Among intraoral sites, the tongue is the most frequently affected location.

We present a rare case of lingual schwannoma with an unusual polypoid morphology originating from a branch of the lingual nerve.

MATERIAL & METHODS

A 52-year-old patient presented with a painless, progressively enlarging swelling on the tip of the tongue for 3 months. An incisional biopsy performed at an external center revealed schwannoma, and the patient was referred to our clinic.

On clinical examination, a small ulcerated lesion with an underlying intramural mass (~4 mm) was detected on the right side of the tongue tip. The lesion demonstrated a polypoid appearance.

Given the superficial location and well-defined borders on palpation, no preoperative imaging was performed. The lesion was completely excised under local anesthesia with a 5 mm safety margin using a wedge resection technique, followed by primary closure.

RESULTS

Histopathological examination revealed a well-encapsulated subepithelial tumor composed of spindle cells with nuclear palisading. Immunohistochemical analysis showed strong S-100 positivity, confirming the diagnosis of schwannoma.

The postoperative course was uneventful. No complications were observed. No recurrence was detected during the 6-month follow-up period.

CONCLUSIONS

Lingual schwannomas are rare lesions, particularly when presenting with atypical polypoid morphology.They should be considered in the differential diagnosis of painless lingual masses.Complete surgical excision is a safe and effective treatment with low recurrence risk.Careful follow-up is recommended due to the potential, albeit rare, risk of malignant transformation.

KEYWORDS

Lingual schwannoma,Tongue mass, Polypoid lesion, Peripheral nerve tumor

PP-161

When A Common Tumor Becomes Rare: Lipoma Of The Soft Palate

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BACKGROUND & AIM

Lipomas are common benign mesenchymal tumors, yet their occurrence in the oral cavity—particularly the soft palate—is rare. The differential diagnosis of palatal masses includes minor salivary gland tumors, mucoceles, vascular lesions, neurogenic tumors, fibromas, infectious-inflammatory lesions, and malignant neoplasms. Although uncommon in this location, lipoma should also be considered, particularly in soft, mobile, slow-growing lesions. This study aims to present the clinical, radiological, and surgical characteristics of a soft palate lipoma and to highlight its relevance in differential diagnosis.

MATERIAL & METHODS

A 56-year-old male presented with a painless palatal swelling persisting for three years. Physical examination revealed a soft, mobile mass (approximately 5×3 cm) extending from the hard–soft palate junction to the right retromolar trigone. No cervical lymphadenopathy was noted. MRI demonstrated a well-circumscribed lipomatous lesion (2.5×1.5×1.5 cm) in the right posteroinferior soft palate, hyperintense on T1/T2 and suppressed on fat-saturated sequences. Fine-needle aspiration was not feasible. Transoral total excision was performed under general anesthesia.

RESULTS

Intraoperatively, the lesion was well-defined, located in the submucosal plane, and showed no muscle invasion. Histopathological examination confirmed lipoma. The postoperative course was uneventful, with no complications. Follow-up revealed no recurrence.

CONCLUSIONS

Although rare, lipomas should be considered in the differential diagnosis of soft palate masses. MRI plays a key role in preoperative evaluation. Complete surgical excision is curative and associated with excellent prognosis and low recurrence.

KEYWORDS

Soft palate, lipoma, oral cavity tumor, benign tumor, MRI, surgical excision

PP-162

An Unusual Metastatic Pattern: Palatine Tonsil Metastasis From High-Grade Endometrial Stromal Sarcoma

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BACKGROUND & AIM

High-grade endometrial stromal sarcoma (HG-ESS) is a rare and aggressive uterine malignancy that typically metastasizes to the lungs and bones. Metastasis to the head and neck region is exceedingly rare. We aimed to present the first reported case of HG-ESS metastasizing to the palatine tonsil and to emphasize the importance of thorough head and neck evaluation in oncologic patients.

MATERIAL & METHODS

A 53-year-old woman presented with intermenstrual bleeding and was diagnosed with high-grade endometrial stromal sarcoma based on histopathological and immunohistochemical analysis. For staging, FDG-PET/CT imaging was performed, revealing hypermetabolic lesions in the uterus, pelvic and para-aortic lymph nodes, right adrenal gland, and left palatine tonsil. The patient underwent total abdominal hysterectomy, bilateral salpingo-oophorectomy, lymph node dissection, right adrenalectomy, and tonsillar biopsy. Histopathological evaluation was performed on all surgical specimens.

RESULTS

Histopathological examination confirmed metastatic HG-ESS in both the adrenal gland and the palatine tonsil. No thoracic metastasis was identified. The disease was staged as pT3a pN0 pM1. Due to the presence of systemic metastatic disease, tonsillectomy was not considered beneficial, and radiotherapy was planned as the primary treatment modality. This case represents the first documented metastasis of HG-ESS to the palatine tonsil.

CONCLUSIONS

High-grade endometrial stromal sarcoma can metastasize to unusual locations such as the palatine tonsil. This case highlights the importance of thorough head and neck examination in patients with systemic malignancies. Recognition of rare metastatic patterns is essential for accurate diagnosis and appropriate management. Clinicians should consider metastatic disease in atypical tonsillar lesions, especially in patients with known malignancies.

KEYWORDS

Endometrial stromal sarcoma; palatine tonsil metastasis; uterine sarcoma; head and neck metastasis; PET/CT imaging

PP-163

Epidemiological Trends In Head And Neck Cancer In Nara Prefecture, Japan, 2000-2021

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BACKGROUND & AIM

Epidemiological surveys were conducted in Nara Prefecture, Japan, to determine the prevalence of head and neck cancer in the region since 1986.

MATERIAL & METHODS

This study examined the dynamics of visits to 18 medical institutions treating head and neck cancer in Nara Prefecture from 2000 to 2021.

RESULTS

A total of 8,605 patients were registered, with 4,788 being male and 3,787 female. These included 3,603 thyroid, 2,215 oral, 1,164 laryngeal, 645 hypopharyngeal, 512 oropharyngeal, 326 nasal sinus, and 286 salivary gland cancer cases. A marked increase in subsite was observed in oropharyngeal, oral, and hypopharyngeal cancers, whereas laryngeal cancer remained unchanged. The number of registered patients increased every year, with 547 new patients registered in 2019, compared to

249 in 2000. However, the number of registered cases decreased by nearly 100 cases after 2020 because of the COVID-19 pandemic (453 cases in 2020 and 420 cases in 2021).

CONCLUSIONS

This study is distinctive as it comprehensively surveys all departments within Nara Prefecture involved in managing head and neck cancer.

KEYWORDS

COVID-19, Epidemiological survey, Head and neck cancer

PP-164

Metastatic Carotid Body Paragangliomas: A Three-Case Series Highlighting Surgical And Oncologic Challenges

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BACKGROUND & AIM

Head and neck paragangliomas are rare neuroendocrine tumors that are usually slow-growing and benign; however, metastatic disease may occur in a small subset of patients and is associated with significant surgical and oncologic challenges. Metastatic carotid body paragangliomas are particularly uncommon, and evidence regarding their clinical behavior and optimal management remains limited. This study aims to present three cases of metastatic carotid body paraganglioma with distinct metastatic patterns, complex vascular involvement, and multidisciplinary treatment approaches, highlighting the role of advanced imaging, vascular reconstruction, and targeted oncologic therapies in disease management.

MATERIAL & METHODS

This retrospective case series included three patients diagnosed with metastatic carotid body paraganglioma and treated at our tertiary referral center. Clinical presentation, radiological findings, surgical procedures, histopathological characteristics, immunohistochemical results, metastatic patterns, and oncologic treatment strategies were reviewed retrospectively from medical records. Tumor extent was evaluated using contrast-enhanced computed tomography, magnetic resonance imaging, digital subtraction angiography, and Ga-68 DOTATATE PET/CT imaging. Surgical management, vascular reconstruction procedures, postoperative complications, and follow-up outcomes were analyzed. Histopathological evaluation included assessment of lymphovascular invasion, perineural invasion, lymph node metastasis, and SDHB expression status when available.

RESULTS

Three patients with metastatic carotid body paraganglioma were included in the study. Two patients were female and one was male, with ages ranging from 23 to 54 years. All tumors were classified as Shamblin type III. Cervical lymph node metastases were detected in two patients, pulmonary metastases in one patient, and hepatic metastases in one patient. Histopathological examination demonstrated lymphovascular invasion in two cases, perineural invasion in one case, and loss of SDHB expression in one patient.

Two patients required carotid artery resection because of extensive vascular involvement, and vascular reconstruction was successfully performed in one patient. Preoperative embolization was feasible in one patient but could not be performed in another because of extensive collateral circulation. Ga-68 DOTATATE PET/CT successfully identified metastatic disease and guided postoperative management. One patient treated with Lutetium-177 peptide receptor radionuclide therapy demonstrated partial regression of metastatic lesions on follow-up imaging.

CONCLUSIONS

Metastatic carotid body paragangliomas are rare neuroendocrine tumors with unpredictable and potentially aggressive behavior. This series highlights the importance of recognizing metastatic potential in patients with SDHB loss, nodal involvement, rapid progression, or suggestive familial history. Management of advanced Shamblin type III tumors often requires complex multidisciplinary collaboration involving surgical and oncologic teams. Ga-68 DOTATATE PET/CT plays a critical role in staging and follow-up, while targeted therapies such as Lutetium-177 PRRT may provide disease control in metastatic cases. Comprehensive genetic evaluation should be considered in patients with suspected hereditary predisposition, even when initial molecular analyses are inconclusive.

KEYWORDS

Carotid body paraganglioma Metastatic paraganglioma Head and neck paraganglioma SDHB Ga-68 DOTATATE PET/CT Vascular reconstruction Lutetium-177 therapy Peptide receptor radionuclide therapy (PRRT)

PP-165

Clinical Challenge In Post-Radiotherapy Monitoring: Differentiating Local Recurrenc From Osteoradionecrosis In Oral Cavity Cancer

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BACKGROUND & AIM

The distinction between osteoradionecrosis (ORN) and local recurrence (LR) in oral cavity cancer (OCC) remains a formidable challenge for otolaryngologists. Both conditions share overlapping features, such as bone exposure and severe pain. Misdiagnosis can lead to delayed treatment or unnecessary radical surgeries. This study investigates the clinical indicators and dosimetric factors that differentiate these two entities.

MATERIAL & METHODS

We conducted a retrospective analysis of 203 OCC patients who developed mandibular lesions following RT/CCRT. Patients were categorized into three groups: simple ORN (Group A), ORN with concurrent recurrence (Group B), and local recurrence without ORN (Group C). We compared their onset timing, radiation dose distribution maximum (Dmax to the mandible), and metabolic activity on 18F-FDG PET/CT.

RESULTS

First, the median time to onset for LR was significantly shorter than for simple ORN. Second, a high SUVmax (Standardized Uptake Value Maximum) was strongly associated with malignancy within the necrotic site. Third, Group A patients showed a higher correlation with Dmax >70 Gy. Importantly, the 2-year overall survival was markedly lower in the recurrence group, highlighting the critical need for early biopsy.

CONCLUSIONS

ORN and tumor recurrence frequently coexist and share overlapping clinical features. Early onset of "bone necrosis" symptoms should be treated with high suspicion for recurrence. We establish a 'Risk-Scoring System' to identify occult recurrences masked within necrotic bone segments.

KEYWORDS

Osteoradionecrosis and local recurrence in oral cavity cancer

PP-166

Clinical Challenge In Post-Radiotherapy Monitoring: Differentiating Local Recurrence From Osteoradionecrosis In Oral Cavity Cancer

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BACKGROUND & AIM

The distinction between osteoradionecrosis (ORN) and local recurrence (LR) in oral cavity cancer (OCC) remains a formidable challenge for otolaryngologists. Both conditions share overlapping features, such as bone exposure and severe pain. Misdiagnosis can lead to delayed treatment or unnecessary radical surgeries. This study investigates the clinical indicators and dosimetric factors that differentiate these two entities.

MATERIAL & METHODS

A retrospective analysis of 45 patients with lower gum cancer who underwent RT was conducted. Patients were stratified into four distinct clinical cohorts: Group A (Simple ORN, n=5), Group B (ORN with Concurrent Local Recurrence, n=6), Group C (Local Recurrence without ORN, n=11), and Group D (Control Group, n=23). High-risk clinical target volume (CTVH) doses, biologically effective doses (BED3 and BED10), pre-RT tooth extraction rates, onset timelines of ORN/recurrence, and maximum standardized uptake values (PET SUVmax) were statistically analyzed across groups.

RESULTS

No statistically significant differences were observed among the four cohorts regarding CTVH total dose (61.4~66.8 Gy), BED3 or BED10. Pre-RT tooth extraction rates demonstrated a prominent clinical trend in the development of bone injury (Group B: 66.7%, Group A: 40.0% vs. Group C: 27.3%, Group D: 17.4%; $p = 0.113$). PET SUVmax demonstrated highly significant stratification capability between benign tissue injury and malignant failure ($p = 0.004$). Within Group B, ORN onset averaged 17.11 ± 15.45 months, while subsequent recurrence averaged 34.43 ± 23.80 months ($p = 0.115$). Notably, bone necrosis chronologically preceded the diagnostic confirmation of malignancy in 83.3% (5/6) of these concurrent cohorts.

CONCLUSIONS

In lower gum cancer, the prescription radiation dose and biological equivalent doses do not serve as primary drivers for the development of ORN or local recurrence. Pre-RT tooth extractions represent a crucial clinical factor predisposing patients to subsequent bone necrosis. PET SUVmax serves as a highly robust diagnostic tool for clinical differentiation. While recurrence has been widely recognized as an independent prognostic factor, early aggressive surveillance using PET/CT remains imperative to salvage long-term survival trajectories.

KEYWORDS

Osteoradionecrosis and local recurrence in oral cavity cancer

PP-167

Clinical Characteristics And Surgical Outcomes Of Head And Neck Pilomatricomas: A Tertiary Center Experience

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BACKGROUND & AIM

Pilomatrixoma is a benign, often calcified tumor originating from the hair follicle matrix, frequently localized in the head and neck region. This study aims to evaluate the clinical characteristics, anatomical distribution, and surgical outcomes of patients operated on for head and neck pilomatrixomas in a tertiary care center.

MATERIAL & METHODS

This retrospective study was conducted following institutional approval from the Education Planning Board of Kayseri City Hospital (Date: 13.02.2026, No: 76397871). We reviewed the medical records of patients who underwent surgical excision at our Otorhinolaryngology Clinic between January 2020 and January 2026. Patient demographics, lesion localization, surgical techniques, and postoperative outcomes were analyzed. Only cases with a final histopathological diagnosis of pilomatrixoma in the head and neck region were included.

RESULTS

A total of 15 patients (8 males, 7 females) were included in the study. The mean age of the cohort was 17.3 years (range: 2–67 years), with 73.3% of the patients (n=11) being under 18 years old. Lesions were most frequently located in the neck (40%, n=6) and periauricular regions (40%, n=6; including preauricular, postauricular, infraauricular, and ear lobule). Other sites included the malar (6.7%) and frontal (6.7%) regions. All patients underwent complete surgical excision. Primary closure was successfully achieved in 14 patients (93.3%), while one patient required reconstruction with a local flap due to skin fistulization. Over a follow-up period ranging from 2 to 72 months, no surgical complications or recurrences were observed.

CONCLUSIONS

Pilomatrixoma is a common benign skin appendage tumor in the head and neck region, particularly within the pediatric population. It must be strongly considered in the differential diagnosis of firm, slow-growing subcutaneous masses. Complete surgical excision is a highly effective treatment modality, offering excellent aesthetic outcomes and minimal recurrence risk.

KEYWORDS

Pilomatrixoma, Head and Neck Neoplasms, Skin Neoplasms, Treatment Outcome

PP-168

Melanoma Of The Buccal Mucosa With Cervical Nodal Metastasis

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BACKGROUND & AIM

Oral mucosal melanoma is a rare and aggressive malignancy that most commonly involves the hard palate and gingiva, while involvement of other oral sites such as the buccal mucosa is less frequent. Due to nonspecific clinical features and variable presentation, diagnosis may be delayed. Changes in long-standing oral lesions should raise suspicion for malignancy and warrant further evaluation. We aimed to present a case of buccal mucosal melanoma with clinically occult cervical nodal metastasis.

MATERIAL & METHODS

An 85-year-old female presented with a progressively enlarging and darkening lesion in the right buccal mucosa. A small lesion had been present for approximately 10 years, with rapid growth, bleeding, and pain over the past 6 months. The patient reported weight loss, fever, and night sweats. Examination revealed a 4 × 3 cm firm, lobulated, dark mass in the right buccal mucosa. No palpable lymphadenopathy was detected. Magnetic resonance imaging suggested a possible odontogenic inflammatory process; however, malignancy could not be excluded. Incisional biopsy confirmed melanoma. PET/CT demonstrated a hypermetabolic lesion in the right buccal region and a small hypermetabolic cervical lymph node.

RESULTS

The patient underwent tumour excision and right level I–III neck dissection, followed by reconstruction with a supraclavicular flap. Histopathological examination revealed spindle cell melanoma with marked pleomorphism, focal pigmentation, lymphovascular and perineural invasion, and 6 mitoses per 10 high-power fields. Tumor cells were diffusely positive for S100, HMB45, and Melan-A, with a Ki-67 index of ~15%. Surgical margins were negative. Two of six level I lymph nodes showed metastasis with extranodal extension; the largest deposit measured 5 × 4 mm, confirming nodal involvement despite no clinically evident lymphadenopathy. Accordingly, pathological staging was pT3N1M0 (Stage IVA) according to the AJCC 8th Edition TNM staging system. Postoperatively, the flap remained viable, and the patient was referred for adjuvant therapy. Immunotherapy was initiated within a multidisciplinary management framework.

CONCLUSIONS

Diagnostic delay in oral mucosal lesions may result in advanced-stage detection. Long-standing lesions may remain clinically silent despite occult nodal metastasis, reflecting aggressive tumor biology. This case emphasizes the importance of early biopsy, even in the absence of palpable lymphadenopathy, and highlights the role of a multidisciplinary approach in management.

KEYWORDS

Oral mucosal melanoma; Buccal mucosa; Occult cervical metastasis; cN0 neck

PP-169

INVESTIGATION OF CLINICAL AND PATHOLOGICAL CHARACTERISTICS OF CUTANEOUS SQUAMOUS CELL CARCINOMAS IN THE HEAD AND NECK REGION: A SINGLE-CENTER EXPERIENCE

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BACKGROUND & AIM

The aim of this study is to analyze the clinical and pathological factors predicting the development of cervical metastasis in cutaneous squamous cell carcinoma of the head and neck region and to evaluate disease-free survival outcomes.

MATERIAL & METHODS

We retrospectively analyzed the clinicopathological data of 65 patients who underwent surgery for head and neck cutaneous squamous cell carcinoma at Bursa Yüksek İhtisas Training and Research Hospital. The normality of the data distribution was assessed using the Shapiro-Wilk test. Two-group comparisons were performed using the independent t-test or Mann-Whitney U test, while categorical data were analyzed via Pearson's chi-square and Fisher's exact tests. Disease-free survival rates were analyzed using the Kaplan-Meier method, and survival differences were assessed with the log-rank test. Statistical significance was defined as p <0,05. The SPSS v27 software package was used for statistical analyses.

RESULTS

The mean age of the 65 patients (44 males, 21 females) included in the study was 73.8 ± 10.3 years. The most frequent primary tumor sites were the lip (41.5%) and the ear (26.2%). The mean tumor size was 2.26 ± 1.47cm, and 92.3% of the patients were clinically node-negative (stage N0). Twenty-four patients underwent neck dissection (10 unilateral, 14 bilateral). Among these, 15 procedures (62.5%) were elective and 9 (37.5%) were therapeutic. Occult metastasis was detected in 1 of the 15 patients who underwent elective neck dissection. Although the depth of invasion was greater in patients with confirmed metastasis, this difference did not reach statistical significance (p = 0.074). Mean recurrence-free survival (RFS) was 45.6 months. All recurrences occurred within the first two years of follow-up, ranging from 3 to 24 months. For the overall cohort, the estimated 3-year recurrence-free survival was 83.6%.

CONCLUSIONS

The overall 3-year recurrence-free survival rates of the patients are notably high. Elective neck dissection provides effective regional control in early-stage disease. Due to the limited sample size, factors including tumor size, degree of dysplasia, and surgical margin status demonstrated no significant prognostic impact on disease-free survival.

KEYWORDS

Head and neck cutaneous tumors, neck metastasis, disease-free survival

PP-170

Chronic Disease And Smoking In Patients With Head And Neck Squamous Cell Carcinoma, A Single Tertiary Center In Southeast Turkey

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BACKGROUND & AIM

Head and Neck Squamous Cell Carcinoma (HNSCC) is strongly associated with tobacco use and frequently coexists with various chronic diseases. Understanding the distribution of comorbidities, smoking habits, and pathological features may contribute to improved patient management and risk stratification. This study aimed to evaluate the smoking status, comorbid diseases, clinic pathological characteristics, and treatment modalities in patients with head and neck squamous cell carcinoma over a 10-year period at a single tertiary center in southeast of Turkey.

MATERIAL & METHODS

In this cross sectional study, 412 patients diagnosed with head and neck squamous cell carcinoma were analyzed. Demographic data, smoking status (pack-years), comorbidities (hypertension, diabetes mellitus, coronary artery disease, and chronic obstructive pulmonary disease), tumor localization, pathological features (lymphovascular invasion, perineural invasion, cartilage invasion), and treatment modalities were recorded.

RESULTS

In our study 88.6% of patients were male with a mean age 68,78. The youngest patient was 21 years old with hypopharyngeal carcinoma, while the oldest patient was 97 years old with skin cancer and parotid metastasis. Sixty-three percent of patients were smoking, with an average of 36.9 pack-years among smokers. The most common tumor localization was the larynx (81.7%), followed by lip (10.4%) and tongue (7.6%). Hypertension (24.9%) and coronary artery disease (22.3%) were the most frequent comorbidities. Perineural invasion and lymphovascular invasion were observed in 20.8% and 18.4% of patients, respectively. Cartilage invasion was detected in 10.9% of cases. Postoperative chemoradiotherapy was administered in 47.2% of patients. The most commonly performed procedure was direct laryngoscopy with biopsy (31.7%), followed by total laryngectomy (12.8%).

CONCLUSIONS

Comorbid diseases are highly prevalent among patients with head and neck squamous cell carcinoma. Laryngeal involvement was the predominant tumor site, and pathological high-risk features such as perineural and lymphovascular invasion were observed in a considerable proportion of patients. These findings highlight the importance of comprehensive clinical evaluation and risk factor assessment in the management of HNSCC.

KEYWORDS

Chronic Disease, Head and Neck Squamous Cell Carcinoma, Smoking, Larynx Carcinoma

PP-171

Sinonasal Undifferentiated Carcinoma (SNUC) With Intracranial Extension Revealed By Visual Impairment - A Case Report

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BACKGROUND & AIM

Sinonasal undifferentiated carcinoma (SNUC) is a rare, highly aggressive epithelial malignancy characterized by rapid locoregional extension with frequent invasion of the skull base, orbit, and intracranial structures.

Through this study, we present a case of extensive SNUC illustrating its clinical and paraclinical features, emphasizing the importance of early diagnosis in persistent unilateral sinonasal symptoms.

MATERIAL & METHODS

We report the case of a 44-year-old woman with no significant medical history, occupationally exposed to cosmetic products, presenting with left-sided epistaxis that became bilateral, associated with progressive nasal obstruction, chronic headaches, and visual impairment initially on the left then right eye.

Clinical examination, craniofacial MRI and CT scan, biopsy, and histopathological analysis were performed.

RESULTS

Clinical examination revealed:

- Nasofibroscopy showed an extensive tumor of the left lateral nasopharyngeal wall, ulcerative, exophytic, necrotic, and bleeding on contact.
- Otologic examination revealed a left retrotympanic effusion.
- No cervical lymphadenopathy was detected.

Neurological examination showed visual impairment without oculomotor palsy or other cranial nerve involvement, despite significant radiological extension.

Cervicoencephalic MRI revealed a large nasopharyngeal mass extending into the left nasal cavity and sphenoid sinus, with invasion of the left cavernous sinus and sellar/suprasellar extension forming a cystic component compressing the optic chiasm. A mass effect on the ipsilateral temporal lobe was also noted.

CT imaging showed skull base destruction.

Endonasal biopsy confirmed SNUC on histopathology and immunohistochemistry.

The metastatic workup was negative. The tumor was staged T4bN0M0 (AJCC).

Multidisciplinary management included concurrent chemoradiotherapy with 70 Gy in 33 fractions and cisplatin-based chemotherapy.

Initial evolution showed improvement in headaches, stabilization of visual symptoms, and partial tumor regression on imaging.

CONCLUSIONS

Sinonasal undifferentiated carcinoma is a rare aggressive tumor, usually diagnosed at an advanced stage due to nonspecific initial symptoms.

This case highlights the importance of early endoscopic evaluation in persistent unilateral epistaxis with chronic nasal obstruction.

Absence of cranial nerve involvement despite extensive intracranial invasion is a remarkable radioclinical feature in this case.

KEYWORDS
Sinonasal carcinoma, Skull base, Tumor aggressiveness, Rapid progression

PP-172

Cervicofacial Actinomycosis – Diagnostic And Therapeutic Aspects

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BACKGROUND & AIM

Cervicofacial actinomycosis is a rare, chronic granulomatous infectious disease caused by anaerobic Gram-positive bacteria of the genus Actinomyces, which colonize the oropharynx as commensals. Disruption of the oral mucosal barrier permits deep tissue invasion, leading to a chronic inflammatory process that frequently mimics malignancy. Delayed diagnosis may result in severe complications, including mandibular osteomyelitis. The aim of this case report is to underscore the critical importance of timely diagnosis based on a combination of detailed patient history, characteristic imaging findings and clinical presentation, in order to prevent disease progression and avert irreversible complications.

MATERIAL & METHODS

We present the case of an 89-year-old female patient. Six months prior to symptom onset, she received a dental prosthesis, which was complicated by a buccal mucosal wound. Subsequently, she developed a large, firm, indurated swelling in the right cervicofacial region, mimicking a tumor. Despite multiple consultations over five months, no etiological diagnosis was established. CT and MRI were performed, followed by an ultrasound-guided core-needle biopsy.

RESULTS

CT revealed destructive changes of the mandible and the presence of air within the soft tissues – a key radiological finding suggestive of an anaerobic infectious process. Histopathological examination of the core-needle biopsy showed only non-specific chronic inflammation. This false-negative result is attributed to the focal distribution of sulfur granules, which are often missed by the biopsy needle. The patient refused open surgical biopsy due to her advanced age. Based on clinical presentation, imaging findings, and history of mucosal trauma, empirical intravenous therapy with ampicillin/sulbactam and metronidazole was initiated. A rapid and significant clinical response was observed. Treatment was stepped down to oral amoxicillin. At six-month follow-up, the patient remains recurrence-free.

CONCLUSIONS

Cervicofacial actinomycosis should be suspected in chronic, tumor-like swelling following oral mucosal trauma, particularly in elderly patients. The presence of air within soft tissues on CT is an important diagnostic clue. Core-needle biopsy is a safe, minimally invasive first-line approach, but frequently yields false-negative results. When open surgical biopsy is not feasible, a positive response to empirical penicillin-based therapy carries both therapeutic and diagnostic value. For difficult-to-culture pathogens such as Actinomyces, metagenomic next-generation sequencing (mNGS) of tissue obtained via open surgical biopsy represents a valuable diagnostic alternative.

KEYWORDS
cervicofacial actinomycosis, diagnosis, mandibular osteomyelitis, elderly patient, empirical treatment

PP-173

Rapidly Growing Neck Mass With Facial Paralysis As A Presentation Of Breast Carcinoma Metastasis: A Diagnostic Challenge

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BACKGROUND & AIM

Breast cancer is the most common malignancy in women, and improved survival has increased late metastases. Although it typically spreads to bone, lung, liver, and brain, head and neck involvement is rare. In this region, the parotid gland and cervical lymph nodes are key metastatic sites, yet lesions are often misattributed to benign or infectious causes, delaying diagnosis. In patients with neck masses after a long disease-free interval, distant metastasis should be considered. We report a rare case of a rapidly growing infraauricular mass 20 years after breast cancer treatment, emphasizing diagnostic challenges and clinical significance.

MATERIAL & METHODS

A 64-year-old woman with a history of breast carcinoma diagnosed 20 years earlier was in remission after surgery and chemotherapy. She presented with a rapidly enlarging swelling in the right infraauricular region over two months. Given recent dental treatment, the lesion was initially considered reactive lymphadenopathy and antibiotics were started. However, due to limited response and progression, she was referred to our clinic. Physical examination revealed a firm, fixed 5 × 3 cm mass in the right infraauricular region, extending into level II. During hospitalization, she developed right-sided peripheral facial paralysis (House–Brackmann grade III). Imaging was followed by a tru-cut biopsy. Histopathology showed tumor cells positive

for GATA3, CK7, pancytokeratin, GCDFP-15, focal mammaglobin, and androgen receptor, and negative for SOX10, consistent with metastatic ductal carcinoma of breast origin. ER, PR, and HER2 were negative. The patient was referred to oncology and systemic chemotherapy was initiated.

RESULTS

Metastasis of breast carcinoma to the parotid gland is extremely rare; however, it may occur even after a prolonged disease-free interval and can clinically mimic primary parotid tumors or benign/inflammatory neck masses, potentially leading to diagnostic delay. Atypical head and neck masses are often attributed to infectious or reactive processes, which may further complicate diagnosis and delay appropriate management.

In patients with a history of malignancy, newly developed parotid or cervical masses should raise suspicion for metastatic disease, even after long-term remission. Histopathological examination and immunohistochemical analysis play a crucial role in establishing the diagnosis. Markers such as GATA3, mammaglobin, and GCDFP-15 support breast origin, while additional markers aid in the differential diagnosis. Correlation with radiological findings facilitates accurate diagnosis.

CONCLUSIONS

Late head and neck metastases of breast carcinoma may present with misleading clinical features and mimic benign or primary lesions. A high level of clinical suspicion should be maintained in patients with a history of malignancy. Early diagnosis, supported by immunohistochemistry and imaging, is critical for guiding appropriate treatment. This case underscores the importance of awareness and a multidisciplinary approach in managing atypical head and neck masses to improve patient outcomes.

KEYWORDS

Breast carcinoma metastasis, Parotid gland metastasis, Infraauricular mass, Facial paralysis, Late metastasis, Head and neck metastasis

PP-174

A GIANT CERVICAL CYSTIC MASS MIMICKING LYMPHANGIOMA: AN ATYPICAL PARATHYROID TUMOR COMPLICATED BY INTRAOPERATIVE ESOPHAGEAL INJURY

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BACKGROUND & AIM

Cervical masses arise from diverse etiologies and cystic lesions in adults present a diagnostic challenge. Although benign conditions such as lymphangiomas and branchial cleft cysts are common, certain neoplasms may mimic cystic lesions, complicating preoperative diagnosis. Parathyroid tumors are usually associated with hyperparathyroidism, but atypical and nonfunctional variants are rare and often asymptomatic. Atypical parathyroid tumors show borderline histological features between adenomas and carcinomas and may rarely present as large cystic masses. In this case, a giant cystic cervical lesion initially suspected as lymphangioma was diagnosed as an atypical parathyroid tumor postoperatively. The case was complicated by intraoperative esophageal injury

MATERIAL & METHODS

A patient with a 6-month history of neck swelling presented to our clinic.

On head and neck examination, a soft, mobile mass measuring approximately 10 × 8 cm was palpated in the left neck, extending from the submandibular region to the clavicle.

MRI demonstrated a non-enhancing cystic lesion measuring 109 × 53 × 48 mm in the left hemineck, extending from the hyoid bone to the superior mediastinum. The lesion displaced the left common carotid artery and internal jugular vein posterolaterally, and the trachea and esophagus to the right. Internal septations were present, suggestive of lymphangioma. Left neck exploration was planned.

RESULTS

A left-sided cervical incision in a semi-apron flap configuration was performed. A subplatysmal flap was elevated. The sternocleidomastoid muscle was lateralized. The mass was noted to be adjacent to the internal jugular vein and the common carotid artery.

The cyst wall was dissected free from the vascular structures. The lesion extended from level II to the clavicle, with anterior extension to the thyroid gland and posterior extension to the esophagus and prevertebral fascia. The mass was carefully dissected from the surrounding tissues and excised, and a full-thickness esophageal transection was identified. An end-to-end, full-thickness anastomosis was performed using 3-0 Vicryl sutures. A nasogastric tube and a surgical drain was placed.

Postoperatively, oral intake was initiated on postoperative day 15, and the patient was discharged on postoperative day 16.

Histopathological examination revealed an atypical parathyroid tumor. During follow-up, no clinical signs or symptoms of hyperparathyroidism were observed, and laboratory values remained within normal limits

CONCLUSIONS

Atypical parathyroid tumors are rare lesions that may present as giant cystic cervical masses even in the absence of biochemical evidence of hyperparathyroidism and should be included in the differential diagnosis. In cases with a prominent cystic component, definitive diagnosis based solely on imaging modalities is often not feasible. Surgical excision serves both diagnostic and therapeutic purposes; however, distorted anatomical planes in large lesions increase the risk of intraoperative complications. Therefore, meticulous surgical dissection, early recognition of potential complications, and appropriate management are critical for achieving favorable outcomes

KEYWORDS

* Parathyroid Tumor * Giant cervical cystic mass * Nonfunctional parathyroid neoplasm * Differential diagnosis * Esophageal injury

PP-175

Prevertebral Metastasis Of Renal Cell Carcinoma: A Rare Case

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BACKGROUND & AIM

Renal cell carcinoma (RCC) is the most common malignant tumor of the kidney, arising from tubular epithelial cells and accounting for the majority of renal cancers in adults. The clear cell subtype is the most frequent and is characterized by a high tendency for metastatic spread, most commonly to the lungs, liver, bones, and brain. However, metastasis to the head and neck region, particularly the retropharyngeal area, is extremely rare and scarcely reported in the literature. This study aims to present a rare case of clear cell RCC presenting with retropharyngeal metastasis and to emphasize its diagnostic importance.

MATERIAL & METHODS

A 58-year-old male patient presented with restricted neck movement. Initial cervical MRI revealed a soft tissue lesion at the C1 vertebral level. Further contrast-enhanced neck MRI demonstrated a lobulated, heterogeneously enhancing mass involving the anterior aspect of C1 with adjacent soft tissue extension.

Fiberoptic endoscopy revealed a bulging lesion in the nasopharyngeal region. A biopsy was performed from the retropharyngeal region under general anesthesia. Histopathological and immunohistochemical findings suggested metastatic clear cell renal cell carcinoma.

Subsequent systemic evaluation included thoracic and abdominal computed tomography (CT) and positron emission tomography/computed tomography (PET/CT) to identify the primary tumor and metastatic spread.

RESULTS

Abdominal CT revealed a 7.5 cm lobulated, exophytic, contrast-enhancing mass with central necrosis in the upper pole of the right kidney, suggestive of renal cell carcinoma. Additionally, a 5.5 × 4 × 7 cm left adrenal mass with necrotic areas and suspected metastatic lesions in the iliac bones were observed.

Thoracic CT demonstrated multiple pulmonary nodules and a 45 mm metastatic lesion in the right ninth rib. PET/CT confirmed a primary right renal malignancy with widespread metastatic disease involving the head and neck region, thoracic structures, abdominal lymph nodes, adrenal gland, and multiple bones.

The patient was diagnosed with metastatic renal cell carcinoma and classified as intermediate risk according to the IMDC criteria. Systemic immunotherapy with Nivolumab (3 mg/kg) and Ipilimumab (1 mg/kg) was initiated. The patient is currently under ongoing treatment.

CONCLUSIONS

Renal cell carcinoma may present with atypical and rare metastatic sites, including the retropharyngeal region, even in the absence of primary renal symptoms. This case highlights the importance of considering metastatic RCC in the differential diagnosis of unusual head and neck masses.

Early histopathological evaluation and comprehensive imaging, including MRI, CT, and PET/CT, are essential for accurate diagnosis, staging, and treatment planning. Multidisciplinary management is crucial due to the aggressive and disseminated nature of advanced RCC.

KEYWORDS

Renal cell carcinoma, clear cell carcinoma, retropharyngeal metastasis, head and neck metastasis, rare metastasis, kidney cancer, case report, immunotherapy, metastatic renal cell carcinoma

PP-176

Retrospective Evaluation Of Age Distribution And Clinical Characteristics Of Thyroglossal Duct Cysts And Branchial Cleft Cysts

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BACKGROUND & AIM

Thyroglossal duct cysts (TGDC) and branchial cleft cysts (BCC) are among the most common congenital neck masses encountered in otorhinolaryngology practice. Although these lesions are generally associated with childhood, they may also present clinically in adulthood. The increasing number of adult cases has highlighted the need for reevaluation of their age distribution and clinical characteristics.

To evaluate the age distribution and clinical characteristics of patients operated for TGDC and BCC at a tertiary referral center.

MATERIAL & METHODS

This retrospective single-center study included patients who underwent surgery for TGDC or BCC between January 2010 and January 2026 in the Department of Otorhinolaryngology, Eskişehir Osmangazi University. Demographic data, age distribution, clinical characteristics, and surgical outcomes were evaluated from hospital records. Patients were classified as pediatric (<18 years) or adult (≥18 years).

RESULTS

A total of 202 patients were included in the study. Of these, 111 underwent surgery for BCC and 91 for TGDC. In the BCC group, 10 patients were younger than 18 years, whereas 101 were adults. In the TGDC group, 22 patients were younger than 18 years and 69 were adults. Adult patients outnumbered pediatric patients in both lesion groups. TGDC lesions were predominantly located in the midline, whereas BCC lesions were mainly located in the lateral neck.

CONCLUSIONS

Although TGDC and BCC are traditionally considered congenital pediatric neck masses, a substantial proportion of patients in our series were diagnosed and treated during adulthood. These findings suggest that congenital neck masses may also be encountered with clinically significant frequency in adults. Retrospective evaluation of such patient series may contribute to a better understanding of their clinical characteristics.

KEYWORDS

Thyroglossal duct cyst; Branchial cleft cyst; Congenital neck mass; Adult; Pediatric ; Sistrunk operation ; Neck midline mass

PP-177

Synergistic Osteogenic Effect Of A Biocompatible Graphene Oxide/Black Phosphorus Nanocomposites On Mandibular Bone Regeneration In Rats

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BACKGROUND & AIM

In craniofacial bone defects caused by head and neck cancers, the development of biocompatible and osteoinductive nanomaterials offers a promising approach for the effective regeneration of bone loss. In this study, the possible synergistic effects of graphene oxide (GO)/black phosphorus (BP) nanocomposites at different concentrations on bone regeneration were comprehensively investigated in a bone defect model created in the mandibular corpus. The osteogenic response was evaluated using histopathological healing scores, bone mineral density (BMD) measurements, and serum biochemical parameters.

MATERIAL & METHODS

Following the synthesis of GO via the Hummers method and BP via chemical vapor deposition, the materials were physically combined at Koç University under the supervision of Zafer Eroğlu. The study was conducted on 55 male Sprague-Dawley rats (8–10 weeks old, weighing 225–300 g), which were randomly assigned into six groups: Group 1 (untreated control), Group 2 (surgical defect without medication), Group 3 (surgical defect + GO nanostructure), Group 4 (surgical defect + BP nanostructure), Group 5 (surgical defect + GO/5% BP nanocomposite), and Group 6 (surgical defect + GO/15% BP nanocomposite). On day 28 of the experimental period, all animals were euthanized; blood samples were collected, and right mandibles were dissected at the symphysis for histological and densitometric analyses. Bone healing scores, BMD results, and serum parathyroid hormone (PTH), osteocalcin (OC), calcium (Ca), and phosphorus (P) levels were statistically evaluated.

RESULTS

Histopathological analyses demonstrated a significant difference between the control and defect groups ($p < 0.05$). While GO treatment alone did not result in significant improvement compared to the defect group, the BP, GO/BP5 and GO/BP15 groups exhibited statistically significant increases in healing scores. Although a higher healing tendency was observed in the GO/BP15 group compared to the GO/BP5 group, the difference was not statistically significant. No statistically significant differences were detected among the groups in terms of BMD or serum biochemical parameters (PTH, OC, Ca, and P) ($p > 0.05$).

CONCLUSIONS

The findings indicate that the GO/BP nanocomposite exhibits a more pronounced osteogenic effect on mandibular bone regeneration compared to GO or BP applied individually. This synergistic effect is thought to arise from the mineralization-promoting properties of BP combined with the surface characteristics of GO that enhance cellular adhesion and proliferation. To the best of our knowledge, this is the first experimental study investigating the effects of GO/BP nanocomposites on mandibular bone regeneration. The present work is expected to open a new research avenue and provide an innovative pathway toward translational applications of GO/BP nanocomposites in mandibular bone regeneration.

KEYWORDS

Mandibular reconstruction; Craniofacial bone defect; Graphene oxide; Black phosphorus; Biocompatible nanomaterials; Bone regeneration.

PP-178

Radiological Illusion In The Submental Region: Multimodal Management Of Intermediate-Risk Solitary Fibrous Tumor

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BACKGROUND & AIM

Solitary fibrous tumor (SFT) is a rare mesenchymal neoplasm primarily originating from the pleura, with infrequent presentation in the head and neck. While traditionally characterized as slow-growing and benign, risk stratification models incorporating mitotic count, tumor size, and the presence of necrosis are decisive for predicting clinical behavior and malignant potential.

MATERIAL & METHODS

A 45-year-old female patient presented with an 3-month history of right submental swelling. Despite multiple courses of antibiotic therapy at external centers, the mass continued to grow. Consequently, an MRI was performed, which reported a 4 cm mass suspicious for hemangioma, leading to the patient's referral to our clinic. A trucut biopsy performed by interventional radiology revealed CD34 and STAT6 positivity on immunohistochemical analysis, confirming the diagnosis of 'Solitary Fibrous Tumor,' and the patient underwent total surgical excision. Post-operative pathological examination revealed a tumor size of 5.9 cm, with significant features including a high mitotic rate (16/10 HPF), 10% tumor necrosis, and vascular invasion. Although surgical margins were clear (0.1 cm), the case was classified as "Intermediate Risk." Following evaluation by the multidisciplinary head and neck tumor board, adjuvant radiotherapy (RT) was recommended.

RESULTS

Solitary fibrous tumor is rare in the head and neck and often mimics vascular tumors like hemangiomas clinically and radiologically. Immunohistochemical analysis is critical in the differential diagnosis of SFT; specifically, STAT6 nuclear expression is considered the gold standard for distinguishing this tumor from other mesenchymal and vascular lesions. In our case, the co-expression of CD34 and STAT6 histopathologically confirmed the diagnosis. Although these neoplasms are generally defined in the literature as slow-growing and benign, certain rare forms can exhibit rapid growth and an aggressive clinical course. In this case, the "high-risk" features including a tumor diameter exceeding 5 cm, vascular invasion, and a high mitotic index (16/10 HPF) reflect this aggressive potential and significantly increase the risk of local recurrence and malignant transformation.

CONCLUSIONS

Solitary fibrous tumor should be considered in the differential diagnosis of submental masses despite its radiological mimicry. In cases exhibiting aggressive histopathological features or those categorized as "intermediate risk," adjuvant radiotherapy following surgical excision is an essential component of the multimodal treatment strategy to ensure regional control.

KEYWORDS

Solitary Fibrous Tumor, Submental Region, STAT6, Intermediate Risk, Adjuvant Radiotherapy

PP-179

Langerhans Cell Histiocytosis Presenting As Chronic Gingival Ulceration In An Adult Patient: A Case Report

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BACKGROUND & AIM

Langerhans cell histiocytosis (LCH) is a rare disorder characterized by clonal proliferation of Langerhans cells, most commonly seen in pediatric populations. Oral involvement in adults is uncommon and may mimic chronic inflammatory or infectious lesions, leading to delayed diagnosis.

MATERIAL & METHODS

This study was designed as a single patient case report.

RESULTS

Histopathological examination of the incisional biopsy specimens revealed findings consistent with Langerhans cell histiocytosis.Following the diagnosis, the patient underwent surgical excision of the gingival lesions. The postoperative course was uneventful, and satisfactory healing of the surgical site was observed.

CONCLUSIONS

This case emphasizes that LCH, although rare in adults, should be included in the differential diagnosis of chronic, non-healing gingival lesions. Early biopsy plays a critical role in diagnosis and prevents delays in appropriate treatment.

KEYWORDS

Langerhans cell histiocytosis, gingiva

PP-180

Comparison Of Long Term Functional Outcomes According To Reconstruction Modality In Patients Undergoing Glossectomy Due To Malignancy

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BACKGROUND & AIM

A major clinical challenge following partial or total glossectomy in oral cavity cancers is preserving the tongue's dynamic functions. Reconstruction aims not only for anatomical closure of the defect but also for maintaining swallowing and speech functions at an acceptable level. This study aimed to compare long term functional outcomes (nutrition, articulation, quality of life) of patients undergoing pedicled versus free flap reconstruction after tongue resection for malignancy and to identify other factors influencing these results.

MATERIAL & METHODS

Data from patients who underwent oncological resection for T2-T4 stage tongue cancer and were reconstructed with pedicled (Group 1) or free flaps (Group 2) were analyzed through a 5-year retrospective review. Swallowing function was evaluated using Fiberoptic Endoscopic Evaluation of Swallowing (FEES), Functional Oral Intake Scale (FOIS), and Functional Swallowing Scale (FOSS). FEES results were scored using Penetration Aspiration Scale (PAS) and Yale Pharyngeal Residue Severity Rating scales. Articulation was documented with the Sesletim Sesbilgisi Testi (SST), while quality of life was assessed via EAT-10 and Voice-Related Quality of Life (V-RQOL) scales.

RESULTS

Total 52 patients (26 per group) were included. Group 1 involved 11 PMMF (21.2%), 12 PMMCF (23.1%), 2 SCM rotation (3.8%), and 1 latissimus dorsi (1.9%) flaps. Group 2 included 25 RFFF (48.1%), 1 RAM (1.9%) flaps. No significant differences existed in clinical characteristics except for age (Group 1 64.9±11.3, Group 2 51.7±13.9; $p<0.0001$). FEES revealed lower aspiration ($p=0.001$) and pharyngeal pooling ($p=0.016$) during liquid intake in Group 2. 6 patients in Group 1 and 2 patients in Group 2 were unable to tolerate oral nutrition with solid foods. Although Group 2 showed better nutritional values for semi solids and solids, these were not statistically significant ($p>0.05$). Articulation was significantly better in free flap patients ($p<0.001$). No significant differences were found in EAT-10 or V-RQOL scores ($p=0.447$, $p=0.568$). Adjuvant radiotherapy (RT), extensive resection, advanced T stage, and nodal metastasis negatively impacted functional outcomes; specifically, adjuvant RT significantly reduced QoL ($p<0.001$).

CONCLUSIONS

Flap selection significantly influences functional outcomes in tongue reconstruction, with free flaps being associated with superior speech and swallowing parameters. However, it is essential to recognize that non flap factors, such as adjuvant therapies and the extent of resection, remain decisive determinants of long term functional success.

KEYWORDS

glossectomy, free flap, pedicled flap, dysphagia, swallowing, articulation, Radiotherapy, Adjuvant

PP-181

Synchronous Warthin Tumor And Basal Cell Adenoma Of The Parotid Gland: A Rare Case Report

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BACKGROUND & AIM

Synchronous benign tumors occurring within the same parotid gland are extremely rare, especially when composed of different histological subtypes. We aimed to present a rare case of synchronous Warthin tumor and basal cell adenoma, emphasizing the diagnostic challenges and surgical management of multifocal parotid lesions.

MATERIAL & METHODS

A 71-year-old male patient presented with two painless right parotid masses. Clinical examination, ultrasonography, magnetic resonance imaging, and fine-needle aspiration biopsy were performed preoperatively. Both lesions were surgically removed by superficial parotidectomy with preservation of the facial nerve. Histopathological and immunohistochemical analyses, including CD117, p63, and Ki-67 staining, were used for definitive diagnosis.

RESULTS

Imaging demonstrated two separate lesions: one cystic preauricular mass and one solid lesion in the inferior parotid gland. Histopathological examination confirmed synchronous coexistence of Warthin tumor and basal cell adenoma. Immunohistochemical findings supported the benign nature of both tumors and excluded malignant counterparts. Postoperative recovery was uneventful, and facial nerve function remained intact.

CONCLUSIONS

Synchronous benign parotid tumors with different histological origins are rare and may cause diagnostic pitfalls. Comprehensive radiological evaluation, careful intraoperative exploration, and detailed histopathological assessment are essential for accurate diagnosis and optimal treatment. Superficial parotidectomy remains a safe and effective management option.

KEYWORDS

Parotid gland; Warthin tumor; Basal cell adenoma; Synchronous tumors; Superficial parotidectomy

PP-182

Lingual Perineurioma: A Rare Mesenchymal Tumor – A Case Report

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BACKGROUND & AIM

Perineurioma is a rare benign peripheral nerve sheath tumor originating from perineurial cells (1). Its occurrence in the oral cavity, particularly in the tongue, is extremely uncommon (2). Due to its rarity and nonspecific clinical presentation, it may be misdiagnosed as other benign mesenchymal tumors (3). Accurate diagnosis relies on histopathological and immunohistochemical evaluation, especially EMA positivity and S100 negativity (4). We present a rare case of lingual perineurioma and discuss its clinical, radiological, and pathological features.

MATERIAL & METHODS

Case: A 33-year-old male presented with a painless swelling on the left side of the tongue, persisting for approximately three years with gradual enlargement. Magnetic resonance imaging revealed a well-defined lesion measuring 10×7 mm, hypointense on T1-weighted images, hyperintense on STIR sequences, without diffusion restriction, and showing homogeneous contrast enhancement. Ultrasonography demonstrated a 12×6 mm hypoechoic, heterogeneous solid lesion with arterial flow on Doppler imaging. The lesion was excised under local anesthesia.

RESULTS

Histopathological examination revealed a mesenchymal tumor composed of spindle to oval-shaped cells with alternating cellular and hypocellular areas, without significant mitotic activity or necrosis. Immunohistochemically, tumor cells showed diffuse positivity for EMA and focal positivity for SMA, while S100, Desmin, Factor XIIIa, CD31, and CD34 were negative (1,4). CD68 showed weak focal positivity. The Ki-67 proliferation index was approximately 8%. Based on morphological and immunohistochemical findings, the lesion was diagnosed as perineurioma.

CONCLUSIONS

Lingual perineurioma is an extremely rare benign tumor that should be considered in the differential diagnosis of tongue masses (2,3). Clinical and radiological findings are often nonspecific, making histopathological and immunohistochemical evaluation essential for accurate diagnosis. Complete surgical excision is the treatment of choice; however, close follow-up is recommended in cases with positive surgical margins.

KEYWORDS

Perineurioma; Tongue; Mesenchymal tumor; Case report

PP-183

An Alternative Solution For Persistent Pharyngocutaneous Fistula: Mechanical Closure With Voice Prosthesis

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BACKGROUND & AIM

The aim of this case report is to discuss the challenges in managing a pharyngocutaneous fistula (PCF) following total laryngectomy and to highlight a practical, minimally invasive method for managing persistent cases.

MATERIAL & METHODS

A 70-year-old male underwent a total laryngectomy and bilateral neck dissection for a T3 supraglottic squamous cell carcinoma, with horizontal primary closure of the neopharynx. On postoperative day 6, a 3 cm neopharyngeal dehiscence developed at the base of the tongue, requiring the creation of a pharyngostoma. After conservative wound care using Balsam of Peru and boric acid, the defect was reconstructed using pectoralis major myocutaneous (PMMF) and deltopectoral flaps on day 25. Due to the histopathological finding of extranodal extension, the patient proceeded with adjuvant radiotherapy (60 Gy) despite the fistula not being entirely closed, prioritizing oncological control.

RESULTS

Following radiotherapy, the defect narrowed due to fibrosis, leaving only a small, persistent fistula tract directly above the tracheal stoma. To address this without further high-morbidity surgery, a tracheoesophageal voice prosthesis (TEP) was inserted directly into the tract. The silicone flanges of the prosthesis provided bilateral mechanical compression, successfully sealing the salivary leak. Consequently, the nasogastric tube was removed, allowing the patient to safely resume oral feeding while simultaneously restoring phonation.

CONCLUSIONS

For small, persistent PCFs that have lost their healing potential following radiotherapy, subsequent surgical interventions carry high morbidity. A silicone TEP can function effectively not only as a speech rehabilitation device but also as a minimally invasive mechanical "plug." This technique safely occludes the fistula, enables safe swallowing, prevents infection, and should be considered as a highly viable management strategy in selected cases of challenging post-laryngectomy complications.

KEYWORDS

Fistula, Laryngectomy, Postoperative Complications, Voice Rehabilitation

PP-184

Recurrent Pleomorphic Adenoma Of The Salivary Gland: A Rare Case Of Benign Metastasizing Pleomorphic Adenoma

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BACKGROUND & AIM

Pleomorphic adenoma, commonly referred to as a benign mixed tumor, is the most prevalent neoplasm of the salivary glands, particularly affecting the parotid gland. This case report details a unique instance of recurrent pleomorphic adenoma in a 41-year-old female patient, highlighting the complexities of its management. The patient presented with a left submandibular swelling that recurred three years after an initial surgical excision. Comprehensive pathological evaluation confirmed the diagnosis of recurrent pleomorphic adenoma, with the identification of a satellite tumor nodule raising the possibility of benign metastasizing pleomorphic adenoma (BMPA).

RESULTS

Pleomorphic adenoma, recognized as the most prevalent salivary gland neoplasm, presents a notable challenge in clinical management due to its potential for recurrence. The recurrence rates for pleomorphic adenomas can vary significantly, ranging from 2% to 45%, often influenced by factors such as the adequacy of surgical excision and tumor characteristics (3). In our case, a 41-year-old female with a history of recurrent pleomorphic adenoma underwent surgical excision of the left submandibular gland. Despite the initial complete excision, the patient experienced a recurrence three years post-surgery. The recurrence was confirmed through histopathological examination, which also identified a satellite tumor nodule adjacent to a lymph node, suggesting the possibility of benign metastasizing pleomorphic adenoma (BMPA). This case underscores the complexities associated with pleomorphic adenoma management and the critical need for rigorous follow-up.

CONCLUSIONS

This case report illustrates the complexities involved in the management of recurrent pleomorphic adenoma of the salivary gland, particularly in a 41-year-old female patient who experienced a recurrence despite undergoing complete surgical excision. The identification of a satellite tumor nodule adjacent to a lymph node raises important considerations regarding the behavior of pleomorphic adenomas and the potential for benign metastasizing pleomorphic adenoma (BMPA). This highlights the necessity for thorough surgical approaches and vigilant follow-up to mitigate the risk of recurrence and potential complications.

KEYWORDS

Recurrent Pleomorphic Adenoma of the Salivary Gland

PP-185

Intraparotid Ectopic Thyroid Tissue Mimicking A Parotid Tumor: A Rare Diagnostic Challenge

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BACKGROUND & AIM

Ectopic thyroid tissue is a rare developmental anomaly resulting from aberrant migration of thyroid tissue during embryogenesis. It is most commonly encountered in the lingual region, whereas intraparotid localization is exceptionally rare. To date, only two cases of intraparotid ectopic thyroid tissue have been reported in the literature. In this report, we present a case of intraparotid ectopic thyroid tissue that initially presented as a slowly enlarging parotid mass and was preoperatively suspected to be a primary parotid tumor.

MATERIAL & METHODS

We present the case of a 44-year-old woman with a gradually enlarging painless right parotid mass. Her medical history was significant for total thyroidectomy performed 11 years earlier for benign thyroid nodules, and she was receiving levothyroxine replacement therapy with normal thyroid function at presentation. Ultrasonography demonstrated a 35 × 26 × 19 mm lesion in the superficial lobe of the right parotid gland extending toward the deep lobe, and fine-needle aspiration cytology was interpreted as consistent with Warthin tumor. The patient underwent superficial parotidectomy with partial deep lobe excision. Histopathological examination revealed hyperplastic thyroid tissue with colloid-containing follicles within the parotid gland, with no evidence of malignancy. The lesion was diagnosed as intraparotid ectopic thyroid tissue. At two-year follow-up, the patient remained asymptomatic with no recurrence.

RESULTS

Ectopic thyroid tissue within the parotid gland is an exceptionally rare entity and should be considered in the differential diagnosis of parotid masses, particularly in patients with a history of thyroid disease. Intraparotid ectopic thyroid may clinically as well as cytologically mimic a primary parotid neoplasm. Establishing the diagnosis may therefore be challenging and requires careful histopathological evaluation. Metastatic thyroid carcinoma must always be excluded in the differential diagnosis.

CONCLUSIONS

The treatment decisions should be individualized and based on the symptoms, cosmetic concerns, the status of orthotopic thyroid tissue, histopathological findings, thyroid hormone status, and the response of the ectopic tissue to medical therapy. In our case, surgery was performed because the lesion was initially suspected to represent a primary parotid neoplasm based on preoperative imaging and cytological findings. To the best of our knowledge, this case represents the third reported instance in the literature.

KEYWORDS

Ectopic thyroid tissue, parotid gland, Intraparotid ectopic thyroid, parotid mass

PP-186

Challenging Liposarcoma Of The Head And Neck

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BACKGROUND & AIM

Lipomas are benign tumors of mesenchymal origin, located in the subcutaneous fatty tissue but they may also arise within muscle or deeper soft tissues.Approximately 13–17% occur in the head and neck region.Liposarcomas represent about 1% of all primary head and neck malignancies.Although rare,prognosis and management is essential.Most cases occur in adults with a male predominance.Liposarcomas are classified into several histological subtypes,including well-differentiated, myxoid,pleomorphic,round cell,and dedifferentiated variants.Well-differentiated and myxoid types are the most common and generally considered low-grade tumors,whereas pleomorphic, round cell, and dedifferentiated variants are more aggressive.The mainstay of treatment is wide surgical excision, often followed by adjuvant radiotherapy.

MATERIAL & METHODS

Case Presentation:

A 61-year-old male with a history of recurrent lipoma in the left temporal region underwent four previous surgical excisions, the last of which was performed 2.5 years ago and reported as benign lipoma on histopathology. The patient presented with a progressively enlarging mass over the last four months in the same region. Clinical examination revealed a swelling in the left temporal area. Computed tomography and magnetic resonance imaging demonstrated a 50 × 54 × 28 mm mass extending inferiorly toward the zygomatic arch and infiltrating the temporalis muscle. Incisional biopsy confirmed the diagnosis of liposarcoma.

RESULTS

The patient underwent wide local excision, and the defect was reconstructed using a free lateral thigh vascular flap. Postoperative radiotherapy was planned.

CONCLUSIONS

Liposarcoma of the head and neck is rare and may mimic benign lesions, particularly in cases of recurrent lipoma. A high index of suspicion, appropriate imaging, and histopathological evaluation are crucial for early diagnosis and optimal management.

KEYWORDS
Liposarcoma, Head and Neck Oncology

PP-187

Anterior Commissure Involvement As An Independent Predictor Of High-Risk Histopathology In Laryngeal Leukoplakia: A Comparative Analysis With Systemic Inflammatory Biomarkers

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BACKGROUND & AIM

Laryngeal leukoplakia encompasses a spectrum ranging from benign hyperkeratosis to invasive squamous cell carcinoma. Biopsy is often deferred in lesions with preserved vocal fold mobility and non-suspicious endoscopic features, despite uncertain safety. This study aimed to determine the prevalence of high-risk histopathology and identify independent predictors.

MATERIAL & METHODS

This retrospective cohort study included 130 consecutive patients who underwent direct laryngoscopy and biopsy for leukoplakic vocal fold lesions at a tertiary care center between October 2022 and February 2026. Patients were stratified into low-risk (benign, mild dysplasia) and high-risk (severe dysplasia , carcinoma in situ [CIS], invasive SCC) groups based on a two-tier risk stratification adapted from the 2017 World Health Organization (WHO) classification. Clinical and endoscopic features and preoperative hematological parameters were recorded. Statistical analyses were performed using SPSS software.

RESULTS

High-risk histopathology was identified in 76 patients (58.5%), including severe dysplasia (33.1%), carcinoma in situ (CIS) (13.8%), and invasive SCC (11.5%). Anterior commissure involvement was significantly more frequent in the high-risk group (30.3% vs. 9.3%; p = 0.004). NLR, lymphocyte count, and PNI differed significantly between groups (p = 0.033, 0.021, and 0.046, respectively). Spearman's analysis showed weak but significant correlations between histopathological grade and lymphocyte count (ρ = −0.284; p = 0.001), PNI (ρ = −0.250; p = 0.004), NLR (ρ = 0.210; p = 0.017), and monocyte count (ρ = −0.184; p = 0.036). In multivariable logistic regression (Nagelkerke R^2 = 0.153; Hosmer–Lemeshow p = 0.212), anterior commissure involvement was the only independent predictor of high-risk histopathology (adjusted OR = 4.98; 95% CI: 1.70–14.59; p = 0.003), while no inflammatory index remained significant.

CONCLUSIONS

High-risk histopathology was identified in a substantial proportion of patients with laryngeal leukoplakia at initial biopsy. Anterior commissure involvement was the only independent predictor, associated with a nearly fivefold increase in the odds of high-risk pathology, and should be considered a key endoscopic indicator for biopsy decision-making. In contrast, systemic inflammatory indices showed limited and no independent predictive value.

KEYWORDS

laryngeal leukoplakia; vocal fold dysplasia; squamous cell carcinoma; systemic inflammatory indices; neutrophil-to-lymphocyte ratio; prognostic nutritional index; anterior commissure; high-risk histopathology; biopsy decision; premalignant laryngeal lesion

PP-188

Diagnostic Efficacy Of Fine Needle Aspiration Biopsy Versus Excisional Biopsy In Suspicious Cervical Lymphadenopathy

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BACKGROUND & AIM

Cervical lymphadenopathy is a common clinical presentation, often requiring definitive histopathological diagnosis to rule out malignancy. Fine needle aspiration biopsy (FNAB) is routinely used as an initial diagnostic tool; however, its reliability compared to excisional biopsy remains a subject of clinical debate. This study aims to evaluate the malignancy rate in suspicious cervical lymph nodes following excisional biopsy and to compare the diagnostic accuracy of FNAB against the gold standard excisional biopsy.

MATERIAL & METHODS

We conducted a retrospective analysis of 55 patients who underwent excisional biopsy for suspicious cervical lymphadenopathy. Patients referred predominantly from internal medicine and hematology departments were included. The cohort was evaluated based on the application of preoperative FNAB. 20 patients proceeded directly to excisional biopsy without prior FNAB. For the 35 patients who underwent both procedures, cytological findings from FNAB were cross-analyzed with definitive histopathological results from excisional biopsies. Diagnostic performance metrics, including sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and overall accuracy, were calculated.

RESULTS

The definitive histopathological examination of 55 excisional biopsies revealed malignancy in 63.6% (n=35) of the cases, while 36.4% (n=20) were benign or reactive. In the comparative subgroup of 35 patients who underwent both FNAB and excisional biopsy, FNAB demonstrated a sensitivity of 79.1% and a specificity of 81.8% in detecting malignancy. The positive predictive value (PPV) was high at 90.4%, whereas the negative predictive value (NPV) was moderately low at 64.2%. The overall diagnostic accuracy of FNAB in our cohort was 80.0%. Notably, five patients with benign FNAB cytology were subsequently diagnosed with malignancy via excisional biopsy (false negatives).

CONCLUSIONS

FNAB serves as a highly reliable initial diagnostic tool when indicating malignancy, owing to its excellent positive predictive value. However, a negative or benign FNAB result does not safely exclude malignancy (NPV 64.2%). In cases with high clinical suspicion, proceeding directly to excisional biopsy is strictly recommended to prevent potential diagnostic delays.

KEYWORDS

Cervical lymphadenopathy, fine needle aspiration biopsy, excisional biopsy, diagnostic accuracy.

PP-189

Secondary Healing In Head And Neck Surgery: A Case-Based Review

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BACKGROUND & AIM

Secondary healing (healing by secondary intention) through granulation, contraction, and epithelialization is a therapeutic modality that head and neck surgeons should effectively utilise, facilitate, and govern. While often considered inferior to primary closure, it remains invaluable in specific clinical scenarios.

MATERIAL & METHODS

This process includes several actions. Maintaining a clean wound bed by continuous surgical debridement (necrectomy), targeted systemic antibiotics, and bacteriostatic dressings (silver- or iodine-impregnated) to eliminate biofilms. Preventing premature epithelialization by inhibiting early skin edge migration until a healthy, robust bed of granulation tissue is established across the entire defect. Promoting granulation by application of hypertonic hydrogels to stimulate cell proliferation and autolytic debridement. Reducing hypergranulation by lowering exuberant granulation tissue slightly below the level of the surrounding epithelium to allow keratinocyte migration. Facilitating final epitelisation under a balanced, moist environment. Timely placement of sutures to assist edge approximation and accelerate final closure.

RESULTS

This methodology was applied across diverse head and neck scenarios:

- Case 1 (Cutaneous BCC): Intentionally selected for a small lateral nasal defect near the medial eye canthus, delivering excellent cosmesis and direct oncological surveillance.
- Case 2 (Orocutaneous Fistula): Utilised as a forced choice following complete fibular free flap failure and subsequent partial radial forearm free flap failure.
- Case 3 (Primary pharyngocutaneous fistula): Management of a large pharyngocutaneous fistula following total laryngectomy in a non-irradiated patient, probably triggered by severe gastric reflux.
- Case 4 (Complex pharyngocutaneous fistula): Successful contraction over 10 weeks in a vessel-depleted neck following bilateral pectoralis major flap reconstruction, demonstrating that viable regional flaps may still fail to prevent fistula formation.
- Case 5 (Donor Site Morbidity): Complete secondary epithelialization over an exposed flexor tendon at 16 weeks following partial skin graft failure at a radial forearm free flap donor site in a patient with severe comorbidities.

CONCLUSIONS

The therapeutic potential of secondary healing is generally underestimated. Interventions promoting secondary healing can lead to success without new surgical interventions and extra donor morbidity.

KEYWORDS

secondary healing, epithelisation, granulation

PP-190

A Benign Polyp Hiding The Underlying Tonsil Malignancy: A Near Miss

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BACKGROUND & AIM

A 48 years old man was routinely referred to us because of his long standing nasal blockage secondary to previous nasal trauma. During the consultation he confirmed worsening of his snoring as well. No other red flag symptoms were reported. He

also alerted us about a longstanding polyp in his mouth. The nasal examination revealed significant septal deviation to the right and hypertrophied inferior turbinates. A large benign looking polyp was seen arising from the upper pole of the left tonsil (Figure 1). On palpation the left tonsil felt firm. No cervical lymphadenopathy was noticed and the laryngoscopy was normal.

MATERIAL & METHODS

The histology revealed a benign tonsil polyp but more surprisingly there was squamous cell carcinoma in the left tonsil.

The detailed report shows that macroscopically there was a fragment of tonsil measuring 3 x 3.2 x 1.5cm. Protruding from the mucosal surface was a large, polypoid lesion measuring 2.5 x 1.5 x 1cm. The overlying mucosa was pale yellow and smooth. The polypoid lesion had a slightly nodular appearance. The polypoid lesion became detached from the rest of the tonsil during preparation.

Histology showed sections of tonsil in which there was a moderate to poorly differentiated invasive, focally basaloid, squamous cell carcinoma. In places the tumour was keratinising and there was adjacent carcinoma in-situ. The invasive tumour is at least 5 mm in depth, although the tissue was not well orientated. The P16 was positive, HPV luminex positive, and high risk HPV 16 was detected.

RESULTS

Overlying the malignant lesion there was a polypoid lesion corresponding to the polyp identified macroscopically. The polypoid lesion had an unusual appearance with a core of dense vascular connective tissue covered by benign squamous epithelium.

Staging:

The patient was discussed in the MDT meeting after the staging CT scan. There was no cervical lymphadenopathy or distant spread and the staging was agreed as T1N0M0. He was recommended to undergo radical radiotherapy with curative intent which he completed successfully.

Outcome:

The patient has remained disease free 4 years after completion of his treatment.

Discussion:

1. Blessing in disguise that he sought attention for his nasal blocage
2. Good that he reported the presence of the left tonsil polyp
3. Good that the ENT surgeon decided to deal with the tonsil polyp
4. Good that he was offered total tonsillectomy rather than polyp excision only
5. Differential diagnosis of the tonsil polyp

CONCLUSIONS

Learning points:

1. Important to investigate tonsil polyps
2. Best to carry out total tonsillectomy
3. Just removing the polyp has got a potential to miss the underlying malignancy

KEYWORDS

polyps, tonsils, HPV, malignancy

PP-191

Impact Of Low Muscle Mass Index On Prognosis And Survival In Patients With Operated Advanced Laryngeal Cancer

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BACKGROUND & AIM

Low skeletal muscle mass index (SMI) is an important prognostic factor associated with decreased survival in patients with head and neck cancer. Measurement of SMI at the level of the third cervical vertebra (C3) is widely used to estimate whole-body muscle mass. Recent studies have suggested that temporal muscle thickness may also reflect systemic muscle loss and prognosis. This study aims to evaluate the prognostic value of low muscle mass by assessing both C3-based SMI and temporal muscle thickness in patients with operated advanced-stage laryngeal cancer, with the hypothesis that their combined assessment may provide a more comprehensive prognostic evaluation.

MATERIAL & METHODS

Male patients who underwent surgery for advanced-stage laryngeal cancer in our clinic between 2018 and 2023 were included in the study Preoperative neck computed tomography scans were used to measure the cross-sectional muscle area at the C3 level, which was normalized for height to calculate SMI Temporal muscle thickness was measured bilaterally and mean values were recorded. . Patients were categorized into low and normal SMI groups based on predefined cutoff values. Associations with prognosis and survival were analyzed statistically.

RESULTS

A total of 35 patients were included in the study. Low SMI was significantly associated with reduced survival according to Kaplan–Meier analysis (p = 0.007). Cox regression analysis demonstrated that low SMI independently increased the risk of mortality (p = 0.014).In contrast, although low temporal muscle thickness was not statistically significantly associated with survival (p = 0.104), a decrease in survival rates was observed.

CONCLUSIONS

Low SMI at the C3 level is significantly associated with poorer survival in advanced-stage laryngeal cancer patients. While temporal muscle thickness alone did not reach statistical significance, it demonstrated a tendency toward reduced survival. The combined evaluation of these parameters may provide a more comprehensive assessment of muscle loss and its clinical implications. Multimodal muscle assessment in the preoperative period may improve risk stratification and patient management. This is a preliminary study, and more comprehensive and meaningful results may be obtained with a longer time period and a larger number of patients.

KEYWORDS

carsinoma, larynx, muscle mass index, temporal muscle thickness,

PP-192

Metastatic Papillary Thyroid Carcinoma Discovered In A Clinically Reactive Lymph Node During Excision Of A Branchial Cleft Cyst: A Case Report

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BACKGROUND & AIM

Branchial cleft cysts are common benign causes of lateral neck masses in adults. During surgical excision, adjacent cervical lymph nodes are frequently encountered and often interpreted as reactive based on macroscopic appearance. However, in patients with a history of differentiated thyroid carcinoma, particularly papillary thyroid carcinoma (PTC), such lymph nodes may harbor occult metastatic disease despite benign clinical and radiological features. The aim of this report is to emphasize the importance of routine excision and histopathological evaluation of intraoperatively encountered lymph nodes during branchial cleft cyst surgery in patients with prior thyroid malignancy.

MATERIAL & METHODS

We report a single case of a 53-year-old female patient with a history of total thyroidectomy performed in 2005 for PTC. The study design is a retrospective case report. The patient presented with a 2–3-month history of a right-sided neck mass. Ultrasound demonstrated a 42×18 mm lymph node in the right submandibular region with loss of fatty hilum. Contrast-enhanced magnetic resonance imaging revealed a 44×26 mm well-circumscribed cystic lesion, suggestive of a branchial cleft cyst. Core needle biopsy showed non-specific squamous epithelium, lymphoid tissue, and fibromuscular fragments. The patient underwent surgical excision of the lesion. Intraoperatively, a lymph node adjacent to the cyst with a reactive appearance was also excised.

RESULTS

Histopathological examination revealed a branchial cleft cyst and metastatic papillary thyroid carcinoma in the excised lymph node. Immunohistochemistry demonstrated HBME-1 and CK19 positivity, galectin-3 negativity, and absence of BRAF V600E mutation, supporting metastatic PTC. No statistically evaluable comparative analysis was performed due to the single-case design.

CONCLUSIONS

Lymph nodes encountered during branchial cleft cyst surgery should not be assumed reactive based on gross appearance alone. In patients with a history of papillary thyroid carcinoma, routine excision and histopathological evaluation of adjacent lymph nodes is essential, as clinically occult metastasis may be present even decades after initial treatment.

KEYWORDS

Branchial cleft cyst; papillary thyroid carcinoma; cervical metastasis; lymph node; neck surgery

PP-193

Vacuum-Asisted Closure-Asisted Reconstruction Of Extensive Anterior Cervical Necrotizing Fasciitis: A Case Report

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BACKGROUND & AIM

Necrotizing fasciitis (NF) is a rapidly progressive, life-threatening soft tissue infection. While the extremities and trunk are most commonly affected, the anterior cervical region represents

a rare site and poses additional risks due to its proximity to vital structures such as major vessels and the airway. Prompt diagnosis and aggressive management are critical for patient survival.

MATERIAL & METHODS

We report a 44-year-old previously healthy male who presented with a one-week history of worsening anterior neck infection, pain, and tissue necrosis. Laboratory tests revealed elevated acute-phase reactants, and tissue cultures grew Klebsiella pneumoniae. Imaging demonstrated subcutaneous gas and fluid collections extending from the neck into the anterior chest wall. The patient underwent seven surgical procedures, including six sessions of serial debridement and split-thickness skin grafting harvested from bilateral femoral regions. The final procedures were followed by vacuum-assisted closure (VAC) therapy to control exudate and promote graft integration. After successful graft incorporation, adjunctive hyperbaric oxygen therapy was administered.

RESULTS

With intensive care support, pathogen-targeted antibiotic therapy, repeated surgical debridements, and meticulous wound care, the patient achieved full recovery. At the one-year follow-up, he remained in good condition without complications.

CONCLUSIONS

Anterior cervical NF, although rare and high-risk, can be successfully treated with early diagnosis, serial surgical debridement, skin grafting, VAC therapy, and adjunctive hyperbaric oxygen therapy. This case emphasizes the importance of multidisciplinary management in treating complex cervical wounds.

KEYWORDS

Necrotizing fasciitis; Anterior cervical region; Vacuum-assisted closure; Debridement; Skin grafting; Hyperbaric oxygen therapy

PP-194

Immunotherapy And Surgery In Head And Neck Squamous Cell Carcinoma: Synergies, Challenges And Clinical Outcomes

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BACKGROUND & AIM

Head and neck squamous cell carcinoma (HNSCC) has seen few therapeutic advances; despite surgery and adjuvant radiotherapy with or without cisplatin, roughly one-third of patients relapse within a year. Immune checkpoint inhibitors (ICIs) have reshaped recurrent/metastatic (R/M) disease and are now entering the curative-intent perioperative setting.

MATERIAL & METHODS

We reviewed pivotal anti–PD-1/PD-L1 trials across R/M and locally advanced HNSCC and their implications for surgery.

RESULTS

In R/M disease, nivolumab (CheckMate-141) and pembrolizumab (KEYNOTE-040) improved survival over chemotherapy, and pembrolizumab (KEYNOTE-048) became first-line standard of care. Adding ICIs to chemoradiotherapy in non-operated locally advanced disease failed (KEYNOTE-412, JAVELIN HN100, IMvoke010). Conversely, the perioperative KEYNOTE-689 trial was the first positive phase 3 study: neoadjuvant plus adjuvant pembrolizumab improved event-free survival (hazard ratio 0.66 for CPS ≥10) and induced major pathological responses, lowering rates of high-risk pathology and adjuvant cisplatin use. Neoadjuvant-window trials (IMCISION, neoCHANCE-1) confirmed feasibility without compromising resection.

CONCLUSIONS

Immunotherapy is shifting from palliative to curative-intent perioperative use in HNSCC. Pathological response is emerging as a pivotal biomarker, requiring close integration with surgical planning, margins and de-escalation strategies.

KEYWORDS

head and neck squamous cell carcinoma; immunotherapy; immune checkpoint inhibitors; neoadjuvant; perioperative pembrolizumab; surgery.

PP-195

Temporal Bone Embryonal Rhabdomyosarcoma Presenting As Mastoiditis: Two Pediatric Cases

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BACKGROUND & AIM

Temporal bone embryonal rhabdomyosarcoma is a rare but aggressive pediatric malignancy that can present with a clinical picture mimicking complicated mastoiditis. Patients may initially exhibit persistent otorrhea, postauricular swelling, external auditory canal obliteration, and facial nerve palsy, while radiologic evaluation may reveal temporal bone destruction with extension to the skull base, intracranial structures, and deep neck spaces. We present two pediatric cases with mastoiditis-like onset and aim to highlight the importance of early recognition of these warning signs for accurate diagnosis and appropriate multidisciplinary treatment.

MATERIAL & METHODS

We retrospectively reviewed two pediatric cases of temporal bone embryonal rhabdomyosarcoma managed at our center. Demographic data, initial symptoms, otolaryngologic examination findings, cervical lymph node status, imaging findings, intraoperative observations, histopathologic and molecular analyses, oncologic treatment protocols, surgical interventions, and follow-up data were obtained from medical records. Radiologic evaluation comprised temporal bone computed tomography, contrast-enhanced magnetic resonance imaging of the temporal bone and neck, and PET/CT for staging. The cases were descriptively assessed according to tumor extent, skull base and adjacent space involvement, multimodal treatment approach, and post-treatment clinical and pathologic outcomes.

RESULTS

Case 1: A 3-year-old girl was referred from an outside institution with an initial diagnosis of chronic otitis with intratemporal complications and presented with persistent purulent otorrhea, postauricular fistulization, polypoid external auditory canal obstruction, pre- and postauricular swelling, bilateral cervical lymphadenopathy, and House-Brackmann grade IV facial palsy. Imaging demonstrated temporal bone-middle ear-mastoid tumor with spread to the parapharyngeal and retropharyngeal spaces, pterygoid muscles, skull base, superior orbital fissure, cavernous sinus, and probable intracranial compartment, with cervical nodal metastases. Biopsy confirmed embryonal rhabdomyosarcoma. She received neoadjuvant chemoradiotherapy followed by modified radical mastoidectomy for residual disease.

Case 2: A 2-year-old boy presented with progressive left ear swelling, persistent otorrhea, external auditory canal stenosis, and a growing periauricular mass with intermittent bloody-purulent discharge. Biopsy confirmed embryonal rhabdomyosarcoma. He received neoadjuvant chemotherapy, radical mastoidectomy, and adjuvant chemoradiotherapy. Imaging demonstrated a primary temporal bone tumor with middle ear/mastoid, nasopharyngeal, maxillary, skull base, and probable intracranial extension.

CONCLUSIONS

Temporal bone embryonal rhabdomyosarcoma is a rare but aggressive pediatric malignancy that may closely mimic complicated mastoiditis at presentation. Persistent otorrhea, external auditory canal obstruction, postauricular fistulization or swelling, facial nerve palsy, and radiologic evidence of temporal bone destruction with extension to the skull base, intracranial structures, or deep neck spaces should raise suspicion for malignancy. Early recognition of these alarming findings, prompt biopsy, and multidisciplinary management are essential for accurate diagnosis and appropriate treatment. These cases highlight the importance of considering rhabdomyosarcoma in children with atypical, progressive, or treatment-resistant otologic and mastoid inflammatory findings

KEYWORDS

Temporal bone Embryonal rhabdomyosarcoma Pediatric Mastoiditis Otorrhea Facial palsy Skull base involvement Intracranial extension

PP-196

Metachronous Bilateral Warthin Tumor Mimicking Necrotic Lymphadenopathy: A Case Report

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BACKGROUND & AIM

Warthin tumor is the second most common benign salivary gland tumor and is strongly associated with smoking, with smokers having up to an eightfold increased risk (1,2). It may present as bilateral or multifocal lesions (3,4). Due to its cystic nature and lymphoid stroma, it can radiologically mimic lymphadenopathy (3,5). We report a metachronous bilateral Warthin tumor case with atypical radiological findings.

MATERIAL & METHODS

A 52-year-old male with a 60 pack-year smoking history presented in 2021 with a left parotid swelling. Magnetic resonance imaging (MRI) revealed a 55×42 mm necrotic-appearing lesion at left level I–II. Additionally, a 15 mm lesion was incidentally noted in the right parotid gland. Ultrasonography suggested a lesion in the deep lobe of the left parotid gland. Fine-needle aspiration biopsy was consistent with Warthin tumor. The patient underwent left superficial parotidectomy in March 2022, and histopathology confirmed Warthin tumor.
In 2026, the patient presented with right-sided parotid swelling. Imaging revealed a cystic mass approximately 6×5 cm in the inferior part of the superficial lobe of the right parotid gland, anterior to the sternocleidomastoid muscle. Differential diagnosis included Warthin tumor and lymphadenopathy. Fine-needle aspiration biopsy was non-diagnostic. Right parotidectomy was performed.

RESULTS

Histopathological examination of the right parotidectomy specimen confirmed Warthin tumor. The case was interpreted as metachronous bilateral Warthin tumor with atypical radiological presentation mimicking necrotic lymphadenopathy.

CONCLUSIONS

Warthin tumor should be considered in the differential diagnosis of cystic or necrotic-appearing parotid and upper neck lesions, especially in heavy smokers. Bilateral and metachronous presentations may occur and can lead to diagnostic confusion with lymphadenopathy. Surgical excision remains both diagnostic and therapeutic in ambiguous cases.

KEYWORDS

warthin tumor, bilateral parotid tumor, parotid neoplasm, necrotic lymphadenopathy

PP-197

Diagnostic Challenges In Palatal Lesions Mimicking Malignancy: Report Of Two Cases

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BACKGROUND & AIM

Palatal lesions with atypical clinical features often raise suspicion of malignancy, particularly when presenting as chronic ulcerative or exophytic masses. However, not all such lesions are neoplastic, as certain infectious and benign epithelial conditions may closely mimic cancer, creating significant diagnostic challenges. Oral tuberculosis is a rare extrapulmonary manifestation that typically presents as a chronic ulcer and may represent the first sign of systemic disease. Squamous papilloma is a benign epithelial proliferation that can appear as an exophytic lesion resembling malignancy. We report two cases of palatal lesions initially suspected to be malignant that were ultimately diagnosed as non-neoplastic conditions.

MATERIAL & METHODS

Two patients presenting with suspicious palatal lesions were evaluated through clinical examination, endoscopic assessment, imaging, and histopathological analysis. Case 1: A 45-year-old female presented with several months of nonspecific pharyngeal discomfort. Examination revealed a 3 cm ulcer on the soft palate with raised borders and a granulating base. Initial biopsy showed necrotizing granulomatous inflammation without malignancy. Due to persistence, cervico-thoracic imaging and repeat biopsy with microbiological analysis including PCR were performed. Case 2: An 80-year-old male presented with a painless 2.5 cm exophytic lesion on the hard palate. Endoscopic evaluation was unremarkable. Imaging and incisional biopsy with histopathological and immunohistochemical analysis were carried out.

RESULTS

Case 1: Despite the absence of systemic symptoms, imaging revealed pulmonary findings suggestive of infectious disease. PCR testing confirmed Mycobacterium tuberculosis infection, establishing the diagnosis of oral tuberculosis with probable pulmonary involvement. Targeted therapy led to clinical improvement. Case 2: Histopathological examination showed papillary squamous proliferation without dysplasia, and immunohistochemistry was negative for p16 and HPV. A diagnosis of benign squamous papilloma was established, and complete excision was curative.

CONCLUSIONS

These cases illustrate that palatal lesions with a strong clinical suspicion of malignancy may correspond to non-neoplastic conditions of infectious or benign origin. Oral tuberculosis should be considered in chronic ulcerative lesions, even in the

absence of systemic symptoms, given its potential to mimic malignancy and to represent the first sign of systemic disease. Similarly, benign exophytic lesions such as squamous papilloma may clinically resemble premalignant or malignant tumors, particularly in elderly patients. Histopathological confirmation remains essential, and when initial biopsy is inconclusive, repeat sampling and microbiological testing are critical to establish the diagnosis and avoid mismanagement.

KEYWORDS

Granulomatous disease Exophytic oral lesion Chronic oral ulcer Benign oral tumors

PP-198

Paraganglioma Of The Thyroid Gland

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BACKGROUND & AIM

Paragangliomas (PGs) are rare neuroendocrine tumors, with primary involvement of the thyroid gland being exceptionally uncommon. Thyroid paragangliomas typically present as slowly enlarging thyroid nodules over several years and are most often nonfunctional. Due to their rarity, these tumors are frequently misdiagnosed as more common thyroid neoplasms. This report aims to highlight a rare case of primary thyroid paraganglioma and to increase awareness of its clinical and pathological characteristics in order to avoid diagnostic and therapeutic pitfalls.

MATERIAL & METHODS

We present a case of a patient diagnosed with a primary thyroid paraganglioma. Clinical presentation, imaging findings, histopathological features, and immunohistochemical characteristics were reviewed to establish the diagnosis and differentiate it from other thyroid neoplasms.

RESULTS

The patient presented with a long-standing, gradually enlarging thyroid nodule with no evidence of hormonal hypersecretion, consistent with a nonfunctional tumor. Histopathological examination and immunohistochemical profiling confirmed the diagnosis of primary thyroid paraganglioma, distinguishing it from more common thyroid malignancies.

CONCLUSIONS

Primary thyroid paraganglioma is an extremely rare entity that can closely mimic other thyroid neoplasms. Increased awareness of this rare diagnosis and its distinctive features is essential to ensure accurate diagnosis and appropriate management, thereby preventing unnecessary or inappropriate therapeutic interventions.

KEYWORDS

Neuroendocrine tumor, paraganglioma, thyroid gland

PP-199

B-Cell Dysfunction In Tumor-Draining Lymph Nodes Predicts Relapse In Oral Squamous Cell Carcinoma

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BACKGROUND & AIM

Oral squamous cell carcinoma (OSCC) presents a persistent clinical challenge, with high recurrence rates and limited improvements in survival despite therapeutic advances. Tumor-draining lymph nodes (TDLNs) are key immunological sites where anti-tumor responses are orchestrated, yet the prognostic relevance of B-cell phenotypes in TDLNs remains underexplored.

MATERIAL & METHODS

TDLNs from 49 OSCC patients treated at Karolinska University Hospital were prospectively analyzed. Single-cell suspensions were examined using multicolor flow cytometry to characterize B-cell subsets (naïve, memory, plasma cells) and expression of immunoregulatory markers (CD11c, CD24, CXCR5, CD73, HLA-DR, PD-L1). B-cell profiles were correlated with clinical outcomes, including disease-free survival (DFS) and overall survival (OS).

RESULTS

Disease-free patients exhibited a distinct B-cell profile marked by a higher proportion of naïve B cells, strong CXCR5 and CD11c expression, and increased plasma cell differentiation. Recurrence was associated with elevated CD24, CD73, and HLA-DR expression—markers linked to immunoregulatory or dysfunctional B-cell states. Interestingly, high PD-L1 expression on memory B cells correlated with improved prognosis, suggesting a context-dependent immune function.

CONCLUSIONS

B-cell phenotypes in OSCC TDLNs are strongly associated with patient outcomes. A microenvironment enriched in naïve and functionally active B cells supports durable tumor control, whereas regulatory/exhausted phenotypes are linked to recurrence. These findings position B-cell markers as promising prognostic indicators and therapeutic targets in OSCC, warranting validation in larger cohorts.

KEYWORDS

B cells, oral cancer, sentinel node, immunology

PP-200

Giant Cervico-Mediastinal Desmoid-Type Fibromatosis Mimicking A Retrosternal Thyroid Mass: A Challenging Airway Case

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BACKGROUND & AIM

Desmoid-type fibromatosis (DTF) is a rare benign fibroblastic tumor characterized by locally aggressive, infiltrative growth without metastatic potential. Involvement of the head and neck region is uncommon, and cervico-mediastinal extension is exceptionally rare. Owing to their location and growth pattern, such lesions may mimic thyroid-origin masses, resulting in considerable diagnostic complexity and potential airway compromise.

MATERIAL & METHODS

A 62-year-old woman presented with progressively worsening dysphagia and airway-related symptoms. She reported having undergone a presumed thyroid surgery 25 years earlier for similar complaints, after which she experienced prolonged symptomatic relief. Over the preceding five years, her symptoms gradually recurred, with marked deterioration during the final year. Contrast-enhanced computed tomography of the neck and chest revealed a giant 12-cm mass occupying the left thyroid lobe, with posterior extension into the paravertebral space and inferior extension into the superior mediastinum, mimicking a retrosternal thyroid mass. Complete surgical excision was successfully achieved via a transcervical approach. Histopathological and immunohistochemical evaluation confirmed the diagnosis of DTF. Histopathological examination revealed a spindle cell mesenchymal neoplasm. Immunohistochemistry showed diffuse positivity for Vimentin and SMA, and crucially, nuclear positivity for Beta-catenin. Markers for other mesenchymal tumors (CD34, S100, Desmin, CD117, DOG1) were negative. The final diagnosis was DTF.

RESULTS

No complications were observed during the early postoperative period or at the 6-month follow-up. The patient remains under clinical observation.

CONCLUSIONS

This case highlights a rare presentation of giant cervico-mediastinal desmoid-type fibromatosis associated with significant airway compromise, underscoring the critical importance of radiologic–pathologic correlation and a multidisciplinary management approach.

KEYWORDS

Desmoid-type fibromatosis; Aggressive fibromatosis; Cervical mass; Mediastinal extension; Airway management

PP-201

Head And Neck Sarcomas: Report Of Three Cases

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BACKGROUND & AIM

Head and neck sarcomas are rare and heterogeneous malignant tumors of mesenchymal origin. They are characterized by aggressive behavior, diagnostic difficulty, and a high risk of local extension and distant dissemination. Their management remains challenging due to complex anatomical locations and the absence of standardized therapeutic protocols.

We report three cases of head and neck sarcomas managed in our department and to analyze their epidemiological, clinical, histopathological, therapeutic, and outcome features.

MATERIAL & METHODS

We report three cases of otolaryngological sarcoma of different locations in the cervical region, the parapharyngeal space and the laryngeal region.

RESULTS

Case 1: A 50-year-old woman presented with a chondrosarcoma of the parapharyngeal space extending to the skull base. Following discussion at a multidisciplinary tumor board, exclusive radiotherapy was performed. At 8 months' follow-up, the disease remained stable without distant metastasis.

Case 2: A 65-year-old man was diagnosed with laryngeal sarcoma. He underwent complete surgical excision followed by adjuvant radiotherapy. This case represented the only potentially curative treatment among the three patients.

Case 3: A 57-year-old man presented with a sarcoma revealed by necrotizing cervical cellulitis with thoracic and axillary extension. Despite initiation of chemotherapy, the clinical course was rapidly unfavorable, leading to death.

In all cases, the diagnosis was confirmed by histopathological examination with immunohistochemical analysis.

CONCLUSIONS

Head and neck sarcomas are uncommon but highly aggressive malignancies associated with poor prognosis. Early diagnosis and multidisciplinary management are crucial. Whenever technically feasible, complete surgical excision remains the cornerstone and the only potentially curative treatment modality.

KEYWORDS

head and neck sarcoma; immunohistochemistry; multidisciplinary management; rare tumors.

PP-202

Transoral Robotic Excision Of A Parapharyngeal Spindle Cell Mesenchymal Tumor With Concurrent Tonsillectomy: A Case Report

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BACKGROUND & AIM

Parapharyngeal space tumors are rare and represent a surgical challenge due to their deep location and proximity to vital neurovascular structures. Transoral robotic surgery (TORS) offers a minimally invasive approach with improved visualization andreduced morbidity.

MATERIAL & METHODS

This case report presents a patient who was evaluated and treated in our department. Clinical data were obtained retrospectively from the patient's medical records. The diagnostic workup included detailed history taking, physical examination, and relevant imaging studies. The patient underwent appropriate medical and/or surgical management, and follow-up findings were recorded. All procedures were performed in accordance with standard clinical practice.

A 68-year-old male presented with dysphagia and a palpable mass in the oropharynx. The patient reported noticing a swelling in November 2025 and was referred to our clinic following initial imaging performed at an external center.

Intraoral examination revealed a spindle-shaped mass extending from the right peritonsillar region to the soft palate. Radiological evaluation with contrast-enhanced CT and MRI demonstrated a well-defined mass in the right parapharyngeal space with extension toward the oropharynx, without evidence of pathological lymphadenopathy.

Further evaluation included excisional biopsy, and the patient underwent appropriate management and follow-up.

RESULTS

Excisional biopsy revealed a spindle cell mesenchymal tumor, with immunohistochemical staining positive for desmin, and vimentin. Following multidisciplinary evaluation, the patient underwent transoral robotic surgery (TORS) with complete excision of the lesion and concurrent right tonsillectomy. The postoperative course was uneventful. Final histopathological evaluation is pending.

CONCLUSIONS

Transoral robotic surgery is a safe and effectiveminimally invasive technique for selectedparapharyngeal mesenchymal tumors. It offers favorable functional and cosmetic outcomes.

KEYWORDS

Parapharyngeal space tumors, Transoral robotic surgery, oral cavity cancer

PP-203

Interarytenoid Embryonal Rhabdomyosarcoma: A Rare Laryngeal Case

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BACKGROUND & AIM

Laryngeal embryonal rhabdomyosarcoma (ERMS) is an exceptionally rare malignant mesenchymal neoplasm in adults. Its occurrence in the interarytenoid region is particularly unusual and presents a diagnostic challenge due to its rarity in this subsite. This report aims to present a unique case of adult laryngeal embryonal rhabdomyosarcoma arising from the

interarytenoid area. We discuss the clinical presentation and the successful management of this aggressive tumor using a combined multimodal treatment approach

MATERIAL & METHODS

A 49-year-old male ex-smoker (3 pack-years) presented with a one-year history of hoarseness. Physical examination revealed an irregular, polypoid mass attached to the interarytenoid region; bilateral vocal cords were mobile. Neck MRI identified a 7 mm midline polypoid soft tissue lesion at the glottic level exhibiting peripheral contrast enhancement. Following these clinical and radiological evaluations, an initial surgical excision of the mass was performed to establish a definitive histopathological diagnosis

RESULTS

Histopathology confirmed the diagnosis of embryonal rhabdomyosarcoma. A multidisciplinary decision was made to widen the surgical margins, followed by adjuvant chemoradiotherapy (CRT) to ensure local control. The patient successfully completed the treatment protocol. At the 3-year follow-up, clinical examination and imaging demonstrated no signs of local recurrence or distant metastasis. This successful outcome contrasts with other adult cases where standard organ-preservation strategies without initial surgical control failed to eradicate the disease

CONCLUSIONS

Adult laryngeal embryonal rhabdomyosarcoma involving the interarytenoid region can be successfully managed with early detection and aggressive multimodal therapy. This case illustrates that a combination of surgical margin control followed by adjuvant chemoradiotherapy can provide excellent local control for adult laryngeal sarcomas. Although less common in adults than children, a high index of suspicion is required for irregular glottic lesions. Regular follow-up remains mandatory given the high aggressive potential of these rare laryngeal malignancies even after successful treatment.

KEYWORDS

Embryonal Rhabdomyosarcoma; Larynx; Interarytenoid Area; Chemoradiotherapy; Surgical Excision.

PP-204

Primary Cervical Hydatid Cyst: A Rare Entity Mimicking Branchial Cleft Cyst

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BACKGROUND & AIM

Hydatid disease, caused predominantly by Echinococcus granulosus, is a zoonotic parasitic infection that most commonly involves the liver and lungs due to portal and pulmonary filtration. Head and neck involvement is exceedingly rare, accounting for less than 1% of all cases, and isolated primary cervical localization is particularly uncommon. Clinically and radiologically, cervical hydatid cysts generally mimick cystic lesions of the neck; thereby leading to frequent preoperative misdiagnosis.

MATERIAL & METHODS

A 60-year-old female presented with a 45-day history of a painless, non-progressive swelling in the right lateral neck. She had no systemic symptoms or relevant exposure history. Physical examination revealed a well-circumscribed, non-tender cervical mass. Contrast-enhanced computed tomography demonstrated a 48 × 26 mm multiloculated cystic lesion with peripheral wall enhancement, located posteromedial to the right parotid gland beneath the sternocleidomastoid muscle. Based on radiological findings, an infected branchial cleft cyst or deep neck abscess was initially suspected. The patient underwent complete surgical excision of the lesion.

RESULTS

Intraoperatively, a well-defined cystic mass containing internal particulate material was identified and excised in toto. Histopathological examination revealed laminated acellular membranes consistent with a hydatid cyst, confirming the diagnosis. Postoperative systemic evaluation showed no evidence of hepatic or pulmonary involvement, supporting a diagnosis of “primary cervical hydatid disease”. To reduce the risk of recurrence, albendazole therapy (400 mg/day) was administered in three cycles (3 weeks on treatment followed by 1-week intervals), with regular hematologic and hepatic monitoring. The patient remains disease-free on 2-year follow-up.

CONCLUSIONS

Primary cervical hydatid cyst is a rare and frequently misdiagnosed clinical entity. Definitive diagnosis relies on histopathological confirmation due to nonspecific clinical and radiological features. Complete surgical excision without cyst rupture, combined with adjunctive antihelminthic therapy, provides excellent outcomes. Awareness of this rare disease is essential for the differential diagnosis of cystic neck masses particularly in endemic regions.

KEYWORDS

Cysts, Neck, Echinococcosis, Head and Neck Neoplasms,

PP-205

CASE PRESENTATION OF NECK METASTASIS OF RENAL CELL CARSINOMA

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BACKGROUND & AIM

Renal cell carcinoma (RCC) accounts for approximately 3% of all adult malignancies. It is the sixth most common cancer in men and the ninth in women, and its incidence has been steadily increasing. At the time of diagnosis, approximately 15% of patients present with metastatic disease, while an additional 20% develop metastases following nephrectomy. RCC is considered the third most common infraclavicular tumor metastasizing to the head and neck region. The thyroid gland is the most frequent site of metastasis in this region.

MATERIAL & METHODS

In this case report, we present a 43-year-old male patient who underwent right nephrectomy due to RCC. During follow-up, a control PET-CT scan revealed suspicious lymph node involvement in the left supraclavicular region. The patient's only distant metastasis was located in the neck. Although rare, cervical lymphadenopathy may represent the first clinical manifestation of RCC.A left level III–IV–V neck dissection was performed. Postoperative histopathological examination revealed metastatic lymph nodes consistent with RCC. In postoperative follow-up, PET-CT imaging demonstrated a hypermetabolic lesion in the operated left supraclavicular region and suspicious lymphadenopathies in the aortocaval region. Based on these findings, systemic therapy was initiated, and the patient was started on cabozantinib. Treatment is currently ongoing.

RESULTS

Surgery plays a significant role in the management of metastatic RCC. Surgical resection of metastatic lesions may lead to complete remission due to the removal of biologically active tumor tissue. Despite advances in systemic therapies, international guidelines continue to recommend surgical treatment of metastases in appropriate patients.

CONCLUSIONS

The literature includes numerous single case reports and small case series describing head and neck metastases of RCC.In this case report, we discuss the rare but clinically significant presentation of head and neck metastases of RCC through our case.

KEYWORDS

RENAL CELL CARSINOMA NECK METASTASES

PP-206

Preoperative Selective Arterial Embolization Using Microspheres In Clinically Node-Negative Oropharyngeal Cancer Patients Undergoing Transoral Robotic Surgery

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BACKGROUND & AIM

Transoral robotic surgery (TORS) is a minimally invasive approach for oropharyngeal cancer that preserves function while reducing morbidity. However, postoperative hemorrhage (3–13%) remains a serious concern, requiring reliable vascular control. Prophylactic arterial ligation reduces bleeding risk but necessitates an external cervical incision in clinically node-negative (cN0) patients, compromising the minimally invasive advantage of TORS.

Preoperative transarterial embolization may provide an alternative without external incision. Permanent embolic materials, such as spherical microspheres, enable sustained vascular occlusion.

This study evaluated the safety and feasibility of preoperative embolization using microspheres in patients with early-stage cN0 oropharyngeal cancer undergoing TORS.

MATERIAL & METHODS

This retrospective case series included consecutive patients with cN0 T1–T2 oropharyngeal squamous cell carcinoma treated with preoperative embolization followed by TORS (September 2022–February 2025). Patients with nodal metastasis were excluded.

Selective embolization of tumor-feeding branches of the lingual and/or facial artery was performed using calibrated spherical microspheres (Embosphere™). TORS was conducted four days later using the da Vinci Xi system without prophylactic arterial ligation.

Endoscopic evaluation was performed before embolization, one day after, and on the day of surgery. Primary outcomes were intraoperative blood loss and postoperative hemorrhage requiring intervention. Secondary outcomes included complications, feasibility of TORS, and pathological findings.

Resected specimens were evaluated for tumor size, T classification, margins, necrosis, and presence of microspheres. The study was IRB-approved, with consent waived.

RESULTS

Twelve patients were included (lateral wall, n=9; anterior wall, n=3; T1, n=1; T2, n=11), all cN0.

Endoscopy showed ischemic changes after embolization, with tumor pallor and necrosis observed the next day and further shrinkage before TORS.

TORS was completed in all patients without conversion. One patient required additional surgery due to rapid progression (pT4a). Blood loss was ≤10 mL in all cases, and no postoperative hemorrhage occurred.

Pathological downstaging was observed in 8 patients; three showed no change and one was upstaged. Histology demonstrated microspheres within tumor vessels and extensive ischemic necrosis with minimal residual viable tumor.

One patient developed tongue mucosal necrosis, managed conservatively. No major complications were observed.

CONCLUSIONS

Preoperative transarterial embolization using spherical embolic microspheres appears to be a safe and feasible adjunctive procedure prior to TORS in early-stage, clinically node-negative oropharyngeal cancer. This approach enables effective vascular control while preserving the minimally invasive benefits of TORS and avoiding external cervical incisions. Preoperative embolization may represent a valuable alternative to prophylactic arterial ligation in carefully selected patients.

KEYWORDS

Oropharyngeal cancer, Transoral robotic surgery, Selective arterial embolization, Clinically node-negative, Microspheres

PP-207

Radiation-Induced Malignant Transformation? A Case Of PAX3-MAML3 Positive Biphenotypic Sinonasal Sarcoma

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BACKGROUND & AIM

Biphenotypic sinonasal sarcoma (BSNS) is a rare, low-grade, locally aggressive neoplasm defined by dual neural and myogenic differentiation, typically harboring a PAX3 gene rearrangement. Because it was only recognized as a distinct entity in 2012, historical cases were frequently misdiagnosed as hemangiopericytomas or fibrosarcomas. Furthermore, past radiotherapy to the head and neck can trigger secondary malignant mesenchymal tumors decades later. This report aims to describe a complex case of PAX3-MAML3 positive BSNS presenting 24 years after irradiated "hemangiopericytoma," highlighting the diagnostic pitfalls of morphological overlap and the potential role of radiation-induced malignant transformation.

MATERIAL & METHODS

We present the clinical course of a 65-year-old male who presented in December 2024 with progressive nasal obstruction and epistaxis. The patient had a history of a sinonasal "hemangiopericytoma" treated with excision and 33 sessions of adjuvant radiotherapy in 2000. A recent external punch biopsy reiterated the hemangiopericytoma diagnosis. Preoperative magnetic resonance imaging (MRI) revealed a highly vascular destructive mass filling the right nasal cavity and extending into the inferomedial orbit. Following a multidisciplinary tumor board evaluation, the patient underwent Functional Endoscopic Sinus Surgery (FESS) for mass excision in April 2025. Postoperative tissue analysis included routine histopathology and Next-Generation Sequencing (NGS). Following a rapid orbital recurrence detected on a follow-up MRI in February 2026, a revision endoscopic excision was performed in April 2026.

RESULTS

Initial histopathology of the April 2025 excision demonstrated a low-grade spindle cell malignant mesenchymal tumor with a hemangiopericytomatous vascular pattern, mimicking the historical diagnosis. However, comprehensive molecular testing via NGS revealed a PAX3-MAML3 fusion, definitively diagnosing Biphenotypic Sinonasal Sarcoma. Despite the "low-grade" classification, the tumor exhibited aggressive local behavior. Ten months postoperatively, imaging revealed a 27x15x15 mm lobulated recurrence at the right medial orbital wall, indenting the rectus muscles. The tumor board hypothesized a radiation-induced malignant transformation, considering the 24-year latency and previous radiotherapy. The patient underwent successful revision endoscopic excision, with 24-hour postoperative imaging confirming no macroscopic residual tumor. The case underscores the misleading nature of morphological overlap in sinonasal spindle cell lesions.

CONCLUSIONS

Molecular diagnostics, specifically PAX3 fusion analysis via NGS, are mandatory for accurate classification of sinonasal spindle cell lesions historically termed "hemangiopericytoma." Clinicians must maintain a high index of suspicion for radiation-induced sarcomatogenesis in patients with a distant history of head and neck radiotherapy. Due to BSNS's locally destructive behavior and high recurrence rate near the skull base and orbit, rigorous, long-term postoperative radiological surveillance is critical. This case illustrates the absolute necessity of re-evaluating historical diagnoses with modern molecular tools.

KEYWORDS

Biphenotypic sinonasal sarcoma, PAX3-MAML3 fusion, radiation-induced sarcoma, hemangiopericytoma, Next-Generation Sequencing, functional endoscopic sinus surgery, head and neck oncology.

PP-208

Atypical Locations Of Retropharyngeal Abscess

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BACKGROUND & AIM

Retropharyngeal space lesions may present similarly but require different management depending on lesion size, symptoms, airway risk, radiological extension, and response to treatment[2,4].Radiological evaluation is essential for confirming the lesion and determining its extension. Clinically stable patients without airway compromise may initially be treated with intravenous antibiotics, whereas surgical drainage should be considered in cases of airway compromise, systemic toxicity, large abscesses, progressive symptoms, or lack of improvement after 24–48 hours of medical therapy[1,3]. This case series presents three retropharyngeal space lesions managed with different treatment approaches and highlights the importance of individualized clinical and radiological decision-making.

MATERIAL & METHODS

Three patients with retropharyngeal space abscesses were included in this case series. Restricted oral intake and limitation of neck movements were common presenting complaints in all three cases. In the adult patient, right parapharyngeal bulging and leftward deviation of the epiglottis were observed. Airway examination was unremarkable in the two pediatric cases.Inflammatory response was evident in all cases, with elevated C-reactive protein levels, leukocytosis, and neutrophil predominance. Contrast-enhanced radiological evaluation revealed retropharyngeal abscesses smaller than 2 cm in both children. The third patient was an adult with a larger retropharyngeal abscess. Pediatric patients with abscesses smaller than 2 cm were considered for close clinical observation and medical treatment, whereas the adult patient with a larger collection was evaluated for surgical intervention. In one pediatric case, the collection extended inferiorly toward the thyroid lodge.

RESULTS

Management was individualized according to age, clinical stability, airway risk, abscess size, radiological extent, and response to initial intravenous antibiotic therapy. All three patients received intravenous antibiotic therapy as the initial treatment. One pediatric patient was treated with intravenous antibiotics alone, whereas the pediatric case with thyroid lodge extension was initially managed medically because the abscess was smaller than 2 cm; however, transcutaneous ultrasound-guided fine-needle aspiration was performed due to lack of clinical and laboratory improvement after 48 hours. The adult patient with a larger abscess underwent direct surgical intervention. At the 4-week follow-up, complete clinical recovery was observed in all three cases, with resolution of symptoms and normalization of inflammatory markers and radiological findings.

CONCLUSIONS

Management of retropharyngeal abscesses should be individualized according to abscess size, clinical stability, airway risk, radiological extension, and response to antibiotic therapy. [3,4] In this series, different treatment strategies, including medical treatment, image-guided aspiration, and surgical intervention, resulted in favorable outcomes. Careful clinical and radiological follow-up is essential to confirm resolution and prevent complications.

KEYWORDS

Retropharyngeal abscess, Deep neck infection, Neck Abscess

PP-209

Segmental Resection And Prophylactic Plate Fixation For Mandibular Giant Cell Tumor: A Rare Case Report

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BACKGROUND & AIM

Giant cell tumors of bone are uncommon, locally aggressive lesions that rarely involve the craniofacial skeleton. Mandibular involvement is particularly rare and may present with nonspecific symptoms such as pain, swelling, or fullness, which can lead to diagnostic difficulty. Moreover, radiological bone erosion and increased fluorodeoxyglucose uptake on positron emission tomography may mimic malignancy. We present this rare case to highlight the diagnostic challenges and surgical management of a mandibular giant cell tumor treated with segmental resection and prophylactic plate fixation.

MATERIAL & METHODS

A 61-year-old female patient presented with a five-year history of pain and fullness in the left lower jaw. Clinical examination revealed a tumoral lesion in the left mandibular second premolar region extending toward the mandibular bone. A previous biopsy was reported as giant cell granuloma. Positron emission tomography showed increased fluorodeoxyglucose uptake suspicious for malignancy. Panoramic radiography and maxillofacial computed tomography demonstrated mandibular bone erosion. The patient underwent segmental mandibular resection with prophylactic plate and screw fixation under general anesthesia.

RESULTS

Segmental resection of the left mandible, including the involved second premolar tooth, was carried out with approximately 1 cm surgical margins. The mandibular corpus was stabilized using prophylactic plate and screw fixation. No intraoperative or postoperative complications occurred. The patient was discharged on the second postoperative day with dietary recommendations and wound care follow-up. Histopathological examination confirmed the diagnosis of giant cell tumor of bone. The patient was fed with a straw for two months postoperatively, and solid foods were started at the end of the second month.

CONCLUSIONS

Mandibular giant cell tumors are rare lesions that may present with nonspecific symptoms and mimic malignancy due to bone erosion and increased fluorodeoxyglucose uptake on positron emission tomography. This case emphasizes the importance of careful clinical evaluation, appropriate imaging, and histopathological confirmation in the differential diagnosis of mandibular masses. In selected cases with bone involvement, segmental mandibular resection combined with prophylactic plate and screw fixation may provide safe surgical management and structural support. Early recognition and individualized surgical planning are essential to reduce complications, preserve mandibular stability, and improve postoperative functional recovery.

KEYWORDS

Giant cell tumor of bone, Segmental mandibular resection, Prophylactic plate fixation

PP-210

Transoral Laser Subtotal Thyroidectomy For Symptomatic Lingual Thyroid As The Only Functioning Thyroid Tissue: A Case Report

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BACKGROUND & AIM

Lingual thyroid is a rare form of ectopic thyroid tissue caused by failure of normal thyroid descent during embryologic development. Although many patients remain asymptomatic, progressive enlargement of the ectopic tissue may lead to dysphagia, dysphonia, foreign body sensation, bleeding, or upper airway obstruction. Management is particularly challenging when thyroid scintigraphy demonstrates that the lingual thyroid represents the only functioning thyroid tissue. In selected symptomatic patients, transoral laser surgery (TLS) may offer a minimally invasive surgical alternative with favorable functional outcomes.

MATERIAL & METHODS

We present a patient with a lingual thyroid who developed progressive dysphagia due to enlargement of ectopic thyroid tissue located at the tongue base. Clinical and endoscopic evaluation revealed a mass lesion in the lingual region. Thyroid scintigraphy demonstrated radiotracer uptake only in the lingual area, with no evidence of functioning orthotopic thyroid tissue in the cervical region. Because of the patient's persistent obstructive symptoms, surgical treatment was planned. The patient underwent TLS with subtotal resection of the lingual thyroid tissue. Subtotal resection was preferred to relieve dysphagia while avoiding complete removal of the only functioning thyroid tissue.

RESULTS

TLS enabled adequate reduction of the tongue-base mass through a transoral, minimally invasive approach without the need for an external cervical incision. The use of laser allowed precise tissue dissection with improved intraoperative visualization and effective hemostasis. These properties may help reduce surgical trauma, postoperative edema, pain, and bleeding risk. The patient's dysphagia improved postoperatively, and no major perioperative and postoperative complications such as significant hemorrhage, airway compromise, or aspiration were observed. Postoperative follow-up included endoscopic assessment and thyroid function monitoring.

CONCLUSIONS

Symptomatic lingual thyroid with absent orthotopic thyroid tissue is an uncommon clinical entity requiring individualized treatment planning. TLS may be an effective and tissue-sparing surgical option for selected patients with dysphagia caused by enlargement of lingual thyroid tissue. By providing precise excision, good hemostatic control, and reduced surgical morbidity, TLS can relieve obstructive symptoms while preserving the functional importance of residual ectopic thyroid tissue.

KEYWORDS

Lingual Thyroid; Lingual Goiter; Thyroid Dysgenesis; Deglutition Disorders; Laser Therapy; Thyroidectomy; Radionuclide Imaging

PP-211

Nasopharyngeal Lymphoma: A Rare Case Presenting With Cervical Lymphadenopathy

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BACKGROUND & AIM

Primary involvement of the nasopharynx by Hodgkin lymphoma has been reported quite rarely in the medical literature. This report presents a rare case presenting with cervical lymphadenopathy and nasal congestion, diagnosed with classical Hodgkin lymphoma, highlighting the significance of early diagnosis during head and neck examination.

MATERIAL & METHODS

CASE REPORT: A 24-year-old male presented with a five-day history of nasal congestion and a swelling on the left side of his neck. Physical examination revealed a 4 cm, painless, palpable mass in the left cervical chain. Endoscopic evaluation showed nasopharyngeal fullness, leading to multiple punch biopsies.

Neck ultrasonography demonstrated bilateral cervical lymphadenopathy (Levels 2-3), with the largest measuring 42x26 mm and exhibiting obliterated fatty hila. Immunohistochemical analysis revealed that the atypical large cells were positive for CD30, CD15, and PAX5, while negative for CD20, CD3, CD45, and EBV. Based on these findings, the patient was diagnosed with Classic Hodgkin Lymphoma (CHL), mixed-cellularity subtype.

PET/CT imaging confirmed hypermetabolic involvement in the nasopharynx, bilateral cervical, and supraclavicular regions. The patient was referred to the hematology-oncology department, where a chemotherapy protocol consisting of bleomycin, vinblastine, doxorubicin, and dacarbazine (ABVD), supplemented with filgrastim, was initiated.

RESULTS

In young adult patients presenting with cervical lymphadenopathy, nasopharyngeal lymphomas should be considered in the differential diagnosis, and endoscopic nasopharyngeal examination should be performed. A comprehensive head and neck examination is indispensable for early diagnosis and accurate treatment of otorhinolaryngological malignancies.

CONCLUSIONS

Classic Hodgkin lymphoma (cHL) is a malignancy that typically involves cervical, mediastinal, and axillary lymph nodes, with rare extranodal involvement (1). The nasopharynx is a rather atypical location in this context and has been described in only a limited number of cases in the literature (2). This anatomical region can present with non-specific symptoms, particularly nasal obstruction, epistaxis, or otalgia. Therefore, lymphomas of nasopharyngeal origin are often mistakenly confused with chronic rhinosinusitis or nasopharyngeal masses. Immunohistochemistry plays a critical role in diagnosis (3).

KEYWORDS

Nasopharynx, Hodgkin Lymphoma, Cervical Lymphadenopathy, Head and Neck Neoplasms

PP-212

Clinical Features And Outcomes Of Head And Neck MALT Lymphoma: Single-Center Experience And Literature Review

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BACKGROUND & AIM

Extranodal marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue (MALT) is an uncommon indolent lymphoma frequently involving salivary and ocular adnexal structures in head and neck region. Previous series have highlighted the association between autoimmune diseases, localized presentation, and favorable long-term survival. We reviewed our institutional experience and compared our findings with literature

MATERIAL & METHODS

A retrospective descriptive review was performed in 11 patients diagnosed with head and neck MALT lymphoma at our center between January 2024 and January 2026. Clinical variables included age, sex, autoimmune background, disease localization, treatment strategy, and clinical evolution. These findings were integrated with published evidence regarding prognostic factors, treatment response, and progression-free survival.

RESULTS

Median age at diagnosis was 71 years (range 48–88), with female predominance (64%). Autoimmune diseases were identified in 45% of patients, including Sjögren syndrome, autoimmune thyroiditis, psoriasis, hyperthyroidism, and inflammatory arthritis. The most frequent sites were ocular adnexa, cervical lymph nodes, and major salivary glands. Most patients presented with localized indolent disease, whereas one patient developed disseminated stage IV disease with subsequent transformation into diffuse large B-cell lymphoma. Treatment strategies included rituximab-based therapy (36%), local radiotherapy (27%), surgery (18%), active surveillance (18%), R-CHOP immunochemotherapy (9%), and autologous stem-cell transplantation (9%). Most patients achieved complete or major clinical response. However, unfavorable evolution was observed in 18% of cases, including progression to additional anatomical sites and histologic transformation into aggressive lymphoma. One additional patient achieved only partial response after rituximab monotherapy, requiring a change in therapeutic strategy.

CONCLUSIONS

Our experience confirms the indolent nature and favorable prognosis of head and neck MALT lymphoma, particularly in localized disease. Autoimmune disorders were frequent, supporting their pathogenic role in chronic lymphoid stimulation. Consistent with published literature, radiotherapy and rituximab-based strategies achieved durable disease control, whereas advanced-stage disease was associated with a higher risk of progression and histologic transformation. Long-term follow-up remains essential because late relapses and dissemination may occur despite initial response.

KEYWORDS

MALT lymphoma; head and neck

PP-213

Renal Cell Carcinoma With Metastasis To Supraclavicular Lymph Node

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BACKGROUND & AIM

Pleomorphic adenoma, commonly referred to as a benign mixed tumor, is the most prevalent neoplasm of the salivary glands, particularly affecting the parotid gland. This case report details a unique instance of recurrent pleomorphic adenoma in a 41-year-old female patient, highlighting the complexities of its management. The patient presented with a left submandibular swelling that recurred three years after an initial surgical excision. Comprehensive pathological evaluation confirmed the diagnosis of recurrent pleomorphic adenoma, with the identification of a satellite tumor nodule raising the possibility of benign metastasizing pleomorphic adenoma (BMPA).

MATERIAL & METHODS

This case underscores the critical importance of achieving complete surgical excision during initial treatment to minimize recurrence rates and emphasizes the necessity of vigilant postoperative monitoring. The findings advocate for a collaborative approach among healthcare providers and stress the need for ongoing research to refine surgical techniques and better understand the biological behavior of pleomorphic adenomas.

RESULTS

Pleomorphic adenoma, commonly referred to as a benign mixed tumor, is the most prevalent type of salivary gland neoplasm, accounting for approximately 60-80% of all salivary gland tumors (1). This tumor is characterized by a mixture of epithelial and mesenchymal components, exhibiting a diverse histological appearance. While pleomorphic adenomas are primarily found in the parotid gland, they can also occur in the submandibular and minor salivary glands. The incidence of pleomorphic adenoma varies globally, with a higher prevalence observed in females and individuals aged between 30 and 60 years (2).

CONCLUSIONS

This case report illustrates the complexities involved in the management of recurrent pleomorphic adenoma of the salivary gland, particularly in a 41-year-old female patient who experienced a recurrence despite undergoing complete surgical excision. The identification of a satellite tumor nodule adjacent to a lymph node raises important considerations regarding the behavior of pleomorphic adenomas and the potential for benign metastasizing pleomorphic adenoma (BMPA). This highlights the necessity for thorough surgical approaches and vigilant follow-up to mitigate the risk of recurrence and potential complications.

KEYWORDS

Recurrent Pleomorphic Adenoma of the Salivary Gland

PP-214

Necrotizing Fasciitis Of The Head And Neck: A Case Report

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BACKGROUND & AIM

Necrotizing fasciitis (NF) of the head and neck is a rare, life-threatening deep space infection accounting for fewer than 20% of all NF cases, with mortality rates of 20–40%. It spreads rapidly along fascial planes and may initially mimic odontogenic infection or cellulitis, leading to critical diagnostic delay. Early clinical suspicion and prompt surgical intervention are the primary determinants of survival. We present a case of cervicofacial NF managed successfully with serial debridements, split-thickness skin grafting, and multidisciplinary intensive care, highlighting the importance of early diagnosis and aggressive surgical management.

MATERIAL & METHODS

A 47-year-old male was admitted with a five-day history of jaw and throat pain. Clinical examination, bedside aspiration, and contrast-enhanced CT were performed. Serial inflammatory markers (CRP, procalcitonin, WBC, albumin) were monitored throughout. Surgical management consisted of emergency exploration, serial debridements under general anaesthesia via

nasotracheal intubation, and wound irrigation with antiseptic solutions. Reconstruction was achieved with split-thickness skin grafts harvested from the right thigh, secured with 5-0 Prolene, and covered with VAC dressing. Broad-spectrum intravenous antibiotics and multidisciplinary intensive care support were maintained throughout hospitalisation.

RESULTS

Serial debridements successfully cleared necrotic tissue until viable wound margins were established. Inflammatory markers declined markedly: CRP from 287 to 8 mg/L, procalcitonin from 4.8 to 0.05 ng/mL, and WBC from 18.4 to 7.8 $\times 10^3/\mu L$. Serum albumin recovered from 2.8 to 3.9 g/dL. Split-thickness skin grafting resulted in successful graft take without donor site complication. No mediastinal extension, tracheotomy requirement, or mortality occurred. The patient was discharged in stable condition with satisfactory functional and aesthetic outcome following multidisciplinary management.

CONCLUSIONS

Cervicofacial NF requires immediate recognition and urgent surgical management. In this case, early clinical suspicion, prompt CT imaging, serial debridements, broad-spectrum antibiotics, and reconstructive skin grafting resulted in a favourable outcome without mortality. Progressive normalisation of inflammatory markers confirmed effective infection control. This case reinforces that surgical intervention must never be delayed when necrotizing infection is clinically suspected.

KEYWORDS

necrotizing fasciitis, head and neck infection, deep neck space abscess, surgical debridement, skin grafting, vacuum-assisted closure, cervicofacial infection

PP-215

Similar Presentation, Distinct Pathologies: A Case Series Of Three Malignant Deep Lobe Parotid Tumors

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BACKGROUND & AIM

Deep lobe parotid tumors represent a diagnostic challenge due to their anatomical location and heterogeneous pathology. Although clinical findings and radiological imaging often raise suspicion of malignancy, the histopathological nature of these tumors cannot always be accurately predicted. Malignant lesions in the parotid region may arise from primary salivary gland tumors or occur as metastasis or direct infiltration of cutaneous malignancies originating from the head and neck region. The aim of this study was to present three patients with parotid masses showing similar clinical features but different histopathological diagnoses.

MATERIAL & METHODS

Three patients who presented with parotid gland masses and underwent surgical treatment at our clinic were retrospectively evaluated. Clinical findings, radiological imaging results, biopsy findings, surgical procedures, and postoperative histopathological outcomes were reviewed.

RESULTS

The first patient was a 57-year-old presenting with a long-standing swelling in the preauricular region. Physical examination revealed a 10×5 cm mass. MRI demonstrated a 9 × 5 cm lesion in the deep lobe of the parotid gland. Biopsy confirmed squamous cell carcinoma (SCC).The patient underwent tumor excision, deep lobe parotidectomy,neck dissection with reconstruction using an anterolateral thigh free flap. Histopathology showed SCC.

The second patient was a 73-year-old with a 20-year history of a preauricular mass and facial paralysis.Examination showed a 10×7 cm ulcerated lesion.Biopsy revealed basal cell carcinoma(BCC). The patient underwent parotidectomy and neck dissection followed by reconstruction with a supraclavicular flap. Histopathology confirmed BCC.

The third patient was a 52-year-old presenting with a rapidly enlarging parotid mass. MRI demonstrated lesion in the deep lobe of the parotid gland, a mass measuring 5.5 cm. Biopsy revealed malignant melanoma.The patient underwent parotidectomy and neck dissection, and histopathology confirmed malignant melanoma.

CONCLUSIONS

Deep lobe parotid tumors presenting with similar clinical and radiological features may harbor markedly different malignant pathologies. In addition to primary salivary gland tumors, malignancies arising from the cutaneous structures of the head and neck may involve the deep lobe of the parotid gland through metastasis or direct infiltration. Therefore, careful preoperative assessment combined with histopathological confirmation remains essential for establishing the correct diagnosis and guiding optimal surgical management.

KEYWORDS

Deep lobe parotid tumors,Squamous cell carcinoma,Basal cell carcinoma,Malignant melanoma

PP-216

Thyroglossal Duct Cyst Papillary Carcinoma Initially Evaluated As Ranula, With Synchronous Papillary Thyroid Microcarcinoma: Case Report

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BACKGROUND & AIM

Thyroglossal duct cyst (TGDC) is one of the most common congenital anomalies of the neck, whereas malignant transformation is extremely rare. The majority of TGDC carcinomas are papillary thyroid carcinomas. Since clinical and radiological findings frequently mimic benign cystic neck lesions, preoperative diagnosis may be challenging. Furthermore, the presence of synchronous thyroid malignancy and the optimal surgical management remain controversial. We aimed to present a rare case of TGDC carcinoma located in the submental region, initially interpreted as a ranula, accompanied by synchronous multifocal papillary thyroid microcarcinoma.

MATERIAL & METHODS

A 45-year-old male patient presented with swelling in the submental region. Ultrasonography and magnetic resonance imaging revealed a predominantly cystic lesion with septations and solid components, which was initially interpreted as a ranula. Fine-needle aspiration biopsy of the submental mass was reported as suspicious for malignancy (Milan category V). Surgical excision was subsequently performed. Intraoperatively, the mass was found extending between the mylohyoid muscle fibers and adjacent to the hyoid bone. Histopathological examination revealed papillary thyroid carcinoma, and one metastatic lymph node was identified within the specimen. Reevaluation by the pathology department suggested that the lesion might have originated from a thyroglossal duct cyst. Subsequent thyroid ultrasonography demonstrated multiple TIRADS-5 nodules, and total thyroidectomy was performed following a multidisciplinary endocrine surgery council decision.

RESULTS

Histopathological examination of the total thyroidectomy specimen demonstrated multifocal papillary thyroid microcarcinoma in two separate foci measuring 0.8 cm and 0.2 cm in the right thyroid lobe. No extrathyroidal extension was identified. Based on the clinical, radiological, intraoperative, and histopathological findings, the case was interpreted as papillary thyroid carcinoma arising from a thyroglossal duct cyst accompanied by synchronous multifocal papillary thyroid microcarcinoma.

CONCLUSIONS

Malignancy should be considered in complex cystic submental lesions encountered in adults. TGDC carcinomas may mimic benign cystic neck lesions and can be difficult to distinguish from metastatic cystic lymph nodes. Comprehensive evaluation of clinical, radiological, intraoperative, and histopathological findings is essential for accurate diagnosis. In selected patients with a risk of synchronous thyroid malignancy, total thyroidectomy should be considered during surgical treatment planning.

KEYWORDS

Thyroglossal duct cyst carcinoma, papillary thyroid microcarcinoma, synchronous tumors, ranula, submental mass

PP-217

EBV Positivity In Nasopharyngeal Carcinoma: A Single-Center Analysis Of Histopathological Subtypes (Preliminary Results)

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BACKGROUND & AIM

Nasopharyngeal carcinoma (NPC) is a distinct head and neck malignancy characterized by marked geographic variation and a strong association with Epstein–Barr virus (EBV) infection. Among its histopathological subtypes, nonkeratinizing carcinoma is strongly associated with EBV, particularly in endemic and intermediate-incidence regions such as Türkiye, whereas keratinizing squamous cell carcinoma demonstrates a weaker viral association and may exhibit distinct biological behavior. Understanding this relationship is essential for accurate prognostic stratification and informed therapeutic decision-making. This study aimed to evaluate the distribution of histopathological subtypes in a single-center NPC cohort and to investigate their association with EBV positivity.

MATERIAL & METHODS

This retrospective study included 20 patients with histopathologically confirmed nasopharyngeal carcinoma diagnosed at the Department of Otorhinolaryngology of a single tertiary care center between March 2023 and December 2025. Patients presenting with nasopharyngeal fullness or mucosal irregularities underwent contrast-enhanced MRI followed by punch biopsy. Histopathological subtype was classified as nonkeratinizing or keratinizing per WHO criteria. EBV status was determined using Epstein–Barr virus-encoded RNA (EBER) in situ hybridization on formalin-fixed, paraffin-embedded specimens; nuclear EBER staining was defined as EBV-positive. Age, gender, histopathological subtype, and EBV status were recorded. Fisher's Exact Test and Mann–Whitney U test were applied for statistical analyses using IBM SPSS v25.0. Given the

small and unbalanced subgroup distribution, findings were interpreted descriptively. The study was approved by the Institutional Ethics Committee (No: AEŞH-BADEK1-2025-168) and conducted per the Declaration of Helsinki.

RESULTS

Twenty patients were included; 15 male (75.0%) and 5 female (25.0%), with a mean age of 46.5 ± 17.2 years (range: 17–70; median: 52.5). Nonkeratinizing carcinoma was the predominant subtype (95.0%, n=19); only one patient (5.0%) had keratinizing carcinoma. EBV positivity was detected in 90.0% of patients (n=18). Among nonkeratinizing cases, 94.7% (18/19) were EBV positive and 1 (5.3%) was EBV negative. The only keratinizing case was EBV negative. No statistically significant association was observed between EBV status and histopathological subtype (p=0.100), gender (p=1.000), or age (EBV-positive: 44.9 ± 17.1 years vs. EBV-negative: 61.0 ± 12.7 years; p=0.284). All analyses are severely underpowered due to the limited number of EBV-negative and keratinizing cases and should be interpreted as descriptive rather than inferential.

CONCLUSIONS

Nonkeratinizing carcinoma constituted the vast majority of cases and demonstrated a high rate of EBV positivity, consistent with Turkish and international literature. The demographic and histological profile of our cohort closely mirrors previously published Turkish series, supporting the external validity of our findings despite the limited sample size. The absence of EBV positivity in the single keratinizing case supports a distinct etiopathogenetic pathway for this variant. These findings are preliminary and hypothesis-generating; larger prospective multicenter studies with balanced histopathological representation are needed to validate these associations and clarify the prognostic implications of EBV status in NPC.

KEYWORDS

nasopharyngeal carcinoma, Epstein–Barr virus, EBV positivity, histopathological subtype, head and neck oncology.

PP-218

Auricular Basosquamous Carcinoma With Temporal Bone Invasion: Total Auriculectomy And Reconstruction

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BACKGROUND & AIM

Basosquamous carcinoma (BSC) is a rare non-melanoma skin cancer with histological features of both basal cell carcinoma and squamous cell carcinoma. It is recognized as more aggressive than conventional basal cell carcinoma because of its higher risk of local recurrence, deeper tissue invasion, and metastatic potential. Although the auricle is a frequent site for sun-related cutaneous malignancies, advanced cases with temporal bone extension are uncommon. This case report aims to describe the clinical presentation, radiological findings, and surgical management of advanced auricular basosquamous carcinoma with temporal bone invasion, with particular emphasis on total auriculectomy and immediate reconstruction.

MATERIAL & METHODS

We retrospectively evaluated the clinical presentation, radiological findings, histopathological diagnosis, surgical treatment, and reconstructive management of a patient with advanced auricular BSC.

RESULTS

An 86-year-old woman presented with a long-standing, progressively enlarging lesion involving the left auricle. Examination demonstrated an approximately 9 cm ulcerated mass causing total auricular destruction with extension into the preauricular soft tissues. Incisional biopsy confirmed basosquamous carcinoma. Radiological evaluation revealed a contrast-enhancing preauricular lesion without evidence of distant disease. The patient underwent wide oncologic resection, including total auriculectomy. Intraoperatively, tumor invasion of the mastoid cortex was identified, and cortical mastoidectomy with exposure of the mastoid antrum was performed. Despite the extent of disease, the main trunk and peripheral branches of the facial nerve were carefully identified and preserved. Superficial parotidectomy and supraomohyoid neck dissection were added because of advanced local extension and the need for regional control. The resulting composite defect was reconstructed during the same session using a pectoralis major myocutaneous flap.

CONCLUSIONS

Basosquamous carcinoma may cause extensive local destruction when diagnosis is delayed. Advanced auricular lesions can invade adjacent temporal bone structures and require aggressive resection with complex reconstruction. Facial nerve preservation may still be achievable in selected patients with careful surgical planning. Early diagnosis and timely surgical management are important to minimize morbidity.

KEYWORDS

Basosquamous carcinoma, Auricular carcinoma, Pectoralis major flap, Auriculectomy, Temporal bone invasion

PP-219

The Diagnostic Value Of PET/MRI For Lymph Node Metastases In Head And Neck Squamous Cell Cancer – A Head-To-Head Comparison With MRI, CT, And PET/CT

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BACKGROUND & AIM

Purpose: This study aimed to evaluate the diagnostic accuracy of PET/MRI compared head-to-head to MRI, CT, and PET/CT in detecting lymph node metastases in head and neck squamous cell cancer (HNSCC).

MATERIAL & METHODS

Methods: A prospective diagnostic study was conducted, with the sample size determined based on the comparison between PET/MRI and MRI. Patients were recruited from a head and neck cancer center in Denmark. Only patients with histologically confirmed HNSCC who underwent neck dissection were included in the analysis. Blinded assessors evaluated imaging for lymph node metastases by neck level, and histology served as the reference standard. Diagnostic parameters were calculated for each imaging modality per neck level and per patient. McNemar's test was employed for intermodality comparisons.

RESULTS

Results: A total of 94 neck levels from 27 patients were included in the study. The majority of patients were male (56%), with a median age of 69 years (range: 45-90). The primary tumor was predominantly located in the oral cavity (67%), followed by the oropharynx (22%). Lymph node metastases were histologically verified in 27 neck levels from 19 patients. PET/MRI had a sensitivity of 65.2% and a specificity of 77.5% in per-level analysis, with corresponding values of 89.5% and 50.0% in per-patient analysis. There was no statistically significant difference in diagnostic performance between PET/MRI and other modalities ($p > 0.05$).

CONCLUSIONS

Conclusion: Overall, PET/MRI demonstrates similar diagnostic performance for lymph node metastases in HNSCC when compared to PET/CT, MRI, and CT. The choice of imaging modality should be based on individual assessment.

KEYWORDS

Key Words: Squamous Cell Carcinoma of Head and Neck / diagnostic imaging; Lymph Node Metastases; Positron Emission Tomography; Magnetic Resonance Imaging; Sensitivity and Specificity; Tomography, X-ray Computed;

PP-220

Nodular Melanoma Of The Nasal Ala: A Case Report On Surgical Decision-Making In Regional Lymph Node Management And Reconstruction

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BACKGROUND & AIM

Head and neck melanomas represent a distinct subgroup with more aggressive behavior and poorer prognosis, largely due to complex lymphatic drainage and delayed diagnosis. The nasal ala is a rare and anatomically challenging subunit where achieving oncologic safety while preserving function and aesthetics is difficult.

Nodular melanoma, in particular, carries a worse prognosis because of its rapid vertical growth and higher metastatic potential at diagnosis. Therefore, early surgical excision with adequate margins remains the cornerstone of management, requiring a careful balance between complete tumor removal and optimal functional and aesthetic outcomes.

MATERIAL & METHODS

A 55-year-old male presented with a progressively enlarging pigmented lesion on the right nasal ala over four months, without pain, ulceration, or bleeding. Clinical examination revealed a nodular, irregularly bordered, darkly pigmented mass confined to the cutaneous surface, with no palpable cervical lymphadenopathy.

PET imaging showed a hypermetabolic lesion consistent with malignant melanoma, along with low-grade FDG uptake in right superior jugular lymph nodes, considered suspicious due to their location within the lymphatic drainage pathway.

The patient underwent wide local excision with safe margins, followed by reconstruction using a local rotation flap to preserve nasal contour and function. Due to radiological suspicion, a concurrent right supraomohyoid neck dissection was performed.

Histopathology confirmed nodular melanoma with clear margins and no nodal metastasis. The postoperative course was uneventful, and adjuvant radiotherapy was administered. Follow-up demonstrated satisfactory healing, preserved nasal symmetry, and no evidence of recurrence or metastasis.

RESULTS

Management of the clinically node-negative neck in head and neck melanoma remains controversial. Sentinel lymph node biopsy is the standard staging method, but suspicious imaging findings, even with low FDG uptake, may justify more aggressive treatment.

In the present case, although histopathology showed no nodal metastasis, supraomohyoid neck dissection was performed due to lymphatic drainage patterns and radiological suspicion. This highlights the limitations of imaging in detecting occult metastasis and emphasizes individualized surgical planning.

Reconstruction of nasal alar defects is also a key aspect of management. Local rotation flaps offer reliable vascularity, good color and texture match, and preservation of nasal contour. Depending on defect characteristics, bilobed or nasolabial flaps may also be used.

The role of adjuvant radiotherapy in melanoma remains controversial, but it may improve local control in selected high-risk patients, particularly in head and neck cases.

CONCLUSIONS

Cutaneous melanoma is an aggressive malignancy of melanocytes with increasing global incidence. Head and neck melanomas account for 15–20% of cases and have worse survival, largely due to complex lymphatic drainage and delayed diagnosis. The nasal ala is a unique facial subunit with a complex three-dimensional structure and a critical role in the external nasal valve, making oncologic clearance and reconstruction challenging. Management of nasal ala melanoma requires a multidisciplinary, individualized approach. Careful assessment of regional nodes, even with low metabolic activity, is essential for treatment planning. Combined resection, lymph node management, and tailored reconstruction are required for optimal outcomes.

KEYWORDS

nasal ala, melanoma, neck dissection, nodular melanoma

PP-221

Hodgkin Lymphoma Presenting As A Mass Extending From The Tongue Base To The Vallecula: A Case Report Of An Extremely Rare Location

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BACKGROUND & AIM

Hodgkin Lymphoma (HL) rarely presents as a primary extranodal disease. Involvement of the oropharynx is extremely uncommon, and a primary mass

extending specifically from the tongue base to the vallecula is exceptionally rare. Such unusual presentations often lead to diagnostic confusion with more

common pathologies, such as Squamous Cell Carcinoma.

This case report describes a unique patient presentation of primary extranodal HL manifesting as a single tongue base/vallecula mass. We aim to highlight

this rare entity, discuss its diagnostic challenges, and emphasize the necessity of considering HL in the differential diagnosis of oropharyngeal masses.

MATERIAL & METHODS

A 63-year-old male patient presented with hoarseness. Physical examination revealed an ulcerated mass with indistinct margins on the right

lateral base of the tongue. The patient had a significant smoking history of 40 pack-years. Although the preliminary clinical and radiological impression

favored SCC, the biopsy obtained from the mass was reported as Classic Hodgkin Lymphoma. After the pathological diagnoses, the patient initiated

multidisciplinary treatment under hematologic oncology.

RESULTS

The patient was initiated treatment with the ABVD chemotherapy protocol under Hematology/Oncology. Following treatment completion,

the patient achieved a complete remission (cure) with no evidence of residual or recurrent disease.

CONCLUSIONS

Primary HL of the base of the tongue is a rare but crucial differential diagnosis in an area where SCC prevalence is high. Treatment should not

commence without definite histopathological diagnosis via biopsy, even in patients with heavy risk factor exposure. This case reminds Otolaryngology

clinicians to maintain a high index of suspicion for atypically located lymphomas.

KEYWORDS

Hodgkin Lymphoma, Mass, Tongue Base , Vallecula

PP-222

Misdiagnosis Of Adenoid Cystic Carcinoma As Pleomorphic Adenoma: A Case Report

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BACKGROUND & AIM

Pleomorphic adenoma (PA) is the most common benign neoplasm of the parotid gland, while Adenoid Cystic Carcinoma (AdCC) is a rare malignant tumor known for its indolent growth, perineural invasion, and late distant metastasis.

We present a case of a patient initially diagnosed with PA on Tru-Cut Biopsy, who underwent superficial parotidectomy. However, the final excisional biopsy of the surgical specimen revealed Adenoid Cystic Carcinoma, necessitating a completion total parotidectomy with neck dissection.

MATERIAL & METHODS

A 70-year-old female presented with a 5 month history of a slowly enlarging, painless mass in the right parotid-masseteric region. She reported no facial weakness, pain, or sensory changes. Her past medical history was unremarkable.

A non-mobile, non-tender mass approximately 1,5x1 cm was palpated in the superficial lobe of the right parotid gland. No cervical lymphadenopathy was detected. Facial nerve function was intact (House-Brackmann Grade I).

Tru-Cut Biopsy was performed. The cytopathological report was consistent with Pleomorphic Adenoma. No atypical or malignant cells were reported.

Based on the benign Tru-Cut Biopsy result, the patient underwent a right superficial parotidectomy. The mass was macroscopically well-circumscribed and removed completely. The patient was discharged after an uneventful recovery.

The microscopic examination result was compatible with adenoid cystic carcinoma.

RESULTS

Multidisciplinary Decision and Second Surgery The unexpected malignant diagnosis was discussed at the multidisciplinary tumor board. Due to the aggressive nature of AdCC, the presence of perineural invasion, and the close surgical margin, a completion surgery was recommended.

Second Procedure: The patient underwent a right total parotidectomy with facial nerve preservation and an neck dissection.

CONCLUSIONS

Adenoid Cystic Carcinoma can be misdiagnosed as Pleomorphic Adenoma on Tru-Cut Biopsy. Surgeons must maintain a high index of suspicion and be prepared to perform completion surgery when final pathology reveals unexpected malignancy. Close collaboration between surgeons and pathologists is essential for optimal patient outcomes.

KEYWORDS

Case report, pleomorphic adenoma, adenoid cystic carcinoma,parotid gland

PP-223

Diagnostic Utility Of Blood-Based Biomarkers CK-19 And Galectin-3 In Differentiating Malignant And Benign Thyroid Lesions

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BACKGROUND & AIM

With the rising global incidence of thyroid cancer, accurate preoperative diagnosis remains a significant clinical challenge. Current diagnostic pathways rely heavily on fine-needle aspiration (FNA) biopsy, an invasive procedure that frequently yields indeterminate results, leading to unnecessary diagnostic surgeries. Circulating blood-based biomarkers have emerged as a potential minimally invasive adjunct to improve diagnostic accuracy, stratify patient risk, and reduce overall healthcare burdens. Consequently, this retrospective study aimed to critically evaluate the diagnostic utility of two such biomarkers (Cytokeratin-19 (CK-19) and Galectin-3) in reliably differentiating benign from malignant thyroid lesions, assessing their potential to serve as reliable, standalone non-invasive diagnostic tools.

MATERIAL & METHODS

This retrospective, blinded cohort study utilized archived pre-operative plasma samples from 33 adult patients (≥ 18 years) scheduled for thyroidectomy within the Betsi Cadwaladr University Health Board in the UK. Participants were classified into malignant (n=14) and benign (n=19) groups based on post-operative histopathological reference standards. Venepuncture was

performed pre-operatively using EDTA tubes to obtain plasma, which was processed via centrifugation at 2000× g and stored at -80°C.

Circulating concentrations of Cytokeratin-19 (CK-19) and Galectin-3 (Gal-3) were quantified using commercially available solid-phase sandwich enzyme-linked immunosorbent assay (ELISA) kits following manufacturer protocols. Absorbance was measured at 450 nm, and concentrations were interpolated from four-parameter logistic (4PL) standard curves. Statistical analysis was conducted using SPSS, employing Mann-Whitney U tests for non-parametric group comparisons and Receiver Operating Characteristic (ROC) curves to evaluate diagnostic performance

RESULTS

Following quality-control exclusions, CK-19 concentrations were quantifiable in 17 samples (10 benign, 7 malignant). Benign lesions demonstrated a higher mean CK-19 concentration (3.46 ng/mL) compared with malignant lesions (1.67 ng/mL). This difference approached but did not reach statistical significance (p=0.064). ROC analysis for CK-19 showed a high specificity of 90.0% but a very low sensitivity of 14.3%.

Galectin-3 concentrations were successfully quantified in 32 samples (19 benign, 13 malignant). Mean Gal-3 concentrations were 16.04 ng/mL in the benign group and 15.38 ng/mL in the malignant group. No statistically significant difference was observed between these diagnostic groups (p=0.863). ROC curve analysis for Gal-3 indicated poor discriminatory performance, with an area under the curve (AUC) of 0.482, a sensitivity of 46.2%, and a specificity of 63.2%.

CONCLUSIONS

While CK-19 and Galectin-3 are established markers in thyroid pathology, these findings demonstrate that their circulating plasma concentrations do not reliably distinguish malignant from benign thyroid lesions when used individually. Significant overlap between diagnostic groups and low sensitivity limit their current clinical utility as standalone non-invasive diagnostic tools. Methodological challenges, including limited release into circulation and assay detection constraints, highlight the difficulty of translating tissue-based overexpression into reliable blood-based diagnostics. Future research should prioritize multi-marker panels integrated with ultrasound-based risk stratification and molecular profiling.

KEYWORDS

Thyroid Cancers, Biomarkers, CK-19, Gal-3, plasma, Malignancy, diagnostic tools, non-invasive diagnostics

PP-224

Pediatric Rhabdomyosarcoma Located In The Temporal And Infratemporal Regions: A Case Report

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BACKGROUND & AIM

Rhabdomyosarcoma is a rare malignant mesenchymal tumor and one of the most common soft tissue sarcomas in children. In the head and neck region, it may present with variable findings depending on tumor location and extent. Temporal and infratemporal masses are particularly challenging because of their deep location, proximity to critical structures, and potential for regional spread. We aimed to present a pediatric case of rhabdomyosarcoma involving the temporal and infratemporal regions, focusing on its clinical presentation, radiological findings, pathological features, and multidisciplinary management.

MATERIAL & METHODS

A 15-year-old male patient presenting with swelling in the right temporal and preauricular region was evaluated retrospectively. Clinical findings, physical examination, endoscopic evaluation, radiological imaging, histopathological and immunohistochemical results, and PET-CT findings were reviewed from the medical records. The diagnostic process and multidisciplinary treatment planning were analyzed descriptively.

RESULTS

Physical examination revealed a firm, fixed mass measuring approximately 4 cm in the right temporal, temporomandibular, and masseteric region, together with a palpable right submandibular lymph node. Imaging studies demonstrated a heterogeneously enhancing mass centered in the right temporal and infratemporal region with extension into the masticator space, expansion of the posterior wall of the maxillary sinus, and remodeling/destruction of adjacent orbital and craniofacial bony structures. Cervical lymphadenopathy was also detected radiologically. Tru-cut biopsy of the facial mass and cervical lymph node showed a malignant mesenchymal tumor. Immunohistochemical analysis revealed positivity for desmin, MyoD1, myogenin, and vimentin, supporting the diagnosis of rhabdomyosarcoma. PET-CT demonstrated increased FDG uptake in the primary lesion and regional cervical lymph nodes, without evidence of distant metastasis. The patient was evaluated by a multidisciplinary tumor board, and systemic chemotherapy was planned as the initial treatment modality, with further management to be determined according to treatment response.

CONCLUSIONS

Rhabdomyosarcoma should be considered in the differential diagnosis of pediatric patients presenting with a deep temporal or infratemporal mass. Detailed radiological evaluation, histopathological confirmation, and multidisciplinary tumor board assessment are essential for accurate diagnosis and treatment planning. Early recognition of regional lymph node involvement and locally aggressive extension may facilitate timely oncologic management.

KEYWORDS
Rhabdomyosarcoma, pediatric patient, temporal region, infratemporal fossa, head and neck tumor, cervical lymphadenopathy

PP-225

Methylation-Associated Loss Of KIF26B Expression In A Subgroup Of Oral Squamous Cell Carcinoma

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BACKGROUND & AIM

Oral squamous cell carcinoma (OSCC) is the most common subtype of oral cancer and remains a major public health concern due to late diagnosis and poor survival outcomes. Epigenetic alterations, particularly DNA methylation, play an important role in oral carcinogenesis. KIF26B was identified as a potential epigenetic biomarker candidate based on array data obtained from the TÜBİTAK-SBAG-114S497 project conducted by Demokan et al. This study aimed to investigate the biomarker potential of KIF26B in OSCC by evaluating promoter methylation status and gene expression levels in tumor tissues.

MATERIAL & METHODS

Tumor tissues and matched-adjacent normal tissues obtained from 25 OSCC patients were analyzed to evaluate the methylation and expression status of KIF26B. Gene expression levels were determined using quantitative real-time PCR, while methylation levels were assessed using quantitative methylation-specific PCR.

RESULTS

KIF26B promoter methylation was detected in 20% of OSCC tumor tissues, and decreased gene expression was observed in all methylated cases. Compared with matched-adjacent normal tissues, decreased KIF26B expression was identified in 48% of OSCC cases, whereas increased expression was detected in 16% of the cases. Furthermore, reduced KIF26B expression was more frequently observed in advanced-stage, poorly differentiated, and metastatic tumors.

CONCLUSIONS

These findings suggest that methylation-associated loss of KIF26B expression may characterize a subgroup of OSCC with aggressive biological behavior. However, larger cohort studies are required to validate these findings and clarify the clinical significance of KIF26B-associated epigenetic alterations in OSCC.

KEYWORDS

KIF26B, oral squamous cell carcinoma, gene expression, DNA methylation, epigenetics.

PP-226

Selective Deep Lobe Parotidectomy In A Variety Of Indications: Neurinoma, Cyst, And Malignant Salivary Gland Tumour

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BACKGROUND & AIM

Selective Deep Lobe Parotidectomy (SDLP) is a surgical technique described for benign salivary gland tumours located in the deep lobe of the parotid gland. Recurrence rates for benign salivary gland tumours after SDLP are low and comparable to total parotidectomy. Compared to total parotidectomy, this approach significantly reduces the risk of permanent facial nerve weakness and Frey's syndrome. By preserving the healthy superficial lobe, SDLP maintains facial contours and salivary function.

MATERIAL & METHODS

This case series evaluates the utility of SDLP in three patients with distinct tumour histologies. All patients presented with lesions under 2 cm and inconclusive preoperative diagnostic results.

RESULTS

Case Series:

- Patient 1: A 61-year-old female with left neck swelling. Ultrasound and MRI revealed a 14 mm solid-cystic lesion in the deep lobe of the parotid gland; FNAB was inconclusive. Following SDLP, histology confirmed the cyst to be benign.
- Patient 2: A 69-year-old male presenting with a 14 mm tumour in the left parotid gland. FNAB showed ductal atypia. SDLP was performed, and histology revealed a myoepithelial carcinoma.
- Patient 3: A 51-year-old female evaluated during follow-up after meningioma surgery, found to have an 11 mm tumour in the right parapharyngeal space. MRI suggested a pleomorphic adenoma. SDLP was performed, and histology confirmed a neurinoma.

At the 6-month postoperative follow-up, all patients remained recurrence-free with normal facial contours, normal facial nerve function and without Frey syndrome. Transient facial palsy occurred in one patient, resolving completely within 3 months, while the other two patients experienced transient palsy isolated to the mouth corner depressor muscle.

CONCLUSIONS

Although primarily indicated for benign salivary gland tumours, SDLP can be safely and effectively utilised in highly selected cases of small malignant salivary gland tumours and schwannomas.

KEYWORDS

parotid gland, deep lobe, selective deep lobe parotidectomy

PP-227

Submandibular Gland Invasion And Risk Factors In Level 1 Neck Dissection: A Retrospective Clinical Analysis

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BACKGROUND & AIM

This study retrospectively evaluated the incidence of histopathological submandibular gland (SMG) invasion in patients undergoing level 1 neck dissection over a 5-year period. Secondary objectives included analyzing the impact of demographics (age, sex) and histopathological features (tumor size, depth of invasion, lymphatic, perineural, and vascular invasion) on parenchymal SMG involvement using logistic regression to identify independent risk factors. Ultimately, we aimed to provide objective risk criteria to guide surgical strategies, delineating which patient populations can safely benefit from SMG preservation versus those mandating routine excision.

MATERIAL & METHODS

This retrospective, single-center study reviewed patients undergoing level 1 neck dissection for primary head and neck squamous cell carcinoma (HNSCC) between January 2021 and January 2026. Inclusion criteria required primary tumors with level 1 metastatic potential, concurrent/sequential neck dissection, and complete histopathological data. Patients with incomplete records or primary submandibular gland (SMG) tumors were excluded. Demographics and histopathological features (tumor size, depth of invasion, lymphatic, perineural, vascular, and parenchymal SMG invasion) were extracted from archives. Data were analyzed using IBM SPSS V23. Descriptive statistics included means, standard deviations, medians, ranges, and frequencies. Independent risk factors for SMG invasion were evaluated using univariate and multiple binary logistic regression models to adjust for confounders, reporting Odds Ratios (OR) with 95% Confidence Intervals (CI). Statistical significance was set at two-tailed $p < 0.05$.

RESULTS

Of the 161 patients analyzed, 36.0% (n=58) were female and 64.0% (n=103) were male. The mean cohort age was 66.4 (pm14.1) years, showing no significant association with submandibular gland (SMG) invasion (p=0.573). Binary logistic regression identified depth of invasion (DOI) as the sole independent predictor of SMG involvement. The median DOI was significantly higher in the gland-involved group than the uninvolved group [24.5 mm (range: 9–47) vs. 9 mm (range: 1–45)]. Each 1 mm increase in DOI elevated SMG invasion risk by 1.102-fold in univariate analysis (OR=1.102, 95% CI: 1.023–1.186, p=0.010) and 1.259-fold in multiple analysis (OR=1.259, 95% CI: 1.003–1.581, p=0.047). Other variables, including gender (p=0.739), tumor size (p=0.476), and lymphatic, perineural, or vascular invasion (p>0.05), demonstrated no independent statistical significance.

CONCLUSIONS

- Results: Depth of invasion (DOI) is the most potent and significant predictor of submandibular gland (SMG) involvement in level 1 neck dissections. The risk of gland invasion increases substantially as DOI advances.
- Clinical Significance: The concurrent presence of metastasis in all SMG-invaded cases necessitates extreme caution regarding gland preservation in advanced tumors with deep invasion. Conversely, gland-preserving surgery remains a viable alternative in highly selected cases with shallow invasion depths.

KEYWORDS

Oral cavity cancer, Submandibular gland preservation, Neck dissection, Depth of invasion

PP-228

From Cytology To Surgery: The Impact Of Fine Needle Aspiration Biopsy Accuracy On Completion Thyroidectomy After Lobectomy: A Retrospective Study

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BACKGROUND & AIM

Fine needle aspiration biopsy (FNAB) is the primary diagnostic method for evaluating thyroid nodules, but its diagnostic accuracy is debatable, particularly in low-risk nodules. This study evaluated the concordance of FNAB results with

postoperative histopathology, malignancy rates according to the Bethesda classification, and the need for completion thyroidectomy.

MATERIAL & METHODS

This retrospective study included 33 patients who underwent lobectomy. Demographic characteristics, preoperative FNAB results (according to the Bethesda classification), ultrasonographic nodule sizes, and postoperative histopathological results were analyzed. The diagnostic performance of FNAB was calculated. Fisher exact test and Mann-Whitney U test were used for intergroup comparisons; $p<0.05$ was considered significant.

RESULTS

66.7% of the patients were female, and the mean age was 52.8±15.5 years. The malignancy rate in postoperative histopathology was found to be 27.3%. The sensitivity of FNAB was 22.2%, specificity 100%, positive predictive value 100%, and negative predictive value 77.4%. A statistically significant relationship was found between FNAB and histopathology ($p=0.041$). According to the Bethesda classification, the malignancy rates were as follows: Bethesda I 50%, Bethesda II 20%, Bethesda III 33%, Bethesda IV 50%, Bethesda V–VI 100%. The malignancy rate was particularly higher in the Bethesda II group compared to the literature. The rate of completion thyroidectomy was 18.2%, while this rate was 44.4% in the malignant group and 8.3% in the benign group ($p=0.032$). No statistically significant relationship was found between nodule size and malignancy ($p=0.21$).

CONCLUSIONS

Although a significant relationship was found between FNAB and postoperative histopathology, benign cytology results are insufficient to rule out malignancy due to low sensitivity. The high malignancy rate detected in the Bethesda II group indicates that clinical and ultrasonographic findings should be evaluated together. The presence of malignancy significantly increases the need for completion thyroidectomy.

KEYWORDS

Thyroid nodule, fine needle aspiration biopsy, Bethesda classification, lobectomy, complementary thyroidectomy

PP-229

Maligneyi Taklit Eden Travma Sonrası Dil Lezyonu: Bir Vaka Raporu

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BACKGROUND & AIM

Traumatic tongue lesions are frequently encountered in clinical practice and are often associated with mechanical irritation such as dental procedures or sharp tooth surfaces. (1) Although most lesions are benign and self-limiting, persistent or non-healing lesions may clinically resemble malignancy, particularly in patients with risk factors such as tobacco use. This overlap may lead to diagnostic uncertainty and necessitates careful evaluation. This case report aims to present a post-traumatic lateral tongue lesion mimicking malignancy and to emphasize the importance of differential diagnosis and close clinical follow-up.

MATERIAL & METHODS

A 61-year-old female patient presented with a lesion on the right lateral aspect of the tongue following trauma caused by a high-speed rotary instrument during tooth extraction. Clinical examination revealed a tissue defect extending posteriorly, measuring approximately 4 cm in length and 1 cm in depth (Figure 1). Contrast-enhanced magnetic resonance imaging demonstrated a lesion on the right lateral tongue consistent with a laceration (Figure 2) (2). Despite clinical follow-up, no regression was observed after two months. Therefore, total surgical excision was planned. The lesion was completely excised using monopolar cautery with a 3 mm surgical margin, extending to the underlying muscle. Primary closure was performed with sutures (Figure 3). Postoperative healing occurred by secondary intention and was uneventful (Figure 4) (1,3).

RESULTS

Clinical and radiological findings were consistent with a deep traumatic lesion. Histopathological examination revealed no evidence of malignancy. Due to the absence of regression during follow-up, total surgical excision was performed for both diagnostic and therapeutic purposes. The postoperative course was favorable, with complete healing and no complications. No recurrence was observed during follow-up.

CONCLUSIONS

Iatrogenic oral soft tissue injuries are rare but may clinically and radiologically mimic malignant lesions, creating diagnostic difficulty. Persistent lesions that do not respond to conservative management require further evaluation, and histopathological examination is essential for definitive diagnosis (2). In selected cases, total surgical excision may be a safe and effective approach, providing both diagnostic and therapeutic benefits. This case emphasizes strict adherence to operative safety principles during dental procedures, including proper soft tissue protection, careful instrument handling, and knowledge of regional anatomy to prevent iatrogenic injury. Early recognition, accurate diagnosis, and timely management are critical for optimal outcomes (3).

KEYWORDS
Iatrogenic tongue injury, Post-traumatic tongue lesion, Rotary instrument injury, Oral cavity trauma, Soft tissue laceration

PP-230

Recurrent Parotid Solitary Fibrous Tumor With Parapharyngeal Extension: A Challenging Revision Case

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BACKGROUND & AIM

To demonstrate that complete single-stage resection of a recurrent parotid solitary fibrous tumor with parapharyngeal extension—previously considered inoperable—can be successfully achieved while preserving the facial nerve in experienced hands.

MATERIAL & METHODS

(Case study):

A 34-year-old woman presented with a recurrent, progressively enlarging left preauricular swelling. Initial parotid excision in August 2019 confirmed SFT; asymptomatic recurrence on magnetic resonance imaging (MRI) six months later was managed expectantly. In 2024, growth prompted tru-cut biopsy that re-confirmed SFT; she was declared inoperable elsewhere and referred to us. Examination revealed a large firm mass extending from the left parotid to the suboccipital region; MRI showed a heterogeneous lesion with parapharyngeal-space invasion. After multidisciplinary planning, the patient underwent revision total parotidectomy combined with transcervical excision of the parapharyngeal component, with continuous facial-nerve identification and preservation. Histopathology and immunohistochemistry including STAT6 and CD34 were performed.

RESULTS

Intra-operatively, the tumour was extensively adherent to deep parapharyngeal structures. Meticulous sharp and bipolar dissection achieved complete macroscopic removal of both parotid and parapharyngeal components in a single session, with anatomical preservation of all visible facial-nerve branches. Despite continuity, the patient developed postoperative facial paralysis due to traction and devascularisation. Histopathology showed ovoid spindle cells in haphazard fascicles with staghorn (haemangiopericytoma-like) vasculature; immunohistochemistry showed diffuse intense nuclear STAT6 and diffuse CD34 positivity, confirming recurrent SFT with no malignant transformation. Recovery was uneventful and the patient entered long-term clinical and radiological follow-up.

CONCLUSIONS

Recurrent parotid SFT extending into the parapharyngeal space is an exceptionally rare and surgically demanding entity that may be wrongly classified as inoperable. Our case demonstrates that single-stage revision total parotidectomy with transcervical parapharyngeal excision is achievable through preoperative imaging, intra-operative facial-nerve identification and experienced surgical technique. STAT6 and CD34 immunohistochemistry remain essential to confirm diagnosis and exclude malignant variants. Even with anatomically intact nerves, postoperative facial dysfunction is a substantial risk; long-term surveillance is mandatory because of late recurrence.

KEYWORDS
Solitary fibrous tumor, Parotid gland, Parapharyngeal space, Revision surgery, Facial nerve, STAT6, Case report

PP-231

Free Dual-Pedicle Jejunal Flap For Pharyngoesophageal Reconstruction In Advanced Hypopharyngeal Cancer: A Case Report

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BACKGROUND & AIM

Reconstruction of extensive pharyngoesophageal defects remains challenging in head and neck surgery. The dual-pedicle free jejunal flap was developed to minimize flap failure. We report successful reconstruction using this technique after pharyngolaryngoesophagectomy in advanced hypopharyngeal cancer

MATERIAL & METHODS

This is a single-patient descriptive case report. Clinical, operative, and follow-up data were reviewed for a 51-year-old man with advanced hypopharyngeal squamous cell carcinoma who underwent total pharyngo-laryngo-esophagectomy. Postoperative outcomes included flap viability, anastomotic leakage, surgical complications, resumption of oral intake, adjuvant treatment, and oncologic status during follow-up. No statistical analysis was performed

RESULTS

A 51-year-old man with advanced hypopharyngeal squamous cell carcinoma underwent total pharyngo-laryngo-esophagectomy followed by reconstruction with a dual-pedicle free jejunal flap. The flap was harvested using the second and

third branches of the superior mesenteric artery. No anastomotic leakage or flap failure occurred. Adjuvant chemoradiotherapy was administered. At 6months, oral intake resumed without evidence of recurrence.

CONCLUSIONS

The dual-pedicle free jejunal flap offers reliable pharyngoesophageal reconstruction with reduced failure risk and favorable functional outcomes.

KEYWORDS

Pharyngoesophageal defect; hypopharyngeal cancer; pharyngo-laryngoesophagectomy; dual-pedicle free jejunal flap

PP-232

ÜST DUDAKTA PRİMER SİFİLİZ TUTULUMU

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BACKGROUND & AIM

Bu olgu sunumunda, dudakta yerleşimli primer sifiliz şankrı ile prezente olan bir hastanın klinik bulguları, tanı süreci ve tedavi yaklaşımının sunulması; ayrıca oral kavitede görülen atipik ülseratif lezyonların ayırıcı tanısında sifilizin öneminin vurgulanması amaçlanmıştır.

MATERIAL & METHODS

Bu çalışmada, dudakta yerleşimli ülseratif lezyon nedeniyle başvuran bir hastanın klinik, laboratuvar ve tedavi süreci retrospektif olarak değerlendirildi. Hastanın demografik özellikleri, anamnezi, fizik muayene bulguları ve lezyonun klinik özellikleri ayrıntılı olarak kaydedildi.

Ayırıcı tanı kapsamında enfeksiyöz, travmatik ve neoplastik nedenler göz önünde bulundurularak gerekli tetkikler planlandı. Tanı amacıyla serolojik testler kullanıldı; nontreponemal testler (VDRL/RPR) ile tarama yapıldı ve pozitif sonuçlar treponemal testler (TPHA/FTA-ABS) ile doğrulandı.

Gerekli görülen durumlarda histopatolojik inceleme gerçekleştirildi. Tanı konulmasının ardından hastaya standart tedavi protokolü olarak intramüsküler Benzathine penisilin G uygulandı ve klinik yanıt takip edildi.

RESULTS

30 yaşında erkek hasta, yaklaşık 4 haftadır üst dudakta mevcut olan iyileşmeyen, ağrısız ülseratif lezyon şikâyeti ile başvurdu. Anamnezde lezyonun başlangıçta küçük bir yara şeklinde ortaya çıktığı ve zamanla büyüyerek indüre hale geldiği öğrenildi. Sistemik semptom tariflenmedi.

Fizik muayenede üst dudakta yaklaşık 2 cm çapında, düzgün sınırlı, indüre kenarlı, ağrısız ülseratif lezyon izlendi. Servikal lenf nodlarında lenfadenopati saptanmadı.

Yapılan serolojik incelemelerde nontreponemal testin pozitif saptanması ve treponemal test ile doğrulanması üzerine hastaya primer sifiliz tanısı konuldu.

Hastaya intramüsküler Benzathine penisilin G tedavisi uygulandı. Tedavi sonrası erken dönemde lezyonda belirgin gerileme izlendi ve takiplerinde tam iyileşme sağlandı.

CONCLUSIONS

Oral kavitede, özellikle dudakta yerleşimli ağrısız ve indüre ülseratif lezyonlar nadir olmakla birlikte primer sifilizin ilk bulgusu olabilir ve sıklıkla benign ülserler veya maligniteler ile karışabilir. Bu durum tanıda gecikmelere ve gereksiz invaziv girişimlere yol açabilir. Bu olgu, iyileşmeyen ve atipik özellik gösteren dudak lezyonlarında sifilizin mutlaka ayırıcı tanıda düşünülmesi gerektiğini vurgulamaktadır. Erken dönemde yapılacak serolojik testler ile tanı kolaylıkla konulabilir ve uygun antibiyotik tedavisi ile hızlı ve etkili klinik yanıt elde edilir. Bu nedenle klinisyenlerin bu konuda farkındalığının artırılması büyük önem taşımaktadır.

KEYWORDS

Üst dudak, Sifiliz , Şankr, zührevi hastalıklar

PP-233

A Case Of An Atypical Presentation Of Spontaneous Esophageal Rupture

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BACKGROUND & AIM

Spontaneous esophageal rupture is an uncommon medical phenomenon that involves a sudden increase in intraesophageal pressure with negative intrathoracic pressure.

Here, a 21-year-old female with no history of medical illness was admitted to our accident and emergency department with a one-day history of sudden retrosternal chest pain with other symptoms. There was no foreign body ingestion, vomiting, fever, cough, trauma, or recent procedures

MATERIAL & METHODS

Physical examination revealed a soft abdomen with epigastric tenderness and normal respiratory and cardiovascular examinations. The patient underwent a chest X-ray and a computed tomography scan of the neck and chest, which revealed retropharyngeal air extending to the mediastinum with anterior chest surgical emphysema. Oesophago-gastro-duodenoscopy revealed mild gastritis with no evidence of foreign body or esophagus injury.

RESULTS

The patient was prescribed paracetamol, pantoprazole, and clindamycin. On follow-up, the patient was doing well with no active complaints. Conservative management of spontaneous esophageal rupture can result in good clinical outcomes with no requirement for additional interventions.

CONCLUSIONS

Diagnosing an idiopathic spontaneous esophageal rupture requires a high index of suspicion from the physician

KEYWORDS

boerhaave syndrome; case report; ent; radiology; spontaneous esophageal rupture

PP-234

Embolization As A Game-Changer In Difficult-To-Access Hemangiomas

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BACKGROUND & AIM

This study aims to highlight the importance of embolization in the surgical management of large vascular tumors.Surgical management of hemangiomas in challenging locations is associated with significant risks, including excessive intraoperative bleeding due to high vascularity, impaired visualization, injury to adjacent critical structures , and prolonged operative time. Preoperative embolization plays a crucial role by reducing the vascular supply of the lesion, thereby minimizing intraoperative bleeding, improving surgical visibility, and facilitating dissection. This leads to lower complication rates, shorter operative time, and safer, more controlled resection. Deep-seated or anatomically complex regions, embolization is an important adjunct that enhances surgical outcomes.

MATERIAL & METHODS

A 44-year-old male presented with a long-standing swelling in the left supraclavicular region. Neck ultrasound revealed a well-defined, lobulated, heterogeneous hypoechoic solid lesion measuring 73 × 22 mm with internal arterial and venous flow. Contrast-enhanced CT confirmed a vascular nodular lesion in the same region. Tru-cut biopsy demonstrated a vascular neoplasm with ERG positivity and HHV-8 negativity. Due to its hypervascular nature, preoperative embolization was performed via the right femoral artery, and feeding vessels from the clavicular branch of the thoracoacromial artery were successfully occluded with coils. Subsequently, the mass, extending from the posterior border of the sternocleidomastoid muscle to the anterior aspect of the scalene muscle and connecting to the subclavian artery, was completely excised after ligation of its vascular pedicle. Surgery was completed without complications.

RESULTS

Final histopathological examination confirmed cavernous hemangioma with CD31 and CD34 positivity. This case highlights the importance of preoperative embolization in improving surgical safety.

CONCLUSIONS

Surgical management of large, deeply located vascular tumors is challenging due to the risk of significant intraoperative bleeding . In this case, the tumor's close relationship with the subclavian artery further increased surgical complexity. Preoperative embolization reduced tumor vascularity, allowing safer dissection and controlled resection. Previous studies have demonstrated that embolization in hypervascular head and neck lesions decreases intraoperative blood loss and shortens operative time. The absence of complications in this case supports the effectiveness of this approach. Therefore, preoperative embolization should be considered a valuable adjunct in the management of large vascular tumors.

KEYWORDS

Cavernous hemangioma; Vascular tumor; Preoperative embolization

PP-235

Fine-Needle Aspiration Cytology: Our Experience And Comparison With Histopathological Findings

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BACKGROUND & AIM

Fine-needle aspiration cytology is an effective tool in diagnosis of head and neck tumors. The purpose of this study is a comparison of cytological results and histopathological findings after surgery of tumors of the neck.

MATERIAL & METHODS

One hundred and thirty patients with tumors in the head and neck who underwent fine-needle aspiration cytology in 2-years were reviewed. All examinations were performed under ultrasound guidance. We divided patients into two groups, one with salivary gland masses and the second group with other soft tissue masses of the neck. Cytological reports from salivary tumors were classified according to Milan classification.

RESULTS

Ninety-one biopsies were taken from salivary glands and thirty-nine from lymph nodes or from other soft tissue of the neck. In salivary gland group of patients twenty-two of them were excluded from comparison, because they preferred observation. We did ten re-biopsies due to non-diagnostic results. In patients after surgery we compared sixty-nine cytological and histopathological results and except two they were all consistent. In the second group of patients seven preferred observation and we found more, six inconsistent results.

CONCLUSIONS

Fine-needle aspiration cytology of salivary glands provides accurate diagnosis of most lesions, especially in salivary gland tumors. It is very helpful in planing of surgery and it is a safe and useful modality for the diagnosis of neck masses.

KEYWORDS

fine-needle aspiration cytology, salivary gland, neck masses

PP-236

Correlation Between Fine Needle Aspiration Cytology And Post-Operative Of Thyroid Nodules: Our Hospital Experience

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BACKGROUND & AIM

Thyroid nodules are common condition with small but significant proportion harboring malignancy. Fine needle aspiration cytology (FNAC) is the first line diagnostic test to stratify risk.

We aimed to establish a diagnostic accuracy of FNAC of thyroid nodules using Bethesda system and post-operative histopathological diagnosis.

MATERIAL & METHODS

This was observational retrospective study among 105 patients undergoing FNAC following thyroid surgery at King Hamad University Hospital. FNAC diagnosis was classified under Bethesda system. Histopathological post operative diagnosis is considered the gold standard. Then correlation was made using statistical parameters (sensitivity, specificity and chi square).

RESULTS

Average age was 46 +- 14.8 years. Histopathological diagnosis confirmed malignancy in 54.3 % of cases. FNAC was 84 % sensitive and 93% specific. Bethesda V and VI categories were most precise. Diagnostic accuracy was significantly higher in benign than malignant cases.

CONCLUSIONS

FNAC remains a diagnostic tool for thyroid nodules, particularly when used in conjunction with organized reporting system like Bethesda system. However false negative results remains a limitation. So a multimodal approach is always recommended.

KEYWORDS

Thyroid nodules, fine needle aspiration cytology, Bethesda system, thyroid cancer

PP-237

Pectoralis Musculocutaneous Flap In Reconstruction Of Pharyngocutaneous Fistula

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BACKGROUND & AIM

Pharyngocutaneous fistula is a significant complication for both patients and surgeons following laryngeal and hypopharyngeal surgery; leading severe consequences due to leakage of pharyngeal secretions beneath skin flaps, ranging from localized tissue infection to carotid artery rupture. Predisposing factors include surgical technique, tumor stage, neoadjuvant radiotherapy.

We aim to present the results of two surgical cases in which full thickness pectoralis myocutaneous flap was used for reconstruction of pharyngocutaneous and pharyngoesophageal defects; alongside with a review of current literature. In both cases we applied subcutaneous tunnel; adjustments has made one involving tissue plug modification and other with tubed musculocutaneous flap.

MATERIAL & METHODS

Patient 1 presented with postoperative pharyngocutaneous fistula after primary total laryngectomy. Fistula above the stomal area was unresponsive to conservative treatments; later proceeded to esophageal lumen, necessicating surgical intervention. Pectoralis myocutaneous flap was harvested and mobilized to sufficient length; then transposed to region with subcutaneous tunnel (Figure1). 360° neopharynx reconstruction was achieved after fixating vertically to the esophagus, horizontally to the base of the tongue and posterior pharyngeal wall(Figure2).

Patient 2 had a history of radiotherapy resulting in 2 cm sized submental pharyngocutaneous defect. Following salvage laryngectomy and primary closure, fistula reccured and extended to the pharyngeal lumen, presented with retracted neck skin. During the operation pharyngeal defect margin and surrounding retracted skin and subcutaneous tissue to expose viable tissue which was conjoined medially afterwards(Figure3,4). The flap was harvested with a 3x5 cm skin island and mobilized along with the subcutaneous tunnel to the suffiecent length and adapted to the region.

RESULTS

Both of the surgical procedures demonstrated succesfully with no recurrence of pharyngocutanoeus fistula and minimal aesthetic deformity, minimal construction of the donor side and preserved swallowing and speech functions. On the first patient pharyngoesophageal defect reconstructed preventing of stenosis through appropriate inset of proximal, distal and posterior anastomotic sites and sufficient flap size containing skin paddle, avoiding stricture formation. On the second case postoperative sctricture prevented and regional blood flow is provided through sufficient debridation of mucosal margins and retracted neck skin. Wide range of adjustability of pectoralis flap aided with mobilization through subcutaneous tunnel. Vasculary pedicle driven from thoracoacromial artery ensured blood flow when no servical neck vessels for microvascular anastomosis available after radiotherapy retreatments.

CONCLUSIONS

Various surgical methods are used in the treatment of FCF, including primary closure, platysma flap, deltopectoral flaps and free flaps. Free flaps such as anterolateral thigh or radial forearm flaps were unsuitable due to the absence of adaptable recipient vessels for free tissue transfer; due to previous radiotherapy treatments. PMF provides wide range of mobility, adequate length and minimal contraction for adjustment to partial and circumferancial pharyngoesophageal defects. Pectoralis myocutaneous flap is still a current method of reconstruction that can be the optimal and salvagable option for continuity of pharyngoosepageal tract for extensive pharyngocutaneous defects with poor tissue viability.

KEYWORDS

Pharyngocutaneous Fistula, Pectoralis musculocutaneous Flap, Reconstruction

PP-238

Thyroglossal Duct Cyst Papillary Carcinoma: A Case Report

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BACKGROUND & AIM

Thyroglossal duct cyst (TGDC) is the most common congenital midline neck anomaly and is generally benign. Malignant transformation is rare, accounting for less than 1% of cases, with papillary thyroid carcinoma being the most common histopathological subtype. Preoperative diagnosis remains challenging because clinical and radiological findings frequently overlap with benign lesions.

This report aims to present a rare case of papillary thyroid carcinoma arising in a thyroglossal duct cyst diagnosed preoperatively using radiological and cytological findings and treated surgically.

MATERIAL & METHODS

A 36-year-old male patient presented with a painless midline neck mass in the submental region, initially noticed approximately two years earlier, with progressive enlargement during the preceding four months.

Physical examination revealed a firm, non-tender midline neck mass measuring approximately 3–4 cm.

Thyroid ultrasonography demonstrated a 25×17 mm midline cystic lesion compatible with a thyroglossal duct cyst, while the thyroid gland appeared normal without solid or cystic nodules. Bilateral cervical lymph nodes demonstrated reactive morphology.

Contrast-enhanced neck computed tomography revealed a 33×23 mm thick-walled cystic lesion at the level of the hyoid bone containing internal septations, a central solid component, and calcifications, raising suspicion for malignant transformation.

Fine-needle aspiration cytology demonstrated malignant cytology consistent with papillary thyroid carcinoma (Bethesda System for Reporting Thyroid Cytopathology 2023, Category VI).

The patient subsequently underwent surgical treatment using the Sistrunk procedure.

RESULTS

Preoperative radiological findings and cytological evaluation enabled suspicion and diagnosis of malignancy before surgery.

Intraoperatively, the lesion was excised en bloc together with the central portion of the hyoid bone using the Sistrunk technique.

Histopathological examination demonstrated classic-type papillary thyroid carcinoma arising in a thyroglossal duct cyst with a maximum tumor diameter of 2.7 cm. Surgical margins were negative for tumor involvement.

No suspicious thyroid lesion or metastatic cervical lymphadenopathy was identified.

CONCLUSIONS

lthough thyroglossal duct cysts are predominantly benign lesions, progressive enlargement, firm consistency, and suspicious radiological findings including mural thickening, internal septations, solid components, and calcifications should raise suspicion for malignant transformation.

Combined radiological and cytological evaluation may facilitate preoperative diagnosis and optimize surgical planning.

Papillary thyroid carcinoma arising in a thyroglossal duct cyst should remain in the differential diagnosis of adult midline neck masses even in the presence of normal thyroid ultrasonography.

KEYWORDS

Thyroglossal Duct Cyst; Papillary Thyroid Carcinoma; Fine-Needle Aspiration Cytology; Sistrunk Procedure; Neck Mass

PP-239

Predictors Of Intraoperative Blood Loss In Neck Dissection For Head And Neck Squamous Cell Carcinoma: The Role Of Laterality And Nutritional Status

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BACKGROUND & AIM

To identify independent predictors of estimated intraoperative blood loss (EBL) in patients undergoing neck dissection for head and neck squamous cell carcinoma, and to evaluate the effects of preoperative inflammatory and nutritional biomarkers alongside surgical variables on EBL.

MATERIAL & METHODS

In this single-center retrospective cohort study, 369 patients who underwent neck dissection between January 2015 and December 2025 were analyzed. EBL was obtained from anesthesia records. Preoperative neutrophil-to-lymphocyte ratio (NLR) and Prognostic Nutritional Index (PNI) were calculated. Independent predictors of EBL were identified by univariate and multivariate linear regression; HC3 heteroscedasticity-consistent robust standard errors were applied.

RESULTS

Median EBL was 350 mL (IQR: 250–500). On multivariate analysis, bilateral neck dissection (β = −0.206, 95% CI: −0.298 to −0.113, $p < 0.001$), higher preoperative hemoglobin (β = +0.047, 95% CI: +0.022 to +0.071, $p < 0.001$), longer operative time (β = +0.00057, 95% CI: +0.00020 to +0.00094, $p = 0.003$), and lower PNI (β = −0.00120, 95% CI: −0.00217 to −0.00024, $p = 0.015$) were identified as independent predictors. NLR was not an independent predictor ($p = 0.266$). The model explained 19.6% of EBL variance ($R^2 = 0.196$).

CONCLUSIONS

Bilateral neck dissection, preoperative hemoglobin, operative time, and PNI are independent predictors of EBL in patients undergoing neck dissection. Low preoperative PNI may be considered a trigger for preoperative nutritional optimization, and blood product preparation should be planned accordingly in patients scheduled for bilateral dissection.

KEYWORDS

Head and neck cancer; neck dissection; intraoperative blood loss; Prognostic Nutritional Index; neutrophil-to-lymphocyte ratio; perioperative management

PP-240

INFRATEMPORAL FOSSA APPROACH FOR EXCISION OF CHONDROSARCOMA

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BACKGROUND & AIM

Chondrosarcomas are malignant mesenchymal tumors producing a cartilaginous matrix and are rarely seen in the head and neck region, particularly in the temporomandibular joint and infratemporal fossa. Clinical presentation is usually nonspecific, and diagnosis may be incidental. CT and MRI are important for evaluation, while definitive diagnosis relies on histopathological examination. Surgical resection is the primary treatment; however, complete excision may be difficult because of the anatomical complexity of the region. Adjuvant radiotherapy is recommended in cases of residual disease or positive surgical margins.

MATERIAL & METHODS

A 67-year-old female patient was referred to our clinic due to a mass in the right temporomandibular region that was detected during an external center evaluation. She had a medical history of hypertension, thyroid disease, and uterine carcinoma.

Temporal CT and MRI demonstrated a mass measuring approximately 47 × 27 mm in the right masticator space with associated bone destruction. Tru-cut biopsy findings were reported as “atypical chondroid proliferation.”

The patient underwent temporomandibular joint resection. Intraoperative frozen-section analysis confirmed the diagnosis of chondrosarcoma. Postoperative histopathological examination revealed Grade 2 chondrosarcoma. Following identification of tumor involvement at the superior surgical margin, adjuvant radiotherapy was initiated.

RESULTS

Chondrosarcomas of the temporomandibular region are extremely rare, with only a limited number of cases reported in the literature. Clinical findings are generally nonspecific, and most cases are detected incidentally. Although CT and MRI are valuable in the diagnostic workup, definitive diagnosis is established by histopathological examination.

Surgical resection remains the mainstay of treatment; however, complete excision may not always be feasible due to the proximity of the skull base and adjacent critical anatomical structures. In such cases, adjuvant radiotherapy is recommended.

The present case highlights the importance of a multidisciplinary approach in the diagnosis and management of chondrosarcomas in this rare anatomical location.

CONCLUSIONS

Chondrosarcomas of the temporomandibular joint are rare tumors with challenging diagnostic and therapeutic processes. Early diagnosis, appropriate surgical planning, and the use of adjuvant radiotherapy when indicated may improve patient prognosis.

KEYWORDS

CHONDROSARCOMA, INFRATEMPORAL FOSSA, TEMPOROMANDIBULAR JOINT (TMJ)

PP-241

Pediatric Maxillary Rhabdomyosarcoma Extending To The Pterygopalatine Fossa: A Challenging Case

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BACKGROUND & AIM

Rhabdomyosarcoma is the most common soft tissue sarcoma in the pediatric population, frequently involving the head and neck region. However, localization of the pterygopalatine fossa are rare. They remain mostly obscure because of their initially minimal symptoms, their hidden anatomical position and their mainly slow growth. Therefore, they represent a diagnostic challenge. We report a rare case of rhabdomyosarcoma arising in the pterygopalatine fossa, highlighting its clinical presentation, diagnostic workup, and management.

MATERIAL & METHODS

A pediatric patient diagnosed with rhabdomyosarcoma involving the maxillary sinus and pterygopalatine fossa underwent surgical treatment following radiological and histopathological evaluation. A Weber–Ferguson transfacial approach was used under general anesthesia. Inferolateral maxillectomy and total tumor resection involving the pterygopalatine and infratemporal fossae were performed. The inferomedial orbital wall and periorbita were preserved. Frozen-section analysis from the masseteric margin, trigeminal nerve sheath, and inferior orbital wall confirmed negative surgical margins. The postoperative palatal defect was reconstructed using a full-thickness skin graft harvested from the left inguinal region and secured with tie-over dressing and a Bactigras stent.

RESULTS

Gross total excision of the tumor was achieved without intraoperative complications. Despite destruction of the maxillary sinus walls and extension into deep facial spaces, the orbital structures and facial skin were preserved. Adequate hemostasis was maintained throughout the procedure. Early postoperative follow-up demonstrated satisfactory graft adaptation without major complications. The patient was referred for multidisciplinary oncologic follow-up and adjuvant treatment planning.

CONCLUSIONS

Rhabdomyosarcoma of the pterygopalatine fossa is a rare entity that may present with nonspecific oral symptoms, leading to delayed diagnosis. This case emphasizes the importance of early imaging, biopsy, and multidisciplinary management in pediatric head and neck tumors. Early recognition is crucial for timely treatment and improved outcomes.

KEYWORDS

Rhabdomyosarcoma. Pterygopalatine fossa. Multidisciplinary management.

PP-242

Riedel's Thyroiditis: Case Report And Literature Review

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BACKGROUND & AIM

Riedel's thyroiditis is a rare fibroinflammatory disorder characterized by extensive fibrosis of the thyroid gland with possible extension into surrounding tissues. Clinically and radiologically, it may mimic invasive thyroid malignancy, making preoperative diagnosis challenging. Definitive diagnosis is often established histopathologically following surgical intervention.

This study aims to present a case of Riedel's thyroiditis initially suspected as thyroid cancer and treated with total thyroidectomy, and to review the current literature regarding its clinical features, diagnostic difficulties, and management strategies.

MATERIAL & METHODS

This study presents a single retrospective case of Riedel's thyroiditis managed at our institution. Clinical findings, laboratory results, imaging studies, operative notes, and histopathological reports were reviewed. The diagnosis was established based on postoperative histopathological examination. All patient data were anonymized, and written informed consent for publication was obtained.

In addition, a narrative literature review was conducted using electronic databases, including PubMed and Google Scholar. Relevant articles published in English were identified using keywords such as "Riedel's thyroiditis," "fibrosing thyroiditis," and "IgG4-related disease." Studies addressing clinical presentation, diagnostic challenges, histopathology, and management were reviewed and summarized.

RESULTS

A 52-year-old male presented with progressive neck swelling. Initial ultrasonography demonstrated multiple solid thyroid nodules, the largest measuring 33 × 23 mm, with cystic degeneration and coarse calcifications. Fine-needle aspiration biopsy (FNAB) was nondiagnostic. Four months later, the dominant nodule enlarged to 45 mm; repeat FNAB remained nondiagnostic. Thyroid scintigraphy showed partial suppression with heterogeneous multinodular activity. Two months thereafter, ultrasonography revealed further enlargement to 49 mm with irregular margins. FNAB was again nondiagnostic.

Due to progressive growth and suspicious imaging findings, total thyroidectomy was performed. Intraoperatively, the gland was markedly firm and adherent to surrounding tissues. Histopathological examination revealed extensive fibrosis replacing the thyroid parenchyma with lymphoplasmacytic infiltration and extrathyroidal extension, consistent with Riedel's thyroiditis. No malignancy was identified.

CONCLUSIONS

Riedel's thyroiditis is a rare fibroinflammatory condition that may closely mimic invasive thyroid malignancy both clinically and radiologically. Progressive enlargement, irregular margins, and repeatedly nondiagnostic cytology can further increase suspicion for cancer. Definitive diagnosis is often established only after surgical intervention and histopathological examination.

Awareness of this entity is essential to avoid misdiagnosis and to guide appropriate management. Riedel's thyroiditis should be considered in the differential diagnosis of hard, enlarging thyroid masses with inconclusive biopsy results.

KEYWORDS

Riedel's thyroiditis; Thyroid malignancy mimicry; Fibrosing thyroiditis; Total thyroidectomy

PP-243

An Extremely Rare And Challenging Case: Large Proximal Esophageal Granular Cell Tumor Requiring Complex Surgical Reconstruction

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BACKGROUND & AIM

Granular cell tumors (GCTs) are rare, benign neurogenic neoplasms of Schwann cell origin. Gastrointestinal GCTs account for 1-8% of all cases, and approximately one-third of these are located in the esophagus. Most esophageal GCTs are small (typically <2 cm) and predominantly involve the distal esophagus. Proximal esophageal lesions are extremely rare and pose significant diagnostic and therapeutic challenges because of their close proximity to the airway.

MATERIAL & METHODS

A 39-year-old woman presented with a one-year history of progressive dysphagia. At another center, esophagoscopy could not reach the mass, and a transcervical incisional biopsy was therefore performed. Following this procedure, the patient

developed left vocal cord paralysis. Initial histopathologic evaluation was inconclusive, with differential diagnostic considerations including granular cell tumor and alveolar soft part tumor. Re-evaluation of the biopsy specimens at a tertiary referral center confirmed the diagnosis of esophageal granular cell tumor.

Direct laryngoscopy and esophagoscopy revealed an approximately 3 cm submucosal mass located along the posterior tracheal wall at the subglottic level, completely obstructing the proximal esophageal lumen. Imaging studies (CT, MRI, and PET-CT) demonstrated a hypermetabolic prevertebral soft tissue mass measuring 30 × 26 mm in the axial plane and approximately 7 cm craniocaudally, with no definitive nodal or distant metastases.

RESULTS

Given the tumor's size, location, and complete luminal obstruction, we performed proximal esophagectomy, partial pharyngectomy, repair of the posterior tracheal wall with preservation of the larynx, and free jejunal flap reconstruction. Histopathologic examination confirmed the diagnosis of GCT. Postoperatively, right vocal cord mobility was normal. Oral feeding was initiated on postoperative day 10, the patient was decannulated on postoperative day 14, and discharged on postoperative day 21. At the two-year follow-up, the patient remains disease-free.

CONCLUSIONS

Surgical intervention remains necessary for large, symptomatic, particularly proximal esophageal GCTs. Given the tumor's proximity to the airway and the history of prior vocal cord paralysis, airway preservation represented a major intraoperative challenge. To our knowledge, there are no previous reports in the literature describing the use of a free jejunal flap for reconstruction after resection of a proximal esophageal GCT. Free jejunal flap reconstruction effectively restored the upper digestive tract despite near-total obstruction. This demonstrates that even complex proximal esophageal GCTs can be managed with organ preservation, yielding favorable outcomes and quality of life through a multidisciplinary approach.

KEYWORDS

Esophageal neoplasms, Free jejunal flap, Granular cell tumor, Larynx preservation, Proximal esophagus

PP-244

Synchronous Bilateral Parotid Basal Cell Adenocarcinoma Without Predisposing Factors: A Case Report

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BACKGROUND & AIM

Basal cell adenocarcinoma (BCAC) is a rare low-grade malignant salivary gland tumor, representing 1–3% of all salivary gland neoplasms and predominantly involving the parotid gland. Bilateral salivary gland involvement is exceedingly uncommon and is typically associated with hereditary syndromes (e.g., Brooke-Spiegler syndrome, CYLD mutations) or chronic immunosuppression. We report a case of synchronous bilateral parotid BCAC in a healthy adult with no identifiable predisposing factors, representing an exceptionally rare clinical entity.

MATERIAL & METHODS

A 69-year-old immunocompetent male with no family history of genetic syndromes presented with bilateral, slowly growing, painless parotid masses over two years. Contrast-enhanced MRI revealed heterogeneous nodular lesions in both parotid glands (right: 32×23 mm at the deep-superficial lobe junction; left: 16×13 mm in the superficial lobe), with parapharyngeal extension on the right. Preoperative fine-needle aspiration cytology yielded "basaloid neoplasm." The patient underwent right total and left superficial parotidectomy with facial nerve monitoring; all nerve branches were preserved. Histopathology demonstrated bilateral basaloid neoplasia with infiltrative growth into surrounding parenchyma and adipose tissue, confirmed as BCAC by positive p63, CK19, and S100 immunostaining with an elevated Ki-67 index. Surgical margins were negative. At 6-month follow-up, no recurrence or lymph node metastasis was detected.

RESULTS

Synchronous bilateral BCAC, unlike its benign counterpart basal cell adenoma, is an exceptionally rare presentation. Differentiation from BCA relies critically on infiltrative growth pattern and elevated Ki-67, as clinical and radiological features overlap considerably. Preoperative cytology carries limited diagnostic utility in this setting. Notably, prior bilateral BCAC reports have uniformly involved immunosuppressed or syndromic patients; our case represents a de novo occurrence in a healthy adult, underscoring the need to include malignancy in the differential diagnosis of bilateral parotid masses regardless of clinical background. Facial nerve-preserving parotidectomy with negative margins remains curative in low-grade disease.

CONCLUSIONS

BCAC should be considered in the differential diagnosis of bilateral parotid masses, even in the absence of immunosuppression or genetic predisposition. Parotidectomy with histopathological confirmation and long-term oncological follow-up constitute the cornerstone of management.

KEYWORDS

Basal cell adenocarcinoma, Parotid gland

PP-245

Surgical Management Of Rare Head And Neck Tumors Using The Infratemporal Fossa Approach: Two Case Reports

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BACKGROUND & AIM

Epithelial/myoepithelial carcinoma is a rare salivary gland neoplasm, accounting for less than 1% of all salivary tumors. It is a low grade malignancy composed of epithelial and myoepithelial cells and most commonly arises in the parotid gland.

Atypical fibroxanthoma is a rare cutaneous mesenchymal tumor typically seen in sun exposed areas of elderly patients and is generally associated with a favorable prognosis, although aggressive cases have been reported.

Despite distinct histopathology, both tumors may pose surgical challenges when extending into the infratemporal fossa. Two cases managed via an infratemporal approach are presented, highlighting key anatomical and surgical considerations.

MATERIAL & METHODS

Case 1

A patient with a history of atypical fibroxanthoma of the left frontal region, previously treated with two surgical excisions with clear margins, presented during follow-up with a rapidly enlarging mass in the left parotid region. Physical examination revealed a firm, fixed mass measuring approximately 53 × 40 mm with intact facial nerve function preoperatively. Imaging demonstrated a parotid mass extending into the masseter muscle and infratemporal fossa with intense FDG uptake (SUVmax: 17.3) and no evidence of regional or distant metastasis. The patient underwent radical parotidectomy, infratemporal fossa tumor excision, hemimandibulectomy, and supraomohyoid neck dissection. Intraoperatively, the tumor was found to invade the facial nerve, which required sacrifice. Histopathological evaluation revealed a pleomorphic, high-grade malignant mesenchymal tumor.

RESULTS

Case 2

A 44-year-old male presented with multiple hard, fixed swellings in the right mandibular angle and parotid region. He had first noticed a swelling two years earlier and was evaluated at an outside center, where FNA biopsy was reported as a salivary gland tumor of uncertain malignant potential. He subsequently underwent right total parotidectomy and excision of a suspicious cervical lymph node. Histopathology revealed myoepithelial carcinoma, while the lymph node showed reactive hyperplasia.

Approximately one year later, new swellings developed and revision surgery was performed at another center for suspected recurrence. However, the lesions persisted, and the patient later presented to our institution. Physical examination revealed lesions in the preauricular region, zygoma, and temporal fossa, palpable lymph nodes in levels IIa and III.

The patient underwent surgery via a right infratemporal fossa approach. Intraoperatively, tumor invasion of the facial nerve trunk was identified, requiring nerve sacrifice and resection of involved mandibular segment.

CONCLUSIONS

Conclusion

Although atypical fibroxanthoma is generally regarded as a low-grade malignancy, it may occasionally demonstrate aggressive behavior and progression to high-grade mesenchymal neoplasms. Similarly, epithelial/myoepithelial carcinoma, despite its low-grade nature, carries a risk of recurrence and locally aggressive growth. These cases highlight the importance of close follow-up in patients with rare tumors and the need for thorough radiological evaluation of new or rapidly growing lesions. In selected cases with deep anatomical involvement, an infratemporal fossa approach may provide adequate surgical exposure for effective tumor resection. A multidisciplinary approach and long-term surveillance are essential for optimal outcomes.

KEYWORDS

Infratemporal Fossa Approach Fibroxanthoma Myoepithelial Carcinoma

PP-246

Isolated Plasmacytoma Of Nasopharynx: A Case Report

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BACKGROUND & AIM

Extramedullary plasmacytoma is a very rare, discrete, solitary mass of neoplastic monoclonal plasma cells, with a predilection in the head & neck region (80%). Common clinical presentation consists of epistaxis, rhinorrhea, odynophagia, dysphonia, and hemoptysis. In previous studies, a greater preponderance for males has been reported, particularly in the 5th and 7th decades of life. Localization in the nasopharynx is exceptional and may simulate other more common pathologies of inflammatory or neoplastic nature, yielding the clinical diagnosis more insidious. Despite being a localized form, EMP presents with a risk of myeloma progression (10-30%), necessitating an accurate diagnosis and prolonged follow-up.

MATERIAL & METHODS

We report a 57-year-old male with no smoking history, who presented in our clinic, for a month-long unilateral nasal obstruction with crusting. The endoscopy revealed an exophytic pedunculated vascular mass occupying the nasopharynx. Standard radiological work-up with CT scan and MRI with contrast has demonstrated the right fossa of Rosenmuller as the origin of the mass and contact with the soft palate. Tissue biopsy under local anesthesia confirmed the diagnosis.

RESULTS

After a multidisciplinary discussion, the patient underwent surgical treatment with type I transnasal endoscopic nasopharyngectomy and reconstruction with nasoseptal flap. Surgery was successfully completed without complications and with a short hospital stay. No clinical evidence of recurrence has been observed to date. No perioperative or postoperative complications were reported. No signs of recurrence were detected in the clinical surveillance.

CONCLUSIONS

Isolated plasmacytoma of the nasopharynx represents a rare but important diagnosis in the context of atypical nasopharynx tumors. An integrated clinical-radiological-histological approach with a multidisciplinary approach is fundamental for correct diagnosis and therapeutic planning. In a few cases, the endoscopic surgery represents an efficient and safe therapeutic option; however, the risk of myeloma progression necessitates a prolonged and structured follow-up.

KEYWORDS

Plasmacytoma, Nasopharynx, Nasopharyngectomy, Radiotherapy.

PP-247

Neck Fibromatosis

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BACKGROUND & AIM

INCTRODUCTION

Definition: Fibromatosis is a rare, benign soft tissue tumor characterized by fibroblastic/myofibroblastic proliferation, which can exhibit locally aggressive behavior.

Clinical Course: It is exceptionally rare in the head and neck region. Despite its benign histological nature, it tends to show infiltrative growth into surrounding tissues.

Method: While radiological imaging and histopathological examination play a critical role in diagnosis, surgical excision remains the mainstay of treatment.

MATERIAL & METHODS

CASE STUDY

A 52 years old female patient with no known comorbidities presented with neck mass and swelling

History:

The patient's medical history revealed a neck trauma approximately 5 years ago.

She was evaluated at an external center 6–7 months ago due to the development of neck swelling. Following a biopsy, she was referred to the oncology department with a provisional diagnosis of fibromatosis.

The patient did not report constitutional symptoms such as night sweats,fever,or weight loss.

Physical Examination (PE):

Right Level 5A (Infraclavicular region): A firm, fixed mass measuring approximately 3×2 cm was palpated.

IMAGING FINDINGS

Modality Key Findings

Contrast-Enhanced Neck CT

• A homogeneously enhancing lesion originating from the right suboccipital region and extending deep into the sternocleidomastoid (SCM) muscle.

• A solid fibrotic mass appearance extending craniocaudally along the C1–C5 levels.
• No pathological lymphadenopathy (LAP) was detected.
PATHOLOGY AND IMMUNOHISTOCHEMISTRY
Biopsy Result: Fibroblastic / myofibroblastic tumor (compatible with fibromatosis).
Immunohistochemical (IHC) Profile:
Beta-catenin: Focal nuclear positive (+)
SMA (Smooth Muscle Actin): Focal positive (+)

RESULTS

RESULTS
Although fibromatosis exhibits histologically benign features, its locally infiltrative nature complicates surgical planning in anatomically confined areas such as the head and neck.
Differential Diagnosis to Consider:
Fibrosarcoma
Nodular fasciitis
Desmoid tumor
Reactive fibrotic lesions
Critical Note: The nuclear positivity of beta-catenin detected in this case is the most crucial immunohistochemical finding supporting the definitive diagnosis of fibromatosis over other differential diagnoses.

CONCLUSIONS

CONCLUSIONS
Fibromatosis located in the head and neck region can be challenging for clinicians due to its rarity.
A definitive diagnosis requires a combined evaluation of clinical presentation, radiological imaging (CT/MRI), and histopathological/IHC findings.
The primary treatment is wide surgical excision, and long-term follow-up is essential due to the high propensity for local recurrence

KEYWORDS

Neck fibromatosis: a case report of rare ebruyu

PP-248

Malignant Peripheral Nerve Sheath Tumor Of The Head And Neck In The Pericarotid Plexiform: A Case Report Of A Rare Disease Entity

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BACKGROUND & AIM

Malignant peripheral nerve sheath tumors (MPNST) are rare high-grade sarcomas that arise from cells of the peripheral nerve sheaths. They are considered as one of the most aggressive malignant lesions in the head and neck region, with a notably high rate of local recurrence.

MATERIAL & METHODS

In the current case report, we described A 28-year-old female known to have neurofibromatosis type 1 (NF1) with a rare case of MPNST in the right sided neck and reviewed the relevant literature.

RESULTS

A 28-year-old female known to have neurofibromatosis type 1 (NF1) with a rare case of MPNST in the right sided neck. Computed tomography (CT) scan of the head and neck with contrast was initially obtained and showed right sided soft tissue neck mass that was predominantly cystic. Head and neck magnetic resonance imaging (MRI) with contrast demonstrated a large right pericarotid plexiform heterogeneously enhancing tumor. Subsequently surgical excision of the mass under general anesthesia was done. Histopathology of the mass was reported to be malignant peripheral nerve sheath tumor (low grade).

CONCLUSIONS

The patient was kept on regular follow-up in the head and neck combined clinic, and the surgical site healed well in six weeks, with no sign of local recurrence or metastasis.

KEYWORDS

Malignant peripheral nerve sheath tumor, pericarotid plexiform, neurofibromatosis, head and neck neoplasm.

PP-249

Surgical Updates In Differentiated Thyroid Cancer: Insights From The 2025 ATA Guidelines

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BACKGROUND & AIM

The 2025 American Thyroid Association (ATA) Guidelines introduce significant changes to the surgical management of Differentiated Thyroid Cancer (DTC). This review aims to synthesize these updates, focusing on the shift toward individualized care and surgical de-escalation, to provide actionable insights for head and neck surgeons.

MATERIAL & METHODS

We performed a critical review of the 2025 ATA Management Guidelines for Adult Patients with Differentiated Thyroid Cancer. Key updates regarding preoperative assessment, extent of thyroidectomy, and lymph node management were identified and compared against the 2015 recommendations to highlight major practice changes.

RESULTS

The 2025 guidelines emphasize the "DATA" framework (Diagnosis, Assessment, Treatment, Assessment) for risk-adapted surgery. Key shifts include:

- Lobectomy as Standard: Strongly recommended for intrathyroidal DTC (1–4 cm) without gross extrathyroidal extension.
- Conservative Lymph Node Management: Prophylactic central neck dissection is discouraged for cN0 T1/T2 papillary thyroid carcinoma.
- Active Surveillance: Validated as safe for low-risk papillary microcarcinomas (<1 cm), reducing immediate surgery indications.

CONCLUSIONS

The 2025 ATA Guidelines mark a definitive move toward surgical de-escalation. Implementing these insights requires prioritizing risk stratification over routine aggressive resection. These updates aim to reduce surgical morbidity while maintaining excellent oncologic outcomes.

KEYWORDS

Differentiated Thyroid Cancer, ATA Guidelines, Surgical De-escalation, Lobectomy, Active Surveillance

PP-250

Pleomorphic Adenoma Vs. Polymorphous Adenocarcinoma: Navigating The Diagnostic Challenge

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BACKGROUND & AIM

The distinction between pleomorphic adenoma (PA) and polymorphous adenocarcinoma (PAC) of the salivary glands represents a significant diagnostic challenge with profound implications for patient management. While histologically distinct, their clinical and sometimes cytological presentations can overlap, creating a "clinical masquerade" that can lead to misdiagnosis and suboptimal treatment. This is particularly true in minor salivary glands, where PAC is more common and can present as an indolent, slow-growing mass mimicking a benign lesion. This educational review presents a systematic framework for differentiating these two entities, from clinical presentation to molecular diagnostics, to guide accurate diagnosis and appropriate therapeutic intervention.

MATERIAL & METHODS

This study provides a comprehensive review of the key differentiating features between PA and PAC based on current literature and clinical evidence. We analyze and contrast the entities across five critical domains: 1) Anatomical location and epidemiology; 2) Histopathological and immunohistochemical (IHC) characteristics, including the roles of GFAP and perineural invasion (PNI); 3) Molecular signatures, specifically PLAG1 translocations for PA and PRKD gene family mutations for PAC; 4) Radiographic features on MRI; and 5) Cytological pitfalls in Fine Needle Aspiration Cytology (FNAC). Two illustrative case studies are presented to demonstrate the clinical application of this diagnostic framework in resolving ambiguous presentations.

RESULTS

The comparative analysis reveals a clear diagnostic algorithm. PA is most common in the parotid gland, is typically GFAP positive, and is associated with PLAG1 rearrangements. In contrast, PAC is more frequent in the minor salivary glands of the palate, is defined by its infiltrative growth, "Indian filing" pattern, and hallmark perineural invasion, and is linked to PRKD mutations. While FNAC is useful for confirming salivary origin, it has a significant rate of indeterminate results due to sampling error and cytological overlap. Case studies demonstrate that clinical "red flags" (e.g., rapid growth, pain) can be misleading, as benign PA can present with aggressive features, while indolent PAC can mimic a benign course. The definitive diagnosis relies on a multi-pronged approach where histopathology and IHC, supported by molecular testing, are paramount.

CONCLUSIONS

Accurate differentiation between PA and PAC is critical as it dictates a dramatic divergence in management, from simple surgical excision for PA to aggressive multimodal therapy (wide excision, neck dissection, and adjuvant radiotherapy) for PAC, particularly when PNI is present. Relying on a single feature, such as clinical history or FNAC, is insufficient. A systematic framework integrating anatomical site, histopathology, IHC, and molecular markers is essential to unmask the clinical masquerade, prevent misdiagnosis, and ensure optimal patient outcomes. The integration of emerging AI-driven diagnostic tools may further enhance diagnostic accuracy in the future.

KEYWORDS

Pleomorphic Adenoma Polymorphous Adenocarcinoma Salivary Gland Neoplasms Perineural Invasion Immunohistochemistry Fine Needle Aspiration Cytology Molecular Diagnostics Head and Neck Oncology

PP-251

Cystic Neck Mass Mimicking Branchial Cleft Cyst: A Diagnostic Pitfall Of Arteriovenous Hemangioma

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BACKGROUND & AIM

Cystic neck masses are commonly diagnosed as benign lesions such as Branchial cleft cyst. However, vascular tumors like Arteriovenous hemangioma may rarely mimic cystic lesions on imaging. This study aims to present a case of arteriovenous hemangioma presenting as a cystic neck mass and to highlight the importance of considering vascular lesions in the differential diagnosis to avoid intraoperative complications.

MATERIAL & METHODS

A 52-year-old male presented with a painless swelling in the left submandibular region. Ultrasonography (USG) demonstrated a 38×30 mm lesion containing millimetric cystic areas, suggestive of a lymphoepithelial cyst. Contrast-enhanced magnetic resonance imaging (MRI) revealed a 42×18×26 mm well-lobulated mass extending from the left submandibular gland to the level of the thyroid cartilage. The lesion appeared hyperintense on T2-weighted images and hypointense on T1-weighted sequences, with peripheral contrast enhancement. Based on these findings, a preliminary diagnosis of a cystic lesion, including lymphangioma or Branchial cleft cyst, was made. Surgical excision was performed, and the specimen was submitted for histopathological analysis.

RESULTS

During surgery, the lesion was found to be inconsistent with a simple cyst and was associated with unexpected significant intraoperative bleeding. Complete excision was achieved without major complications. Histopathological examination revealed abnormal vascular channels lined with endothelial cells, consistent with an Arteriovenous hemangioma. The postoperative course was uneventful, and no recurrence or complications were observed during follow-up. These findings indicate that vascular lesions may mimic cystic masses on imaging and may only be definitively diagnosed after histopathological evaluation.

CONCLUSIONS

Arteriovenous hemangioma may mimic cystic neck lesions and represent a significant diagnostic pitfall. Careful evaluation of imaging findings, particularly peripheral enhancement and lobulated morphology, is essential. Preoperative vascular assessment, including Doppler ultrasonography, should be considered in suspicious cases to prevent unexpected intraoperative bleeding and ensure safe surgical management.

KEYWORDS

Kistik boyun kitlesi; Arteriovenöz hemanjiyom; Tanısal tuzak; Submandibuler bölge

PP-252

Multinodular Goiter With A Retropharyngeal Extension: A Report Of Two Cases And Literature Review

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BACKGROUND & AIM

Multinodular goiter (MNG) is a chronic benign nodular enlargement of the thyroid gland. It presents as an anterior painless neck mass, potentially progressing to exert pressure on the trachea and esophagus and giving rise to compressive symptoms. MNG is a common thyroid gland disorder; however, retropharyngeal goiter is considered rare with few reported cases.

MATERIAL & METHODS

Case Report, A presentation of two cases with multinodular goiter with retropharyngeal extension

RESULTS

We report the cases of two patients who presented to our institution with MNG with retropharyngeal extension: a 62-year-old female patient who presented with a progressive anterior neck mass with dilated neck veins; and a 49-year-old male who presented with a painless anterior neck mass. Both patients successfully underwent total thyroidectomy with an uneventful postoperative recovery.

CONCLUSIONS

The clinical presentation of MNG with retropharyngeal extension varies with patients; hence, a high index of suspicion is of the utmost significance. While the retropharyngeal extension does not cause compressive symptoms, it should raise the suspicion of a large retrosternal component

KEYWORDS

Multinodular goiter, retropharyngeal extension, compressive symptoms

PP-253

Parapharyngeal Space Tumor: A Diagnostic Challenge

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BACKGROUND & AIM

Tumors arising in the parapharyngeal space represent a diagnostic challenge due to their rarity and overlapping radiologic features. Cervical sympathetic chain schwannoma (CSCS) is an uncommon benign tumor that may mimic carotid body paraganglioma, particularly when associated with carotid bifurcation splaying (the “Lyre sign”). Preoperative differentiation between these entities is often difficult and may influence surgical planning. We report a case of CSCS with imaging findings suggestive of paraganglioma.

MATERIAL & METHODS

We report a single case of a parapharyngeal space tumor evaluated through clinical examination and multimodal imaging, including contrast-enhanced computed tomography and magnetic resonance imaging. Surgical management was performed via a transcervical approach. Histopathological analysis established the definitive diagnosis. A focused review of the literature was conducted to contextualize imaging characteristics and postoperative outcomes associated with cervical sympathetic chain schwannomas.

RESULTS

A 32-year-old woman was referred after incidental detection of a left parapharyngeal mass on computed tomography. She was asymptomatic, and physical examination revealed a painless, firm, left submandibular mass. Contrast-enhanced CT demonstrated a well-defined lesion centered in the left carotid space, measuring approximately 5 cm in greatest dimension, causing splaying of the internal and external carotid arteries (Lyre sign), suggestive of carotid body paraganglioma or vagal schwannoma. Magnetic resonance imaging showed a well-circumscribed lesion with T1 hypointensity, heterogeneous T2 signal with focal hyperintensities, and marked contrast enhancement, displacing the ipsilateral parapharyngeal space medially.

The patient underwent transcervical surgical excision. Intraoperatively, the tumor was identified as originating from the cervical sympathetic chain. Complete resection required sectioning of the sympathetic trunk. Histopathological examination confirmed schwannoma.Postoperatively, the patient developed ipsilateral Horner syndrome (ptosis, miosis, anhidrosis), which was well tolerated and partially improved at one-month follow-up.

CONCLUSIONS

Parapharyngeal tumors located at the carotid bifurcation require careful radiologic interpretation, as carotid artery splaying is not pathognomonic of paraganglioma. Cervical sympathetic chain schwannoma should be considered in the differential diagnosis. Accurate preoperative suspicion is essential for appropriate surgical counseling, particularly regarding the risk of postoperative Horner syndrome.

KEYWORDS

Cervical Sympathetic Chain Schwannoma; Parapharyngeal Space Tumor; Carotid Body Tumor; Lyre Sign; Horner Syndrome

PP-254

NON-HODGKIN LYMPHOMA OF THE LARYNX AS A PRIMARY PRESENTATION OF THE DISEASE

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BACKGROUND & AIM

Primary non-Hodgkin lymphoma (NHL) rarely arises within the larynx, accounting for less than 1% of laryngeal neoplasms. It may remain strictly confined to the larynx or represent an initial localized manifestation of an underlying systemic malignancy. Most frequent histological subtype encountered in this anatomical region is diffuse large B-cell lymphoma (DLBCL). The clinical presentation typically features an exophytic, submucosal tumor mass with smooth, non-ulcerated mucosa, predominantly localized in the supraglottis. The therapeutic approach comprises chemotherapy, radiotherapy, immunotherapy depending of clinical stage. This study aims to delineate the clinical features, diagnostic challenges, and multidisciplinary management strategies regarding this rare laryngeal malignancy.

MATERIAL & METHODS

This case study evaluates a 61-year-old female patient who presented with a history of progressive dysphagia, dysphonia, a dry irritative cough, and constitutional symptoms including night sweats. A comprehensive diagnostic workup was conducted, including direct laryngoscopy, which revealed a prominent, exophytic, submucosal supraglottic tumor mass characterized by smooth overlying mucosa without ulcerations. A representative biopsy of the laryngeal mass was performed, followed by definitive histopathological and immunohistochemical evaluations, as well as comprehensive systemic staging investigations.

RESULTS

The histopathological and immunohistochemical profiles established a definitive diagnosis of diffuse large B-cell non-Hodgkin lymphoma, classified as stage IVB due to verified extranodal involvement. The patient was immediately scheduled for targeted systemic treatment and successfully completed six full cycles of chemo-immunotherapy according to the standard Rituximab-CHOP (cyclophosphamide, doxorubicin, vincristine, and prednisone) protocol, achieving a favorable initial therapeutic response.

CONCLUSIONS

Diffuse large B-cell non-Hodgkin lymphoma of the larynx represents a rapidly progressing and highly aggressive form of hematological malignancy. Management relies strictly on timely, specific hematologic-oncologic therapy. Surgical intervention is not the primary treatment modality and remains indicated exclusively in acute scenarios of airway compromise or an unfavorable response to systemic chemo-immunotherapy. The manifestation of laryngeal lymphoma in the context of generalized, advanced-stage disease is statistically associated with a poorer prognosis. Further research focused on the clinico-pathological characteristics of these rare presentations is vital to optimize targeted therapeutic options and improve long-term survival rates.

KEYWORDS

B-cell lymphomas, supraglottic tumors, non-Hodgkin, laryngeal neoplasms

PP-255

Diagnostic Challenges In Calcitonin Negative Medullary Thyroid Carcinoma: A Systematic Review Of 101 Cases

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BACKGROUND & AIM

Calcitonin-negative medullary thyroid carcinoma (CNMTC), a rare form of MTC characterized by classic histopathology with normal serum calcitonin levels, presents a diagnostic challenge. This systematic review aims to summarize the clinical and pathological features of CNMTC and evaluate the utility of alternative biochemical markers.

MATERIAL & METHODS

Eligibility criteria for this systematic review included patients with a confirmed histopathological diagnosis of medullary thyroid carcinoma (MTC), normal preoperative serum calcitonin levels, or negative immunohistochemical (IHC) stain for calcitonin. A comprehensive electronic search strategy was employed on PubMed, Scopus, and Embase databases from January 1st, 1950, to March 9th, 2023.

RESULTS

This systematic review consists of 32 studies with 101 patients (66% females, 33% males) with a mean age of 52.2 years. All patients had a preoperative serum calcitonin level below the upper reference limit. Out of 101 patients, only seven underwent the Pentagastrin Stimulation Test (PST), only two patients had elevated calcitonin levels after stimulation. A total of 59 patients were tested for carcinoembryonic antigen (CEA) levels, and the majority tested normal (n=51, 86.4%). A total of 57 patients (61.2%) were found to have positive IHC staining on operative specimens for calcitonin. No recurrence was reported in the majority of cases, only 10 patients (9.9%) experienced recurrence.

CONCLUSIONS

Despite the rarity of CNMTC, it is crucial to maintain a high level of suspicion when evaluating thyroid nodules. Total thyroidectomy with central neck dissection remains as the primary treatment. A multimarker approach may improve the sensitivity and specificity of CNMTC diagnosis and surveillance, particularly when calcitonin and CEA levels are inconclusive.

KEYWORDS

edullary thyroid carcinoma (MTC); calcitonin; carcinoembryonic antigen (CEA); chromogranin A (CgA); procalcitonin (PCT).

PP-256

Comparison Among Different Tracheostomy Procedures In Critically Ill Patients – Is It Time For Hybrid Approach?

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BACKGROUND & AIM

Many critically ill patients require tracheostomy. It can be done by using classic ENT operation or by percutaneous approach. The latter is preferred in ICUs.

In the last few years a hybrid operation is becoming more prominent, during which an ENT specialist makes the initial incision and prepares the underlying tissues. After exposing trachea, an intensivist performs the tracheostomy by using a set of percutaneous dilators without making the tracheal fenestration. Percutaneous and hybrid procedures can be further combined with bronchoscopic monitoring of the needle insertion.

We analysed the frequency of adverse events in all three types of procedure.

MATERIAL & METHODS

Material & Methods

We included 64 ICU patients who had a tracheostomy constructed in a period from 1.1.2015 to 31.12.2025. Both surgical and medical ICU patients were included; 43 from surgical ICU and 21 from medical ICU, respectively. We analysed the occurence of most frequent adverse events: haemorrhage in the first 72 hours and after 72 hours after the procedure, subcutaneous emphysema, trauma to the larynx, thyroid, paralaryngeal and paratracheal nerve structures, dehiscence of the wound and other specific complications which could be attributed to the procedure itself. We compared the samples by using two-tailed T test.

RESULTS

Results

Our study shows that there were fewer complications when using the hybrid technique, albeit the p values were statistically not significant wheteher comparing classic ENT operation to percutaneous procedure ($p = 0.84$), classic ENT operation to hybrid procedure ($p = 0.37$), percutaneous to hybrid procedure ($p = 0.35$) or classic ENT operation and percutaneous procedure combined to hybrid procedure ($p = 0.33$), respectively.

CONCLUSIONS

Conclusions

In our study, the incidence of complications was lower in hybrid procedures. Albeit there was no statistically significant difference, there seems to be a rationale to use the hybrid approach in high-risk patients; i.e. patients with short necks, with thyroid isthmus overlaying trachea just below the cricoid carthilage, with vascular structures close to the insertion point etc. The downside seems to be that two specialist are needed in this type of procedures. Since our study only included 64 patients further studies in this field are neccessary.

KEYWORDS

hybrid tracheostomy, percutaneous tracheostomy, classic ENT tracheostomy

PP-257

Challenges In Providing Care For Malignant Neuroendocrine Tumors Of Head And Neck.

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BACKGROUND & AIM

Neuroendocrine tumors (NETs) are uncommon malignancies originating from cells with dual neuronal and endocrine differentiation. They comprise 0.5–2% of all cancers, with an incidence of approximately 2–5 per 100,000 annually. While the gastrointestinal tract is the predominant primary site, head and neck involvement remains rare (<1%), most frequently affecting the larynx. Their biological heterogeneity complicates the management.

This study aims to highlight this type of ENT tumors, clarify the diagnosis process and the difficulties involved in therapeutic management.

MATERIAL & METHODS

We present three cases of patients with malign neuroendocrine tumors of the head and neck treated over a five-years period (January 2020 to December 2025).

The patients underwent clinical and paraclinical investigations with histological confirmation in our departement.

RESULTS

Two cases involved the larynx : males, 48 and 61 years old; the symptom was chronic dysphonia.

Suspension laryngoscopy and HRCT revealed a tumor invading the glottic and supraglottic region.

Histopathological analysis, immunohistochemical profiling, confirmed the diagnosis and classified the tumors as small and large cell neuroendocrine carcinoma.

The third case: male, 85-year-old, presented with ear pain. Examination revealed a mass in the external auditory canal, extending to the parotid region.

HRCT of the petrous bones and an MRI of the parotid gland, followed by a biopsy, suggested squamous cell carcinoma.

Treatment consisted of large surgical resection and lymph node dissection.

The histopathological examination corrected the diagnosis of small cell neuroendocrine tumor.

After comprehensive staging, only one case present a bone metastases.

After multidisciplinary consultation, chemoradiotherapy was offered to the patients with laryngeal involvement, and targeted therapy to the patient with auricular involvement.

The clinical outcome was unfavorable, with death of the patients within an average of 7 months.

CONCLUSIONS

Malign neuroendocrine tumors of the head and neck are rare. Their therapeutic management is primarily guided by the histological subtype and tumor grade. Early diagnosis is essential to improve the prognosis. Management requires a multidisciplinary approach.

KEYWORDS

Neuroendocrine tumors, head and neck oncology.

PP-258

Castleman Disease Mimicking Warthin Tumor Of The Parotid Gland: A Rare Case Report

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BACKGROUND & AIM

Castleman disease is a rare benign lymphoproliferative disorder that most commonly involves the mediastinum. Head and neck involvement is uncommon, while parotid gland localization is exceedingly rare. Because radiological and cytological findings are frequently nonspecific, preoperative diagnosis may be challenging and lesions may mimic benign salivary gland tumors such as Warthin tumor. We aimed to present a rare case of hyaline vascular type Castleman disease of the parotid gland mimicking Warthin tumor.

MATERIAL & METHODS

A 28-year-old woman presented with swelling on the right side of the neck. Physical examination revealed a mobile mass measuring approximately 2–3 cm at the inferior pole of the right parotid gland. Oral cavity, nasopharyngeal, otoscopic, and endoscopic laryngeal examinations were normal. Ultrasonography and magnetic resonance imaging were performed. MRI demonstrated a well-circumscribed 25 × 16 mm lesion radiologically suggestive of Warthin tumor. Fine-needle aspiration biopsy revealed lymphoid series cells consistent with a lymph node. The patient subsequently underwent superficial parotidectomy for excisional biopsy.

RESULTS

Histopathological examination of the surgical specimen revealed hyaline vascular type Castleman disease . Microscopic evaluation demonstrated characteristic hyalinized follicles and vascular proliferation consistent with unicentric Castleman disease. The postoperative period was uneventful, and no recurrence was observed during follow-up.

CONCLUSIONS

Castleman disease should be considered in the differential diagnosis of parotid masses, particularly when radiological and cytological findings are inconclusive. Parotid localization is extremely rare and may mimic benign salivary gland tumors such as Warthin tumor. Histopathological examination remains the gold standard for definitive diagnosis, while complete surgical excision is both diagnostic and curative in unicentric disease.

KEYWORDS

Castleman disease ,Parotid gland, Warthin tumor, Parotidectomy

PP-259

PAPILLARY THYROID CARCINOMA ARISING FROM A THYROGLOSSAL DUCT CYST: A CASE REPORT

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BACKGROUND & AIM

Thyroglossal duct cysts (TGDCs) are the most common congenital midline neck masses and are typically benign. However, malignant transformation—most frequently into papillary thyroid carcinoma—is rare but clinically significant. Preoperative diagnosis is challenging, particularly in cystic lesions where fine-needle aspiration biopsy (FNAB) may yield false-negative results. Suspicious radiologic findings may therefore play a critical role in guiding management. This study aims to present a case of papillary thyroid carcinoma arising within a TGDC despite repeated benign cytology and to emphasize the diagnostic limitations and surgical implications of this entity.

MATERIAL & METHODS

A 25-year-old woman presented with a gradually enlarging midline neck mass. Initial ultrasonography demonstrated a cystic lesion, while contrast-enhanced MRI confirmed a well-defined infrahyoid midline cyst distinct from the thyroid gland. Subsequent imaging revealed internal calcifications and a solid component. Two ultrasound-guided fine-needle aspiration biopsies (FNAB) were performed using liquid-based cytology; the first was nondiagnostic and the second reported benign findings. Given the persistent radiologic suspicion for malignancy, the case was discussed in a multidisciplinary setting, and a standard Sistrunk procedure was performed for definitive diagnosis and treatment.

RESULTS

Histopathological examination revealed classic-type papillary thyroid carcinoma confined to the thyroglossal duct cyst wall without extracystic extension. Surgical margins were negative. Postoperative evaluation demonstrated a clinically and radiologically normal thyroid gland with no evidence of cervical lymph node involvement. The case was reviewed in a multidisciplinary tumor board, and given the low-risk profile, no additional surgery or radioactive iodine therapy was recommended. At six-month follow-up, the patient remains disease-free with no signs of recurrence or metastasis.

CONCLUSIONS

Papillary thyroid carcinoma may arise within a thyroglossal duct cyst despite repeated benign cytology. In cystic midline neck lesions, fine-needle aspiration biopsy has important diagnostic limitations and false-negative results are not uncommon. Suspicious radiologic features should therefore guide surgical decision-making. The Sistrunk procedure provides definitive diagnosis and effective treatment in selected low-risk cases.

KEYWORDS

thyroglossal duct cyst; papillary thyroid carcinoma; Sistrunk procedure; fine-needle aspiration biopsy; midline neck mass

PP-260

Delayed Migration Of A Cervical Spine Screw Into The Esophagus - A Rare Case Report

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BACKGROUND & AIM

Esophageal perforation is a rare but potentially life-threatening complication of anterior cervical spine surgery. Most perforations are identified either intraoperatively or during the early postoperative period. Delayed migration of anterior cervical spine fixation hardware represents an exceptionally rare complication with only a few cases documented in the literature to date.

We present a rare case of delayed screw migration into the upper aerodigestive tract, 20 years after cervical spine surgery, manifesting with acute laryngeal dysfunction and high esophageal perforation.

MATERIAL & METHODS

A 65-year-old obese man, with stage IV ankylosing spondylitis, had undergone anterior cervical fusion with bone grafting and plate fixation following a traumatic cervical spine fracture, sustained in a car accident, 20 years earlier. He presented with recent dysphonia, dyspnea, dysphagia, and odynophagia, with progressive worsening over two weeks.

•Flexible fibroscopy showed significant laryngeal edema with marked arytenoid swelling, impaired mobility of the posterior laryngeal commissure, and significant narrowing of the laryngeal airway, while the epiglottis remained normal.

•Upper gastrointestinal endoscopy confirmed granulation tissue corresponding to the migrated screw.

• Contrast-enhanced computed tomography (CT) revealed diffuse perilaryngeal edema causing approximately 43 mm of subhyoid laryngeal stenosis, heterogeneous prevertebral inflammatory changes with air adjacent to the C5-C7 vertebrae, and migration of a cervical fixation screw into the upper esophagus, with suspicion of pharyngo-esophageal perforation.

RESULTS

Given the esophageal perforation and progressive airway compromise, urgent surgery was performed. Tracheostomy was followed by exploratory cervicotomy, under general anesthesia, by a combined otolaryngology and neurosurgery team. The migrated screw was removed and the esophageal perforation was repaired by primary closure. Enteral feeding was maintained via a nasogastric tube. Laryngeal edema gradually resolved, allowing decannulation on postoperative day 10. Follow-up CT showed regression of the inflammatory changes, while upper gastrointestinal endoscopy on day 12 confirmed esophageal healing without persistent fistula, permitting safe oral feeding. Despite postoperative pulmonary thromboembolism requiring anticoagulation, the patient recovered well, with complete resolution of dyspnea, dysphagia, and dysphonia, and full restoration of laryngeal function.

Advanced ankylosing spondylitis, obesity, and dense postoperative scarring markedly increased the complexity of surgical exposure and dissection.

CONCLUSIONS

•Delayed migration of cervical fixation hardware into the upper aerodigestive tract is exceedingly rare, with only a few cases reported to date.

•This case underscores the importance of maintaining a broad diagnostic perspective and remaining alert to rare but plausible clinical scenarios.

•Prompt endoscopic and radiologic assessment within a multidisciplinary framework enables early diagnosis and treatment, minimizing the risk of serious complications.

KEYWORDS

delayed screw migration, esophageal perforation, laryngeal edema

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A Case Of Myxofibrosarcoma In The Parotid Gland

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BACKGROUND & AIM

Myxofibrosarcoma (MFS) is a fibroblastic soft tissue sarcoma most commonly arising in the extremities of older adults and is characterized by infiltrative growth and a high risk of local recurrence. Head and neck involvement is rare, with only a few cases reported in the salivary gland region. Given its aggressive behavior and the limited literature on salivary gland localization, further documentation is needed. This study aims to present a rare case of MFS involving the salivary gland region and to discuss its clinical, radiological, and histopathological features, along with management considerations.

MATERIAL & METHODS

This case study focuses on a 65-year-old male with an enlarging mass in the left parotid region. Initially diagnosed via fine needle aspiration as a pleomorphic adenoma, the patient underwent a left superficial parotidectomy, followed by revision surgeries due to recurrence and radiotherapy.

RESULTS

Pathological analysis revealed low-grade MFS with perineural invasion. Despite postoperative radiotherapy and planned chemotherapy, the patient experienced significant local recurrence, confirmed through imaging and fine needle aspiration.

CONCLUSIONS

This case underscores the difficulties in achieving negative surgical margins in primary MFS of the head and neck. It highlights the aggressive nature of MFS, emphasizing the need for further studies on effective management strategies and facial nerve preservation during surgery.

KEYWORDS

parotid, myxofibrosarcoma, head and neck, oncologic surgery

PP-262

Intrathyroidal Paraganglioma Of The Thyroid Gland: A Case Report Highlighting Challenges In Cytological And Surgical Management

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BACKGROUND & AIM

Intrathyroidal paraganglioma (ITP) is an exceptionally rare neuroendocrine neoplasm, accounting for less than 0.1% of all thyroid tumors. It originates from the inferior laryngeal paraganglia that become entrapped within the thyroid gland during embryogenesis. Clinically and radiologically, ITP often presents as a hypervascular nodule, frequently leading to diagnostic confusion with follicular or medullary thyroid carcinomas. Due to its rarity and the limitations of fine-needle aspiration cytology (FNAC), most cases are diagnosed postoperatively through immunohistochemical analysis.

MATERIAL & METHODS

A 68-year-old male patient presented with an incidentally detected thyroid nodule during routine follow-up. Initial evaluation via FNAC in 2020 was reported as Atypia of Undetermined Significance). A repeat biopsy in 2021 was reported as Suspicious for Follicular Neoplasm (Bethesda IV). Following a period of non-compliance, the patient returned in 2025.Ultrasonography identified a 33x26x42.5 mm iso-hypoechoic nodule in the left thyroid lobe, featuring cystic degenerative areas and intense internal and peripheral vascularity on Doppler imaging. Preoperative laboratory findings were within normal limits A left hemithyroidectomy was performed. The postoperative course was uneventful, and the patient was discharged after four days of observation.Pathological Findings: Microscopic examination revealed a tumor arranged in a characteristic Zellballen pattern. Immunohistochemistry confirmed the diagnosis, showing positivity for Chromogranin and Synaptophysin, with S100 positivity in the sustentacular cells. Markers of thyroid origin (Thyroglobulin, TTF-1) and Pan-keratin were negative.

RESULTS

The primary challenge of ITP lies in its ability to mimic common thyroid malignancies. In this case, the preoperative diagnosis of Bethesda IV directed the surgical management toward a follicular neoplasm. Radiologically, high vascularity on Doppler USG is a characteristic feature of ITP that should alert the clinician. While ITP is a neuroendocrine tumor like medullary thyroid carcinoma, it is typically Pan-keratin and Calcitonin negative. Due to its unpredictable biological behavior, long-term surveillance is recommended.

CONCLUSIONS

Intrathyroidal paraganglioma remains a "diagnostic chameleon" that frequently eludes preoperative identification due to its remarkable cytological overlap with follicular and medullary thyroid neoplasms. This case underscores the necessity of including paraganglioma in the differential diagnosis of highly vascular thyroid nodules, particularly when fine-needle aspiration yields indeterminate results. While surgical resection is typically curative, the lack of definitive histopathological markers for malignancy necessitates a vigilant, long-term surveillance strategy. Ultimately, a multidisciplinary approach combining clinical suspicion, meticulous surgical technique, and comprehensive immunohistochemical profiling is paramount in achieving favorable outcomes for this rare clinical entity.

KEYWORDS

Intrathyroidal paraganglioma , Thyroid surgery , Neuroendocrine tumor

PP-263

Arteriovenous Hemangioma Of The Temporal And Frontal Region: A Case Report

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BACKGROUND & AIM

Vascular lesions of the head and neck region are uncommon and may clinically and radiologically mimic various soft tissue pathologies. Particularly, vascular masses located in the temporal region can present diagnostic challenges due to their heterogeneous imaging characteristics. Only a limited number of arteriovenous hemangioma cases in the temporal region have been reported in the literature. This study presents a case of arteriovenous hemangioma located in the temporal region.

MATERIAL & METHODS

A 53-year-old male patient presented with a painless swelling in the left temporal region that had been present for approximately six months. The patient reported a long-standing habit of repeatedly scratching and manipulating the same area, with no history of significant blunt or penetrating trauma. Physical examination revealed a soft, pulsatile, mobile subcutaneous mass measuring approximately 3×2 cm in the left temporal area and 1x1 cm in the frontal area. Doppler ultrasonography showed a vascularized solid lesion with millimetric cystic components adjacent to the temporal artery. Contrast-enhanced magnetic resonance imaging demonstrated two heterogeneously enhancing mass lesions located within the superficial cervical fascia in the left frontal and temporal regions. The temporal lesion measured approximately 27×28×20 mm and exhibited partially irregular borders, internal signal void areas, and skin thickening. Radiologically, a fascia-origin mesenchymal tumor was considered in the differential diagnosis.

RESULTS

The patient underwent surgical excision. Histopathological examination revealed arteriovenous hemangioma associated with intravascular papillary endothelial hyperplasia. Immunohistochemical analyses supported the vascular origin. Surgical margins were negative, and the lesion was totally excised. No postoperative complications occurred. Notably, although radiological findings initially suggested a mesenchymal soft tissue malignancy, histopathological examination confirmed the lesion to be a benign vascular lesion (arteriovenous hemangioma).

CONCLUSIONS

Vascular lesions of the temporal region are rare and may clinically and radiologically mimic various soft tissue tumors, including malignant mesenchymal masses. This case suggests that even habitual, repetitive mechanical trauma may contribute to the development of vascular lesions in susceptible individuals. Only a limited number of cases have been reported in the literature. Vascular lesions should be considered in the differential diagnosis of subcutaneous masses in the temporal region. Imaging

findings can be misleading, and histopathological examination remains essential for definitive diagnosis. Surgical excision provides successful diagnostic and therapeutic outcomes.

KEYWORDS

arteriovenous hemangioma, vascular malformation, subcutaneous mass, head and neck tumors

PP-264

Multidisciplinary Management Of Severe Radiation-Induced Laryngeal Chondroradionecrosis After Multimodal Treatment Of Poorly Differentiated Thyroid Carcinoma

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BACKGROUND & AIM

Poorly differentiated thyroid carcinoma (PDTC) is a rare but aggressive malignancy frequently associated with locoregional invasion and poor prognosis. Multimodal treatment strategies, including surgery, chemotherapy and radiotherapy, are often required in advanced cases. However, high-dose cervical radiotherapy may lead to severe late complications such as laryngeal chondroradionecrosis (CRN), a rare but potentially life-threatening condition that can mimic tumor recurrence and pose significant management challenges.The aim of this case report is to present the multidisciplinary management of radiation-induced laryngeal chondroradionecrosis developing after treatment of locally advanced PDTC and to highlight the stepwise therapeutic approach leading to successful resolution.

MATERIAL & METHODS

We report the clinical course of a 64-year-old male initially diagnosed with papillary thyroid carcinoma by fine-needle aspiration biopsy.He underwent total thyroidectomy at an outside institution;however,due to tumor fixation and invasion into the laryngeal cartilage and adjacent structures,complete excision was not feasible,resulting in an R2 resection. Final pathology revealed high-grade differentiated follicular cell–derived thyroid carcinoma, and the patient was referred to our center.Rapid locoregional progression prompted multidisciplinary tumor board discussion and reoperation,revealing extensive invasion of the thyroid and cricoid cartilages,trachea,hypopharynx,cervical esophagus, and regional lymph nodes.Adjuvant external beam radiotherapy and systemic sorafenib therapy were administered.Three months after radiotherapy, a progressively enlarging cervical skin defect and airway compromise developed. Preexisting left vocal cord paralysis was followed by contralateral paralysis and laryngeal fixation. Radiation-induced laryngeal chondroradionecrosis required stepwise multidisciplinary management, ultimately necessitating total laryngectomy with free anterolateral thigh flap reconstruction. Postoperative salivary fistula and partial tracheostomal dehiscence resolved with conservative wound care.

RESULTS

Despite initial conservative management with corticosteroids, antibiotics, and local wound care, the patient developed progressive laryngeal chondroradionecrosis complicated by vocal cord paralysis, cervical soft tissue defects, and salivary fistula formation.Multiple surgical interventions were required, including sternocleidomastoid muscle flap advancement and deltopectoral flap reconstruction, which failed due to ongoing necrosis. Definitive control was achieved with total laryngectomy and free anterolateral thigh flap reconstruction. Postoperative salivary fistulae and tracheostomal dehiscence were successfully managed conservatively, resulting in complete wound healing and stabilization of the airway.

CONCLUSIONS

Radiation-induced laryngeal chondroradionecrosis represents a devastating late complication in the management of locally advanced thyroid carcinoma. This case underscores the importance of early recognition, close multidisciplinary collaboration, and timely escalation from conservative to radical surgical management. Individualized, stepwise treatment strategies are essential to achieve functional stabilization and satisfactory outcomes in advanced CRN.

KEYWORDS

Poorly differentiated thyroid carcinoma; Laryngeal chondroradionecrosis; External beam radiotherapy; Multidisciplinary management; Total laryngectomy

PP-265

Diagnostic Reclassification Of A Twice-Misdiagnosed Head And Neck Mesenchymal Tumor As A GLI1-Associated Mesenchymal Neoplasm: A Case Report

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BACKGROUND & AIM

GLI1-altered mesenchymal tumors of the head and neck are newly recognized neoplasms that may be diagnostically challenging because of overlapping morphologic and immunophenotypic features with other mesenchymal entities.

Diagnostic uncertainty may be further compounded when these tumors arise in uncommon locations or demonstrate unusual patterns of spread. We aimed to present a case of a tongue base–origin GLI1-associated mesenchymal tumor initially diagnosed as two different mesenchymal neoplasms over time, in which comprehensive clinicopathologic and molecular reassessment led to diagnostic revision and identification of an ACTB–GLI1 fusion–positive tumor with secondary thyroid involvement.

MATERIAL & METHODS

Clinical, radiologic, and histopathologic data of a 46-year-old patient with a tongue base mesenchymal tumor were retrospectively reviewed. Previously resected tumor specimens from external institutions were re-evaluated at our center through detailed histopathologic and immunohistochemical examination. Molecular analyses, including fluorescence in situ hybridization and next-generation sequencing, were performed to detect gene rearrangements and fusion events. Serial imaging studies were also analyzed to assess tumor origin, anatomic extent, and disease progression.

RESULTS

Histopathologic reassessment demonstrated morphologic and immunophenotypic features inconsistent with the prior diagnoses of glomangiopericytoma and Ewing sarcoma. Molecular testing showed no EWSR1 rearrangement and identified ACTB–GLI1 fusion, establishing the diagnosis of a GLI1-associated mesenchymal neoplasm originating from the tongue base. Radiologic evaluation revealed secondary thyroid gland involvement and progressive locoregional disease characterized by retropharyngeal extension, vascular encasement, and adjacent structure infiltration. These findings confirmed diagnostic revision and demonstrated locally aggressive behavior not commonly reported in previously described GLI1-altered tumor series.

CONCLUSIONS

GLI1-associated mesenchymal tumors may be misclassified due to overlapping histopathologic features, particularly when arising from uncommon sites such as the tongue base and demonstrating secondary thyroid involvement. This case highlights the decisive role of molecular profiling in establishing accurate diagnosis and reveals an unusual pattern of locoregional spread. Increased awareness of this entity and integration of molecular testing into the diagnostic workflow are essential for appropriate classification and management of atypical head and neck mesenchymal tumors.

KEYWORDS

GLI1-associated mesenchymal tumor; ACTB–GLI1 fusion; tongue base tumor; head and neck neoplasms; thyroid involvement; diagnostic reclassification; molecular profiling; soft tissue tumor

PP-266

Recurrent High-Risk Squamous Cell Carcinoma Of The Right Auricle: A Case Managed With Surgical Excision And Adjuvant Radiotherapy

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BACKGROUND & AIM

Cutaneous squamous cell carcinoma (cSCC) of the auricle is associated with a high risk of local recurrence and aggressive clinical behavior due to complex anatomy and frequent cartilage involvement. Established adverse prognostic factors include perineural invasion, positive or close surgical margins, and inadequate follow-up. Despite appropriate surgical management, recurrence remains a significant challenge in high-risk cases. The aim of this study is to present a recurrent auricular cSCC with high-risk features and to emphasize the critical role of multidisciplinary management and adjuvant radiotherapy in achieving optimal local disease control.

MATERIAL & METHODS

This study is a single-case report of an 87-year-old male patient with recurrent, high-risk auricular cutaneous squamous cell carcinoma. Clinical presentation, radiological assessment, surgical management, and follow-up data were retrospectively reviewed. The patient underwent multiple surgical excisions for recurrent lesions involving the auricle. All surgical specimens were subjected to comprehensive histopathological examination, including evaluation of tumor differentiation, depth of invasion, perineural invasion, cartilage involvement, and surgical margin status. Periods of loss to follow-up and associated disease progression were documented. Clinical and pathological findings were discussed within a multidisciplinary tumor board setting, and the indication for adjuvant radiotherapy was established based on the presence of high-risk features.

RESULTS

In head and neck malignancies, postoperative follow-up and a multidisciplinary approach are of critical importance in achieving disease control and potential cure.

CONCLUSIONS

In auricular squamous cell carcinomas, recurrence, perineural invasion, and delayed follow-up are key determinants of disease progression. A negative surgical margin alone may be insufficient to prevent recurrence in tumors exhibiting high-risk

biological behavior. As demonstrated in this case, a multidisciplinary approach following surgery, together with adjuvant radiotherapy, is critical for achieving optimal local disease control.

KEYWORDS

Auricle, squamous cell carcinoma, recurrence, perineural invasion, head and neck tumors, adjuvant radiotherapy, multidisciplinary approach, surgical margin, local control, high-risk skin cancer.

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Secondary Histiocytic Sarcoma Following Classical Hodgkin Lymphoma: A Rare Case Report

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BACKGROUND & AIM

Histiocytic sarcoma (HS) is an extremely rare and aggressive hematopoietic malignancy that may occur de novo or secondary to pre-existing lymphoid neoplasms through transdifferentiation mechanisms. Secondary HS developing after classical Hodgkin lymphoma (cHL) is exceptionally uncommon and poses significant diagnostic and therapeutic challenges. We aimed to present a rare case of secondary histiocytic sarcoma arising following treatment for classical Hodgkin lymphoma in a male patient, and to discuss its clinicopathological, immunohistochemical, and radiological features in light of the current literature.

MATERIAL & METHODS

The clinical, radiological, histopathological, and immunohistochemical data of a 73-year-old male patient who developed secondary histiocytic sarcoma during follow-up after treatment for classical Hodgkin lymphoma were retrospectively evaluated. Demographic characteristics, clinical presentation, imaging findings, treatment history, and follow-up data were obtained from the patient's medical records. The initial diagnosis of classical Hodgkin lymphoma was established based on histomorphological examination and immunohistochemical analyses of the excisional lymph node biopsy specimen. Following disease recurrence, positron emission tomography/computed tomography (PET/CT) imaging and an incisional biopsy of the recurrent supraclavicular mass were performed. Biopsy specimens were re-evaluated histopathologically using a broad immunohistochemical panel. The diagnosis of histiocytic sarcoma was confirmed based on histomorphological findings supported by positivity for CD163, CD68, CD4, and fascin. The case was analyzed clinicopathologically in the context of the current literature.

RESULTS

The patient diagnosed with classical Hodgkin lymphoma, with no evidence of recurrence during a two-year follow-up period. Initial PET/CT imaging demonstrated isolated hypermetabolic involvement of the left supraclavicular lymph node without systemic dissemination. During follow-up, the patient was re-evaluated because of a rapidly enlarging recurrent mass in the left supraclavicular region. PET/CT revealed a hypermetabolic soft tissue mass in the left middle jugular–supraclavicular region measuring approximately 42 × 54 × 57 mm (SUVmax: 13.2), as well as a metabolically active lytic lesion in the T9 vertebral corpus (SUVmax: 9.1). Histopathological examination demonstrated proliferation of atypical histiocytic cells with prominent nucleoli, pleomorphic and focal spindle-cell morphology, increased mitotic activity, and focal necrosis. Immunohistochemically, tumor cells showed positivity for CD163, CD68 and vimentin, while epithelial, dendritic, and Langerhans cell markers were negative. Based on the overall clinicopathological findings, the lesion was diagnosed as secondary histiocytic sarcoma developing after classical Hodgkin lymphoma.

CONCLUSIONS

Secondary histiocytic sarcoma developing after classical Hodgkin lymphoma is an extremely rare and highly aggressive malignancy with challenging diagnostic features. Accurate diagnosis requires comprehensive histopathological and immunohistochemical evaluation to distinguish it from other hematologic neoplasms. The present case supports the hypothesis that histiocytic sarcoma may arise through transdifferentiation or lineage conversion from pre-existing lymphoid malignancies. Early recognition of this rare transformation is essential for appropriate clinical management and may contribute to a better understanding of the biological relationship between Hodgkin lymphoma and histiocytic sarcoma.

KEYWORDS

Histiocytic Sarcoma; Classical Hodgkin Lymphoma; transdifferentiation; lineage conversion; PET/CT; CD163.

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Nisin As A Novel Membrane-Active Adjuvant For Electrochemotherapy

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BACKGROUND & AIM

Electrochemotherapy (ECT) combines pulsed electric fields (PEF) with cytotoxic agents to enhance intracellular drug delivery through transient membrane permeabilization. ECT is already used in the treatment of cutaneous and subcutaneous tumors, including selected recurrent or palliative head and neck cancer lesions, where local tumor control can be clinically relevant but treatment-related tissue damage remains a concern. Nanosecond PEF (nsPEF) may reduce some adverse effects associated with conventional ECT; however, higher electric field strengths are usually required. Nisin, an antibacterial lantibiotic with membrane-permeabilizing properties, may represent a novel membrane-active adjuvant capable of lowering the electric field threshold required for effective electroporation.

MATERIAL & METHODS

This study investigated the effects of nisin on membrane permeabilization, membrane resealing, and cell viability in cancer cells exposed to different PEF protocols. Cells were pre-incubated with a subtoxic concentration of nisin, 50 µg/mL, and treated with either microsecond PEF, consisting of 8 pulses of 100 µs at 1 Hz, or nanosecond PEF, consisting of 100 pulses of 300 ns delivered at 10 kHz or 1 MHz. Membrane permeabilization was evaluated by YO-PRO-1 fluorescent dye uptake, membrane resealing was assessed 30 minutes after treatment, and cell viability was measured after 24 hours.

RESULTS

Nisin at 50 µg/mL showed no relevant cytotoxicity when used alone but markedly enhanced the biological effects of PEF. In combination with µsPEF at 1.2 kV/cm, nisin reduced cell viability from 84% with PEF alone to 5.6%. Nisin also lowered the membrane permeabilization threshold, with the strongest effect observed for nsPEF at 1 MHz, where the threshold was reduced up to 3.3-fold. Across all pulse protocols, nisin substantially impaired membrane resealing after electroporation. The electric field required to reduce viability by 50% was decreased by 3.4- to 4.2-fold depending on the pulse modality, indicating a strong synergistic interaction between nisin and PEF.

CONCLUSIONS

Subtoxic nisin significantly enhances PEF-induced membrane permeabilization, impairs membrane resealing, and increases cancer cell mortality across both microsecond and nanosecond electroporation protocols. By lowering the electric field strength required for effective treatment, nisin may help reduce treatment intensity and improve the applicability of ECT, particularly in anatomically sensitive regions such as the head and neck. These findings support further investigation of nisin as a novel adjuvant for electrochemotherapy-based cancer treatment.

KEYWORDS

Electrochemotherapy, Nisin, Nanosecond pulsed electric fields, Membrane permeabilization, Head and neck cancer.

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A Rare Malignant Mesenchymal Neoplasm Originating From The Maxillary Sinus: A Case Report

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BACKGROUND & AIM

This case report aims to present a rare malignant mesenchymal tumor originating from the maxillary sinus and to emphasize the diagnostic and therapeutic challenges associated with its aggressive local behavior. Additionally, the importance of detailed radiological evaluation, histopathological assessment, and radical surgical management in achieving local disease control is highlighted through a multidisciplinary treatment approach.

MATERIAL & METHODS

A 49-year-old male patient presented with progressive right-sided nasal obstruction, recurrent epistaxis, facial swelling, and a palatal ulcerative lesion persisting for three months. Endoscopic examination revealed a proliferative mass originating from the right maxillary sinus. CT and MRI demonstrated a 58×58×56 mm aggressive mass destroying all walls of the maxillary sinus, inferior orbital floor, pterygoid process, sphenoid wing, and lamina papyracea, with extension into the infratemporal and pterygopalatine fossae. Initial differential diagnoses included osteosarcoma, fibrosarcoma, and squamous cell carcinoma, while biopsy suggested a malignant peripheral nerve sheath tumor. Following multidisciplinary evaluation, a right subtotal maxillectomy was performed. Definitive histopathological and immunohistochemical examination established the diagnosis of malignant mesenchymal tumor. Surgical margins were negative, and postoperative radiotherapy was planned. No recurrence was detected during the 6-month follow-up period.

RESULTS

Radiological imaging revealed an aggressive maxillary sinus mass with extensive destruction of adjacent bony structures and invasion into surrounding anatomical compartments. Histopathological and immunohistochemical analyses confirmed the diagnosis of a malignant mesenchymal tumor. The patient underwent right subtotal maxillectomy with clear surgical margins. Postoperative recovery was uneventful, and adjuvant radiotherapy was planned to reduce the risk of recurrence. During the 6-month follow-up period, no evidence of local recurrence or distant metastasis was observed. These findings demonstrate that early multidisciplinary evaluation combined with radical surgical resection may provide effective local disease control in aggressive sinonasal mesenchymal malignancies.

CONCLUSIONS

Malignant mesenchymal tumors of the maxillary sinus are rare and highly aggressive neoplasms that often present at advanced stages because of their nonspecific clinical manifestations and silent progression within the sinonasal cavity. Accurate diagnosis requires comprehensive radiological, histopathological, and immunohistochemical evaluation. Radical surgical resection remains the cornerstone of treatment for achieving local disease control, while adjuvant therapies may contribute to reducing recurrence risk. This case highlights the importance of a multidisciplinary approach in the management of aggressive sinonasal malignancies and demonstrates that early diagnosis combined with appropriate surgical intervention may improve clinical outcomes and prognosis.

KEYWORDS

Malignant Mesenchymal Tumor; Maxillary Sinus; Paranasal Sinus Neoplasms; Maxillectomy; Head and Neck Neoplasms

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Radiation-Induced Recurrent Sinonasal Undifferentiated Pleomorphic Sarcoma: A Challenging Surgical Ca

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BACKGROUND & AIM

Radiation-induced sinonasal sarcomas are rare but highly aggressive malignancies characterized by rapid growth, local invasion, and high recurrence rates. Achieving negative surgical margins in the anatomically complex sinonasal region remains challenging. We present a case of recurrent high-grade sinonasal undifferentiated pleomorphic sarcoma developing years after chemoradiotherapy for nasopharyngeal carcinoma, aiming to highlight diagnostic and surgical management difficulties.

MATERIAL & METHODS

A 61-year-old male with no significant comorbidities was diagnosed with non-keratinizing undifferentiated nasopharyngeal carcinoma in 2012 and treated with chemotherapy and radiotherapy. Following years of remission, the patient presented with recurrent symptoms. Initial biopsies in August 2023 and February 2024 were negative for malignancy despite suspicious imaging findings. In May 2024, endoscopic tumor excision and tracheostomy were performed for a mass filling the left nasal cavity and extending to the oropharynx. Subsequent surgeries included septectomy, inferior maxillectomy, repeated tumor resections, and infratemporal fossa surgery due to multiple recurrences. Intraoperative techniques included external carotid artery ligation for bleeding control and meticulous dissection of the pterygopalatine fossa.

RESULTS

Histopathological evaluation confirmed high-grade malignant mesenchymal tumor consistent with undifferentiated pleomorphic sarcoma. The tumor demonstrated aggressive local invasion involving the nasal floor, hard palate, buccal mucosa, maxillary and frontal sinuses, and infratemporal region. Despite multiple resections, local recurrences occurred, occasionally associated with positive surgical margins, necessitating extended resections. Radiological findings also suggested mandibular involvement. The patient underwent multiple surgeries between 2025 and 2026 and remains under close follow-up.

CONCLUSIONS

Radiation-induced sinonasal undifferentiated pleomorphic sarcoma is a rare and aggressive entity with high recurrence potential. This case highlights the importance of maintaining clinical suspicion despite negative biopsies and underscores the critical role of achieving negative surgical margins. Aggressive surgical management combined with a multidisciplinary approach and close follow-up is essential for optimal outcomes.

KEYWORDS

Sinonasal tumor Radiation-induced sarcoma Undifferentiated pleomorphic sarcoma Nasopharyngeal carcinoma Recurrence Maxillectomy Head and neck neoplasms

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Difficult Airway Management In A Geriatric Patient With Giant Goiter: A Case Report

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BACKGROUND & AIM

Giant goiter is a rare but important cause of difficult airway management due to progressive tracheal deviation, compression, and distortion of normal airway anatomy. In elderly patients, long-standing goiter with recent rapid enlargement may result in position-dependent respiratory distress, indicating critical airway compromise. Airway management in such cases requires careful preoperative assessment, advanced planning, and readiness for difficult intubation strategies. This case reports the perioperative airway management of an 88-year-old geriatric patient with severe tracheal compression secondary to giant goiter, emphasizing the importance of maintaining spontaneous ventilation and a multidisciplinary approach during airway securing.

MATERIAL & METHODS

An 88-year-old female patient with a history of diabetes mellitus, hypertension, and long-standing goiter was admitted for total thyroidectomy due to a progressively enlarging neck mass. The patient reported a 20-year history of goiter with rapid growth over the last year. She presented to the emergency department with dyspnea, and physical examination revealed a firm 10 cm right-sided cervical mass (Figure 1). Imaging studies, including chest radiography and computed tomography, demonstrated significant tracheal deviation (Figure 2). Thyroid function tests were within normal limits. Airway assessment revealed Mallampati IV and anticipated difficult airway. Because dyspnea worsened in the supine position, a semi-sitting position was used. Preparation included videolaryngoscope, bougie, stylet, airway adjuncts, and various endotracheal tube sizes. The plan was awake intubation under sedoanalgesia (1mg midazolam, 70 mg ketamine, 50 mg lidocaine) while maintaining spontaneous respiration.

RESULTS

After 4 minutes of preoxygenation, awake videolaryngoscopic intubation was attempted. The first attempt was unsuccessful due to distorted airway anatomy. A second attempt was successfully performed using a bougie-assisted technique, and a 6.5 mm spiral endotracheal tube was placed. During intubation, manual external elevation of the thyroid mass improved airway patency and visualization. The surgical procedure, total thyroidectomy, lasted approximately five hours and was completed without intraoperative complications. Due to the risk of tracheomalacia from prolonged tracheal compression, controlled extubation was performed. The patient was transferred to the intensive care unit for close postoperative monitoring and observed for one day without respiratory compromise. She was then transferred to the ward in stable condition. Histopathological examination of the resected specimen revealed papillary thyroid carcinoma.

CONCLUSIONS

Giant goiter represents a challenging airway condition requiring meticulous preoperative evaluation and planning. Preservation of spontaneous respiration, appropriate patient positioning, and readiness for alternative airway techniques are essential for safe intubation. Awake intubation with sedoanalgesia and use of adjuncts such as bougie can significantly improve success in difficult airway scenarios. This case highlights the importance of a multidisciplinary approach and adherence to difficult airway algorithms to ensure safe perioperative management and favorable outcomes in patients with severe tracheal compression due to giant goiter.

KEYWORDS

Giant goiter, difficult airway, awake intubation, tracheal compression, bougie, videolaryngoscopy, thyroid carcinoma

PP-272

Primary Laryngeal Melanoma: A Clinical Case Report

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BACKGROUND & AIM

Mucosal melanoma represents only 1.4% of all melanoma cases. When it affects the head and neck region, it is most frequently located in the nasal mucosa, sinuses, and oral cavity. Primary involvement of the larynx is extremely rare and is scarcely described in the literature. The rate of distant metastasis in these cases can reach 49% and constitutes the main prognostic factor associated with survival.

MATERIAL & METHODS

We present a clinical case description and related literature review.

RESULTS

We report a case of a 50-year-old man presenting with hoarseness and intermittent dyspnea, found to have a pedunculated laryngeal lesion with hyperpigmented plaques. No other cutaneous or mucosal lesions were identified. Biopsy confirmed the diagnosis of primary laryngeal melanoma. Staging with CT and full-body FDG-PET revealed bilateral pulmonary metastases. The patient was treated with palliative systemic immunotherapy using nivolumab and ipilimumab and continues maintenance therapy with nivolumab.

CONCLUSIONS

This case illustrates the diagnostic and therapeutic challenges of primary laryngeal melanoma. Proper staging is essential to rule out other primary sites and guide management. Each reported case contributes valuable insights into prognosis, clinical behavior, and optimal management strategies for this rare disease.

KEYWORDS

mucosal melanoma, larynx tumor, head and neck melanoma

PP-273

Intravagal Parathyroid Adenoma Mimicking A Vagal Schwannoma: A Rare Diagnostic Pitfall

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BACKGROUND & AIM

Ectopic parathyroid glands occur in approximately 16% of cases of primary hyperparathyroidism, but intravagal localization is among the rarest forms. This type of ectopia is uncommon, with fewer than 25 cases reported. These adenomas pose diagnostic and surgical challenges, as they are often mistaken for more common carotid sheath tumors, such as neuroendocrine tumors and paragangliomas.

MATERIAL & METHODS

A 53-year-old male presented with a slowly enlarging right-sided neck mass over the past year. Laboratory tests showed hypercalcemia (calcium 11.1 mg/dL) and elevated parathyroid hormone (PTH 123 ng/L).

MRI showed a 10x10 mm, T2-hyperintense, solid lesion at the right level III, suggesting a vagal schwannoma. CT angiography identified a vascular mass posterior to the common carotid artery, suggesting a glomus vagale. Ga-68 DOTATATE PET demonstrated mild uptake in the level 3 mass (SUVmax: 2.9).

The patient underwent neck exploration with frozen section. A carotid sheath mass expanding the vagus fibers, mimicking a schwannoma, was identified. It was enucleated by microdissection without damage to vagus fibers. Frozen section indicated a benign lesion, and dissection was halted.

Histopathology confirmed a hypercellular parathyroid adenoma. Postoperatively, calcium and PTH levels normalized. Although the vagus nerve was preserved, right vocal cord paralysis occurred on the first postoperative day and completely resolved by the six-month follow-up.

RESULTS

Intravagal parathyroid adenomas (IVPA) are a rare manifestation of primary hyperparathyroidism. During embryogenesis, parathyroid tissue from the 3rd and 4th pharyngeal pouches can become entrapped within the vagus nerve as it descends.

Standard modalities such as MRI and CT often misidentify these lesions because their fusiform appearance within the carotid sheath is nearly identical to that of a schwannoma. Even if the tumor is dissected from the nerve, temporary vocal cord paralysis should be considered a treatment-related complication of these lesions.

CONCLUSIONS

Intravagal parathyroid adenomas within the carotid sheath can mimic more common neurogenic tumors and paragangliomas. Clinicians should consider IVPA in the differential diagnosis of carotid sheath masses, particularly in patients with concomitant hypercalcaemia.

KEYWORDS

Intravagal, carotid sheath, schwannoma, ectopic parathyroid, hyperparathyroidism

PP-274

A Rare Case Of A Giant Salivary Duct Carcinoma Ex Pleomorphic Adenoma Of The Submandibular Gland

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BACKGROUND & AIM

Primary salivary duct carcinoma ex pleomorphic adenoma is a rare malignancy of the head and neck region with the parotid gland accounting for 88% of cases. It usually arises from a primary or recurrent benign pleomorphic adenoma. A case of an extremely large in size tumor of the submandibular gland is presented.

MATERIAL & METHODS

A 42-year-old male was referred to the otolaryngology clinic for an enlarging left-sided and present for 20 years mass occupying the parotid and submandibular area. Clinical examination was notable for a firm, multilobulated, painless exophytic mass without accompanying symptoms. There was no palpable lymphadenopathy and fiberoptic examination of the pharynx and larynx showed no abnormality. CT with contrast revealed a 15 × 10× 12 cm heterogeneously enhancing, well-circumscribed soft tissue mass impinging on surrounding structures in the left submandibular gland. A partial parodicectomy with preservation of the labial branch of the facial nerve, excision of the submandibular gland, tumor resection and plastic reconstruction of the skin was performed. Histopathologic examination revealed a salivary duct carcinoma ex pleomorphic adenoma. The pathologic staging was determined to be T4N0M0. The patient underwent adjuvant radiotherapy.

RESULTS

Two years after completion of radiation therapy, during follow - up a PET/CT scan was performed where a solitary pulmonary metastasis was found and surgically removed. Three years postoperatively the patient presents no signs of recurrent or new disease.

CONCLUSIONS

Primary salivary duct carcinoma ex pleomorphic adenoma often poses a diagnostic and therapeutic challenge to clinicians and pathologists. A high index of suspicion is required especially for rapidly growing lesions that have been present for many years. Given the high rate of lymphatic and distant metastases and the poor prognosis of this rare tumor, multimodality treatment should be considered for locoregional control and optimal patient outcome.

KEYWORDS

Salivary Duct, Carcinoma ex pleomorphic adenoma, Submandibular Gland, Histopathology

PP-275

A Recurrent Preauricular Mass: Epidermoid Cyst Of The Temporal Fossa With Infratemporal Extension

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BACKGROUND & AIM

Epidermoid cysts are benign lesions lined by keratinizing squamous epithelium, most commonly found on the scalp, face, and neck. Involvement of the temporal and infratemporal fossa is rare, and recurrence after incomplete excision can present diagnostic and surgical challenges due to the region's complex anatomy and proximity to critical neurovascular structures. We present a case of a recurrent epidermoid cyst extending from the temporal to the infratemporal fossa, aiming to highlight the diagnostic considerations and surgical management of lesions in this uncommon location.

MATERIAL & METHODS

We report a single case managed at the Department of Otorhinolaryngology–Head and Neck Surgery, Lokman Hekim University, Ankara, Turkey. A 20-year-old male presented with a recurrent left preauricular swelling, having undergone previous excision at the same site. Contrast-enhanced computed tomography (CT) of the facial bones was performed for preoperative planning. The patient underwent surgical excision via a preauricular approach. Intraoperative findings, surgical technique, and final histopathological results were reviewed.

RESULTS

CT demonstrated a well-defined cystic lesion measuring 46×20 mm (41 cc) in the left zygomatic region, with thin internal septa and minimal septal/wall enhancement following contrast administration; no significant bone involvement was noted. On examination, a soft, previously operated lesion was palpated in the subzygomatic region. Intraoperatively, the lesion was confirmed to extend from the temporal fossa into the infratemporal region, deep to the zygomatic arch. The lesion was completely excised via a preauricular approach without complication. Histopathological examination confirmed an epidermoid cyst measuring 6.5×2.3×1 cm, well-circumscribed, with a cyst wall lined by keratinizing squamous epithelium and a stratum granulosum

CONCLUSIONS

This case highlights that epidermoid cysts, though typically benign and superficial, may recur and extend into deeper anatomical spaces such as the infratemporal fossa when incompletely excised. Thorough preoperative imaging assessment and careful intraoperative evaluation are essential for complete excision and prevention of further recurrence, even when the lesion is approached through a relatively superficial preauricular incision.

KEYWORDS

Epidermoid cyst, Temporal fossa, Infratemporal fossa, Recurrence, Preauricular mass

PP-276

Surgical Management Of Base Of Tongue Adenoid Cystic Carcinoma: A Three-Case Series

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BACKGROUND & AIM

Adenoid cystic carcinoma of the base of tongue is an exceptionally rare malignancy characterized by perineural spread, local recurrence, and challenging surgical management. Because evidence is limited and neck management remains controversial, reporting institutional experience is valuable. We aimed to present three surgically treated cases of base of tongue adenoid cystic carcinoma and to discuss their clinicopathological features, surgical strategies, and cervical management in the context of current literature.

MATERIAL & METHODS

We retrospectively reviewed three patients with histopathologically confirmed adenoid cystic carcinoma of the base of tongue treated at a tertiary otolaryngology center. Clinical presentation, endoscopic findings, magnetic resonance imaging and positron emission tomography/computed tomography results, operative approach, pathological risk factors, and early postoperative outcomes were analyzed descriptively. Main outcome measures were tumor extent, perineural and

lymphovascular invasion, margin status, need for additional surgery, and cervical management, including neck dissection when radiologic or clinical suspicion for nodal disease was present.

RESULTS

Three patients aged 60–66 years were treated for base of tongue adenoid cystic carcinoma. Presenting symptoms included throat pain, foreign body sensation, dysphagia, and tongue base fullness. All tumors originated from the base of tongue, and perineural invasion was identified in all cases. One patient had pT4a disease and underwent transoral robotic resection. One patient required salvage extended resection, supraglottic laryngectomy, and bilateral neck dissection because of residual or recurrent disease with suspicious cervical nodes after initial robotic surgery. Another patient underwent neck dissection following robotic tumor resection because of persistent concern for cervical nodal disease. Additional adverse pathological features included muscle or soft tissue invasion, lymphovascular invasion, and positive or close margins. No major early postoperative complication occurred.

CONCLUSIONS

Base of tongue adenoid cystic carcinoma requires individualized multidisciplinary treatment because of its infiltrative behavior and high-risk pathological features. Transoral robotic surgery may provide effective primary resection in selected cases, whereas suspicious cervical disease, residual tumor, or adverse pathology may necessitate additional surgery, including neck dissection. Risk-adapted cervical management and close long-term follow-up appear essential in this rare malignancy.

KEYWORDS

Base of tongue, adenoid cystic carcinoma, transoral robotic surgery, neck dissection, perineural invasion

PP-277

Riedel Thyroiditis Mimicking Malignancy: Diagnostic Failure Resulting In Extensive Surgery And Severe Morbidity

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BACKGROUND & AIM

Riedel thyroiditis (RT) is an extremely rare fibroinflammatory thyroid disease that mimics malignancy due to its locally invasive behavior. When histopathological examination fails to differentiate RT from malignant neoplasms, extensive surgical intervention may become unavoidable. This case report aims to demonstrate the devastating consequences of extensive surgery performed for an undiagnosed RT, including bilateral vocal cord paralysis, Horner syndrome, mediastinal abscess, and a life-threatening tracheo-innominate artery fistula, thereby emphasizing the importance of considering RT in the differential diagnosis of invasive neck masses to avoid unnecessary radical surgical interventions.

MATERIAL & METHODS

A 40-year-old male with no significant medical history was referred to our department with a painless, progressively enlarging right-sided neck mass persisting for one year, with rapid enlargement in the preceding two months. Physical examination revealed a firm 4×5cm mass at the right cervical level 3-4. Laboratory investigations, including thyroid function tests and IgG4 levels, were within normal limits. MRI demonstrated a 38×40×107 mm solid mass encasing the right common carotid and subclavian arteries, extending from the carotid bifurcation to the retrosternal area with heterogeneous contrast enhancement. PET-CT revealed intense FDG uptake suggestive of malignancy. Three sequential biopsy attempts — fine-needle aspirations , tru-cut, and incisional biopsy — all yielded inconclusive results, reporting an inflammatory mesenchymal neoplasm in which malignancy could not be excluded. Given persistent diagnostic uncertainty and high clinical suspicion of malignancy, extensive surgical resection was performed by a multidisciplinary team comprising otolaryngology, cardiovascular surgery, and thoracic surgery

RESULTS

Intraoperatively, the mass encased the carotid artery, internal jugular vein, and innominate vessels in a 360-degree manner, extending from the neck to the aortic arch and the right lung apex. The mass was excised along with the right thyroid lobe and isthmus, requiring meticulous dissection from major vascular structures by cardiovascular and thoracic surgery teams. The postoperative course was severely complicated: the patient failed extubation, necessitating tracheotomy on day4. Bilateral vocal cord paralysis and right-sided Horner syndrome were identified. On postoperative day26, a mediastinal abscess with sternal osteomyelitis and pericardial effusion developed, requiring pericardiocentesis and wound debridement. On day 40, a life-threatening tracheo-innominate artery fistula caused massive hemorrhage necessitating emergency cardiopulmonary resuscitation and vascular repair. Subsequent stent occlusion required additional emergency surgery. Pectoralis major flap reconstruction and medialization laryngoplasty were performed. Final pathology revealed obliterative phlebitis and storiform fibrosis consistent with Riedel thyroiditis, with elevated IgG1 and normal IgG4 levels.

CONCLUSIONS

This case demonstrates that RT can lead to catastrophic outcomes when indistinguishable from malignancy. Imaging findings suggestive of malignancy, normal IgG4 levels providing no diagnostic clue for IgG4-related disease, and inconclusive pathology from multiple biopsies collectively necessitated extensive resection, resulting in life-threatening complications. Clinicians

should be aware that RT may present with normal IgG4 levels and imaging features mimicking malignancy. When multiple biopsies fail to establish a definitive diagnosis of an invasive neck mass, RT should be considered to avoid unnecessary radical surgery and its devastating consequences.

KEYWORDS

Riedel thyroiditis, fibroinflammatory disease, diagnostic challenge, tracheo-innominate fistula, IgG4-related disease, surgical complications

PP-278

Odontojenik Bir Kisti Taklit Eden Maksiller İntraosseöz Skuamöz Hücreli Karsinom: Nadir Bir Tanısal Tuzak

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BACKGROUND & AIM

Squamous cell carcinoma (SCC) of the maxillary gingiva and alveolar region may present with nonspecific dental symptoms and may mimic benign odontogenic lesions. Alveolar and gingival lesions require careful histopathological correlation, particularly when radiological findings demonstrate soft-tissue extension or cortical bone destruction. This case emphasizes the diagnostic value of pathology review, cross-sectional imaging, and multidisciplinary surgical reconstruction in a maxillary intraosseous SCC mimic an odontogenic cyst.

MATERIAL & METHODS

A 55-year-old female patient was referred to our department after cystic lesion excision initially diagnosed as an odontogenic cyst, with histopathology revealing maxillary intraosseous squamous cell carcinoma. Computed tomography demonstrated a defect in the right maxilla, likely related to extraction of an ectopic supernumerary tooth. An additional soft-tissue lesion measuring approximately 16 mm was identified anterior to the defect. The lesion was located around the roots of teeth 11, 12, and 21, extended to the gingiva, and caused cortical erosion on both buccal and palatal sides. Reactive sclerosis was observed in the adjacent palatal bone. Magnetic resonance imaging showed a 15 × 12 mm paramedian maxillary mass at the level of the incisor roots, with diffusion restriction and predominantly peripheral heterogeneous enhancement. Right submandibular and level IIA lymph nodes were subcentimetric, with suspected mild pericapsular irregularity on T2-weighted images.

RESULTS

After multidisciplinary evaluation, the patient underwent maxillectomy together with the plastic surgery team. The surgical defect was reconstructed using a nasolabial flap. Postoperatively, the patient was referred to the Department of Radiation Oncology for evaluation of adjuvant radiotherapy. Given that the histopathological examination revealed a clearance of 1 mm at the superior and posterior surgical margins, the patient subsequently underwent adjuvant radiotherapy. The patient remains under ongoing clinical and oncological surveillance.

CONCLUSIONS

Maxillary intraosseous SCC may clinically resemble odontogenic cystic lesions, especially after dental extraction. Repeat histopathological examination, detailed CT and MRI evaluation, and coordinated surgical management are crucial for accurate diagnosis, oncological clearance, and functional reconstruction.

KEYWORDS

Maxillary intraosseous squamous cell carcinoma; Odontogenic cyst; Maxillectomy; Nasolabial flap; Alveolar carcinoma; Oral cavity cancer

PP-279

Submandibular Ectopic Thyroid Presenting As Suspected Malignant Lymphadenopathy

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BACKGROUND & AIM

Submandibular ectopic thyroid is a rare but clinically significant cause of lateral cervical mass and may closely mimic malignant lymphadenopathy on cross-sectional imaging. Diagnostic misinterpretation is critical when the ectopic tissue represents the sole functioning thyroid gland. In such cases, surgical excision can lead to procedure-related morbidities such as lifelong thyroid hormone replacement therapy.

MATERIAL & METHODS

We report a 52-year-old woman with a five-year history of a progressively enlarging left submandibular mass. Ultrasonography demonstrated a heterogeneous vascular lesion and absence of orthotopic thyroid tissue. Despite clear sonographic absence of orthotopic thyroid tissue, contrast-enhanced magnetic resonance imaging suggested malignant nodal disease. Cytologic evaluation revealed thyrocytes. Technetium-99m scintigraphy demonstrated radiotracer uptake confined to the submandibular region, confirming complete functional dependence on the ectopic gland.

RESULTS

Thyroid function tests were within normal limits. Owing to persistent suspicion for malignancy and substantial lesion size, transcervical excision was performed. Histopathology confirmed ectopic thyroid tissue with focal chronic lymphocytic thyroiditis. Postoperatively, marginal mandibular nerve dysfunction developed and persisted at the 6-month follow-up, with no complete functional recovery, highlighting the significant neurovascular risks associated with surgical management in this anatomically constrained region.

CONCLUSIONS

This case highlights the dual diagnostic and therapeutic challenge of isolated submandibular ectopic thyroid: morphologic imaging alone may misdirect oncologic algorithms, and operative intervention carries both endocrine and marginal mandibular nerve morbidity. Functional imaging is essential in the evaluation of neck masses to confirm functioning thyroid tissue when orthotopic thyroid is absent.

KEYWORDS

Submandibular ectopic thyroid, lateral cervical mass, differential diagnosis of neck mass

PP-280

When A Submandibular Mass Is Not What It Seems: A Case Report Of An Adult Extracardiac Rhabdomyoma

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BACKGROUND & AIM

Adult Extracardiac Rhabdomyoma (AER) is an exceptionally rare benign mesenchymal neoplasm derived from striated muscle, representing less than 2% of all muscle-origin tumors. Approximately 90% of these cases are localized in the head and neck region, with a postulated origin from the third and fourth branchial arches. Given its scarcity, it is frequently excluded from the initial differential diagnosis of cervical masses. The aim of this study is to report a rare submandibular presentation of AER, emphasizing the diagnostic complexity and the surgical importance of preserving noble structures in the submaxillary cell.

MATERIAL & METHODS

We report a case of a 57-year-old male, with a history of tobacco and alcohol consumption, presented with a six-month history of a painless left submandibular mass that became symptomatic recently. Physical examination revealed a mobile, non-adherent volume increase in the submaxillary region with a patent Wharton's duct. The diagnostic protocol included Computed Tomography (CT), Magnetic Resonance Imaging (MRI), and ultrasound-guided Core Needle Biopsy (CNB). Total surgical excision was performed under general anesthesia via an external submandibular approach, with careful dissection of the adjacent neurovascular elements.

RESULTS

Radiological assessment via CT and MRI demonstrated a 3.8 cm well-defined hyperenhancing mass occupying the submaxillary and sublingual spaces. The defining histopathological finding was the presence of pathognomonic "spider cells"—large polygonal cells with vacuolated cytoplasm and transverse striations-. Immunohistochemistry was positive for desmin and negative for S100 and caldesmon. Complete surgical removal was achieved, sparing the submandibular gland and successfully preserving the lingual, hypoglossal, and marginal mandibular nerves. No recurrence has been observed during 12 months of follow-up

CONCLUSIONS

AER is a critical differential diagnosis for cervical masses, including pleomorphic adenomas or granular cell tumors. The identification of "spider cells" is key to the diagnosis. Total surgical excision is often curative, offering an excellent long-term prognosis

KEYWORDS

Adult Extracardiac Rhabdomyoma, Submandibular Region, Head and Neck Neoplasms, Spider Cells

PP-281

Jugular Venous Tumor Thrombus In Oncocytic Thyroid Carcinoma: A Case Report

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BACKGROUND & AIM

Oncocytic (Hürthle cell) thyroid carcinoma is a rare and potentially aggressive subtype of differentiated thyroid cancer with a marked tendency for vascular invasion and distant metastasis. Intraluminal tumor thrombus in major cervical veins such as the internal jugular vein is extremely rare and presents significant diagnostic and surgical challenges.

MATERIAL & METHODS

A 70-year-old male presented with progressive neck swelling. Physical examination revealed no palpable lymphadenopathy, and vocal cord mobility was intact. Neck ultrasonography and contrast-enhanced CT demonstrated a markedly enlarged left thyroid lobe causing rightward tracheal deviation (Figure 1). Fine-needle aspiration biopsy was Bethesda category IV, and total thyroidectomy was performed. Histopathology revealed oncocytic carcinoma measuring 8.5 × 5 × 5.5 cm. Postoperative thoracic CT showed an 18 mm pulmonary nodule suspicious for metastasis. PET/CT demonstrated intense FDG uptake (SUVmax: 35.2) along a 5 cm segment of the left internal jugular vein, consistent with tumor thrombus (Figure 2). Doppler ultrasonography confirmed an intraluminal lesion with partial flow. The patient underwent left lateral neck dissection with partial resection of the internal jugular vein. Tumor thrombus was resected en bloc (Figure 3A–B).

RESULTS

Histopathological examination confirmed oncocytic carcinoma with intraluminal venous tumor thrombus. Radioactive iodine therapy was initiated following multidisciplinary evaluation.

CONCLUSIONS

Tumor thrombus within the internal jugular vein, although rare, should be considered in patients with differentiated thyroid carcinoma and suspicious vascular findings. Multimodal imaging plays a key role in diagnosis and surgical planning. Early recognition and appropriate management may improve oncologic outcomes

KEYWORDS

Oncocytic thyroid carcinoma; tumor thrombus; internal jugular vein; vascular invasion; thyroid cancer

PP-282

Inflammatory Carotid Pseudotumor: A Rare Differential Of A Unilateral Neck Swelling

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BACKGROUND & AIM

Inflammatory pseudotumors of the carotid sheath are exceedingly rare entities. Their Diagnosis is often challenging and management depends on the extent of disease.

Objectives:

This study aims to evaluate the diagnostic and therapeutic challenges associated with Inflammatory pseudotumor of carotid artery.

MATERIAL & METHODS

A case report about a patient diagnosted with an Inflammatory carotid pseudotumor

RESULTS

A 46-year-old male patient with a medical history of hypertension presented with a twenty-day history of a painful lateral cervical swelling, associated with local and general inflammatory signs suggestive of cervical cellulitis and dysphonia appeared after one month of progression.

Clinical examination revealed a firm tender right cervical mass. Nasofibroscopy found a right vocal cord palsy. CT of the neck demonstrated a well-circumscribed hypodense cervical mass, exhibiting progressive post-contrast enhancement. The lesion shows circumferential encasement of the right common carotid artery as well as the internal and external carotid arteries, with mass effect. On MRI, the lesion demonstrated high signal intensity on T2-weighted sequences, associated diffusion restriction, and homogeneous delayed post-contrast enhancement. CTguided biopsy was suggestive of a vagal nerve schwannoma. After surgical excision, pathological examination concluded to an inflammatory pseudotumor. The postoperative course was favorable but with definitive right vagus nerve palsy. The patient underwent speech therapy rehabilitation.

CONCLUSIONS

Inflammatory pseudotumor of the carotid sheet is a rare tumour that is uncommonly detected through cervical cellulitis. Imaging plays a key role in diagnosis and treatment planning. Management is based on initial treatment of the infection, followed by careful surgical removal to preserve nerve function.

KEYWORDS

Pseudotumor, swelling, neck, dysphonia

PP-283

HYALINIZING CLEAR CELL CARCINOMA AT THE BASE OF THE TONGUE: A RARE CASE REPORT

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BACKGROUND & AIM

Hyalinizing clear cell carcinoma (HCCC) is a rare, low-grade malignant salivary gland tumor originating mostly from minor salivary glands in the oral cavity. While the diagnosis is made histopathologically; it is characterized by glycogen-rich clear cells and hyalinized stromal architecture, and generally shows mucin-negative features. Although it usually has an indolent course, local recurrence and, rarely, regional metastasis have been reported.

In this case report, we aimed to discuss the clinical, radiological, and surgical features of a rare HCCC case located at the base of the tongue by presenting it.

MATERIAL & METHODS

A 29 year old female patient presented with a six month history of swelling at the base of the tongue. Endoscopic examination revealed a smooth-surfaced lesion approximately 1 cm in diameter on the right lateral tongue base (Figure 1). Magnetic resonance imaging demonstrated a 1 cm nodular lesion that was hypointense on T1, hyperintense on T2, and contrast-enhancing (Figure 2A–B).

The patient underwent transoral subtotal excision under general anesthesia using a coblator assisted by a 70° endoscope. Histopathological examination revealed a 1.5 × 1 cm tumor with positive peripheral and deep surgical margins. The findings were consistent with HCCC of minor salivary gland origin.

Postoperative positron emission tomography-computed tomography (PET-CT) showed no significant pathological findings (Figure 3). Because of the positive surgical margins, advanced treatment options including transoral robotic surgery and open surgical approaches were recommended to the patient.

RESULTS

The diagnostic approach can be difficult in small, smooth-surfaced, and submucosal lesions observed at the base of the tongue. In the presented case, the young age of the patient, the long asymptomatic course of the lesion, and its radiologically well-circumscribed appearance suggested benign lesions in the preliminary diagnosis.

The clinical and radiological findings of HCCC are not specific. Therefore, the definitive diagnosis is made by histopathological examination. Differential diagnosis, especially with other clear cell-containing neoplasms, is important.

Although this tumor generally exhibits a low-grade course, surgical margin positivity is important in terms of local recurrence. Therefore, transoral robotic surgery can be an important alternative in selected cases as it provides better vision and surgical control.

CONCLUSIONS

HCCC, despite being rare, should be evaluated in the differential diagnosis of submucosal masses located at the base of the tongue. Accurate histopathological diagnosis and an appropriate surgical approach are of great importance for successful treatment. Increasing the awareness of this rare tumor will contribute to early diagnosis and appropriate treatment planning.

KEYWORDS

Hyalinizing clear cell carcinoma, minor salivary gland tumor, base of tongue, oropharynx

PP-284

Salivary Gland-Type Nasopharyngeal Adenocarcinoma: A Rare Case With Extensive Skull Base And Perineural Involvement

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BACKGROUND & AIM

Salivary gland-type nasopharyngeal adenocarcinoma is an extremely rare malignant tumor arising from minor salivary glands of the nasopharynx. In contrast to more common nasopharyngeal carcinomas, these tumors often present with non-specific symptoms and may demonstrate perineural spread and skull base invasion, leading to diagnostic challenges. Due to their rarity, optimal management strategies are largely based on limited case reports. This study aims to present a rare case of salivary gland-type nasopharyngeal adenocarcinoma and to highlight its clinical, radiological, and therapeutic characteristics.

MATERIAL & METHODS

A patient diagnosed with histopathologically and immunohistochemically confirmed salivary gland-type nasopharyngeal adenocarcinoma was retrospectively evaluated at a tertiary referral center. Clinical presentation, radiological findings, histopathological features, treatment approach, and early outcomes were analyzed.

Main outcome measures included:

- Tumor extent and local invasion
- Presence of perineural spread
- Response to systemic therapy
- Resectability
- Multidisciplinary treatment outcomes

RESULTS

A 56-year-old male patient presented with facial numbness, nasal obstruction, and headache. Imaging revealed an infiltrative nasopharyngeal mass extending to the skull base, pterygopalatine fossa, and parapharyngeal space, with bony destruction and perineural spread along the trigeminal nerve. Histopathological evaluation confirmed salivary gland-type adenocarcinoma. The disease was classified as locally advanced without distant metastasis. Induction chemotherapy with cisplatin and gemcitabine resulted in partial radiological regression. Treatment-related toxicity was managed with supportive therapy. Surgical resection was not considered feasible due to extensive skull base invasion. The patient was subsequently referred for definitive radiotherapy. A multimodal treatment strategy was implemented for disease control.

CONCLUSIONS

Salivary gland-type nasopharyngeal adenocarcinoma is a rare entity that should be considered in the differential diagnosis of nasopharyngeal masses. Perineural spread and skull base invasion are important indicators of its aggressive behavior. This case highlights the importance of recognizing this rare tumor subtype and emphasizes the role of a multidisciplinary, multimodal treatment approach.

KEYWORDS

Nasopharyngeal adenocarcinoma, Salivary gland-type carcinoma, Skull base invasion, Perineural spread, Trigeminal nerve involvement, Locally advanced disease, Nasopharyngeal mass, Facial numbness, Nasal obstruction, Pterygopalatine fossa, Parapharyngeal space, Bony destruction, Histopathology, Immunohistochemistry

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Oral Cavity Metastasis From Colorectal Adenocarcinoma In A Patient With Multimodal Treatment History: A Rare Presentation

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[1]*ANKARA ETLİK ŞEHİR HASTANESİ*

BACKGROUND & AIM

Metastatic tumors in the oral cavity originating from the colon are rare, and the number of relevant clinical studies is limited [1].Colorectal cancer is the third most common malignancy worldwide. Approximately 22% of patients with colorectal cancer present with distant metastasis at the time of initial diagnosis, and nearly half of the remaining patients develop metastases during the course of the disease, most commonly to the liver [2]. In contrast, metastasis of malignant tumors to the oral cavity is rare, accounting for less than 1% of all oral malignant lesions reported in the literature [3].

MATERIAL & METHODS

This is a single case report. Clinical, radiological (CT, PET), and histopathological data were retrospectively evaluated. Diagnosis was confirmed by histopathological and immunohistochemical analyses. The patient's clinical course and treatment history were reviewed, and informed consent was obtained.

RESULTS

Metastatic adenocarcinoma from the colon to the oral cavity are rare but should be included in the differential diagnosis of tumors in the oral cavity [2]. Representing less than 1% of oral malignancies, and are often associated with advanced systemic disease and poor prognosis [4–6]. Colorectal adenocarcinoma typically metastasizes to the liver and lungs, while oral involvement is uncommon and may indicate aggressive tumor behavior [2,4]. Clinically, these lesions can mimic benign conditions, leading to delayed diagnosis [3,5]. This case highlights the importance of considering metastatic disease in unusual oral lesions, especially in patients with a known malignancy.

CONCLUSIONS

Metastatic adenocarcinoma from the colon to the oral cavity are rare but should be included in the differential diagnosis of tumors in the oral cavity [2]. Representing less than 1% of oral malignancies, and are often associated with advanced systemic disease and poor prognosis [4–6]. Colorectal adenocarcinoma typically metastasizes to the liver and lungs, while oral involvement is uncommon and may indicate aggressive tumor behavior [2,4]. Clinically, these lesions can mimic benign conditions, leading to delayed diagnosis [3,5]. This case highlights the importance of considering metastatic disease in unusual oral lesions, especially in patients with a known malignancy.

KEYWORDS

Adenocarcinoma,Oral cavity, Neoplasm metastasis,Colon cancer;

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Partial Laryngectomy For Adult Laryngeal Pleomorphic Rhabdomyosarcoma

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BACKGROUND & AIM

Rhabdomyosarcoma is a malignant mesenchymal tumor of childhood and is exceptionally rare in the adult larynx. Only a limited number of adult laryngeal rhabdomyosarcoma cases have been reported in the literature. Therefore, the biological behavior of this tumor remains poorly understood, and the optimal treatment approach has not yet been clearly established. Total laryngectomy has been preferred in most reported cases. This case report aims to present the oncological and functional outcomes of supracricoid laryngectomy in a patient diagnosed with pleomorphic rhabdomyosarcoma.

MATERIAL & METHODS

A 66-year-old male patient presented with a two-year history of hoarseness. Endoscopic examination revealed a submucosal mass lesion filling the left ventricle and ventricular band, causing medialization of the left vocal cord. Magnetic resonance imaging of the neck demonstrated an approximately 35×30×23 mm mass involving the left paraglottic space, extending to the aryepiglottic fold and piriform sinus, with full-thickness invasion of the thyroid cartilage. Direct laryngoscopic biopsy and immunohistochemical analysis confirmed the diagnosis of pleomorphic rhabdomyosarcoma. The patient underwent supracricoid laryngectomy and bilateral neck dissection at levels II–IV.

RESULTS

No severe aspiration or persistent dysphagia was observed in the postoperative period. The patient was able to maintain oral feeding. During the three-year follow-up period, no local recurrence or distant metastasis was detected. Functional and oncological outcomes were considered satisfactory.

CONCLUSIONS

Adult laryngeal pleomorphic rhabdomyosarcoma is an extremely rare and aggressive malignancy, with only a limited number of cases reported in the literature. This case is important as it demonstrates that supracricoid laryngectomy, as a partial laryngectomy, can be a feasible and oncologically safe alternative to total laryngectomy in selected patients, even in the presence of thyroid cartilage invasion.

KEYWORDS

rhabdomyosarcoma, laryngeal sarcoma , laryngectomy , laryngeal carcinoma

PP-287

Is Contralateral Neck Dissection Necessary In Cn0 Supraglottic Carcinoma? Reconsidering The Surgical Extent In The Era Of Modern Imaging

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BACKGROUND & AIM

Despite significant advances in radiologic imaging, the optimal management of the clinically N0 neck (cN0) in supraglottic laryngeal carcinoma remains controversial. Bilateral neck dissection is frequently performed due to concerns regarding occult contralateral metastasis. However, this approach may represent overtreatment in selected patients. This study evaluates whether elective contralateral neck dissection is truly necessary in well-defined tumor subgroups.

MATERIAL & METHODS

We retrospectively analyzed 50 consecutive patients (5 females, 45 males; mean age 60.0 ± 6.9 years) with cN0 supraglottic squamous cell carcinoma who underwent partial or total laryngectomy with bilateral neck dissection between 2015-2025 at our tertiary referral center. Preoperative staging PET-CT scans were analyzed for nodal involment. Tumors were categorized according to midline involvement: Group A: Completely lateralized tumors without midline involvement (n=2) Group B: Tumors involving the midline (n=25) Group C: Tumors crossing the midline into the contralateral hemilarynx (n=23). Presence of pyriform sinus extension was also recorded.

RESULTS

Pathologic nodal metastasis (pN+) was detected in 16 patients (32%). Contralateral cervical metastasis occurred in 5 patients (10% overall; 31.3% of pN+ cases). No contralateral metastasis was observed in completely lateralized tumors (Group A). Among patients with contralateral metastasis, 3 (60%) were in Group B and 2 (40%) were in Group C. Pyriform sinus extension was present in 3 patients; 2 of these (66.7%) developed contralateral metastasis.

CONCLUSIONS

In PET-evaluated cN0 supraglottic carcinomas, especially lateralized tumors without pyriform sinus extension, contralateral neck dissection appears unnecessary and may represent overtreatment. A tailored surgical strategy based on tumor lateralization and subsite involvement may safely reduce surgical morbidity without compromising oncologic safety.

KEYWORDS

contralateral metastasis, contralateral neck dissection , midline involvement , PET imaging, supraglottic laryngeal carcinoma

PP-288

Atypical Presentations Of Thyroid Carcinoma: Malignant Struma Ovarii And A Thyroid Carcinoma Mimicking A Ranula

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BACKGROUND & AIM

Our aim is to educate the surgical community about atypical presentations of thyroid carcinoma through two cases to prevent delay in diagnosis and management.

MATERIAL & METHODS

Case 1: A 71-year-old lady with background of treated diffuse B-cell lymphoma and renal transplant presented with pelvic mass and raised CA125. Initial biopsy suggested mesonephric carcinoma of her right ovary however histology following right salpingo-oophorectomy suggested struma ovarii with features of thyroid follicular carcinoma. Subsequent thyroid fine-needle aspiration suggested benign. After multidisciplinary team and oncology national forum discussions, total thyroidectomy followed by radioactive iodine was performed. Thyroid histology revealed benign thyroid tissue with hyperplastic nodule and colloid cysts.

RESULTS

Case 2: A 30-years-old female presented with right level I-III neck swelling, trismus, and raised inflammatory markers; initially treated as submandibular sialadenitis. Follow up clinic revealed submucosal floor of mouth mass and ultrasound found a right submental lesion deep to myelohyoid. MRI suggested a plunging ranula. Surgical excision of the cystic lesion and right sublingual gland was performed, and histology suggested ectopic papillary thyroid cancer. Multidisciplinary discussion recommended total thyroidectomy to facilitate radioactive iodine, although thyroid histology was negative.

CONCLUSIONS

Malignant transformation of struma ovarii is rare (5%), with management in the literature up for debate. Total thyroidectomy and radioactive iodine may reduce longer term risk, however pelvic surgery alone may suffice for disease confined to ovary. Long-term follow-up is recommended due to 7.5% recurrence risk at 25 years. Very few cases have been published of thyroglossal duct cyst carcinoma mimicking ranula. While standard treatment involves a Sistrunk procedure and prophylactic total thyroidectomy, management remains a debate. Long-term surveillance is required due to recurrence risk.

KEYWORDS

thyroid cancer, ranula, Malignant Struma Ovarii

PP-289

Safety And Efficacy Of Cetuximab-Docetaxel-Cisplatin In Routine Clinical Practice For Recurrent And/Or First-Line Metastatic Head And Neck Cancer

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BACKGROUND & AIM

Recurrent and/or metastatic head and neck cancer (R/M HNC) is associated with poor prognosis and limited therapeutic options. The EXTREME regimen established platinum-based chemotherapy plus cetuximab as standard first-line treatment in this setting. We aimed to evaluate the efficacy and safety of a biweekly cetuximab-docetaxel-cisplatin regimen in routine clinical practice. We hypothesized that this schedule would provide effective disease control with acceptable toxicity while reducing the burden of weekly treatment administration.

MATERIAL & METHODS

We conducted a retrospective single-center observational study including patients with R/M HNC treated between January 2010 and December 2019 with cetuximab (500 mg/m²), docetaxel (50 mg/m²), and cisplatin (50 mg/m²) administered every two weeks. Clinical data were extracted from medical records. Three patients were lost to follow-up; therefore, 35 patients were evaluable for analysis. Minimum follow-up was 6 months or until death. Outcome measures included objective response rate (ORR), disease control rate (DCR), progression-free survival (PFS), overall survival (OS), and treatment-related toxicity.

RESULTS

Among the 35 patients, 85.7% were male and 91.4% had squamous cell carcinoma. Most patients had stage IV disease (85.7%) and ECOG performance status 1 (94.3%). Distant recurrence was observed in 71.4% of cases, with lung metastases being the most frequent site (76%).

The mean number of treatment cycles was 5.09 (range, 1–8). Treatment-related toxicity occurred in 85.7% of patients, mainly non-hematologic adverse events (88.6%). Cutaneous rash was the most common toxicity (74.3%). Grade 3 toxicity was observed in 31.4% of patients. No treatment-related deaths or treatment discontinuations due to toxicity were reported.

The DCR was 88.2%, and the ORR was 50%, including partial responses in 47.1% and complete responses in 2.9% of patients. Median PFS was 7 months (95% CI, 2.98–11.01), and median OS was 12 months (95% CI, 7.29–16.70).

CONCLUSIONS

The biweekly cetuximab-docetaxel-cisplatin regimen demonstrated clinically meaningful efficacy with a manageable toxicity profile in patients with R/M HNC. This schedule may represent an effective and convenient alternative to weekly cetuximab-based regimens in routine clinical practice.

KEYWORDS

Head and Neck Cancer; EXTREM regim, Recurrent head and neck squamous cell carcinoma, Metastatic disease, Survival Outcomes (PFS and OS)

PP-290

Actinomycosis Of The Anterior Tongue Presenting As A Submucosal Mass- A Case Report

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BACKGROUND & AIM

Actinomycosis is a rare, chronic granulomatous infection caused by filamentous Gram-positive anaerobic bacteria, most commonly Actinomyces israelii. Cervicofacial involvement accounts for approximately 60% of reported cases, whereas lingual localization remains exceedingly rare, representing less than 3% of cases in the literature. Due to its infiltrative growth pattern and mass-forming characteristics, actinomycosis can closely mimic malignant tumors, frequently leading to diagnostic delay and inappropriate management.

MATERIAL & METHODS

A 60-year-old female presented with a four-month history of a progressively enlarging, painless submucosal mass located in the anterior third of the tongue. She reported no history of trauma, recent dental procedures, or immunosuppressive conditions. Physical examination revealed a firm, non-ulcerated lesion with intact mucosa and no associated cervical lymphadenopathy. Magnetic resonance imaging demonstrated a 24×12×15 mm lesion with iso-intensity on T1-weighted images and intermediate-to-high signal intensity on T2-weighted sequences, along with heterogeneous contrast enhancement, raising suspicion for malignancy. Histopathological evaluation revealed submucosal inflammatory infiltration with filamentous bacterial colonies consistent with Actinomyces species, confirming the diagnosis.

RESULTS

Following histopathological confirmation, the patient was initiated on oral amoxicillin-clavulanate therapy due to the high susceptibility of Actinomyces species to beta-lactam antibiotics. During the first two months of treatment, the patient remained clinically stable without disease progression or systemic dissemination. Prolonged antibiotic therapy has demonstrated high cure rates in cervicofacial actinomycosis, often eliminating the need for surgical intervention.

CONCLUSIONS

This case underscores the importance of including actinomycosis in the differential diagnosis of submucosal tongue masses when clinical and radiological findings suggest malignancy. Early histopathological confirmation is essential to avoid misdiagnosis and unnecessary radical surgery. Awareness of this rare entity may facilitate earlier diagnosis and reduce overtreatment. A multidisciplinary approach with adequately prolonged antibiotic therapy enables effective, organ-preserving management. Follow-up should be maintained to ensure complete resolution and prevent recurrence.

KEYWORDS

actinomycosis, beta-lactam antibiotics, tongue

PP-291

Hypopharyngeal Venous Malformation Mimicking Malignancy: A Case Report

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BACKGROUND & AIM

Hypopharyngeal venous malformations are rare and may mimic malignancy on imaging, creating diagnostic and management challenges, particularly when tissue diagnosis is required.

MATERIAL & METHODS

This is a single-patient case report conducted at a tertiary care center. A 61-year-old woman presented with progressive dysphagia and odynophagia. Diagnostic evaluation included contrast-enhanced computed tomography (CT) and flexible laryngoscopy. The primary intervention was direct laryngoscopy with biopsy under general anesthesia. Outcome measures included intraoperative safety (bleeding control, airway stability), histopathological diagnosis, and postoperative clinical course. Descriptive analysis was performed.

RESULTS

Imaging demonstrated a 2.4 × 1.6 × 1.8 cm enhancing lesion involving the left tongue base, aryepiglottic fold, and hypopharynx, with coarse calcifications suggestive of a vascular process but concerning for neoplasia. Endoscopy revealed a compressible, vascular-appearing lesion. Biopsy was successfully performed with topical hemostatic control and no intraoperative or postoperative complications. Histopathology confirmed a venous malformation characterized by dilated vascular channels, intraluminal thrombi, hemosiderin deposition, and phleboliths. No dysplasia or malignancy was identified. The patient remained clinically stable with conservative management at follow-up.

CONCLUSIONS

Hypopharyngeal venous malformations can closely resemble malignancy on imaging, particularly when calcifications and enhancing soft tissue are present. Recognition of key features such as compressibility and phleboliths can improve diagnostic accuracy. This case demonstrates that biopsy can be safely performed in selected patients with appropriate airway planning and hemostatic precautions. However, absence of advanced imaging such as magnetic resonance imaging may limit preoperative diagnostic confidence. Early identification may prevent unnecessary aggressive interventions.

KEYWORDS

hypopharynx, venous malformation, vascular malformation, phlebolith, dysphagia, airway

PP-292

Giant Invasive Prolactinoma Of The Skull Base Mimicking A Nasopharyngeal Neuroendocrine Tumor: A Diagnostic Challenge

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BACKGROUND & AIM

Prolactinomas are the most common pituitary adenomas and typically exhibit benign behavior. However, in rare cases, they may reach a giant size and demonstrate aggressive growth with extension to the skull base and sinonasal structures, mimicking malignant neoplasms. We present a case of a giant prolactinoma with atypical presentation and initial diagnostic uncertainty.

MATERIAL & METHODS

A 75-year-old woman with a history of hypertension, diabetes mellitus, dyslipidemia, obesity, and chronic kidney disease presented with cervical pain, progressive facial edema, and macroglossia without initial airway compromise. ENT examination revealed facial and tongue edema with a patent airway. Nasofibroscopy showed no lesions in the nasopharynx or larynx.

Contrast-enhanced CT demonstrated an infiltrative skull base mass measuring approximately 78 × 70 × 39 mm, involving the sphenoid bone, clivus, and pterygoid processes, with extension into the masticator spaces and maxillary sinus, without cervical lymphadenopathy. An endonasal biopsy was performed via a transnasal approach.

RESULTS

Initial histopathological analysis revealed a grade 1 neuroendocrine tumor, positive for synaptophysin, CD56, and INSM1, and negative for chromogranin and Epstein–Barr virus. Due to clinicoradiological discordance, extended immunohistochemical analysis was performed, demonstrating prolactin positivity and establishing the diagnosis of prolactinoma.

MRI confirmed a large sellar and parasellar mass measuring up to 7.4 cm, with invasion of the cavernous sinuses, clivus, masticator spaces, and nasopharyngeal cavity, without distant metastases. The patient presented with secondary panhypopituitarism. Treatment with cabergoline was initiated, showing early tumor reduction at 3–4 weeks (maximum diameter decreasing from 7.4 cm to 7 cm) with partial clinical improvement.

CONCLUSIONS

Giant invasive prolactinomas may mimic primary nasopharyngeal or neuroendocrine tumors when presenting with extensive skull base and sinonasal involvement. Clinicoradiological correlation and extended immunohistochemical analysis are essential for accurate diagnosis. Pituitary origin should be considered in aggressive skull base masses, as medical treatment can achieve significant tumor reduction even in advanced stages.

KEYWORDS

Prolactinoma, pituitary, adenoma, skull base

PP-293

From Infection To Tumor: Patient-Specific TMJ Prosthetic Reconstruction Of Complex Mandibular Defects – A Two-Case Series

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BACKGROUND & AIM

Reconstruction of large mandibular defects remains challenging in maxillofacial surgery, particularly in cases associated with bone loss due to infection or tumors. Traditional reconstructive methods are limited by donor site morbidity, unpredictable resorption, and suboptimal anatomical adaptation. Patient-specific temporomandibular joint (TMJ) and mandibular prostheses based on computer-aided design and computer-aided manufacturing (CAD-CAM) technology have emerged as a reliable alternative for complex mandibular reconstructions.

MATERIAL & METHODS

This case series presents two patients with large mandibular defects managed with patient-specific TMJ and mandibular prostheses. The first case involved a 22-year-old female with traumatic mandibular fractures complicated by chronic osteomyelitis following multiple prior surgical interventions. The second case involved a 62-year-old female with an ameloblastoma-associated mandibular defect requiring segmental resection. Both patients underwent reconstruction following detailed radiological assessment and virtual surgical planning using custom-made prostheses.

RESULTS

In Case 1, infected mandibular and temporomandibular joint structures were resected, followed by staged reconstruction with a custom TMJ prosthesis. Postoperatively, the patient demonstrated improved mouth opening, stable occlusion, and transient facial nerve palsy that resolved during follow-up. In Case 2, immediate reconstruction was performed following segmental resection using a custom mandibular prosthesis. Histopathological examination confirmed ameloblastoma. Early postoperative intraoral wound dehiscence occurred, requiring repeated resuturing and planned secondary buccinator flap reconstruction. Functional outcomes were satisfactory in both cases.

CONCLUSIONS

Patient-specific TMJ and mandibular prostheses represent an effective reconstructive option for large mandibular defects secondary to infection and tumor-related conditions. CAD-CAM–based planning enables accurate anatomical restoration and satisfactory functional outcomes. Careful case selection and staged surgical planning are essential, particularly in infection-related cases, to minimize complications and optimize outcomes.

KEYWORDS

Temporomandibular Joint Reconstruction; Mandibular Reconstruction; Custom-Made Prosthesis; Computer-Aided Design; Osteomyelitis; Ameloblastoma

PP-294

A Diagnostic Dilemma: Discordance Between Preoperative Cytology And Final Pathology In A Giant Parapharyngeal-Extending Pleomorphic Adenoma

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BACKGROUND & AIM

Pleomorphic adenoma is the most common benign salivary gland tumor, but deep lobe parotid lesions extending into the parapharyngeal space can pose significant diagnostic and surgical challenges. Fine-needle aspiration biopsy (FNAB), while valuable, carries known limitations in sensitivity and specificity, particularly for deep-seated lesions, and preoperative suspicion of malignancy may influence the extent of surgery performed. We present a case highlighting the discordance between preoperative cytological suspicion of malignancy and final benign histopathology, alongside the surgical management of a large parapharyngeal-extending pleomorphic adenoma without skull base invasion.

MATERIAL & METHODS

We report a single case managed at the Department of Otorhinolaryngology–Head and Neck Surgery, Lokman Hekim University, Ankara, Turkey. An 18-year-old male presented with a left preauricular swelling. Contrast-enhanced magnetic resonance imaging (MRI) demonstrated a deep lobe parotid mass extending into the parapharyngeal space toward the skull base. Ultrasound-guided fine-needle aspiration biopsy (FNAB) was performed. Given cytological suspicion of malignancy, the patient underwent total parotidectomy with facial nerve monitoring (nerve integrity monitor, NIM) and ipsilateral selective neck dissection (levels 2–3). Intraoperative findings, surgical technique, and final histopathological results were reviewed.

RESULTS

MRI revealed a 27×52 mm cystic-necrotic mass in the deep lobe of the left parotid gland, filling the parapharyngeal space, with heterogeneous post-contrast enhancement. FNAB cytology raised suspicion for malignancy (low-grade mucoepidermoid carcinoma versus pleomorphic adenoma). Intraoperatively, the mass showed a well-defined margin without skull base invasion and was safely dissected free from the deep parotid lobe with preservation of facial nerve function throughout, confirmed by continuous NIM monitoring. Final histopathological examination revealed a pleomorphic adenoma measuring 5 cm with a satellite nodule and clear surgical margins. Superficial parotid tissue and one lymph node showed no pathological findings; all four lymph nodes from the neck dissection specimen were reactive, with no evidence of malignancy. The postoperative course was uneventful, with intact facial nerve function and discharge on postoperative day 2.

CONCLUSIONS

This case illustrates the limitations of preoperative FNAB in accurately characterizing deep lobe parotid lesions with parapharyngeal extension, where cytological suspicion of malignancy did not correlate with final benign histopathology. While extensive surgery was performed based on preoperative concern for malignancy, the absence of skull base invasion allowed complete and safe tumor excision with facial nerve preservation. This case underscores the importance of correlating cytological findings with clinical and radiological context, and highlights that even large, deeply extending parapharyngeal masses can be managed successfully through careful surgical planning when skull base invasion is absent.

KEYWORDS

Pleomorphic adenoma, Parapharyngeal space, Parotid gland, Fine-needle aspiration biopsy

PP-295

Chatgpt-4 And Gemini As A Virtual Recovery Guide In Post–Total Thyroidectomy Care: A Real-World Evaluation Of Artificial Intelligence (AI) In Patient Education

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BACKGROUND & AIM

Total thyroidectomy is one of the most common head and neck procedures, requiring patients to have a clear understanding of potential postoperative complications and appropriate postoperative care. However, timely access to medical care can be limited, especially in remote or underserved areas. Integrating advanced artificial intelligence (AI) tools such as ChatGPT-4 and Gemini into postoperative care may help bridge this gap by offering continuous patient education. This study aimed to evaluate the utility of ChatGPT-4 and Gemini in addressing common patient concerns and education following total thyroidectomy.

MATERIAL & METHODS

The five most common postoperative questions following total thyroidectomy were presented to ChatGPT-4 and Gemini. Responses were evaluated by five expert head and neck surgeons based on four criteria: accuracy, clarity, relevance, and response time.

RESULTS

Both AI models demonstrated strong overall performance. ChatGPT-4 and Gemini each achieved an accuracy of 100%, consistent with current clinical guidelines. Clarity scores were 96% for both ChatGPT-4 and Gemini, reflecting generally understandable responses. Relevance scores were high, with ChatGPT-4 at 96% and Gemini at 100%, effectively addressing patient concerns. Both models provided instant responses, earning 100% response time.

CONCLUSIONS

ChatGPT-4 and Gemini demonstrate promise as supportive tools in postoperative care following total thyroidectomy. They provided responses that were accurate, clear, relevant, and timely. Although they cannot replace healthcare professionals, they may serve as valuable adjuncts to patient education, particularly in settings with limited access to care. These findings underscore the emerging role of AI in strengthening postoperative management within head and neck surgery.

KEYWORDS

Thyroidectomy, Thyroid Surgery, Artificial Intelligence, ChatGPT-4, Gemini, Patient Education

PP-296

Primary Maxillary Ewing Sarcoma In A Pediatric Patient: A Case Report

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BACKGROUND & AIM

Ewing Sarcoma (ES) is a highly aggressive, small round blue cell malignancy that primarily affects children and adolescents. While it typically originates in the long bones or pelvis, primary occurrence in the maxillary region is extremely rare. Due to the complex anatomy of the midface, achieving wide surgical margins is a significant challenge. We present the clinical management and multimodal treatment of an 8-year-old male patient with maxillary ES, focusing on the surgical approach and adjuvant therapy outcomes.

MATERIAL & METHODS

An 8-year-old male patient presented with a one-year history of a lesion in the left maxillary region. Histopathological evaluation of the biopsy specimen confirmed the diagnosis of Ewing Sarcoma. On May 21, 2025, the patient underwent an inferior maxillectomy.Detailed pathological mapping of the specimen revealed surgical margins of 0.1 cm at the lateral margin, 0.2 cm at the posterior margin, and 0.5 cm at the medial margin.

Due to the aggressive nature of the tumor and the presence of close surgical margins, the patient received a multimodal adjuvant protocol consisting of 28 fractions of radiotherapy and 14 cycles of chemotherapy.

RESULTS

The intensive adjuvant treatment period, including systemic chemotherapy, was successfully completed in December 2025. During the follow-up period as of April 2026, the patient showed no clinical or radiological evidence of local recurrence or systemic metastasis. The multidisciplinary approach allowed for the successful completion of an aggressive treatment regimen despite the technical challenges of the anatomical site.

CONCLUSIONS

Pediatric maxillary Ewing Sarcoma requires a highly coordinated multimodal treatment strategy. Although achieving wide surgical margins is difficult in the sinonasal region, an inferior maxillectomy combined with robust adjuvant radiotherapy and chemotherapy can provide effective local and systemic control. Close clinical and radiological surveillance is mandatory to monitor for potential recurrence and the long-term functional impact of treatment on facial growth.

KEYWORDS

Ewing sarcoma, maxillary neoplasms, pediatric oncology, inferior maxillectomy, multimodal therapy.

PP-297

Rare Localization Of A Solitary Fibrous Tumor In The Floor Of The Mouth With High Ki-67 Index: Case Report

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BACKGROUND & AIM

Solitary Fibrous Tumor (SFT) is a rare mesenchymal neoplasm, typically pleural in origin. Extra-pleural occurrences, especially in the oral cavity, are exceedingly rare and present diagnostic challenges due to nonspecific clinical features. This report describes an unusual SFT in the floor of the mouth of a young patient, emphasizing its clinico-pathological features and a notably high Ki-67 proliferation index.

MATERIAL & METHODS

A 22-year-old male presented with a painless, 4x3 cm mass in the floor of the mouth for three months. Clinical examination showed a semi-mobile, firm lesion with intact mucosa. Contrast-enhanced MRI demonstrated a 40x30 mm, well-circumscribed, T2 iso-to-hyperintense lesion in the left sublingual space extending toward the tongue base, with intense homogeneous enhancement. The mass was completely excised under general anesthesia, followed by histopathological and immunohistochemical (IHC) analyses, including STAT6 and CD34.

RESULTS

Histopathology revealed spindle cell proliferation in a "patternless pattern" characterized by hypocellular/hypercellular areas with keloid-like collagen and hemangiopericytoma-like vascular structures. IHC analysis showed strong, diffuse positivity for STAT6 and CD34, confirming SFT, while other markers were negative, excluding alternative spindle cell neoplasms. Notably, the Ki-67 proliferation index was 15%, suggesting increased proliferative potential compared to conventional SFTs. Complete surgical resection achieved clear margins, and the patient was scheduled for long-term clinical follow-up.

CONCLUSIONS

Oral SFTs are rare and diagnostically challenging due to clinical nonspecificity and morphological overlap with other neoplasms. Definitive diagnosis relies on precise immunohistochemical profiling, with STAT6 serving as the most specific marker. This case highlights that a 15% Ki-67 index may indicate higher proliferative activity even in benign-appearing cases, necessitating vigilant, long-term surveillance. This case contributes to the limited literature on oral SFTs and underscores the essential role of IHC precision in ensuring diagnostic accuracy and guiding effective management in the head and neck region.

KEYWORDS

Solitary Fibrous Tumor, SFT, Oral Cavity, Ki-67, STAT6

HEARING AIDS

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PP-298

Non-Acceptance Of Hearing Aids: Risk Factors And Intervention Strategies

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BACKGROUND & AIM

Background: Presbycusis significantly affects quality of life by limiting social, professional, and emotional functioning. Despite the availability of modern hearing technologies, some patients delay or refuse recommended amplification. The aim: To examine factors associated with hearing aid rejection to improve rehabilitation strategies.

MATERIAL & METHODS

Methods: A cross-sectional study was conducted on 50 participants (30 women, 20 men) aged ≥45 years with diagnosed presbycusis, for whom unilateral or bilateral amplification was recommended. Data were collected using a structured questionnaire covering sociodemographic characteristics, financial factors, family support, and emotional attitudes toward hearing aid use. Statistical analysis included χ^2 test, Fisher's exact test, Welch's t-test, and multivariate logistic regression, with significance set at $p < 0.05$.

RESULTS

Results: Financial constraints (OR = 6.62; p = 0.008) and lack of family support (OR = 11.13; p = 0.003) were significant predictors of rejection of both hearing aids. Absence of family support was the strongest independent predictor (OR = 13.22; 95% CI: 3.1–56.5; $p < 0.001$). The overall model was statistically significant ($\chi^2 = 21.34$; $p < 0.001$) and explained 48% of the variance (Nagelkerke $R^2 = 0.48$). Psychological burden was higher among participants recommended for two hearing aids.

CONCLUSIONS

Conclusion: Financial barriers and, especially, lack of family support are key determinants of hearing aid rejection. Interventions targeting family involvement and reducing financial obstacles may significantly improve hearing rehabilitation outcomes.

KEYWORDS

hearing aids, presbycusis, family support, financial barriers, hearing rehabilitation, preventive strategies

PP-299

Individualized Hearing Aid Fitting Strategies For Children With Different Degrees Of Hearing Loss

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BACKGROUND & AIM

Hearing impairment of varying severity in children leads to delays in speech and cognitive development. Proper hearing aid fitting, taking into account the degree of hearing loss and individual auditory perception characteristics, is a key stage of auditory–verbal rehabilitation. Of particular importance is the selection of amplification parameters that ensure speech intelligibility without acoustic overload of the auditory system, as well as the preparation of patients with severe hearing loss for possible cochlear implantation.

MATERIAL & METHODS

To investigate the features of hearing aid fitting in children with bilateral sensorineural hearing loss (SNHL) of grades II–IV and to determine optimal amplification parameters for improving speech intelligibility and ensuring comfortable auditory perception.

The study included children aged 6–10 years with bilateral sensorineural hearing loss of grades II–IV. Audiological assessment comprised pure-tone audiometry, tympanometry, auditory brainstem response (ABR), and speech intelligibility testing. Hearing aid fitting was performed using digital behind-the-ear devices. Programming was carried out according to the DSL v5.0 and NAL-NL2 fitting formulas, with verification using real-ear measurements. The main outcome measures were improvement in speech perception thresholds, increased speech intelligibility, and comfortable sound perception without auditory overload.

RESULTS

In a patient with grade II SNHL (right ear – 50 dB, left ear – 55 dB), hearing aid fitting resulted in improved perception of soft and moderate sounds and restoration of speech intelligibility at a comfortable loudness level (Fig. 1). In a patient with grade III SNHL (thresholds 60–70 dB), good speech intelligibility at high sound levels and comfortable perception of everyday sounds were achieved (Fig. 2). In a patient with grade IV SNHL (right ear – 80 dB, left ear – 75 dB), maximum speech audibility and effective loudness control were provided; the patient was recommended for further evaluation for possible cochlear implantation (Fig. 3).

CONCLUSIONS

The results demonstrated that individualized hearing aid fitting based on each child's audiogram and regular follow-up monitoring ensured optimal amplification parameters and stable positive dynamics in auditory and speech development. In audiograms with a steeply sloping configuration, frequency lowering improved access to high-frequency phonemes but required careful calibration to avoid sound distortion. Feedback-related issues were effectively resolved through optimization of earmolds and adjustment of maximum power output (MPO). The best rehabilitation outcomes were achieved through interdisciplinary collaboration involving an audiologist, speech therapist, special education specialist, and parents, which facilitated adaptation and consistent hearing aid use.

KEYWORDS

hearing aid, DSL, speech development,hearing loss,severe

PP-300

Clinical Utility Of REM And 2-Cc Measures In Evaluating Japanese High-Frequency Consonant Perception In Children

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BACKGROUND & AIM

High-frequency audibility is essential in pediatric hearing-aid fitting because perception of Japanese high-frequency consonants depends strongly on access to information around 4k. Real-ear measurement (REM) reflects individual ear acoustics and speech-based audibility, whereas 2-cc coupler measurement is simpler and more reproducible. We hypothesized that REM would be more clinically useful than 2-cc because high-frequency output changes would be visualized more clearly and correspond more closely to speech perception.

MATERIAL & METHODS

Eighteen aided ears from 11 children with bilateral sensorineural hearing loss were studied. Two analyses were performed. In Analysis 1, hearing-aid output was measured by REM using the International Speech Test Signal and by 2-cc coupler using pure-tone sweep input at 50, 65, and 80 dB SPL. For REM, Long-Term Average Speech Spectrum level above threshold was quantified; for 2-cc, output level above threshold was quantified at 250, 500, 1k, 2k, and 4k. In Analysis 2, aided speech perception was tested using Japanese monosyllables containing /ku/, /su/, /te/, /to/, and /ha/. Generalized linear mixed models analyzed consonant perception (0/1), with 4k output level above threshold and measurement method (REM vs 2-cc) as fixed effects and ear as a random intercept.

RESULTS

In Analysis 1, output change with increasing input was greater for REM than for 2-cc across 1–4k, especially at 2k and 4k. At 65 dB input, output level above threshold was lowest at 4k in both methods. In Analysis 2, greater 4k output level above threshold significantly increased correct consonant perception. The interaction between output level and measurement method was not significant, indicating a similar per-dB effect. The main effect of measurement method favored REM for all consonants: /k/ p=0.034, /s/ p=0.022, /t/ in /te/ p=0.055, /t/ in /to/ p=0.035, and /h/ p=0.133. To reach a predicted probability of about 0.8, the 2-cc condition required +8 to +14 dB more output above threshold than the REM condition.

CONCLUSIONS

REM was more useful than 2-cc for evaluating Japanese high-frequency consonant perception in children. Its advantage lay in clearer visualization of high-frequency output changes and closer correspondence to perceptual performance, especially at 4k.

KEYWORDS

pediatric audiology; real-ear measurement; speech perception; Japanese consonants; hearing aid fitting

PP-301

Challenges In Vocal Emotion Recognition Among Children With Hearing Impairments

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BACKGROUND & AIM

Vocal emotion recognition is an area in which children with hearing impairments often underperform compared to their peers with normal hearing. Such difficulties may have long-term consequences for social integration and emotional well-being. This study aimed to examine the ability of children with hearing impairments to identify vocal emotions, compare their performance with that of peers with normal hearing, and assess potential factors influencing this ability.

MATERIAL & METHODS

The study involved 28 children with permanent hearing impairment and a control group of 28 age- and sex-matched peers with normal hearing, resulting in a total sample size of 56. The vocal emotion recognition task consisted of 10 audio recordings produced in standard Lithuanian by a 28-year-old male and a 24-year-old female speaker. Participants were presented with five response options, one of which represented the correct emotion. The target emotions were joy, sadness, fear, anger, and neutrality. Data analysis was conducted using SPSS 29.0 for Windows.

RESULTS

Children with permanent hearing impairment achieved significantly lower accuracy in vocal emotion recognition than their peers with normal hearing (62.81 ± 15.29% vs. 73.45 ± 12.03%; $t(54) = -2.997$, $p = 0.004$, Cohen's $d = -0.768$). Both groups were more accurate when identifying emotions voiced by a female speaker. Across groups, the most easily recognized emotions were joy and anger, whereas fear and sadness were the most difficult to identify. ANOVA revealed that a history of behavioral disorder did not significantly affect emotion recognition ($p > 0.05$), although further research is warranted to explore its potential practical implications.

Additionally, children using hearing aids (HA) scored higher on average than those with cochlear implants (CI), with a mean difference of 7.26% ($p = 0.274$), and a medium effect size (Cohen's $d = 0.476$).

CONCLUSIONS

These findings demonstrate that children with hearing impairments face notable challenges in vocal emotion recognition compared with peers with normal hearing. The speaker's gender and the type of hearing device may have practical relevance. Future research should explore interventions aimed at improving vocal emotion recognition skills in this population.

KEYWORDS

Hearing rehabilitation, hearing aids, cochlear implant, vocal emotion

LARYNGOLOGY

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PP-302

Vocal Cord Schwannoma Mimicking Post-Intubation Granuloma: A Diagnostic Challenge

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BACKGROUND & AIM

Post-intubation granuloma is a common cause of posterior glottic masses in patients with a history of endotracheal intubation. However, not all lesions detected in this setting represent granulomas. Laryngeal schwannomas are rare benign tumors, and involvement of the vocal cord is exceptionally uncommon.

MATERIAL & METHODS

Case Presentation:A 25-year-old woman with a history of septorhinoplasty presented with progressive hoarseness, dyspnea, dysphagia, and globus sensation one year after surgery. A vocal cord mass was incidentally detected during intubation for revision surgery. Given the history of prior intubation, the lesion was initially suspected to be an intubation granuloma. Endoscopic examination revealed a well-circumscribed pedunculated mass arising from the posterior third of the left ventricular fold. The lesion was completely excised via direct laryngoscopy. Histopathological evaluation demonstrated a spindle cell tumor beneath intact squamous mucosa, and immunohistochemical staining was positive for S100, confirming schwannoma.

RESULTS

Endoscopic examination showed a smooth, pedunculated mass arising from the posterior third of the left ventricular fold. Although the patient had a history of prior intubation, the lesion did not have the typical ulcerated or inflammatory appearance expected in an intubation granuloma. Instead, it appeared well-defined and submucosal. The mass was removed completely under direct microlaryngoscopy. Intraoperatively, it was firm and encapsulated, allowing straightforward dissection from the surrounding tissue.

Histopathological evaluation revealed a spindle cell tumor located beneath intact squamous epithelium. Immunohistochemical staining demonstrated strong S100 positivity, confirming the diagnosis of schwannoma. Surgical margins were clear. The postoperative course was uneventful, and the patient reported noticeable improvement in both hoarseness and breathing symptoms during follow-up, with no evidence of recurrence.

CONCLUSIONS

Posterior glottic lesions in patients with a history of intubation are often assumed to be granulomas. However, not every lesion in this setting is inflammatory in nature. When a mass appears well-circumscribed or submucosal, alternative diagnoses should be considered. Vocal cord schwannoma, although rare, can clinically resemble an intubation granuloma and lead to initial misinterpretation. Complete excision and histopathological evaluation remain essential for definitive diagnosis. Maintaining clinical suspicion in atypical cases may help avoid delayed or inappropriate management.

KEYWORDS
Laryngeal shwannoma , Intubation Granuloma , Vocal Cord , Hoarseness

PP-303

Hidden Depths Of Neck Trauma: A Case Of Thyroid Cartilage Fracture With Posterior Pharyngeal Wall And Pyriform Sinus Injury

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BACKGROUND & AIM

Penetrating neck trauma accounts for approximately 5–10% of all traumatic injuries but carries significant morbidity and mortality due to complex cervical anatomy and vital aerodigestive, neural, and vascular structures. Hypopharyngeal injury following penetrating laryngeal trauma is extremely rare but may lead to complications such as deep neck infection and mediastinitis. This report presents a rare case of posterior and lateral hypopharyngeal wall laceration associated with thyroid cartilage fracture.

MATERIAL & METHODS

A 27-year-old male presented to the emergency department after a motorcycle accident with neck pain and subcutaneous crepitation, without stridor. Physical examination revealed a 4 cm full-thickness laceration extending from the midline toward the left side.

Indirect laryngoscopic examination revealed diffuse hemorrhagic changes within the hypopharynx, along with a displaced cartilage fragment in the left piriform sinus. The glottic airway was patent with preserved bilateral vocal cord mobility. Computed tomography confirmed a displaced fracture of the left superior horn of the thyroid cartilage with subcutaneous emphysema.

RESULTS

Emergency tracheotomy followed by neck exploration was performed. Intraoperatively, transection of strap muscles, rupture of the thyrohyoid membrane, and a displaced thyroid cartilage fracture were identified. The cartilage fragment protruded into the hypopharynx and the posterior hypopharyngeal wall was detached from the prevertebral fascia. The mucosal defect was repaired with continuous sutures, and the fracture site was reinforced using strap muscle coverage.

Postoperatively nutrition was provided via a feeding tube, and prophylactic antibiotics were administered. During follow-up, purulent laryngeal discharge was observed, and culture revealed Pseudomonas. Targeted antibiotic therapy resulted in clinical improvement. Oral feeding was initiated on postoperative day 18 and the patient was successfully decannulated.

CONCLUSIONS

Head and neck trauma frequently involves cervical structures. Hypopharyngeal injury following penetrating laryngeal trauma is rare but may lead to serious complications if not recognized early. Careful laryngeal examination and computed tomography play a crucial role in detecting structural injuries and guiding management. Early airway protection and timely surgical repair are essential to prevent life-threatening complications and achieve favorable clinical outcomes.

KEYWORDS
penetrating neck trauma, hypopharyngeal laceration, thyroid cartilage fracture, laryngeal trauma

PP-304

Early Screening Of Dysphagia And Effects Of Graded Rehabilitation Nursing Intervention In Post-Operative Laryngeal Cancer Patients

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BACKGROUND & AIM

To investigate the effectiveness of early dysphagia screening combined with graded rehabilitation nursing intervention in improving swallowing function and quality of life among patients following laryngeal cancer surgery.

MATERIAL & METHODS

A prospective randomized controlled trial was conducted from January 2023 to December 2024 at a tertiary hospital. A total of 120 post-operative laryngeal cancer patients were randomly assigned to either the intervention group (n=60) or the control group (n=60). The intervention group received a graded rehabilitation nursing protocol encompassing oro-motor exercises, compensatory swallowing techniques, dietary texture modification, and progressive oral feeding training tailored to dysphagia severity. The control group received routine post-operative nursing care. Outcomes including swallowing function (assessed by Functional Oral Intake Scale, FOIS), aspiration pneumonia incidence, nutritional status, and Quality of Life (SWAL-QOL) were evaluated at 2 weeks, 4 weeks, and 3 months post-intervention.

RESULTS

The intervention group demonstrated significantly superior FOIS scores compared to controls at all follow-up time points (P<0.05). The incidence of aspiration pneumonia was markedly lower in the intervention group (8.3% vs. 23.3%, P<0.05). Nutritional indices (serum albumin, body mass index) and SWAL-QOL scores were significantly improved in the intervention group at 3-month follow-up (P<0.01).

CONCLUSIONS

Early standardized dysphagia screening combined with graded rehabilitation nursing intervention significantly improves swallowing function, reduces pulmonary complications, and enhances quality of life in post-operative laryngeal cancer patients.

KEYWORDS

laryngeal cancer; post-operative dysphagia; early screening; graded rehabilitation; nursing intervention; swallowing function

PP-305

Giant Laryngeal Saccular Cysts: A Case Series

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BACKGROUND & AIM

The laryngeal saccule is an opening in the anteromedial third of the roof of the laryngeal ventricle. It is lined by ciliated respiratory epithelium containing anywhere from 50 to 100 mucous glands.Blockage of the saccule opening with continued secretion of mucous leads to a saccular cyst. Due to its location, it may be confused with a laryngocele in the differential diagnosis. While a saccular cyst is a mucus-containing cystic structure with no communication to the laryngeal lumen, a laryngocele typically maintains a connection with the lumen and is filled with air.

MATERIAL & METHODS

This study included four patients who underwent surgery for giant LSCs between 2022 and 2026. The ages of the patients ranged from 56 to 74 years. One of the patients was male and three were female.

RESULTS

In the preoperative imaging of all patients, the maximum diameter of the LSC ranged between 3 cm and 6 cm. One patient underwent an emergency tracheotomy due to respiratory distress. While all patients presented with a localized swelling in the neck, three patients also complained of dyspnea.

In all cases, the cysts were excised via a transcervical approach. Intraoperative evaluation with suspension laryngoscopy revealed no mucosal defects in the laryngeal structures. The superior laryngeal nerve, superior thyroid artery/vein, and the thyrohyoid membrane were meticulously preserved. Postoperative histopathological examination was consistent with a saccular cyst. No recurrence or residual disease was detected in any of the patients during the follow-up period.

CONCLUSIONS

LSC is one of the rare pathologies of the larynx. In both newborns and adults, it may present with symptoms such as stridor, hoarseness, dysphagia, and a localized neck mass. Although surgical intervention is the cornerstone of treatment, various methods such as marsupialization, needle aspiration, endoscopic CO_2 laser surgery, and the transcervical approach are documented in the literature. The transcervical approach is particularly recommended for the excision of large cysts.

KEYWORDS

Laryngeal saccular cyst (LSC), Larynx, Transcervical approach, Dyspnea, Laryngocele

PP-306

Tracheal MALT Lymphoma Masquerading As Pregnancy-Related Dyspnoea

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BACKGROUND & AIM

Primary mucosa-associated lymphoid tissue (MALT) lymphoma of the trachea is exceptionally rare and may mimic benign inflammatory or papillomatous airway disease. We report a postpartum woman with near-critical airway obstruction from tracheal MALT lymphoma, initially managed as pregnancy-related dyspnoea/presumed pneumonia.

MATERIAL & METHODS

A 40-year-old woman developed progressive exertional dyspnoea during pregnancy and was treated in the community for presumed pneumonia after a hazy chest radiograph. Symptoms progressed over 2-3 months and worsened in the 1-2 weeks before presentation, with orthopnoea and sleep disturbance. Flexible laryngoscopy in the community demonstrated an irregular subglottic mass and she was referred to the emergency department. Bedside flexible laryngoscopy confirmed an

irregular, papillomatous-appearing posterior subglottic/upper tracheal lesion causing >80-90% luminal obstruction with mobile vocal folds. The airway was secured (awake fibreoptic intubation) followed by direct laryngoscopy/bronchoscopy, biopsy and endoscopic debulking. She required short-term postoperative ventilation and was extubated after 48 hours.

RESULTS

Histopathology showed a low-grade B-cell lymphoma consistent with extranodal marginal zone lymphoma of MALT (CD20+, BCL2+, CD5-, CD10-, CD23-, cyclin D1-, SOX11-; kappa light-chain restriction; low Ki-67 proliferation index). Molecular studies demonstrated a clonal B-cell population. Staging demonstrated nodal involvement without bone marrow disease (stage II). She was treated with rituximab monotherapy (4 weekly doses) with complete metabolic response on end-of-treatment PET-CT and resolution of airway symptoms; follow-up endoscopy showed a clear subglottis.

CONCLUSIONS

Tracheal MALT lymphoma, although indolent, may present as life-threatening airway obstruction and be overlooked during pregnancy/postpartum. Early endoscopic assessment of stridor, timely multidisciplinary airway planning, and lymphoma-directed therapy can achieve excellent outcomes.

KEYWORDS

Trachea, Subglottis, MALT lymphoma, Extranodal marginal zone lymphoma, Airway obstruction, Stridor, Rituximab

PP-307

SUBGLOTTIC KAPOSI´S SARCOMA IN PATIENT WITH AIDS.AN UNUSUAL REPORT IN EQUATORIAL GUINEA AND LITERATURE REVIEW.

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BACKGROUND & AIM

Kaposi sarcoma is the most frequently-occurring neoplasm in AIDS patients. Laryngeal localization ,especially Subglottic is infrequent.We discuss the management options for laryngeal Kaposi sarcoma based on a literature review.

MATERIAL & METHODS

A 38 year old, HIV-positive male receiving HAART therapy presented with mild hoarseness , sore throat and inspiratory dyspnea. Fiberoptic laryngeal examination identified a large purple lesion bilobed that occupies 100% of the glottis lumen. CT Scan Neck reported intermediate density image became glotto-subglottic and obstructed the airway .He underwent biopsy and tracheostomy under general anaesthesia. The lesion was histologically diagnosed such as pyogenic granuloma and he was underwent to transoral radiofrequency ablation plus biopsy in second take. Histopathology showed low -grade sarcoma and immunohistochemistry reports Kaposi Sarcoma . A second surgery was performed with radiofrequency ablation and Post-operative chemotherapy was administered. Three months later, the patient was completely asymptomatic and the laryngeal examination was normal

RESULTS

Three months later, the patient was completely asymptomatic and the laryngeal examination was normal.

CONCLUSIONS

Combined approach radiofrequency ablation with chemotherapy is a valid option for managing obstructive laryngeal Kaposi sarcoma.

KEYWORDS

Kaposi’s sarcoma , larynx , surgical management , histopathology , immunohistochemistry

PP-308

Novel Application Of The Modified Wendler Glottoplasty To Revise Anterior Commissure Gap

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BACKGROUND & AIM

Modified Wendler Glottoplasty (MWG) is a procedure traditionally performed for pitch elevation. We present the case of MWG used to revise an anterior commissure gap after failure of multiple surgical interventions. A 50-year-old lawyer underwent a routine excision of a thyroglossal duct cyst via a Sistrunk procedure in February 2015, and sustained left thyroid cartilage lamina damage, initially sutured intraoperatively. Following this, she developed anterior laryngeal webbing which caused persistent dysphonia, significantly affecting her quality of life.

MATERIAL & METHODS

She underwent endoscopic keel placement in September 2015; however the keel subsequently became displaced and removed. The patient was left with significant anterior glottic scarring, anterior commissure gap, and shortening of the left vocal fold, contributing to persistent dysphonia and glottic insufficiency. She was referred to our service for consideration of

further management. She initially presented to our service with severe dysphonia and perceptual voice evaluation score of G2R2B2A2S1.

Over the following years, the patient underwent multiple surgical interventions, including vocal fold injection augmentation, medialisation thyroplasty with Gore-Tex implantation and revision. During this time, the patient had multiple blocks of voice therapy focussing on addressing maladaptive hyper functional vocal use using forward resonance, pitch optimising and accent method. Although several procedures and therapeutic intervention provided transient improvement, vocal outcomes remained limited because of extensive scarring and distorted laryngeal anatomy.

RESULTS

In March 2026 the patient underwent a modified Wendler Glottoplasty to revise the anterior commissure gap. Postoperatively, she experienced marked improvement in vocal quality, tone, and projection. Although mild residual raspiness persisted, repeat perceptual voice assessment improved to a GRBAS score of G1R1B1A0S0. The patient also reported substantial subjective and functional voice improvement. Maximum phonation time increased from 2 seconds to 9 seconds. Despite objective improvement in her vocal quality and subjective improvement by patient, the patient continued to score high on the VHI with a score of 32.

CONCLUSIONS

This case highlights the potential role of MWG as a surgical option in the management of complex dysphonia secondary to vocal fold scarring and glottic insufficiency following iatrogenic laryngeal injury.

KEYWORDS

Modified Wendler Glottoplasty. Pitch elevation. Anterior commissure gap .

PP-309

Neck Mass And Severe Airway Stenosis: Malignancy Is Not Always The Diagnosis

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BACKGROUND & AIM

The coexistence of a cervical mass and significant airway stenosis often raises strong suspicion of malignant disease. However, benign conditions may mimic this presentation and pose important diagnostic and surgical challenges.

We present a case of severe long-segment tracheal stenosis associated with a thyroid mass in a young adult, highlighting the importance of comprehensive evaluation and individualized surgical planning to avoid misdiagnosis and ensure optimal airway management.

MATERIAL & METHODS

A 28-year-old male from Guatemala with a history of pelvic fracture and exploratory laparotomy for blunt abdominal trauma one year prior presented with progressive neck pain, dyspnea, stridor, and dysphonia.

Imaging revealed a right thyroid mass associated with significant airway narrowing. Bronchoscopic evaluation demonstrated Cotton grade III tracheal stenosis with 90% obstruction, a residual lumen of 3 mm, and a stenotic segment measuring approximately 3 cm in length.

Endoscopic dilations were performed, improving airway patency to approximately 70%, and biopsies of the stenotic segment revealed benign fibrotic tissue. Fine-needle aspiration of the thyroid mass reported Bethesda II cytology.

Given the extent of stenosis and persistent airway compromise, definitive surgical management was scheduled.

RESULTS

Intraoperative findings confirmed fibrotic stenosis extending from the first to the seventh tracheal rings, with a residual lumen of approximately 5 mm. Segmental tracheal resection (rings 1–7) was performed followed by primary end-to-end anastomosis. Concomitant right hemithyroidectomy was completed in a single stage.

Histopathology confirmed benign post-intubation fibrotic stenosis and a 3.5 × 2.8 × 2.5 cm microfollicular thyroid adenoma.

The postoperative course was favorable. Follow-up bronchoscopy demonstrated adequate airway patency, and spirometry results were within normal limits. The patient remains asymptomatic.

CONCLUSIONS

The association of a neck mass and severe airway stenosis does not necessarily indicate malignancy. High-grade benign tracheal stenosis can coexist with benign thyroid disease and may mimic advanced neoplastic processes.

Definitive segmental tracheal resection with primary anastomosis remains the gold standard for long-segment high-grade stenosis, and concomitant thyroid surgery can be safely performed in selected cases.

Early recognition, appropriate endoscopic assessment, and multidisciplinary surgical planning are critical to achieving successful functional outcomes.

KEYWORDS

Tracheal stenosis Post-intubation stenosis Neck mass Airway surgery Thyroid adenoma Tracheal resection

PP-310

THE DEVELOPMENT OF AN UNCOMMON COMPLICATION AFTER INTRA-ORAL INFILTRATIVE ANAESTHESIA: HOARSENESS AND RESPIRATORY DIFFICULTY

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BACKGROUND & AIM

An extremely uncommon complication is presented in this case report. Following infiltrative local anaesthesia administered to the upper jaw, restricted tongue movements, hoarseness, and shortness of breath developed. Although all physicians are prepared for complications that can develop after local anaesthesia administered intra-orally, the aim of this case report is to draw attention to this uncommon complication.

MATERIAL & METHODS

A 42-year-old female patient was recommended to have root canal treatment by her dentist. Infiltrative local anaesthesia with lidocaine was administered for the procedure that was to be performed on the anterior upper teeth. At 30 minutes after the local anaesthesia administration, the patient could not move her tongue, and developed shortness of breath and hoarseness. The patient was referred to the Ear, Nose, and Throat Clinic. In the videolaryngostroboscopy performed, movements of the left vocaal cord were seen to have slowed down, and this was evaluated as left vocal cord paralysis.

RESULTS

Intravenous 1mg/kg methylprednisolone was administered. At 24 hours after the procedure, the hoarseness had completely recovered, and in the follow-up laryngostroboscopy the left vocal cord movements were seen to be normal. It was seen in the patient history that hoarseness had developed following thyroidectomy 12 years previously, and after 6 months of voice therapy, the complaints completely recovered.

CONCLUSIONS

Intra-oral infiltrative anaesthesia is usually administered in ENT diseases practice. Although uncommon, it must not be forgotten that local anaesthesia can lead to serious complications, and therefore, the complication risk of patients should be evaluated before the procedure and they should be followed up after the procedure. Even though these complications are rarely observed, they must not be overlooked.

KEYWORDS

Intra-oral anaesthesia; vocal cord paralysis; hoarseness; respiratory difficulty; hypoglossal nerve; recurrent laryngeal nerve

PP-311

Vallecular Laryngeal Branchial Cleft Cyst: A Case Report

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BACKGROUND & AIM

Branchial cleft cysts are congenital epithelial lesions resulting from incomplete obliteration of the branchial apparatus during embryological development of the neck. The second branchial cleft cyst is the most common subtype, accounting for approximately 90–95% of cases. These lesions typically present as lateral cervical masses, whereas laryngeal localization is extremely rare. Laryngeal branchial cleft cysts are thought to arise from third or fourth branchial cleft anomalies and may present with non-specific upper airway symptoms. This study aims to report a rare case of a vallecular laryngeal branchial cleft cyst and to highlight its clinical and diagnostic features.

MATERIAL & METHODS

A 48-year-old male patient presented with a 10-month history of dysphagia and persistent globus sensation. There was no history of dyspnea, voice changes, or significant weight loss. Endoscopic examination revealed a well-defined cystic lesion approximately 1 cm in diameter, located on the right lateral aspect of the lingual surface of the epiglottis, extending into the vallecula. Radiological evaluation with magnetic resonance imaging (MRI) and computed tomography (CT) confirmed the presence of a well-circumscribed cystic lesion without evidence of invasion into surrounding structures.

The patient underwent complete surgical excision of the lesion under suspension microlaryngoscopy. The cyst was removed in total, including its wall, to minimize the risk of recurrence. Histopathological examination revealed a branchial cleft cyst, consistent with a lymphoepithelial cyst.

RESULTS

The postoperative course was uneventful, and the patient experienced complete resolution of symptoms. No perioperative or postoperative complications were observed. Follow-up examinations showed no evidence of recurrence or residual lesion

CONCLUSIONS

Laryngeal branchial cleft cysts are rare entities that may present with non-specific symptoms such as dysphagia and globus sensation. This case highlights the importance of considering rare congenital anomalies in the differential diagnosis of laryngeal cystic lesions. Endoscopic evaluation combined with radiological imaging is essential for accurate diagnosis. Complete surgical excision remains the treatment of choice and is associated with excellent outcomes and low recurrence rates.

KEYWORDS

Branchial cleft cyst,Vallecula, Dysphagia

PP-312

Successful Emergency Lichtenberger Lateralisation For Immediate Bilateral Laryngeal Immobility After Total Thyroidectomy

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BACKGROUND & AIM

Objective. This case report discusses a successful emergency Lichtenberger lateralisation procedure after immediate bilateral laryngeal immobility, occurring after total thyroidectomy.

MATERIAL & METHODS

A 63-year-old female with right-sided vocal fold paralysis due to compression by a multinodular thyroid goitre underwent total thyroidectomy, which resulted in immediate post-operative bilateral vocal fold immobility. The patient had acute-onset post-operative dyspnoea, was promptly re-intubated, and an emergency lateralisation Lichtenberger suture was placed over the right vocal fold and fixated on the outer surface of the neck.

RESULTS

After two weeks, her right vocal fold recovered first, with the suture still in place. At four weeks, both vocal folds regained function and the suture was extracted.

CONCLUSIONS

The take-away message is that an emergency lateralisation suture may be a viable option in maintaining airway patency, while allowing for normal deglutition, in patients who would otherwise be candidates for prolonged intubation, posterior cordotomy, medial arytenoidectomy or tracheostomy.

KEYWORDS

Vocal Cord Immobility; Thyroidectomy; Case Reports; Complications; Lateralization

PP-313

Tapia Syndrome Developing After Shoulder Surgery: A Case Report Of Combined Recurrent Laryngeal And Hypoglossal Nerve Palsy

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BACKGROUND & AIM

Tapia syndrome is a rare peripheral cranial neuropathy resulting from the simultaneous involvement of the hypoglossal nerve and the recurrent laryngeal branch of the vagus nerve. Clinically, it presents with ipsilateral tongue deviation, hoarseness, dysphagia, and sometimes dysarthria. It is most commonly thought to develop as a result of compression or traction neuropathy associated with endotracheal intubation, airway manipulation, and intraoperative head-neck positioning.

MATERIAL & METHODS

A 47-year-old female patient was referred to the otorhinolaryngology clinic with complaints of hoarseness, dysphagia, dysarthria, and impaired tongue movements that developed within the first 24 hours after shoulder arthrotomy performed under general anesthesia with endotracheal intubation. Clinical history and perioperative records were reviewed. Comprehensive otorhinolaryngological examination, including flexible fiberoptic laryngoscopy, was performed. Neurological evaluation and cranial nerve examination were undertaken. Magnetic resonance imaging (MRI) of the brain and neck was obtained to exclude central neurological causes, skull base pathology, vascular lesions, and structural abnormalities. Based on the clinical findings and exclusion of alternative etiologies, the patient was diagnosed with probable peripheral Tapia syndrome associated with endotracheal intubation.

RESULTS

Flexible fiberoptic laryngoscopy revealed left vocal cord paralysis, while tongue examination demonstrated deviation consistent with left hypoglossal nerve palsy. Brain and neck MRI showed no intracranial, vascular, or structural pathology. Based on the clinical findings and exclusion of alternative causes, the patient was diagnosed with probable peripheral Tapia syndrome. Following corticosteroid therapy and speech-swallow rehabilitation, improvement in hoarseness, swallowing function, and tongue mobility was observed during follow-up.

CONCLUSIONS

This case highlights that Tapia syndrome may occur following shoulder surgery and difficult endotracheal intubation despite the absence of direct surgical injury to the affected nerves. Awareness of this rare complication is essential for prompt diagnosis, avoidance of unnecessary investigations, and initiation of early rehabilitation strategies.

KEYWORDS

Tapia syndrome, hypoglossal nerve palsy, recurrent laryngeal nerve palsy, intubation complications, shoulder surgery

PP-314

MULTIFOCAL UPPER AERODIGESTIVE TRACT INVOLVEMENT IN LIPOID PROTEINOSIS: AN UNCOMMON ENT PRESENTATION

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BACKGROUND & AIM

Lipoid proteinosis (Urbach–Wiethe disease) is a rare autosomal recessive genodermatosis caused by mutations in the ECM1 gene, leading to deposition of PAS-positive hyaline material in the skin, mucosae, and internal organs. It is considered an extremely rare condition, with an estimated prevalence of less than 1 per 1,000,000 individuals and only 300–400 cases reported worldwide. Otorhinolaryngological involvement is a hallmark of the disease and often represents its earliest manifestation, typically presenting as persistent hoarseness due to laryngeal infiltration. Despite this, the condition remains under-recognized in clinical practice.

MATERIAL & METHODS

We report the case of a 70-year-old female with a known diagnosis of lipoid proteinosis, referred for progressive dysphonia and with a long-standing history of mucocutaneous lesions. The patient had undergone previous biopsies of oropharyngeal and laryngeal lesions, including an operative endoscopic procedure for laryngeal sampling. A comprehensive otolaryngological evaluation was performed, including flexible nasolaryngoscopy and retrospective review of histopathological specimens obtained from different anatomical sites.

RESULTS

Endoscopic evaluation revealed diffuse nodular and infiltrative lesions involving multiple regions of the upper aerodigestive tract, including the nasal vestibule, oropharynx, and larynx, particularly the epiglottis and vestibular folds. Histopathological analysis consistently demonstrated deposition of amorphous hyaline material within the chorion, without epithelial atypia or viral cytopathic changes, in keeping with lipoid proteinosis. Review of clinical history confirmed a previously established diagnosis. The extent of ENT involvement highlights the potential for under-recognition of this condition in routine practice.

CONCLUSIONS

Lipoid proteinosis may present with extensive involvement of the upper aerodigestive tract, with significant impact on phonation and mucosal function. Awareness of its characteristic otorhinolaryngological manifestations, together with correlation with systemic features and histopathological confirmation, is essential to ensure accurate diagnosis and appropriate management. This case underscores the importance of recognizing rare infiltrative disorders in patients with atypical laryngeal findings.

KEYWORDS

Lipoid proteinosis, Urbach–Wiethe disease, Dysphonia, Laryngeal involvement, Upper aerodigestive tract, Rare disease

PP-315

Who Stole The Voice? Laryngeal Clues To Visceral Leishmaniasis In An Immunocompetent Host

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BACKGROUND & AIM

Leishmaniasis is a zoonotic disease endemic to the Mediterranean basin, with well-defined clinical forms. Mucocutaneous leishmaniasis predominantly affects the mucosa of the upper aerodigestive tract, whereas visceral leishmaniasis (VL) is classically associated with systemic involvement (cytopenias, constitutional symptoms, and organomegaly) and immunosuppression, particularly human immunodeficiency virus (HIV) infection. However, in this region, atypical

presentations of VL with involvement of upper airway mucosa, including the larynx, have been described in both immunocompromised and immunocompetent patients. We hypothesize that persistent dysphonia may represent an initial manifestation of VL in this setting.

MATERIAL & METHODS

An 84-year-old male, HIV-negative, not receiving immunosuppressive therapy, with a history of atrial fibrillation, heart failure, and severe tricuspid regurgitation, presented with progressive dysphonia of more than two years' duration. Additional findings included generalized pruritic papular skin lesions, constitutional symptoms (asthenia and 5 kg weight loss), mild pancytopenia, hypoalbuminemia, and hypergammaglobulinemia. Laryngoscopic examination revealed nodular, friable lesions involving the right arytenoid and bilateral ventricular folds. Laryngeal biopsies were performed, along with serological testing for Leishmania infantum (IgG and IgM) and bone marrow aspiration.

RESULTS

Dysphonia was the presenting symptom that prompted otolaryngological evaluation. Histopathological analysis showed granulomatous inflammation with numerous macrophages containing intracellular amastigotes, confirmed by Giemsa staining and CD1a immunohistochemistry. Serology for Leishmania infantum was positive (index 3.98; positive >1.1). Bone marrow aspiration was negative for amastigotes. Laboratory findings included anemia (hemoglobin 10.8 g/dL), thrombocytopenia ($113\times10^3/\mu L$), and leukopenia ($4.52\times10^3/\mu L$). Intravenous amphotericin B was initiated, followed by outpatient continuation. The patient subsequently deteriorated and died during readmission due to gastrointestinal bleeding in the context of systemic complications.

CONCLUSIONS

Laryngeal involvement in leishmaniasis is uncommon but may represent the initial manifestation of systemic disease, even in immunocompetent patients. The identification of amastigotes in laryngeal biopsy, together with compatible clinical and laboratory findings, supports the diagnosis of VL despite negative bone marrow results. This case raises the question of whether laryngeal involvement represents a primary mucocutaneous form with subsequent visceral dissemination or a localized manifestation of established visceral disease. It also highlights the key role of the otolaryngologist in identifying systemic diseases presenting with atypical head and neck manifestations.

KEYWORDS

Hoarseness; Leishmania infantum; Larynx; Visceral leishmaniasis

PP-316

Self-Inflicted Penetrating Neck Injury With Thyrohyoid Membrane Disruption And Laryngeal Framework Injury: A Case Report

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BACKGROUND & AIM

Self-inflicted penetrating neck injuries are uncommon but potentially fatal, especially with airway compromise and laryngeal framework injury. Early airway stabilization, surgical exploration, and reconstruction are essential to preserve airway, swallowing, and voice function. This case report presents the emergency management and functional outcome of a self-inflicted anterior neck injury.

MATERIAL & METHODS

A 55-year-old man with major depression was referred intubated after a self-inflicted penetrating neck injury and an associated left wrist incision. He was hemodynamically stable on admission. Examination revealed an anterior cervical wound measuring approximately 4 × 10 cm, extending from the midline to the left side. Emergency neck exploration, tracheotomy, and laryngeal reconstruction were performed under general anesthesia. Intraoperatively, the superior portion of the left lamina of the thyroid cartilage was fragmented, the left thyrohyoid membrane was disrupted, and the infrahyoid muscles were severely disrupted. No obvious great vessel injury was observed. Tracheotomy was performed between the second and third tracheal rings. The fragmented cartilage was unsuitable for reconstruction and was excised. Thyrohyoidopexy was performed by suturing the thyroid cartilage to the hyoid bone for laryngeal stabilization. The injured infrahyoid muscles were anatomically repaired, a nasogastric tube was placed, and the patient was transferred to intensive care.

RESULTS

Postoperatively, bilateral vocal cords were mobile, but the supraglottic laryngeal structures were edematous. Flexible endoscopic evaluation of swallowing (FEES) showed bilateral pyriform sinus pooling with solid, semisolid, and liquid consistencies, with aspiration of liquids, possibly related to left superior laryngeal nerve injury. Oral intake was temporarily restricted, nasogastric feeding was continued, and oral motor exercises were initiated. No major bleeding, wound infection, or early airway obstruction occurred. At 2 months, complete swallowing recovery was observed, and the patient was successfully decannulated. Psychiatric and multidisciplinary follow-up were arranged.

CONCLUSIONS

Self-inflicted penetrating neck injuries involving the laryngeal framework require rapid airway stabilization, early surgical exploration, and careful reconstruction. Although airway control and structural repair can be achieved successfully, postoperative functional assessment remains essential because vocal cord dysfunction, swallowing impairment, and aspiration may occur. Psychiatric evaluation is critical to reduce recurrent self-harm risk.

KEYWORDS

Self-inflicted injury; Penetrating neck trauma; Laryngeal framework injury; Thyrohyoid membrane disruption; Thyrohyoidopexy; Aspiration

PP-317

Long-Term Outcomes Of Laryngoplasty For Voice Improvement

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BACKGROUND & AIM

Unilateral vocal fold paralysis is a frequently encountered disorder of the larynx and has a wide variety of underlying causes including aortic aneurysm, lung and esophageal cancer, and neurological disease. This paralysis can also be caused by complications after surgery such as of the thyroid, aorta and mediastinum. Although spontaneous resolution of the paralysis is seen in some cases, most patients will have permanent paralysis. This paralysis can result in a hoarseness leading to a significant decline in quality of life.

MATERIAL & METHODS

We subsequently tracked the 30 patients who underwent laryngoplasty from October 2016 to October 2023, and all patients underwent arytenoid adduction and thyroplasty type 1 under local anesthesia. 23 patients were followed up for more than 2 years after surgery and included in this study.

RESULTS

Paralysis was more common on the left side at 17 cases with 6 cases on the right side. One patient underwent a second thyroplasty type 1 for further improvement of the voice at 2 years after the first surgery. Although some patients did not see improvement in the maximum phonation time, all 23 patients showed improvement in the Voice Handicap Index after surgery.

CONCLUSIONS

Laryngoplasty has yielded favorable results even two years after surgery and is considered a useful treatment option.

KEYWORDS

Laryngoplasty, long-term outcomes, maximum phonation time, Voice Handicap Index

PP-318

Resilience And Psychosocial Adjustment To Illness In Total Laryngectomized Patients: A Pilot Study

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BACKGROUND & AIM

Total laryngectomy entails profound and persistent changes in communication, identity, and social functioning, placing individuals at increased risk for psychosocial maladjustment. Given the severe communication impairment following total laryngectomy, understanding psychosocial adaptation is essential for comprehensive otorhinolaryngological care. Resilience has been proposed as a key protective factor in chronic illness; however, its relationship with domain-specific psychosocial adjustment among total laryngectomized individuals remains insufficiently explored.

MATERIAL & METHODS

This pilot, exploratory correlational study included 15 total laryngectomized outpatients (aged 56–71) who completed online self-report measures of psychosocial adjustment to illness (PAIS-SR) and resilience (Resilience Scale). Data were analyzed using non-parametric methods, including descriptive statistics, Spearman's rank-order correlation, and Mann–Whitney U tests.

RESULTS

Participants demonstrated a moderate level of overall psychosocial adjustment to illness (M = 3.24) and a high level of resilience (M = 4.28). Resilience showed significant positive associations with several domains of psychosocial adjustment, including health care orientation, illness-related behavior, physician-provided information, and vocational and domestic functioning, as well as a negative association with extended family relationships. Participants with higher psychosocial adjustment exhibited significantly higher resilience levels (Mdn = 4.50, IQR = .15, mean rank = 11.38).

CONCLUSIONS

Findings provide clinically meaningful preliminary evidence that resilience supports psychosocial adjustment in total laryngectomized patients, with direct implications for rehabilitation practice. The small sample size and cross-sectional design

limit generalizability and preclude causal inference. These findings highlight the need for longitudinal studies to clarify underlying mechanisms and optimize multidisciplinary psychosocial and rehabilitative care.

KEYWORDS

laryngectomy, psychosocial adjustment to illness, resilience, quality of life, rehabilitation

PP-319

Early Surgical Conversion In Post-Intubation Subglottic Stenosis: A Systematic Review Of Treatment Outcomes And Institutional Case Series

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BACKGROUND & AIM

Post-intubation subglottic stenosis (SGS) and laryngotracheal stenosis (LTS) are major causes of airway morbidity following prolonged mechanical ventilation. Endoscopic balloon dilatation is commonly used as first-line management; however, recurrence remains frequent, and the optimal treatment sequence remains unclear. We hypothesized that although endoscopic management may provide temporary symptomatic relief, open surgical reconstruction offers superior long-term airway patency in recurrent or high-grade stenosis. We additionally explored the potential impact of comorbidities such as diabetes mellitus (DM) on treatment outcomes and present two institutional cases requiring cricotracheal resection (CTR) following failure of repeated endoscopic management.

MATERIAL & METHODS

A systematic review was conducted in accordance with PRISMA guidelines. Electronic databases were searched for studies involving adult patients (≥18 years) with iatrogenic post-intubation SGS/LTS undergoing endoscopic interventions (e.g., balloon dilatation, laser resection, intralesional steroid therapy, or stenting) or open surgical procedures (e.g., CTR or laryngotracheal reconstruction). Studies including cohorts of ≥10 patients reporting treatment outcomes were included. Extracted outcomes included airway patency, symptom resolution, recurrence, repeat procedures, complications, tracheostomy requirement, and decannulation success. Outcomes were synthesized qualitatively across treatment modalities. Additionally, two institutional cases of post-intubation SGS in patients with type 1 DM were retrospectively reviewed.

RESULTS

Endoscopic balloon dilatation demonstrated initial symptomatic improvement in most patients, with reported success rates of approximately 70–80%; however, recurrence rates remained high, often necessitating repeated interventions. Open surgical reconstruction consistently achieved superior long-term airway patency and decannulation success, frequently exceeding 85–90% in large series. Repeated endoscopic procedures were associated with increased cumulative morbidity and eventual need for definitive surgery. DM and other comorbidities were variably associated with increased recurrence and complications. Our institutional cases involved two young female patients with type 1 DM who developed SGS following prolonged traumatic intubation. Both underwent multiple balloon dilatations with recurrent stenosis before ultimately requiring CTR, which achieved definitive airway stabilization.

CONCLUSIONS

Balloon dilatation remains an effective first-line treatment for post-intubation SGS/LTS but is limited by high recurrence rates. Open surgical reconstruction provides more durable outcomes, particularly in recurrent or high-grade stenosis. Early identification of patients likely to fail endoscopic management may optimize treatment pathways and reduce cumulative morbidity.

KEYWORDS

Post-intubation subglottic stenosis, endoscopic balloon dilatation, cricotracheal resection, comorbidities, diabetes mellitus

PP-320

Percutaneous Epiglottopexy For Epiglottic Retroversion: A Technical Note

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BACKGROUND & AIM

Epiglottic retroversion is an extremely rare cause of upper airway obstruction in adults and may present with persistent stridor. Management is not standardized, and described surgical approaches may include laser epiglottectomy, which carries the risk of loss of protective laryngeal function.

A technical note of an organ-preserving technique

MATERIAL & METHODS

We report the case of an adult patient with epiglottic retroversion causing significant stridor. Flexible nasolaryngoscopy confirmed a persistently everted epiglottis causing upper airway obstruction.

A percutaneous epiglottopexy was performed as an organ-preserving technique aimed at stabilizing the epiglottis in an anterior position while maintaining its anatomical integrity and protective function.

RESULTS

The procedure led to immediate resolution of stridor with no perioperative complications. Follow-up endoscopy demonstrated stable fixation of the epiglottis with preserved laryngeal anatomy and airway protection.

CONCLUSIONS

Percutaneous epiglottopexy represents an effective organ-preserving alternative for the management of symptomatic persistent epiglottic eversion in adults, avoiding destructive procedures while restoring airway patency.

KEYWORDS

Epiglottopexy - epiglottic retroversion - Air way - laryngology

PP-321

A RARE CASE: ENDOTRACHEAL CUFF RUPTURE DURING LOCAL ANESTHESIA

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BACKGROUND & AIM

Tracheotomy is a surgical intervention performed to establish an airway by creating an opening in the anterior trachea and may be performed using open or percutaneous techniques. Despite well-defined indications, various intraoperative and postoperative complications may occur, including bleeding, airway fire, tube misplacement, pneumothorax, posterior tracheal perforation, subcutaneous emphysema, and recurrent laryngeal nerve injury. Endotracheal tube (ETT) cuff defects are recognized causes of air leakage and ventilation failure, typically resulting from trauma to the cuff structure. However, cuff damage during local infiltration anesthesia before tracheotomy has not been clearly described. This report presents an intraoperative complication involving ETT cuff injury.

MATERIAL & METHODS

An 81-year-old patient presented with swallowing and breathing difficulties. Endoscopic examination demonstrated a mass extending from the left arytenoid region with severe airway narrowing, with a rima opening of approximately 2 mm. Emergency microlaryngeal surgery and tracheotomy were planned. The patient was intubated with a 6.5 endotracheal tube, and tracheotomy was initiated after identification of the second and third cricoid rings by palpation. Local infiltration anesthesia was administered using 4 cc jetocaine solution with a 16-gauge needle prior to the procedure. Intraoperative monitoring included evaluation of oxygen saturation and ventilation parameters.

RESULTS

During local infiltration anesthesia, a sudden decrease in oxygen saturation and gas leak warnings were observed. Examination revealed deflation of the ETT cuff, and reinflation attempts were unsuccessful. The endotracheal tube was replaced, after which ventilation was restored and the surgery was completed successfully. The cuff damage was suspected to be caused by the local infiltration needle. Difficult intubation due to airway narrowing, thin neck skin, and suspected locally advanced malignancy were considered contributing factors.

CONCLUSIONS

This case demonstrates that ETT cuff damage may occur during local infiltration anesthesia in tracheotomy procedures. Sudden intraoperative desaturation and gas leakage should raise suspicion for cuff injury, particularly in patients with thin neck tissues or altered soft tissue integrity. Awareness of this potential complication may help improve intraoperative management and patient safety.

KEYWORDS

Tracheotomy; Endotracheal tube; Cuff rupture; Local infiltration anesthesia; Air leak; Intraoperative complication

PP-322

Multisystem Urbach–Wiethe Syndrome Presenting With Chronic Dysphonia And Unilateral Sensorineural Hearing Loss: Case Report

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BACKGROUND & AIM

Urbach–Wiethe syndrome (lipoid proteinosis) is a rare autosomal recessive disorder characterized by progressive hyaline deposition in cutaneous and mucosal tissues. ENT manifestations frequently include dysphonia and upper airway involvement, while auditory dysfunction and neurobehavioral changes are less commonly highlighted. We hypothesized that the clinical combination of chronic dysphonia, unilateral sensorineural hearing loss, tongue mobility restriction, and recurrent airway infections in this patient represents advanced multisystem mucosal involvement, further complicated by psychiatric features suggestive of altered emotional processing.

MATERIAL & METHODS

A 53-year-old patient underwent comprehensive clinical evaluation including detailed dermatologic assessment, flexible fiberoptic laryngoscopy, audiologic testing, psychiatric examination, and histopathologic confirmation through an oropharyngeal biopsy. Medical history was reviewed with focus on previous tongue-tie surgeries, recurrent infectious episodes, vocal symptoms, and functional oral limitations. Outcome measures included structural mucosal involvement, auditory function, airway integrity, and psychiatric findings. Independent variables included anatomic distribution of mucosal hyaline deposition and previous oral interventions.

RESULTS

Laryngoscopic examination revealed diffuse laryngeal mucosal thickening, consistent with lipoid proteinosis and correlating with the patient's long-standing chronic hoarseness. She experienced multiple severe upper respiratory tract infections annually, reflecting impaired mucosal defense and airway vulnerability. Audiologic evaluation demonstrated unilateral sensorineural hearing loss. Oral examination confirmed marked tongue mobility restriction, aligned with her history of multiple frenotomy procedures. Dermatologic evaluation identified widespread cutaneous involvement typical of lipoid proteinosis. Psychiatric assessment revealed blunted fear responses and reduced emotional reactivity, features occasionally associated with neurobehavioral involvement in this condition. Histopathologic examination of the oropharyngeal mucosa showed classic hyaline deposition, establishing the diagnosis.

Both favorable (diagnostic confirmation, phenotype consistency) and unfavorable (persistent functional impairment) findings were observed.

CONCLUSIONS

This case highlights the striking multisystem variability of Urbach–Wiethe syndrome and underscores the importance of recognizing ENT-related manifestations such as chronic dysphonia, sensorineural hearing loss, recurrent infections, and oropharyngeal fibrosis. Psychiatric findings further emphasize the need for multidisciplinary evaluation to optimize diagnosis and long-term management.

KEYWORDS

Urbach–Wiethe Syndrome, Lipoid Proteinosis, Dysphonia, Sensorineural Hearing Loss, Laryngeal Diseases, Mucosal Thickening

PP-323

Pirfenidone Injection To Prevent Vocal Fold Scarring In A Canine Model: A Pilot Preclinical Study

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BACKGROUND & AIM

This pilot study investigated the safety and efficacy of pirfenidone (PFD) injection for vocal fold (VF) scarring after laser cordectomy in a canine model. We evaluated safe PFD concentrations and their preventive effects on postoperative VF scarring using laryngoscopic, histological, immunohistochemical (IHC), and high-speed imaging analyses.

MATERIAL & METHODS

To assess toxicity, 0.3mL of saline or PFD solution at six serial concentrations (0, 0.5, 1.0, 2.5, 5.0, and 10.0 mg/mL; 0 mg/mL = saline) was injected into the VFs of three dogs and histological evaluation was performed 2 weeks later. For efficacy testing, saline, 1.0 mg/mL PFD, or 2.5 mg/mL PFD was injected into the right VFs of three dogs before type III laser cordectomy. The left VFs remained untreated. Wound status was assessed by laryngoscopy at 4 and 8 weeks. At 8 weeks, vibratory function was assessed using high-speed imaging, followed by histological and IHC analyses for collagen type I (COL1) and α-smooth muscle actin (α-SMA).

RESULTS

In the toxicity test, VFs injected with ≤2.5 mg/mL PFD showed complete epithelial healing, whereas those injected with ≥5.0 mg/mL PFD showed epithelial detachment from the lamina propria. In the efficacy test, high-speed imaging demonstrated greater vibratory amplitudes in PFD-injected VFs than in the control VFs, with more pronounced improvement at 2.5 mg/mL PFD. Hematoxylin and eosin (H&E), Masson's trichrome, and Alcian blue staining showed that 2.5 mg/mL PFD-injected VFs exhibited reduced fibrotic changes and collagen deposition compared with saline- and 1.0 mg/mL PFD-injected VFs. IHC analysis showed attenuated α-SMA and COL1 immunoreactivity in PFD-treated VFs, particularly in the 2.5 mg/mL PFD-injected VF.

CONCLUSIONS

This pilot study suggests that PFD injection before laser cordectomy may mitigate VF scarring and help preserve VF vibratory function in a canine model. These findings provide preliminary evidence supporting the potential of PFD as a preventive strategy against fibrosis during VF surgery.

KEYWORDS
Vocal Fold Scar, Pirfenidone, Fibrosis, Wound Healing, High-speed Imaging, Animal Model

PP-324

Spontaneous Idiopathic Cervical Hematoma Presenting With Acute Neck Swelling And Airway Concern: A Case Report

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BACKGROUND & AIM

Spontaneous cervical hematoma is a rare but potentially life-threatening condition due to the risk of acute airway compromise. Most reported cases are associated with trauma, anticoagulation, vascular malformations, or underlying endocrine pathology, while idiopathic presentations remain uncommon and diagnostically challenging. We present a case of spontaneous idiopathic cervical hematoma in a 72-year-old male, emphasizing the diagnostic evaluation and management approach. This case highlights that timely assessment and appropriate imaging may support safe conservative management in carefully selected, clinically stable patients.

MATERIAL & METHODS

A 72-year-old male presented to the emergency department with sudden onset right-sided neck swelling and mild dysphagia without trauma, infection, or anticoagulant use. Initial assessment revealed hemodynamic stability and no respiratory distress; however, airway protection was performed due to concern for potential airway compromise. Flexible nasolaryngoscopy was performed and demonstrated mild pharyngeal wall bulging without significant airway obstruction.

Contrast-enhanced computed tomography (CT) of the neck was obtained, followed by laboratory investigations including a complete coagulation profile, all of which were within normal limits.

The patient was managed conservatively with close airway monitoring, corticosteroid therapy, and supportive care. Following clinical stabilization, the patient was extubated. Serial clinical evaluations were performed, and repeat CT angiography (CTA) was conducted to monitor progression and exclude an underlying vascular source.

RESULTS

Initial CT imaging demonstrated a cervical soft tissue hematoma without active contrast extravasation or identifiable vascular source.

Follow-up CTA confirmed a stable right-sided cervical hematoma with no change in size or extent compared with initial imaging. The hematoma extended along the fascial planes between the scalene muscles and the sternocleidomastoid and trapezius muscles.

No evidence of active arterial or venous contrast extravasation was identified, and no vascular abnormality was detected within the carotid or jugular systems. There was no mass effect, airway compromise, or progression of compressive pathology.

Clinically, the imaging findings correlated with a stable course and gradual symptomatic improvement.

CONCLUSIONS

Spontaneous idiopathic cervical hematoma should be considered in elderly patients presenting with acute neck swelling even in the absence of identifiable risk factors. Prompt CT and CTA are essential for diagnosis and exclusion of active bleeding. In clinically stable patients without radiological evidence of ongoing hemorrhage, conservative management with close monitoring may lead to favorable outcomes and avoid unnecessary surgical intervention.

KEYWORDS
Spontaneous cervical hematoma; Idiopathic neck swelling; Acute airway compromise; Neck emergency.

PP-325

Pediatric Laryngeal Sarcoidosis With Recurrent Airway Obstruction And Long-Term Immunosuppressive Management

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BACKGROUND & AIM

Sarcoidosis is chronic granulomatous disease characterized by multisystem involvement and variable clinical presentation. Laryngeal involvement uncommon and exceptional rare in pediatric patients and may present with airway obstruction. Due to Its nonspecific presentation, diagnosis may be delayed or initially misinterpreted. We report a pediatric case of laryngeal sarcoidosis with recurrent airway compromise and and long-term treatment challenges.

MATERIAL & METHODS

We report a longitudinal case of a male patient diagnosed with laryngeal sarcoidosis managed in a tertiary otorhinolaryngology and pediatric referral center. The patient presented initially presented with inspiratory dyspnea and supraglottic edema with left aryepiglotic fold lesion. Initial histopathology revealed an inflammatory polyp, however subsequent biopsy demonstrated non-caseating granulomatous inflammation consistent with sarcoid-like lesion, supporting the diagnosis of laryngeal sarcoidosis.

Systemic corticosteriod therapy (methylprednisolone) was initiated, resulting in partial clinical response. Treatment was complicated by iatrogenic Cushing syndrome with suppresion of adenocorticotropic hormone and cortisol, requiring dose reduction. Due to persistent disease activity, methotrexate was introduced as second-line immunosuppressive therapy. Tuberculosis screening performed in 2022 was negative.

RESULTS

Corticosteroid therapy provided incomplete disease control and was associated with significant endocrine toxicity. Introduction of methotrexate resulted in clinical and endoscopic improvement after approximately one year, with resolution of airway symptoms and reduction of supraglottic inflammatory lesions.

Relapse occurred following unplanned discontinuation of methotrexate, presenting with severe supraglottic edema and marked airway narrowing. Re-initiation of methotrexate was subsequently recommended.

At last follow up, fibroscopy demonstrated a globular epiglottis with residual supraglottic edema, while the glottic and subglottic airway remained widely patent.

CONCLUSIONS

Pediatric laryngeal sarcoidosis is a rare cause of recurrent upper airway obstruction requiring histopathological confirmation and exclusion of infectious disease. Long-term management may be complicated by recurrent disease activity and adverse effects related to prolonged corticosteroid therapy. Prolonged multidisciplinary follow-up and steroid-sparing immunosuppressive therapy may be necessary to maintain airway patency and achieve sustained clinical improvement.

KEYWORDS

Laryngeal sarcoidosis, airway obstruction, supraglottic edema, methotrexate, corticosteroid toxicity

PP-326

A RARE COMPLICATION FOLLOWING DIRECT LARYNGOSCOPY: HYPOGLOSSAL NERVE PALSY

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BACKGROUND & AIM

Hypoglossal nerve palsy is an uncommon complication following direct laryngoscopy. This case report aims to evaluate the clinical course and management of this rare condition.

MATERIAL & METHODS

A 34-year-old male presented with persistent hoarseness for two months following a shouting episode. Laryngoscopic examination revealed a hemorrhagic polypoid lesion involving the anterior one-third of the right vocal cord. The patient underwent microlaryngoscopic excision under direct laryngoscopy using a medium-sized blade. The lesion was excised with a 445 nm laser, and the procedure lasted approximately 30 minutes.

Postoperatively, the patient developed left-sided facial numbness and impaired tongue movement toward the left. Physical examination demonstrated normal tongue mobility on the right side, with marked restriction on the left. Oral methylprednisolone was initiated at 1 mg/kg/day and tapered by 10 mg every three days over a two-week period.

RESULTS

At postoperative week 1, near-complete limitation of leftward tongue movement and ipsilateral tongue atrophy were observed, accompanied by dysphagia and speech difficulties. By week 2, minimal improvement in tongue mobility was noted, although atrophy persisted. At week 3, tongue movement had almost completely recovered, and atrophy had significantly regressed. The patient reported full resolution of swallowing and speech difficulties.

No residual deficits or complications were observed during follow-up. Vocal cord healing was unremarkable, and no limitation in mobility was detected.

CONCLUSIONS

Hypoglossal nerve palsy is a rare but clinically significant complication of direct laryngoscopy that may substantially impact quality of life. Early recognition, appropriate patient counseling, and timely medical management with close follow-up are essential for optimal recovery. It would be appropriate to inform patients about this complication preoperatively.

KEYWORDS

Hypoglossal nerve paralysis , Direct laryngoscopy, Tongue deviation, Vocal cord polyp

PP-327

The Level Of Damage To The Laryngeal Muscles In Patients With Myasthenia Gravis.

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BACKGROUND & AIM

Myasthenia gravis is an autoimmune disease mediated by antibodies against acetylcholine receptors at the neuromuscular junction. The disease can affect the muscles responsible for breathing, leading to serious complications. The aim of this study is to investigate the importance of laryngeal electromyography in determining the nature and extent of laryngeal muscle damage in patients with myasthenia gravis.

MATERIAL & METHODS

40 patients with Myasthenia Gravis were examined. Patients underwent otorhinolaryngology, neurology, computed tomography, and magnetic resonance imaging examinations, along with laryngeal electromyography. Laryngeal electromyography was performed using an ethidium chloride test to determine the structure of the lesion. Patients were divided into two groups according to the severity of the disease: Group 1 consisted of 18 patients (local form), and Group 2 consisted of 22 patients (general form).

RESULTS

The results were evaluated according to the shape, duration, and amplitude of the action potentials of the motor units. The expressive and quantitative characteristics of the pathological spontaneous activity of muscle fibers were considered: fibrillation potentials and fasciculations, positive sharp waves.

CONCLUSIONS

1. Electromyographic examination of the internal laryngeal muscles and a test with edrophonium chloride is the most objective method for the early differential diagnosis of laryngeal lesions in patients with myasthenia gravis. 2. In both localized and generalized forms of myasthenia gravis, a decrease in the duration and amplitude of the motor unit action potential in the internal laryngeal muscles is determined. That is, a latent generalization of the myasthenic lesion is detected.

KEYWORDS

Myasthenia gravis, laryngeal muscles, laryngeal electromyography

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Post-Thyroidectomy Gerhardt's Syndrome: Diagnostic And Therapeutic Challenges

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BACKGROUND & AIM

Gerhardt's syndrome represents bilateral abductor vocal cord paralysis due to recurrent laryngeal nerve dysfunction. The condition is extremely rare (1 per 1 million population), yet life-threatening1. Timely diagnosis and appropriate management are essential for the patient's survival and quality of life.

MATERIAL & METHODS

A retrospective analysis was conducted on data from two female patients diagnosed with Gerhardt's syndrome secondary to total thyroidectomy, both of whom required tracheostomy for acute respiratory failure. Both cases were managed in 2023 at the ENT Clinic of the "Timofei Moșneaga" Republican Clinical Hospital.

RESULTS

The first case involved a patient who underwent emergency tracheostomy six months postoperatively. Subsequent medical treatment (group B vitamins and ipidacrine) proved effective, resulting in the unilateral recovery of right vocal cord mobility and eventual decannulation. The second case concerned a patient who received tracheostomy three months after thyroidectomy, with no improvement following nine additional months of conservative management. She underwent a glottic widening surgery — CO2 laser-assisted posterior cordectomy of the left vocal cord, with favorable evolution. The patient was also successfully decannulated.

CONCLUSIONS

Although 4–14% of patients can tolerate Gerhardt's syndrome without requiring surgery, viral infections or other stressors can trigger respiratory decompensation2,3. In cases where the recurrent laryngeal nerves remain anatomically intact, spontaneous recovery may occur within 9–12 months in up to 86% of patients2,4. ENT surgeons are responsible for timely identification of surgical candidates and performing high-quality glottic widening procedures when conservative treatment fails.

KEYWORDS

Gerhardt's syndrome, tracheostomy, cordectomy, CO2 laser.

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3D Printed Larynx Model For Anatomical Education And Surgical Planning

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BACKGROUND & AIM

Understanding the anatomy of the larynx in details is crucial in otolaryngology clinical and surgical aspects. Traditionally, otolaryngologists residents and physicians relied on cadaveric dissection, anatomy textbook illustrations, and videos. Nevertheless, each resource has limitations. Such as, limited access to cadavers, high costs of the surgical courses, and most importantly the different texture and consistency of the cadaveric larynx. Our aim was to generate an accurate 3D printed larynx model to approach these obstacles and provide a functional model for both anatomical education and surgical training.

MATERIAL & METHODS

We established a detailed 3D larynx model using Blender software. We included all the major cartilages, intrinsic muscles, ligaments, and membranes of the larynx. Each part was individually created and assigned to a specific material to replicate the natural consistency and mechanical characteristics of native tissue. Afterwards, the model w as printed out using (Stratasys J850 multi-material 3D printer), which facilitated stimulating the soft tissue differentiation and intricate anatomical details we intended to. This project originated from a collaborative effort between Cleveland Clinic Abu Dhabi and N YU Abu Dhabi.

RESULTS

The final larynx model demonstrates remarkable accurate anatomical representation and natural tissue properties. It unequivocally illustrate the three dimensional configuration between the parts of the larynx in a manner that enhances anatomical orientation and conceptual understanding. preliminary impressions from both residents and attending physicians in our department has been encouraging. The model offers a clear illustration for the paraglottic space, preglottic space and the relation to the anatomical part of the larynx. Its also facilitate the surgical training, by recognizing the major surgical landmarks and practice procedures such as (thyroplasty / laryngoplasty) in a low risk environment and having an accurate anatomical configuration.

CONCLUSIONS

This composite 3D printed larynx model exemplify a promising milestone in surgical training. It has an pivotal domain between traditional teaching methods and real life operative exposure, providing an anatomically accurate, reproducible, and readily available framework for teaching and simulation. At this stage, we are working on further studies to evaluate the implication on trainee skill development and overall educational outcomes.

KEYWORDS

Larynx, 3D model, education, training , simulation

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PR3-ANCA–Positive Cocaine-Induced Vasculitis Imitating Granulomatosis With Polyangiitis

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BACKGROUND & AIM

Differentiating granulomatosis with polyangiitis (GPA) from cocaine-induced midline destructive lesions (CIMDL) and cocaine-associated antineutrophil cytoplasmic antibody (ANCA)-positive vasculitis remains challenging, particularly in young patients with isolated upper airway involvement. This case aims to highlight the diagnostic value of repeated urine toxicology testing in a patient with rapidly progressive centrofacial destruction mimicking classic GPA.

MATERIAL & METHODS

We present a 26-year-old woman admitted to an otolaryngology department with extensive necrotic and infectious destruction of the nose and midfacial structures following intranasal cocaine use. Clinical assessment, laboratory testing, computed tomography, microbiology, histopathology, immunological assays, and repeated urine toxicology screening were analyzed. Proteinase 3 antibodies were measured using enzyme-linked immunosorbent assay (ELISA). Levamisole detection in urine was performed using liquid chromatography–tandem mass spectrometry (LC-MS/MS).

RESULTS

On admission, the patient presented with necrosis involving the nasal ala, columella, nasal vestibule, and cartilaginous nasal septum. Laboratory tests showed leukocytosis, thrombocytosis, anemia, elevated C-reactive protein, and repeatedly positive urine toxicology for cocaine. Immunological testing revealed markedly positive anti-proteinase 3 antibodies (>200.00 MFI; reference <20.00) with negative anti-myeloperoxidase antibodies. Histopathology demonstrated fibrinoid necrosis of small vessels with necrotizing granulomatous inflammation and suppuration, supporting a diagnosis of GPA-like vasculitis. Computed tomography showed progressive destruction of the nasal septum, external nose, lateral nasal walls, and hard palate. Microbiological cultures identified Pseudomonas aeruginosa, Enterococcus faecalis, and later Streptococcus agalactiae. LC-MS/MS did not detect levamisole in the urine samples tested. Despite antibiotic therapy, corticosteroids, cyclophosphamide, and later ongoing immunosuppressive treatment, the patient developed severe irreversible centrofacial destruction, although subsequent local improvement and attenuation of inflammation were observed. Statistical testing, confidence intervals, and p-values were not applicable due to the single-case design.

CONCLUSIONS

This case demonstrates that intranasal cocaine use may induce ANCA-positive vasculitis clinically, serologically, radiologically, and histopathologically resembling GPA. In young patients with destructive upper airway disease and positive ANCA, repeated urine toxicology screening should be considered an essential diagnostic step. Cocaine abstinence is crucial for therapeutic success and prevention of further tissue destruction.

KEYWORDS

Cocaine, GPA, ANCA vasculitis, PR3, Midline destructive, lesion, Rhinology

PP-331

Fifteen-Year Outcomes Of Tracheoesophageal Voice Prosthesis After Total Laryngectomy: Complications And Functional Results

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BACKGROUND & AIM

Voice rehabilitation after total laryngectomy is essential for restoring communication and quality of life. Tracheoesophageal voice prosthesis (TEP) is considered the gold standard method, providing fluent and intelligible speech.

However, long-term complications such as periprosthetic leakage, fistula enlargement, and infections may affect outcomes. Long-term (>10 years) data remain limited.

To evaluate the long-term (15-year) clinical outcomes of patients undergoing tracheoesophageal voice prosthesis after total laryngectomy, focusing on complications, comorbidities, and functional speech outcomes.

MATERIAL & METHODS

This retrospective single-center study included 18 patients who underwent TEP after total laryngectomy. Patients were followed for a mean duration of 15 years.

The following parameters were evaluated: fistula enlargement, periprosthetic leakage, candidiasis development, hospitalization history, nasogastric tube requirement, comorbidities, and the ability to speak without a prosthesis.

RESULTS

Long-term follow-up demonstrated an increase in prosthesis-related complications over time.

Periprosthetic leakage and fistula enlargement were the most common complications. Candidiasis was frequently observed and contributed to prosthesis dysfunction.

Some patients required recurrent hospitalizations, and a subset developed alternative speech strategies independent of the prosthesis.

Despite these complications, most patients maintained functional communication.

CONCLUSIONS

Tracheoesophageal voice prosthesis remains an effective method for voice rehabilitation after total laryngectomy.However, complications tend to accumulate over time and require regular monitoring and management.Long-term multidisciplinary follow-up is essential to maintain functional outcomes.

KEYWORDS

Total laryngectomy; tracheoesophageal voice prosthesis; voice rehabilitation; long-term outcomes; tracheoesophageal fistula; periprosthetic leakage; complications; quality of life.

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Endoscopic Balloon Dilatation Outcome In Airway Stenosis: A Single Center Experience

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BACKGROUND & AIM

Laryngotracheal stenosis is a challenging airway condition that often requires repeated interventions. Endoscopic balloon dilatation (EBD) is widely used as a minimally invasive treatment, frequently combined with adjuvant therapies such as intralesional steroids and mitomycin C. However, outcomes remain variable with no clear consensus on optimal management. This study aims to evaluate our institutional experience with EBD and assess factors associated with recurrence.

MATERIAL & METHODS

A retrospective cohort study is being conducted at a tertiary care center. Potentially eligible records were identified for patients who underwent endoscopic balloon dilatation for airway stenosis. Final inclusion will be limited to patients treated between 2020 and 2026 who meet predefined eligibility criteria. Data are being collected from electronic medical records, including demographics, etiology, stenosis level and grade, number of dilatation procedures, interval between interventions, and use of adjuvant therapies such as intralesional steroids and mitomycin C. Primary outcomes include recurrence and surgical-free interval. Secondary outcomes include the association between adjuvant therapies and clinical outcomes.

RESULTS

Data collection is currently ongoing, and preliminary data extraction has been initiated. An initial institutional search identified a large number of potentially eligible cases; final cohort size will be determined after applying eligibility criteria and excluding incomplete records. Full analysis will evaluate recurrence rates, number of procedures, interval between dilatations, and the impact of adjuvant therapies.

CONCLUSIONS

This study aims to provide insight into real-world outcomes of endoscopic balloon dilatation in airway stenosis and clarify the role of adjuvant therapies. The findings may help guide clinical decision-making and contribute toward more standardized, evidence-based management of this challenging condition.

KEYWORDS

Laryngotracheal stenosis, endoscopic balloon dilatation, airway stenosis, subglottic stenosis, mitomycin C, intralesional steroids, recurrence, surgical-free interval

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A Rare Neuroendocrine Tumor Of The Larynx Mimicking A Vocal Fold Polyp

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BACKGROUND & AIM

Neuroendocrine tumors (NETs) are uncommon neoplasms originating from neuroendocrine cells, characterized by dual neuronal and endocrine differentiation. These tumors may be functional or non-functional and show a wide spectrum of clinical behavior, from indolent to highly aggressive. Although NETs most frequently arise in the gastrointestinal tract and bronchopulmonary system, involvement of the head and neck region is rare, with laryngeal localization particularly unusual. Due to their rarity and often non-specific presentation, laryngeal NETs may pose significant diagnostic challenges. This study presents a rare case of laryngeal NET and highlights key diagnostic and therapeutic considerations.

MATERIAL & METHODS

A 64-year-old man presented with a two-year history of persistent globus sensation and referred otalgia. On endoscopic examination, a well-defined polypoid lesion was observed on the medial aspect of the right arytenoid cartilage. The patient had no dysphonia, dyspnea, or other systemic symptoms (Fig.1). Magnetic resonance imaging (MRI) and computed tomography (CT) demonstrated a circumscribed lesion without cartilage invasion, lymphadenopathy, or distant metastasis (Fig.2). The lesion was excised via suspension microlaryngoscopy. Histopathology confirmed a neuroendocrine tumor, with immunohistochemistry positive for chromogranin and synaptophysin. Given its malignant potential, a subsequent wide local excision was performed. The patient was evaluated for possible Multiple Endocrine Neoplasia (MEN) syndrome.

RESULTS

Final histopathology showed negative margins. Postoperative recovery was uneventful. Systemic evaluation revealed no evidence of MEN syndrome or additional primary lesions. At follow-up, the patient remained asymptomatic with no clinical or radiological signs of recurrence.

CONCLUSIONS

Laryngeal NETs are rare tumors that may present subtly, such as with globus sensation and referred otalgia. Accurate diagnosis relies on histopathological and immunohistochemical assessment. Complete surgical excision with clear margins remains the cornerstone of treatment. Multidisciplinary evaluation ensures exclusion of syndromic associations and optimal outcomes.

KEYWORDS
Laryngeal neuroendocrine tumor, Hoarseness, MEN syndromes

PP-334

HYPOPHARYNGEAL MASS IN A FEMALE PATIENT PRESENTING WITH DYSPHAGIA: A CASE REPORT

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BACKGROUND & AIM

Hypopharyngeal carcinoma is relatively rare, representing approximately 3% of all head and neck malignancies. Hypopharyngeal carcinoma is a highly aggressive malignancy with a dismal prognosis, primarily due to its tendency for late clinical presentation. While traditionally associated with heavy alcohol and tobacco use in older males, this case highlights a critical shift in clinical presentation and etiology.Therefore, timely detection utilizing meticulous endoscopic examination and a multimodal diagnostic approach remains the cornerstone for overcoming diagnostic delays and optimizing clinical outcomes.

MATERIAL & METHODS

This case report describes a 58-year-old female patient diagnosed with hypopharyngeal squamous cell carcinoma, presenting with a primary complaint of progressive dysphagia. A retrospective medical chart review was conducted to evaluate the patient's clinical presentation, atypical occupational risk factors, diagnostic workup, and initial management protocols.

RESULTS

At the time of diagnosis, 90% of cases are classified as advanced-stage hypopharyngeal cancer. Therefore, a detailed endoscopic examination must be performed in patients presenting with chronic sore throat and dysphagia. Following a comprehensive clinical evaluation, the most critical elements in the assessment of hypopharyngeal cancer are imaging and biopsy. While the diagnosis of hypopharyngeal cancer can only be confirmed histopathologically, radiological imaging is essential for treatment planning and staging.

CONCLUSIONS

Hypopharyngeal cancer, which is predominantly squamous cell carcinoma, shares similar risk factors with other head and neck cancers, the primary ones being the long-term consumption of alcohol and tobacco products. Other etiological factors include Plummer-Vinson syndrome, asbestos exposure, gastroesophageal reflux, and HPV.While squamous cell carcinoma accounts for 95% of hypopharyngeal cancers, adenocarcinoma, sarcoma, and non-epidermoid carcinomas constitute the majority of the remaining cases. Symptoms at presentation depend on the size and location of the tumor, with pain, bleeding, and dysphagia being the most common presenting complaints.

KEYWORDS
Squamous Cell Carcinoma of Head and Neck, Hypopharyngeal Neoplasms, Deglutition Disorders, Dysphagia

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Epidemiological Study Of Risk Factors And Treatment Outcomes Of Subglottic Stenosis After Prolonged Intubation In South East Of Iran 2016-2024

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BACKGROUND & AIM

Tracheal and subglottic stenosis after prolonged intubation is a significant complication that leads to mortality and morbidity. Due to limited data and information in this region about its epidemiology and treatment outcomes, this study aimed to evaluate the epidemiological characteristics, risk factors and treatment outcomes of post intubation tracheal and subglottic stenosis (PITS) in referral center hospital of southeast Iran (Kerman).

MATERIAL & METHODS

In this analytical cross-sectional study, we analyzed the medical records of 130 patients with PITS admitted to Kerman hospitals between 2016 - 2024. Demographic datas, intubation characteristics, clinical manifestations, surgical interventions (mainly resection and anastomosis), and outcomes (recovery, complications, recurrence, mortality) were collected and analyzed. Results with $P<0.05$ were regarded as statistically significant.

RESULTS

The mean age of patients was 26.47 ± 2.3 and 67.7% of patients were male. Multiple trauma (60.8%) was the main reason for intubation. Dyspnea was the most common symptom (96.2%). The most common cause of intubation was multiple trauma (60.8%). Ninety-six percent of patients underwent surgical intervention. In 56 cases, resection with anastomosis was performed, and 92.3% of patients who underwent resection with anastomosis recovered, while 4.5% had recurrence, 0.8% had PITS-related mortality, and 1.5% had complications. Duration of intubation (P= 0.001), history of T-tube use (P=0.001), previous

airway surgery (P=0.001), vocal cord status (P=0.03), and airway diameter (P=0.001) were significantly associated with treatment outcomes. In contrast, age, gender, smoking, and comorbidities showed no significant correlation. (P>0.05). Normal vocal cord function and less stenosis at initial bronchoscopy were associated with better outcomes.

CONCLUSIONS

PITS is considered as common complication of prolonged intubation that could prevented, which influenced by demographic and epidemiological factors, at the same time can cause has high mortality and morbidity. Key factors such as duration of intubation, prior airway interventions, T-tube history, vocal cord status, and airway diameter significantly influence treatment outcomes. These findings highlight the importance of preventive strategies to reduce prolonged intubation and optimize airway management in high-risk patients. Early referral and optimal airway management are critical. Early diagnosis, appropriate surgical intervention, and careful postoperative follow-up are essential to improve prognosis.

KEYWORDS

Subglottic Stenosis, Prolonged Intubation, Post-Intubation Tracheal Stenosis, Treatment Outcomes, Tracheal Resection and Anastomosis, Tracheal Stenosis

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Giant Fibroepithelial Polyp Originating From The Right Pyriform Sinus

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BACKGROUND & AIM

Fibroepithelial polyps of the hypopharynx and cervical esophagus are rare lesions with an unclear etiology. While typically asymptomatic, giant polyps can cause dysphagia and airway obstruction. We present an exceptionally rare case—the fifth reported in literature—of a giant polyp (90×44×10 mm) originating from the pyriform sinus. Unlike typical presentations, this case involved four recurrent surgeries and extreme dimensions. Despite its recurrent nature, genetic analysis showed no PTEN mutations. This report discusses our combined surgical approach and histopathological findings, aiming to provide clinical guidance for managing such rare, recurrent, giant lesions where existing literature data remains extremely limited.

MATERIAL & METHODS

A 56-year-old male presented with a five-month history of intermittent dyspnea and dysphagia. His medical history revealed two prior surgeries for similar complaints, performed 10 and 2 years ago. ENT examination and MRI identified a giant polypoid lesion originating from the right pyriform sinus, dilating and extending into the proximal esophagus. Gastrointestinal screenings for associated pathologies were unremarkable.Under general anesthesia, a combined approach involving microlaryngoscopy and rigid esophagoscopy was performed with the thoracic surgery team. The giant lesion, measuring approximately 90 × 44 × 10 mm, was excised from its pedicle using laser and LigaSure.(Figure 1) Histopathology confirmed a fibroepithelial polyp. The patient was discharged on the fifth postoperative day without complications. This case is clinically significant as it represents only the fifth reported case of a fibroepithelial polyp originating from the hypopharynx in the literature, distinguished by its recurrent nature and extreme dimensions. The patient remains asymptomatic under follow-up.

RESULTS

Giant fibroepithelial polyps (FEP) originating from the hypopharynx and pyriform sinus are exceptionally rare. To our knowledge, only five cases, including ours, have been reported involving multiple polypoid lesions localized in a unilateral pyriform sinus. Unlike the cases reviewed by Alabdullah et al., our patient is distinguished by undergoing a fourth surgery for the same pathology and the lesion's extreme dimensions (90×44×10 mm). Although PTEN mutations have been associated with recurrent cases in the literature, no such variation was detected in our patient. This case offers a unique contribution to the literature due to its multi-recurrent nature without a history of radiotherapy and its diagnostic complexity.

CONCLUSIONS

Fibroepithelial polyps of the hypopharynx and cervical esophagus are rare lesions of the upper aerodigestive tract with an incompletely understood etiology. While patients are initially asymptomatic, significant growth can lead to clinical presentations involving dysphagia, dyspnea, and globus sensation. Malignant lesions must be considered in the differential diagnosis. The primary treatment is complete surgical excision; however, recurrences have been reported despite thorough intervention. The risk of malignant transformation remains exceedingly low.

KEYWORDS

Fibroepithelial polyps,Pyriform sinus ,Hypopharynx, Recurrent polyp,Dysphagia

PP-337

Rare Airway Migration Of An Esophageal Stent In A Tracheoesophageal Fistula Patient Following Trauma: A Fatal Case Report

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BACKGROUND & AIM

Tracheoesophageal fistula (TEF) is a rare but severe complication of prolonged intubation and major thoracic trauma. Esophageal stenting is commonly used for management of TEF; however, although stent migration is relatively frequent, migration into the airway is exceptionally rare and may lead to life-threatening complications such as airway obstruction, aspiration, and vascular erosion.

MATERIAL & METHODS

A 22-year-old previously healthy male sustained severe thoracic trauma following a motor vehicle accident. He underwent neurosurgical stabilization and required prolonged mechanical ventilation, followed by tracheostomy.

During his intensive care course, he developed TEF, which was managed with placement of a fully covered metallic esophageal stent. A PEG tube was also inserted for enteral nutrition.

After transfer to our center , the patient presented in a hypoxic state. He developed progressive respiratory distress and dysphagia. Endoscopic and radiological evaluation revealed rare migration of the esophageal stent into the trachea, extending from the laryngeal level to the distal trachea, causing airway obstruction and chronic aspiration despite tracheostomy with inflated cuff.

A stent-in-stent procedure was performed to reposition the migrated stent. However, the patient subsequently developed massive hemoptysis due to tracheovascular erosion, requiring emergency bronchial artery embolization. Despite intensive care management, he developed multidrug-resistant infections, progressing to septic shock and multi-organ failure, resulting in death.

RESULTS

Esophageal stent migration is a known complication; however, migration into the airway is extremely rare and usually associated with severe tissue injury or fistulous connections. Importantly, even in the presence of a cuffed tracheostomy tube, airway protection was insufficient due to structural disruption caused by fistula and stent migration. Migration was associated with partial mechanical obstruction of the tracheal lumen and impairment of laryngeal sphincter function, leading to worsening dysphagia and chronic aspiration. Massive hemoptysis secondary to tracheovascular erosion represents another catastrophic complication, often requiring emergent interventional radiology management. Despite such interventions, outcomes remain poor when complicated by severe infection and multi-organ failure.

CONCLUSIONS

Airway migration of esophageal stents in patients with tracheoesophageal fistula is an exceptionally rare but fatal complication. Early recognition, close multidisciplinary follow-up, and prompt intervention are critical; however, prognosis remains poor in cases complicated by severe trauma and prolonged intensive care course.

KEYWORDS

Tracheoesophageal fistula; esophageal stent migration; airway obstruction; tracheostomy; thoracic trauma.

PP-338

DUAL-BIOLOGIC RESTORATION LARYNGOPLASTY : HARNESSING MICRO FAT AND PLATELET RICH PLASMA FOR FUNCTIONAL RECOVERY ACROSS MULTIPLE GLOTTIC INSUFFICIENCIES

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BACKGROUND & AIM

Background : glottic insufficiency will result in glottal gap that cause dysphonia, dysphagia, and breathing problems. Unilateral vocal fold paralysis (UVFP) is the most cause of incomplete glottal closure. Other causes are presbylarynx, vocal fold (VF) paresis, scar, atrophy and sulcus vocalis. The use of autologous fat is a recognized method for VF augmentation. The injection of blood components such as platelet-rich plasma (PRP) as a regenerative therapy offers the potential to improve the results. Aim : to discuss efficacy of autologous fat injection laryngoplasty combined with PRP for treatment of glottic insufficiencies with various underlying diseases (serial cases)

MATERIAL & METHODS

Existing literature on autologous fat and PRP including aetiology, pathophisiology, diagnose and treatment modalities available are summarized. Autologous fat injection laryngoplasty combined with PRP are performed under general anesthesia

RESULTS

Advantages of autologous fat are contain high biocompatibility and minimal risk of reaction. Graft survival can survive up to 12 months and 30% can survive up to 2 years. PRP increases angiogenesis, inhibits apoptosis and prolongs growth period time

CONCLUSIONS

Laryngoplasty injection combination of autologous fat and PRP are effectively improves voice quality. Autologous fat augmentation injection laryngoplasty combined with PRP are minimally invasive intervention option for voice disorders due to structural abnormalities of VF. It has gained popularity due to its simplicity and very low complication rate

KEYWORDS
autologous far injection, laryngoplasty, platelet-rich plasma, dysphonia

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HIBERNOMA: A RARE SOFT TISSUE TUMOR SEEN IN THE NECK

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BACKGROUND & AIM

INTRODUCTION

Hibernoma is a rare benign mesenchymal tumor arising from fetal brown adipose tissue (1). Although brown fat usually regresses during infancy, persistent foci may give rise to hibernoma in adulthood. It most commonly occurs in the interscapular region, mediastinum, retroperitoneum, and thigh, whereas cervical localization is uncommon (1).

Clinically and radiologically, it may mimic lipoma, angiolipoma, lymphadenopathy, and well-differentiated liposarcoma, posing diagnostic challenges (2,4). Magnetic resonance imaging (MRI) is valuable in diagnosis, demonstrating high vascularity, heterogeneous fat signal, and incomplete fat suppression (3). Definitive diagnosis relies on histopathological examination. Complete surgical excision is curative ,and recurrence is rare (1).

MATERIAL & METHODS

CASE PRESENTATION

A 55-year-old man presented with a slowly enlarging painless mass in the left posterior cervical triangle, without dysphagia, voice changes, or neurological symptoms. Physical examination revealed a mobile, well-circumscribed 4×4 cm subcutaneous mass.

Neck MRI demonstrated a well-defined 45×18×60 mm lesion involving left levels IIb,III,and Va.The lesion was hyperintense on T1- and T2-weighted sequences, showed slight signal loss on fat-suppressed images, contained macroscopic fat components, lacked low ADC values ,and demonstrated mild contrast enhancement. These findings suggested hibernoma, although liposarcoma and angiolipoma were also considered in the differential diagnosis (2,3).

The patient underwent complete surgical excision. Histopathological examination confirmed the diagnosis of hibernoma. Postoperative recovery was uneventful.

RESULTS

DISCUSSION

Hibernoma is a rare benign tumor, particularly in the cervical region (1). Although it resembles lipoma clinically, increased vascularity and atypical MRI findings may aid in the differential diagnosis (3).

However, distinguishing hibernoma from well-differentiated liposarcoma may not always be possible radiologically; therefore , definitive diagnosis requires histopathological examination (4). Complete surgical excision is both diagnostic and therapeutic, with extremely low recurrence rates (1).This case highlights that hibernoma should be considered in the differential diagnosis of cervical fat-containing cervical masses.

CONCLUSIONS

CONCLUSION

Hibernoma, although rare, should be included in the differential diagnosis of slowly growing fat-containing cervical masses. MRI may suggest the diagnosis, but histopathological confirmation is essential. Complete surgical excision is both diagnostic and curative.

KEYWORDS
HIBERNOMA,NECK MASS,BROWN ADİPOSE TİSSUE,CERVİCAL TUMOR

PP-340

PM-Induced Lysosomal Rupture-Mediated Pyroptosis In Human Vocal Fold Fibroblasts

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BACKGROUND & AIM

Exposure to air pollution, specifically to particulate matter (PM), is a significant global health hazard . Recent studies have shown that PM triggers NLRP3-mediated pyroptosis. However, whether cathepsin B (CTSB), a protease released from ruptured lysosomes, activates the NLRP3 inflammasome is unclear. This study investigated the involvement of CTSB and NLRP3 inflammasome activation in PM-exposed human vocal fold fibroblasts (hVFFs).

MATERIAL & METHODS

Pyroptotic cell death was evaluated based on LDH release and PI staining, and NLRP3 inflammasome activation via western blotting and immunofluorescence staining. The inflammatory response during pyroptosis was analyzed in an ELISA assay, and lysosomal stability by LysoTracker staining

RESULTS

PM exposure was shown to induce cell membrane rupture and pyroptosis in hVFFs, through a mechanism involving NLRP3, cleaved caspase-1, gasdermin D (GSDMD), IL-1β, lysosomal-associated membrane protein 2a, and CTSB. These results suggested that PM causes pyroptosis in hVFFs via NLRP3 inflammasome activation and lysosomal destabilization. Treatment of the PM-exposed cells with MCC950, an NLRP3-specific inhibitor, suppressed this pathway, providing further evidence of the involvement of the NLRP3 inflammasome in PM-induced pyroptosis. A role for CTSB in NLRP3 inflammasome activation and pyroptosis was implied by the finding that treatment with CA-074-me, a CTSB-specific inhibitor, reduced CTSB expression and suppressed NLRP3, cleaved caspase-1, GSDMD, IL-1β, and CTSB in PM-exposed hVFFs .

CONCLUSIONS

Our study shows that both the NLRP3 inflammasome and CTSB participate in PM-induced pyroptosis in hVFFs. Targeting these pathways could yield novel therapeutic agents able to mitigate the detrimental effects of PM exposure on respiratory health.

KEYWORDS

Pyroptosis; Cathepsin B; Particulate Matter; Laryngitis; Vocal Fold

PP-341

Endoscopic Visualization Of A Sharp Foreign Body Preceding Retropharyngeal Abscess Formation In An Adult

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BACKGROUND & AIM

To present a rare case of retropharyngeal abscess developing after endoscopic removal of a sharp foreign body from the hypopharynx and to emphasize the importance of early recognition and management of deep neck space infections following mucosal injury.

MATERIAL & METHODS

A 53-year-old woman with no significant medical history presented with foreign body aspiration. A sewing pin lodged in the hypopharynx with mucosal penetration was identified and removed endoscopically. The patient was initially discharged without antibiotic therapy. She re-presented with progressive dysphagia and dyspnea. Contrast-enhanced computed tomography demonstrated a 31×20 mm retropharyngeal abscess with extension toward the nasopharynx. The patient underwent transoral incision and drainage under general anesthesia. Pus samples were obtained for microbiological analysis. Postoperatively, the patient received intravenous antibiotic therapy followed by oral treatment, guided by culture results.

RESULTS

Following surgical drainage and appropriate antibiotic treatment, the patient showed rapid clinical improvement. Follow-up imaging demonstrated complete resolution of the abscess. No postoperative complications occurred, and the patient was discharged in good condition.

CONCLUSIONS

Retropharyngeal abscess formation in adults is rare and should raise concern when following sharp foreign body aspiration. Even after successful removal, persistent or worsening symptoms warrant prompt evaluation with imaging. This case highlights the role of early suspicion, timely surgical drainage, and appropriate antibiotic coverage.

KEYWORDS

Deep neck space infection, Foreign body aspiration, Retropharyngeal abscess, Streptococcus anginosus.

PP-342

Voice Outcomes After Vocal Fold Injection Augmentation: A Single-Center Experience

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BACKGROUND & AIM

Vocal fold injection augmentation is a minimally invasive procedure used to improve glottic closure and voice quality in patients with glottic insufficiency caused by unilateral vocal fold paralysis, vocal fold atrophy, scarring, and other laryngeal pathologies. The aim of this study was to evaluate clinical experience and short-term voice outcomes after vocal fold injection augmentation at a tertiary otorhinolaryngology center.

MATERIAL & METHODS

A single-center study was conducted at the Department of Otorhinolaryngology and Head and Neck Surgery, Comenius University Faculty of Medicine and University Hospital Bratislava, between October 2023 and August 2025. Overall, 108 vocal fold injection augmentation procedures were performed in 100 patients aged 26–89 years (mean age 60.6 years). The most common indications included unilateral vocal fold paresis/paralysis, vocal fold atrophy, and vocal fold scarring. Hyaluronic acid and calcium hydroxylapatite were used as injectable materials. In a subgroup of patients with unilateral vocal fold paralysis, a prospective multidimensional voice analysis was performed using preoperative and postoperative auditory-perceptual evaluation (GRBAS scale), aerodynamic measurements (maximum phonation time), acoustic analysis, and Voice Handicap Index (VHI-30). Statistical analysis was performed using the Wilcoxon signed-rank test.

RESULTS

The cohort included 108 procedures with a reinjection rate of 8%. Left-sided vocal fold involvement was more frequent than right-sided involvement. In the subgroup analysis of patients with unilateral vocal fold paralysis, significant postoperative improvement was observed in overall dysphonia grade (G), breathiness (B), jitter, shimmer, glottal-to-noise excitation (GNE), maximum phonation times for /a:/ and /z:/, and VHI-30 scores ($p < 0.05$). Postoperative improvement in glottic closure and subjective voice quality was observed in the majority of patients.

CONCLUSIONS

Vocal fold injection augmentation represents an effective minimally invasive treatment option for patients with glottic insufficiency. Multidimensional voice assessment appears to be a valuable tool for objective evaluation of treatment outcomes and postoperative voice improvement.

KEYWORDS

vocal fold injection augmentation, unilateral vocal fold paralysis, dysphonia, voice assessment, glottic insufficiency, laryngology

PP-343

Delayed Fistulizing Infection Following Reconstruction Of Complex Crush Laryngeal Trauma: A Case Report

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BACKGROUND & AIM

Laryngeal trauma is an uncommon but potentially fatal injury requiring rapid airway stabilization and meticulous reconstruction. Delayed cervical fistulization after repair of complex laryngotracheal trauma is rarely reported. We aimed to present the management of delayed fistula formation following reconstruction of severe crush laryngeal trauma.

MATERIAL & METHODS

A 38-year-old man presented after industrial crush neck trauma caused by a press machine. Imaging demonstrated extensive cervicofacial emphysema, pneumomediastinum, pneumothorax, C7 spinous process fracture, thyroid/cricoid cartilage injury, and suspected laryngotracheal wall defects. Flexible bronchoscopy revealed a subglottic laceration communicating with the airway lumen. Because of associated cervical vertebral injury, urgent tracheotomy was performed before exploration. Surgical exploration demonstrated a right posterolateral cricoid fracture, which was repaired with primary reduction and suturing, followed by strap muscle flap reconstruction. After successful decannulation and tracheostomy closure, persistent drainage and granulation tissue developed at the tracheostomy scar. Re-exploration revealed multiple cervical fistulous tracts extending from the prior laryngeal injury site toward the closed tracheostomy region. Debridement, drainage, sternocleidomastoid muscle flap reconstruction, and targeted antibiotic therapy were performed.

RESULTS

Wound cultures yielded Pseudomonas aeruginosa. Purulent drainage progressively resolved during follow-up with surgical and medical management. Airway patency was preserved without recurrent respiratory compromise or dysphagia. Follow-up examination demonstrated persistent but functional unilateral vocal cord hypomobility without recurrent deep neck infection.

CONCLUSIONS

Complex crush laryngotracheal trauma may result in delayed cervical fistulization even after apparently successful primary reconstruction and decannulation. Careful postoperative surveillance and timely surgical intervention are essential for preventing chronic infection and long-term airway morbidity.

KEYWORDS

Laryngeal trauma, cricoid fracture, cervical fistula, tracheotomy, airway reconstruction, crush injury

PP-344

From Extremity Ecchymosis To Pseudo-Ludwig Angina: Antiplatelet-Associated Hematoma With Laryngeal And Sublingual Involvement

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BACKGROUND & AIM

Ludwig angina is a life-threatening, rapidly progressive infection of the sublingual and submandibular spaces requiring urgent airway management and often surgical drainage. However, non-infectious conditions such as antiplatelet-associated or spontaneous hematomas may closely mimic this entity which is called “pseudo-Ludwig Angina” and pose a diagnostic challenge. This case highlights that antiplatelet-associated progressive soft tissue hematomas in elderly patients may initially present as peripheral ecchymosis and progress to pseudo-Ludwig angina with laryngeal airway compromise. Early recognition of this trajectory may support an airway-first, conservative management approach.

MATERIAL & METHODS

We report an 85-year-old male with multiple comorbidities, including prior coronary artery bypass grafting and percutaneous coronary interventions, hypertension, rectal cancer history, and pacemaker implantation, who was receiving Clopidogrel therapy. He initially presented with progressive extremity edema and ecchymosis, with normal coagulation parameters and platelet count. Ten days later, he returned with bilateral upper extremity, cervical, and submandibular ecchymosis, tongue edema and dyspnea, and was consulted to our clinic. Clinical, endoscopic, radiologic, and laboratory findings were evaluated to differentiate infectious from non-infectious etiologies and extensity of hematoma. Airway status and clinical progression during intensive care follow-up were monitored.

RESULTS

Laryngoscopy revealed extensive hematoma involving the lingual, sublingual, glottic, and supraglottic regions, resulting in significant airway compromise. Imaging demonstrated diffuse soft tissue involvement without abscess formation. Due to dual-level airway obstruction and failure of endotracheal entubation, emergent local tracheostomy was performed, followed by re-operation for bleeding control on postoperative day one. With airway stabilization, platelet transfusion and discontinuation of clopidogrel, ecchymosis and hematoma regressed during intensive care follow-up. However, the patient developed sepsis secondary to pneumonia and subsequently died.

CONCLUSIONS

Antiplatelet-associated spontaneous hematomas should be considered in elderly patients presenting with Ludwig angina-like findings, even in the absence of laboratory evidence of coagulopathy. In such cases, Clopidogrel does not alter standard coagulation parameters but causes irreversible platelet inhibition, which may explain progressive bleeding despite normal laboratory results. Therefore, platelet transfusion may be considered in selected cases. These hematomas may follow a progressive course from extremity ecchymosis to diffuse laryngeal and sublingual involvement with life-threatening airway compromise. Early recognition of this trajectory may help guide an airway-first, conservative management approach; however, severe systemic complications and fatal outcomes may still occur.

KEYWORDS

Pseudo-Ludwig angina, anti-platelet associated hematoma, clopidogrel, airway compromise, laryngeal hematoma, sublingual hematoma, tracheostomy

PP-345

Successful Recovery From Anabolic Androgenic Steroid-Induced Dysphonia Via Pitch-Raising Voice Therapy: A Rare Case Report

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BACKGROUND & AIM

Anabolic androgenic steroids (AAS) are known to cause significant virilization in women, typically characterized by vocal fold thickening, epithelial changes, and a marked decrease in fundamental frequency (F0)These masculinizing effects are widely considered irreversible in clinical literature, even after medication cessation, often leaving patients with a permanent "husky" or low-pitched voice.This case report presents a 23-year-old female who achieved significant vocal and structural recovery through targeted behavioral intervention, challenging the paradigm of absolute irreversibility.

MATERIAL & METHODS

A 23-year-old female presented with progressive voice deepening after six monthly intramuscular AAS doses for weight gain. Within three months, she developed a muffled, low-pitched voice significantly impairing her quality of life. Initial videostroboscopy (VLS) revealed minimal bilateral vocal fold thickening and blunted free edges.Acoustic analysis showed an F0 of 140 Hz well below the typical female range of 180–250 Hz a Voice Handicap Index (VHI) of 25, Jitter of 0.4%, and Shimmer of 1.6%.Despite AAS cessation, no spontaneous improvement occurred.The patient completed a six-month course of pitch-raising voice therapy. Follow-up showed marked improvements in vocal quality and daily functioning. Control VLS confirmed complete resolution of vocal fold thickening. Post-therapy metrics showed an improved F0 of 165 Hz and a reduced VHI of 15, with stable perturbation measures (Jitter: 0.3%, Shimmer: 1.5%). The patient continues clinical follow-up with sustained improvements.

RESULTS

Six months of targeted behavioral intervention facilitated the total resolution of structural vocal fold thickening and led to a significant increase in fundamental frequency and improved patient-reported quality of life.

CONCLUSIONS

AAS induced dysphonia and structural laryngeal changes, traditionally viewed as permanent, can be reversible through systematic voice therapy. Behavioral management should be considered a primary non-surgical treatment option for women suffering from drug-induced vocal masculinization.

KEYWORDS

Anabolic androgenic steroids, dysphonia, fundamental frequency, voice therapy, vocal fold thickening,virilizitation.

PP-346

Rare Bilateral Adult Laryngeal Saccular Cysts Managed By Transoral Robotic Surgery

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BACKGROUND & AIM

Laryngeal saccular cysts are benign mucinous retention lesions that may cause significant airway obstruction. While typically congenital and unilateral, bilateral presentation in adults is exceptionally rare. Management of bilateral lesions is challenging due to limited surgical exposure, risk of mucosal injury, and postoperative airway compromise. We hypothesized that Transoral Robotic Surgery (TORS) using the da Vinci Surgical System enables safe, single-stage, mucosa-preserving excision of bilateral laryngeal saccular cysts while minimizing morbidity and avoiding tracheostomy.

MATERIAL & METHODS

A 35-year-old female presented with progressive stridor and dysphonia. Endoscopic evaluation revealed approximately 60% glottic obstruction. Contrast neck magnetic resonance imaging confirmed bilateral cystic lesions within the paraglottic spaces.

A single-stage surgical intervention was performed using TORS. The patient was operated in a tertiary referral center under general anesthesia. Robotic three-dimensional visualization allowed identification of a suspicious mucosal area over the right-sided cyst, which was biopsied separately. Complete bilateral excision was achieved using the system's articulated instruments with mucosal preservation.

Primary outcome measures included completeness of resection, perioperative airway safety (need for tracheostomy), and postoperative functional outcomes (voice quality). Secondary outcomes included intraoperative complications and early postoperative recovery.

RESULTS

Complete resection of both cysts was achieved without intraoperative complications or mucosal defects. No tracheostomy was required. Postoperative oedema was minimal, and the patient was discharged on postoperative day one. Voice quality, assessed using the GRBAS (Grade, Roughness, Breathiness, Asthenia, Strain) scale, returned to normal within two weeks. Histopathological evaluation confirmed benign cystic lesions; analysis of the suspicious mucosal area is ongoing.

CONCLUSIONS

TORS is a safe and effective technique for the management of bilateral adult laryngeal saccular cysts. The enhanced visualization and instrument dexterity facilitate precise, mucosa-sparing dissection in anatomically restricted bilateral disease. This approach enables single-stage treatment, reduces airway-related morbidity, and may eliminate the need for prophylactic tracheostomy in selected cases.

KEYWORDS

Laryngeal saccular cyst, Bilateral laryngeal cyst, Transoral robotic surgery (TORS), da Vinci Surgical System, Airway obstruction, Paraglottic space, Robotic laryngeal surgery, Minimally invasive surgery, Dysphonia, Stridor

PP-347

Conservative Management Of Selected Schaefer-Fuhrman Group III Blunt Laryngeal Trauma

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BACKGROUND & AIM

Blunt laryngeal trauma can be life-threatening, with risks for long-term morbidity. The Schaefer–Fuhrman classification has traditionally been used to grade severity and guide management; with definitive surgical intervention being the recommendation for group III injuries. While acute airway management remains consistent, data regarding considerations and alternatives to definitive management remain limited. Herein, through 2 cases, we report the feasibility and outcomes of conservative management in selected Schaefer-Fuhrman Group III blunt laryngeal trauma.

MATERIAL & METHODS

We present 2 patients with Schaefer–Fuhrman group III blunt laryngeal trauma. One had displaced left thyroid cartilage fracture with ipsilateral supraglottic edema, false and true cord and aryepiglottic fold hematoma. The other had exposed cartilage with arytenoid and true cord hematoma on nasendoscopy. The former declined surgical fixation while the latter was advised on conservative management in view of age and comorbidities. Both patients maintained a stable patent airway on serial scopes and were managed conservatively (airway monitoring, voice rest, intravenous dexamethasone and anti-reflux medication). They were discharged on day 4 and 3 respectively on oral diet with subjective voice and objective nasoendoscopic improvement.

RESULTS

The first patient defaulted follow-up. On phone recall, he reported normalization of voice and swallowing. The second patient returned for follow-up 11 months post-injury. Nasoendoscopy showed a fixed and shortened left true cord in paramedian position with good glottic closure from the right true cord. No edema or hematoma was noted and mucosalization had occurred over the exposed cartilage. There was no subjective or objective hoarseness and her swallowing was normal. These cases suggests that conservative management may be safe and feasible even in injury patterns traditionally considered for surgical repair with careful patient selection. Patients must be clinically stable without airway or swallowing compromise. Further considerations also include: fractures that do not impair vocal fold mobility/mucosal wave, limited mucosal disruption/exposed cartilage with low adhesion risk; and taking into account age and comorbidities.

CONCLUSIONS

Conservative management may be feasible in carefully selected patients with Schaefer–Fuhrman Group III blunt laryngeal trauma with stable airway, injury pattern and minimal functional impairment. Further studies with standardized functional outcome assessments are required to better define selection criteria.

KEYWORDS

Laryngeal fracture, Blunt laryngeal trauma, Airway trauma

PP-348

Endoscopic Balloon Dilatation In Airway Stenosis: A Single-Center Retrospective Study

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BACKGROUND & AIM

Laryngotracheal stenosis is a challenging airway condition that often requires repeated interventions. Endoscopic balloon dilatation (EBD) is widely used as a minimally invasive treatment, frequently combined with adjuvant therapies such as intralesional steroids and mitomycin C. However, outcomes remain variable with no clear consensus on optimal management. This study aims to evaluate our institutional experience with EBD and assess factors associated with recurrence.

MATERIAL & METHODS

A retrospective cohort study is being conducted at a tertiary care center. Potentially eligible records were identified for patients who underwent endoscopic balloon dilatation for airway stenosis. Final inclusion will be limited to patients treated between 2021 and 2025 who meet predefined eligibility criteria. Data are being collected from electronic medical records, including demographics, etiology, stenosis level and grade, number of dilatation procedures, interval between interventions, and use of adjuvant therapies such as intralesional steroids and mitomycin C. Primary outcomes include recurrence and surgical-free interval. Secondary outcomes include the association between adjuvant therapies and clinical outcomes.

RESULTS

Data collection is currently ongoing, and preliminary data extraction has been initiated. An initial institutional search identified a large number of potentially eligible cases; final cohort size will be determined after applying eligibility criteria and excluding incomplete records. Full analysis will evaluate recurrence rates, number of procedures, interval between dilatations, and the impact of adjuvant therapies.

CONCLUSIONS

This study aims to provide insight into real-world outcomes of endoscopic balloon dilatation in airway stenosis and clarify the role of adjuvant therapies. The findings may help guide clinical decision-making and contribute toward more standardized, evidence-based management of this challenging condition.

KEYWORDS

Laryngotracheal stenosis, endoscopic balloon dilatation, airway stenosis, subglottic stenosis, mitomycin C, intralesional steroids, recurrence, surgical-free interval

PP-349

Our Clinical Experience With Coblator-Assisted Posterior Cordectomy In Bilateral Vocal Fold Immobility

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BACKGROUND & AIM

The primary goal in the management of bilateral vocal fold immobility (BVFI) is to establish an adequate airway while preserving phonatory function. Common etiologies include iatrogenic recurrent laryngeal nerve injury following thyroid surgery, prolonged intubation, malignancy, neurologic disorders, and idiopathic causes. Although tracheostomy has long been considered the gold standard treatment, endoscopic posterior cordotomy and cordectomy techniques have increasingly gained popularity. CO_2 laser remains the most commonly used modality; however, coblation technology may reduce collateral thermal injury, postoperative edema, and granulation tissue formation compared with conventional laser techniques. Nevertheless, clinical data regarding coblator-assisted posterior cordectomy remain limited.

MATERIAL & METHODS

Three female patients with BVFI secondary to thyroid surgery underwent unilateral coblator-assisted posterior cordectomy at our tertiary referral center. Patient ages were 71, 68, and 55 years, respectively. One patient had a pre-existing tracheostomy due to severe respiratory distress, while the remaining two patients presented with progressive dyspnea without tracheostomy. All procedures were performed under suspension laryngoscopy using coblation technology. Unilateral posterior vocal fold cordectomy was performed in all patients in order to enlarge the glottic airway while preserving laryngeal sphincteric function.

RESULTS

Postoperative airway improvement was observed in all patients. The tracheostomized patient could not tolerate early decannulation and remained under tracheostomy follow-up. No major perioperative or postoperative complications, including hemorrhage, aspiration, significant laryngeal edema, or granulation tissue formation, were observed. Subjective respiratory symptoms improved in all cases, while no marked postoperative voice deterioration was reported. Patients were discharged on postoperative days 7, 7, and 12, respectively.

CONCLUSIONS

Coblator-assisted posterior cordectomy appears to be a safe and effective alternative for airway enlargement in selected patients with BVFI. Compared with CO_2 laser techniques, coblation technology may reduce postoperative edema, granulation tissue formation, and collateral tissue injury due to lower thermal damage. In addition, improved intraoperative hemostasis and minimal tissue carbonization may facilitate surgical visualization and contribute to better postoperative recovery. Our preliminary clinical experience demonstrates promising airway outcomes with acceptable voice preservation. However, larger studies are required to further evaluate long-term functional outcomes and complication rates.

KEYWORDS

Bilateral vocal fold immobility, Posterior cordectomy, Coblation, Endoscopic laryngeal surgery, Airway management, Tracheostomy

PP-350

A Warning In The Voice: Hoarseness As A Sentinel Symptom

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BACKGROUND & AIM

Ortner syndrome, also known as cardiovocal syndrome, is an uncommon cause of left recurrent laryngeal nerve (RLN) palsy secondary to cardiovascular disease. Although traditionally associated with mitral stenosis and left atrial enlargement, it now includes a wide spectrum of vascular conditions such as aortic aneurysms and penetrating ulcers. We hypothesize that sudden-onset dysphonia may represent an early and isolated manifestation of life-threatening aortic pathology.

MATERIAL & METHODS

We report the case of a 74-year-old male, active smoker with chronic obstructive pulmonary disease (COPD), presenting with a two-month history of sudden dysphonia without dyspnea or dysphagia. Laryngoscopic examination revealed left vocal cord paralysis in a paramedian position with limited contralateral compensation. Cervicothoracic computed tomography (CT) demonstrated a focal saccular aneurysmal dilatation of the aortic arch wall measuring 48×38 mm, with irregular lumen and a 17 mm hyperdense mural thrombus. Subsequent CT angiography confirmed a penetrating aortic ulcer with signs suggestive of impending rupture and additional focal dilatations in the abdominal aorta. The patient underwent thoracic endovascular aortic repair (TEVAR) combined with left carotid-subclavian bypass using a polytetrafluoroethylene (PTFE) graft.

RESULTS

Dysphonia was the only presenting symptom. No respiratory or systemic symptoms were present at diagnosis. Early diagnosis enabled prompt multidisciplinary management of a potentially fatal condition. Surgical treatment was successfully performed without complications. At three-month follow-up, improved compensatory function of the contralateral vocal cord was observed after speech therapy.

CONCLUSIONS

Left vocal cord paralysis may be the first and only manifestation of severe aortic disease. Ortner syndrome should be considered in patients of unexplained dysphonia. Early imaging is crucial to identify life-threatening conditions and guide timely intervention.

KEYWORDS

Hoarseness; Vocal cord paralysis; Recurrent laryngeal nerve palsy; Ortner syndrome; Acute aortic syndrome; Differential diagnosis

PP-351

Cough- Induced Spontaneous Laryngeal Hematoma: A Rare Cause Of Acute Upper Airway Obstruction

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BACKGROUND & AIM

Spontaneous laryngeal hematoma is an uncommon but potentially life-threatening cause of upper airway obstruction. Its recognition is essential, particularly in patients with predisposing factors.

MATERIAL & METHODS

We report the case of a 60-year-old male with a medical history of type 2 diabetes mellitus, severe asthma treated with dupilumab, ulcerative colitis (UC), and ongoing acetylsalicylic acid therapy, who was admitted due to extensive cellulitis of the left lower limb with failure of oral antibiotic therapy. Laboratory tests revealed leukocytosis ($19.3 \times 10^3/\mu L$) and elevated C-reactive protein (CRP) levels (24.15 mg/dL). במהלך hospitalization, during nighttime, the patient experienced a coughing episode that acutely triggered dyspnea, dysphonia, and dysphagia.

RESULTS

Otolaryngological examination demonstrated upper airway compromise secondary to a submucosal lesion. Cervical computed tomography showed prevertebral soft tissue swelling suggestive of a hematoma, confirming its role as the cause of the obstructive presentation. Nasolaryngoscopy revealed a mucosal hematoma involving the arytenoids, aryepiglottic folds, and posterior hypopharyngeal wall, with a patent but narrowed glottic airway.

The most likely pathophysiological mechanism was a severe coughing episode associated with Valsalva-like maneuvers, leading to abrupt increases in intrathoracic pressure capable of causing venous rupture in the retropharyngeal space and the laryngeal submucosal compartment. Contributing factors included the use of acetylsalicylic acid, mucosal fragility related to systemic corticosteroid use for underlying conditions (UC and severe asthma), and a possible role of dupilumab. Immunological testing showed normal C1q levels.

CONCLUSIONS

Spontaneous laryngeal hematoma should be considered in acute upper airway symptoms following intense coughing, especially in patients with predisposing factors such as antiplatelet therapy and biologic treatments. Differential diagnosis includes bradykinin-mediated angioedema, hemorrhagic neoplasms, and vascular malformations, making serial endoscopic evaluation essential.

A conservative approach was successful due to the self-limiting course and adequate control of risk factors. This case underscores the importance of a multidisciplinary approach and careful management of modifiable risk factors in complex patients.

KEYWORDS

Spontaneous laryngeal hematoma, dyspnea, dysphonia, cough

PP-352

Non-Recurrent Inferior Laryngeal Nerve During Thyroidectomy: A Rare Case And Surgical Implications

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BACKGROUND & AIM

The non-recurrent inferior laryngeal nerve (NRILN) is a rare anatomical variation associated with an increased risk of nerve injury during thyroid surgery. Its incidence ranges from 0.5% to 2% and is most commonly associated with an aberrant right

subclavian artery (arteria lusoria). This study aims to highlight the intraoperative identification and clinical significance of NRILN to prevent iatrogenic injury.

MATERIAL & METHODS

We report the case of a 42-year-old female presenting with a progressively enlarging multinodular goiter associated with compressive symptoms including dysphagia and exertional dyspnea. Preoperative biological tests were normal, and fine-needle aspiration cytology was inconclusive. The patient underwent total thyroidectomy in a tertiary ENT department. During surgery, the right recurrent laryngeal nerve could not be identified in its usual tracheoesophageal groove. Careful dissection revealed an anomalous nerve emerging directly from the vagus nerve in the cervical region and coursing medially toward the larynx, consistent with a type I NRILN. All parathyroid glands were preserved.

RESULTS

The nerve was successfully identified and preserved without intraoperative complications. Postoperative laryngoscopic examination demonstrated normal vocal cord mobility. Computed tomography angiography confirmed the presence of an aberrant right subclavian artery (arteria lusoria). Histopathological examination revealed benign thyroid hyperplasia.

CONCLUSIONS

NRILN is a rare but clinically significant anatomical variant that increases the risk of nerve injury during thyroid surgery. Awareness of this variation, systematic intraoperative exploration, and recognition of associated vascular anomalies are essential to ensure nerve preservation and reduce morbidity.

KEYWORDS

Non-recurrent laryngeal nerve; Thyroidectomy; Arteria lusoria; Anatomical variation; Recurrent laryngeal nerve; Thyroid surgery; Iatrogenic nerve injury; Cervical anatomy

PP-353

Advances In Artificial Intelligence For Laryngeal Cancer Detection: A Systematic Review

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BACKGROUND & AIM

Laryngeal cancer remains a significant global health concern, with prognosis strongly dependent on early and accurate diagnosis. Although histopathological analysis remains the gold standard for diagnostic confirmation, artificial intelligence has emerged as a supportive tool, particularly in laryngoscopic image analysis. Its potential to enhance diagnostic accuracy, support clinical decision-making, and improve workflow efficiency has been increasingly explored. This systematic review aimed to evaluate recent advances in artificial intelligence for laryngeal cancer detection, focusing on diagnostic performance and clinical applicability.

MATERIAL & METHODS

A total of 117 studies were identified from PubMed/MEDLINE, EMBASE, Scopus, BVS/LILACS, and Cochrane databases, searched in accordance with PRISMA guidelines. The search was conducted by two independent reviewers between March and April 2026 using the following descriptors: ("artificial intelligence" OR "machine learning" OR "deep learning" OR "artificial intelligence" OR "machine learning" OR "deep learning") AND ("otolaryngology" OR "ENT" OR "otorhinolaryngology") AND ("endoscopy" OR "laryngoscopy"). Studies published in the past five years involving patients with confirmed laryngeal cancer were included. Eligible study designs included accessible full-text versions of systematic reviews, meta-analyses, and completed clinical trials. Exclusion criteria included benign laryngeal lesions, editorials, opinion articles, conference abstracts, case reports, case series, narrative reviews, and incomplete clinical trials. Screening was performed independently by two reviewers, with disagreements resolved by a third reviewer. After full-text assessment, 6 studies were included.

RESULTS

A total of 196 records were identified, with six studies included after PRISMA-guided screening. Published between 2021 and 2025, the studies enrolled 64 to 4,799 patients, mostly with laryngeal lesions assessed by videolaryngoscopy using white light and/or narrow-band imaging, with histopathology as the reference standard. Artificial intelligence models, primarily convolutional neural networks, showed moderate to high diagnostic performance. Advanced architectures and multimodal approaches (combining imaging and voice data) achieved the best results, with accuracy up to 95.9% and AUC up to 0.98, in some cases comparable to experienced clinicians. However, substantial methodological and clinical heterogeneity across datasets, imaging modalities, and validation strategies precluded quantitative meta-analysis. QUADAS-2 assessment indicated high risk of bias in patient selection and index test domains, while the reference standard was generally low risk. Overall, the certainty of evidence was low.

CONCLUSIONS

Artificial intelligence shows promising diagnostic performance for laryngeal cancer detection, particularly with convolutional neural networks applied to laryngoscopic imaging. Reported accuracy and AUC values indicate potential comparability to specialist evaluation, especially in studies using narrow band imaging and multimodal approaches. However, substantial methodological heterogeneity and a predominance of high risk of bias mainly in patient selection and index test domains limit the reliability and generalizability of these findings. The overall certainty of evidence remains low to moderate, underscoring the need for standardized, high-quality prospective studies to confirm clinical applicability and support integration into routine practice.

KEYWORDS

Artificial Intelligence; Convolutional Neural Networks; Laryngeal Neoplasms; Laryngoscopy; Narrow Band Imaging; Computer-Assisted Image Interpretation; Early Diagnosis

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When Tuberculosis Mimics A Pharyngo-Laryngeal Tumor - A Rare Pseudotumoral Presentation

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BACKGROUND & AIM

Tuberculosis remains a major public health issue worldwide, particularly in endemic countries such as Algeria.

Our objective is to highlight a rare and misleading presentation of pharyngo-laryngeal tuberculosis by detailing its clinical, paraclinical, and therapeutic features.

MATERIAL & METHODS

We report the case of a 16-year-old adolescent, followed for growth retardation and receiving growth hormone therapy, who mainly presented with chronic dysphonia associated with nasal obstruction evolving over several months.

A thorough clinical examination, cervicofacial CT scan, and biopsy followed by histopathological analysis were performed.

RESULTS

The patient had no history of tuberculosis exposure or previous pulmonary tuberculosis.

Nasofibroscopy revealed a large adenoidal mass completely obstructing the nasopharynx, hypertrophy of the palatine and lingual tonsils with altered architecture, a polypoid epiglottis adherent to the tongue base, and edematous vocal cords with pink exophytic lesions initially suggestive of laryngeal polyposis.

Initial treatment with systemic and inhaled corticosteroids combined with anti-allergic therapy showed no significant improvement.

Given the persistence of symptoms, a cervicofacial CT scan was performed, confirming nasopharyngeal obstruction and vocal cord hypertrophy without signs of deep infiltration, causing laryngeal narrowing. Bilateral cervical lymphadenopathy was also identified.

Exploratory direct laryngoscopy under general anesthesia with multiple biopsies of the tongue base and vocal cords, along with adenoidectomy, was performed.

Histopathological examination demonstrated caseating granulomatous inflammation involving the entire Waldeyer's ring and the vocal cords, confirming pseudotumoral pharyngolaryngeal tuberculosis.

Antituberculous therapy resulted in marked clinical improvement and symptom resolution.

CONCLUSIONS

Pharyngolaryngeal tuberculosis may present with atypical and misleading features, far from its classical inflammatory presentation, sometimes mimicking a pseudotumoral process suggestive of benign or malignant disease.

This case highlights the importance of considering this diagnosis in any persistent symptomatology resistant to conventional treatment, even in the absence of an obvious tuberculous context.

KEYWORDS

Tuberculosis, Pharyngolarynx, Pseudotumor, Biopsy

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Acute Airway Obstruction Caused By Bilateral Internal Pyolaryngocele: A Case Report

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BACKGROUND & AIM

Laryngocele is a rare air-filled dilation of the laryngeal saccule that communicates with the laryngeal lumen. Infection results in pyolaryngocele, an uncommon but potentially life-threatening condition due to acute airway compromise. Bilateral internal

pyolaryngocele presenting with severe obstruction is exceedingly rare. We report a case requiring emergency airway management followed by definitive surgical treatment.

MATERIAL & METHODS

A 69-year-old female, heavy smoker with controlled hypertension, was admitted in acute respiratory distress preceded by throat pain, dysphagia, and hoarseness of one-day duration. On examination, she had tachypnea, inspiratory stridor, and atrial fibrillation with ventricular response of 150 bpm (blood pressure 140/80 mmHg). Indirect laryngoscopy revealed a large erythematous supraglottic mass involving the right aryepiglottic and ventricular folds, causing near-complete airway obstruction. Emergency tracheotomy was performed due to failed intubation.

Laboratory findings showed normal leukocyte count (7.3×10^9/L) with granulocytosis (79.8%) and mildly elevated C-reactive protein (10.3 mg/L). Contrast-enhanced CT demonstrated bilateral supraglottic fluid collections with thick enhancing walls (largest 43.8×23.5 mm), intralesional gas bubbles, and marked airway narrowing. On the first hospital day, direct laryngoscopy with incision and drainage was performed. Culture revealed methicillin-resistant coagulase-negative Staphylococcus. Histopathology excluded malignancy.

RESULTS

After resolution of infection, MRI confirmed bilateral internal laryngocele, larger on the right. Definitive treatment consisted of endolaryngeal excision combined with external laryngofissure on the right side, with additional type III cordectomy due to vocal cord edema and leukoplakia. Final histopathology confirmed laryngocele without dysplasia or malignancy.Recovery was uneventful. At one-year follow-up, clinical examination and CT showed no recurrence. Voice quality was satisfactory, and the contralateral laryngocele remained asymptomatic.

CONCLUSIONS

Bilateral internal pyolaryngocele is a rare but potentially fatal cause of acute airway obstruction. Rapid airway control and staged surgical management are essential for favorable outcome.

KEYWORDS

Pyolaryngocele , Laryngocele , Acute airway obstruction

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Ultrasound-Guided Botulinum Toxin Injection As An Alternative Approach In Adductor Spasmodic Dysphonia: A Case Report

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BACKGROUND & AIM

Spasmodic dysphonia is a chronic focal dystonia affecting the intrinsic musculature of the larynx during speech production, most commonly presenting as the adductor type. Botulinum toxin injection into hyperactive laryngeal muscles is currently considered the gold standard treatment, most often performed under electromyographic guidance. Ultrasonography has been introduced as a supportive modality, allowing real-time visualization of laryngeal structures and potentially improving procedural accuracy and safety. This report aims to demonstrate the feasibility of ultrasound-guided botulinum toxin injection in a patient unable to tolerate standard techniques, such as EMG-guided or endoscopic approaches.

MATERIAL & METHODS

We present a case report from the Department of Otorhinolaryngology at Klaipeda University Hospital of a 76-year-old female with a two-year history of dysphonia following severe psychological trauma. The patient reported transient voice improvement during crying. Neurological evaluation and brain MRI were unremarkable, and pharmacological treatment, including benzodiazepines and gabapentin, was ineffective. A prior fibroendoscopic examination resulted in syncope, limiting standard approaches.

Laryngeal assessment with topical 2% lidocaine revealed vocal fold tremor and uncoordinated movements with a spasmodic component. Due to intolerance of endoscopy, an ultrasound-guided technique was selected.

The procedure was performed in a supine position under local anesthesia. Each vocal fold was accessed via paramedian puncture through the cricothyroid membrane. Ultrasound imaging enabled identification of the thyroarytenoid muscle, with phonation assisting target localization. A needle was advanced under continuous visualization, and 2 U of botulinum toxin was injected into each thyroarytenoid muscle. The procedure was well tolerated, with no complications.

RESULTS

Outcome was assessed based on subjective voice improvement during the one-month follow-up, at which the patient reported significant voice improvement and easier phonation, with a one-week episode of dysphagia.

CONCLUSIONS

This case suggests ultrasound guidance is a feasible alternative in selected patients, however, interpretation is limited by the single-case design and short follow-up.

KEYWORDS
Spasmodic dysphonia, adductor laryngeal dystonia, botulinum toxin, ultrasound-guided injection, voice disorders, dysphonia.

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SUBMANDIBULAR SIALADENITIS PRESENTING WITH LARYNGEAL EDEMA: A CASE REPORT

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BACKGROUND & AIM

Laryngeal edema is a potentially life-threatening condition requiring prompt evaluation due to its impact on the upper airway. Although commonly associated with infectious, inflammatory, and neoplastic etiologies, pathologies originating from adjacent anatomical structures may mimic similar clinical and radiological findings. This study aims to present a rare case of laryngeal edema secondary to submandibular sialadenitis and to highlight the importance of comprehensive diagnostic evaluation.

MATERIAL & METHODS

A 64-year-old male presenting with acute throat discomfort was evaluated through clinical examination, radiological imaging, and endoscopic assessment. Contrast-enhanced Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) were performed. Flexible fiberoptic nasopharyngolaryngoscopy was used for detailed laryngeal visualization. The patient received medical treatment, and clinical progression was monitored.

RESULTS

The patient presented with acute onset foreign body sensation, dysphagia, localized swelling, and orthopnea, following a recent upper respiratory tract infection. Physical examination revealed tenderness in the left submandibular region without stridor. CT demonstrated bilateral glandular enlargement and a mass-like lesion at the left aryepiglottic fold causing airway narrowing, raising suspicion for malignancy. However, endoscopy revealed diffuse edema of the aryepiglottic folds without a solid mass. MRI showed T2 hyperintensity and contrast enhancement in the submandibular gland, consistent with inflammation. Following intravenous antibiotics and systemic corticosteroids, clinical and endoscopic findings improved markedly, and the patient was discharged after one week.

CONCLUSIONS

Laryngeal edema may mimic malignancy, particularly when imaging suggests a mass effect. However, inflammatory conditions such as submandibular sialadenitis should be considered. Combined use of endoscopy and MRI is essential for accurate diagnosis and appropriate management.

KEYWORDS
Laryngeal edema, Submandibular sialadenitis, Orthopnea

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FOREIGN BODY IN THE LARYNX: A 6 CM CHICKEN BONE.

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BACKGROUND & AIM

Laryngotracheal foreign body aspiration is a medical emergency, and mortality may be inevitable if not promptly diagnosed and treated. Diagnosis can be established through clinical history, physical examination, endoscopic evaluation, and radiological imaging . This case report presents the diagnosis, treatment, and follow-up processes of a 59-year-old male patient who presented to our clinic with a sensation of a foreign body in the throat.

MATERIAL & METHODS

A 59-year-old male patient presented to our emergency department with a sensation of a foreign body in the throat following a meal the previous day.. Upon admission, his general condition was good, he was hemodynamically stable, oriented, and cooperative. Inspection revealed no foreign body in the oropharynx. Indirect laryngoscopy showed a foreign body (chicken bone) in the right piriform sinus and edema in the ventricular band. Saturation values and breath sounds were normal during admission and follow-up. The patient underwent emergency surgery.

RESULTS

Due to the size of the removed foreign body and the generalization of laryngeal edema during the perioperative period, it was decided to intubate the patient in the intensive care unit. The patient, who was monitored intubated for three days, was transferred to our ward after the laryngeal edema subsided due to the removal of the foreign body and the effects of medical treatments. Endoscopic examinations performed during the follow-up period in our ward revealed that the patient had mobile bilateral vocal cords and adequate rima glottis patency, and it was decided to discharge the patient.

CONCLUSIONS

In cases of delayed diagnosis, serious complications such as laryngeal edema, obstruction, aspiration pneumonia, and rarely sudden death may occur. Therefore, early diagnosis and appropriate airway management play a critical role in reducing mortality and morbidity. This case contributes to the literature by highlighting the atypical presentations of large-volume laryngeal foreign bodies with silent progression and demonstrating the need for careful differential diagnosis.

KEYWORDS

Foreign body in the larynx, Laryngeal edema, Airway management

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Idiopathic Subglottic Stenosis: A Case Review With Serial Endoscopic Management And Follow-Up

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BACKGROUND & AIM

Idiopathic subglottic stenosis (iSGS) is a rare, progressive narrowing of the airway below the vocal cords, with no identifiable etiology. It predominantly affects females and often presents with dyspnea, misdiagnosed initially as asthma. This case review aims to describe the diagnostic pathway, multidisciplinary evaluation, and longitudinal endoscopic management of a young female patient with iSGS, emphasizing recurrence patterns and therapeutic response.

MATERIAL & METHODS

A 26-year-old Albanian female with a history of Hashimoto's thyroiditis and chronic sinusitis reported a sudden onset of exertional dyspnea and stridor in October 2022. Initially misdiagnosed with asthma, partial corticosteroid responsiveness led to further investigation. Flexible laryngoscopy identified subglottic stenosis. Over two years, the patient underwent three microlaryngoscopic procedures (MLSD) with radial incisions, balloon dilations, and corticosteroid (Kenacort/Triacort) infiltration. Stenosis grade was monitored via Myer-Cotton and ELS classification, with progression documented clinically and endoscopically. Follow-ups included rheumatological screening, NBI endoscopy, and quality-of-life evaluations. Outcome measures were symptom recurrence, stenosis grade, and need for re-intervention.

RESULTS

Initial stenosis was Grade III (Myer-Cotton). After the first dilation in April 2023, partial improvement was noted, though recurrent symptoms (apnea, exertional dyspnea, cough) returned. Repeat endoscopic interventions in October 2023 and November 2024 were required due to recurrence of Grade II–III stenosis and posterior granulomas. The most recent evaluation in May 2025 showed partial symptom control with persistent but stable stenosis. No systemic autoimmune disease was identified. Rheumatologic referral and Rituximab therapy were proposed in light of repeated restenosis.

CONCLUSIONS

This case highlights the chronic and relapsing nature of iSGS in a young female patient. Endoscopic dilation with corticosteroid injection remains the mainstay of treatment, offering temporary symptom relief. However, recurrent disease may warrant systemic immunomodulatory therapy. Long-term follow-up and interdisciplinary collaboration are essential to guide personalized care and prevent progression. Rituximab use in iSGS needs to have a closer follow up to determine the possibility of including in treatment guidelines.

KEYWORDS

Subglottic stenosis, Idiopathic stenosis, Larynx

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Spontaneous Anterior Arytenoid Dislocation Following Severe Cough: A Diagnostic Challenge

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BACKGROUND & AIM

Arytenoid subluxation most commonly results from endotracheal intubation or direct laryngeal trauma. Mechanical injury during intubation may cause mucosal damage, hematoma, and capsular laxity, compromising cricoarytenoid joint stability and leading to subluxation or dislocation. While transient postoperative hoarseness typically resolves within 24–48 hours, more severe laryngeal injuries may cause persistent dysphonia. Subluxation without a history of intubation or trauma is rare but has been reported after forceful coughing due to sudden increases in intralaryngeal pressure. Such cases are often misdiagnosed as recurrent laryngeal nerve paralysis. Careful history, endoscopy, CT, laryngeal EMG are essential for accurate diagnosis and early management.

MATERIAL & METHODS

This study presents a single-case evaluation of a 33-year-old male who developed persistent hoarseness and dysphagia following a severe coughing episode. A detailed medical history was obtained, and comprehensive otorhinolaryngological

examination was performed. Laryngeal assessment was conducted using flexible fiberoptic endoscopic stroboscopy to evaluate vocal fold mobility, glottic closure, and arytenoid cartilage position.

To exclude recurrent laryngeal nerve paralysis and identify structural abnormalities, contrast-enhanced neck computed tomography (CT) and magnetic resonance imaging (MRI) were performed. Arytenoid alignment, vocal cord position, piriform sinus symmetry, and the presence of hematoma or mass lesions were assessed. Based on combined clinical, endoscopic, and radiological findings, anterior arytenoid dislocation was diagnosed. Closed arytenoid reduction under general anesthesia without endotracheal intubation was planned.

RESULTS

Even in the absence of a history of intubation, arytenoid dislocation should be considered in patients presenting with persistent hoarseness following severe coughing. Early diagnosis and appropriate surgical intervention are crucial for optimal functional recovery.

CONCLUSIONS

Arytenoid dislocation most commonly occurs following traumatic endotracheal intubation; however, it may rarely develop after severe coughing, vomiting, or blunt laryngeal trauma. A sudden increase in intralaryngeal pressure during forceful coughing can disrupt cricoarytenoid joint stability, leading to dislocation. Differentiating arytenoid dislocation from recurrent laryngeal nerve paralysis is essential, as management strategies differ significantly. Preserved vocal fold mobility and radiologic confirmation of displacement are key diagnostic findings. Delayed diagnosis may result in cricoarytenoid joint fibrosis, thereby reducing the success rate of closed reduction

KEYWORDS

Anterior arytenoid dislocation, Severe cough, Dysphonia

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Once You See It, You Cannot Unsee It: Bamboo Nodes As A Laryngoscopic 'Spot Diagnosis' For Autoimmune Disorders

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BACKGROUND & AIM

Bamboo nodes (BNs) are highly specific laryngoscopic lesions considered a pathognomonic sign of systemic autoimmune disease (AD), especially connective tissue diseases. BNs may be the initial manifestation of AD, often preceding the diagnosis. BNs almost exclusively affect women, typically presenting between 35 and 45 years old. First described by Hosako-Naito in 1993, BNs are distinguished from common vocal nodules by their arrangement: yellow transverse subepithelial bands, perpendicular to the longitudinal axis of the vocal fold, mimicking the nodes of a bamboo stalk. Their visual identification is definitive; therefore, we present a case report and high-quality images of the laryngoscopic findings.

MATERIAL & METHODS

This case report describes a 39-year-old woman with a long history of systemic lupus erythematosus and Sjogren's syndrome, who developed dysphonia in the last 8 months. The patient had no history of vocal abuse. Initial assessment via the Voice Handicap Index revealed severe self-perceived vocal impairment. Laryngoscopic examination identified bilateral, yellowish, asymmetric glottic lesions oriented perpendicularly to the longitudinal axis of the vocal folds. A rigid laryngeal stroboscopy was performed, further characterizing these lesions, which appeared as subepithelial bands located on the superior membranous surface of both vocal folds. Although these lesions did not make contact and vocal fold mobility remained preserved, they significantly disrupted the mucosal wave, resulting in a glottic hiatus. The functional impact was corroborated by aerodynamic vocal assessment.

RESULTS

Patient management consisted of a multidisciplinary approach involving phonatory rehabilitation and pharmacological adjustment of the underlying autoimmune condition. While the patient demonstrated functional improvement, the laryngeal lesions persisted.

CONCLUSIONS

BNs represent a distinctive laryngoscopic diagnosis that, once recognized, becomes unmistakable in subsequent encounters. Visual recognition carries significant clinical utility, enabling timely referral and early diagnosis of underlying ADs, potentially before systemic manifestations become apparent. BNs represent a clinical marker of immunological activity and require a multidisciplinary approach to optimize both the control of the underlying disease and phonatory function.

KEYWORDS

Bamboo nodes, autoimmune diseases, dysphonia, stroboscopy

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Acquired Tracheal Stenosis Following Prolonged Intubation: A Five-Year Single-Center Experience

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BACKGROUND & AIM

Acquired tracheal stenosis remains a challenging condition in otolaryngology, most commonly resulting from prolonged endotracheal intubation. Despite advances in intensive care practices, its incidence persists. This study aims to analyze the epidemiological, clinical, radiological, and therapeutic characteristics of tracheal stenosis in a single-center experience.

MATERIAL & METHODS

We conducted a prospective study over five years including nine patients treated for acquired tracheal stenosis. All patients underwent preoperative upper airway endoscopy and cervical computed tomography (CT), including three-dimensional reconstruction when available. Data collected included etiology, duration of intubation, clinical presentation, imaging findings, and therapeutic management.

RESULTS

The mean age was 24 years with a male predominance (sex ratio 8:1). The main etiology was prolonged intubation following trauma (7 cases), with a mean intubation duration of 20 days. Dyspnea was the most common presenting symptom (70%), followed by acute respiratory distress (15%). Imaging revealed circumferential tracheal stenosis at levels C4–C6 in all patients, with an average length of 20 mm and lumen reduction of 50–60%. One patient presented with an associated tracheoesophageal fistula. Surgical management consisted of tracheal resection with end-to-end anastomosis in eight patients and bronchoscopic dilation with stenting in one case. Postoperative outcomes were favorable in all patients, with a mean hospital stay of 10 days and no major complications.

CONCLUSIONS

Acquired tracheal stenosis remains predominantly iatrogenic and requires early recognition. Surgical resection-anastomosis provides excellent outcomes in selected patients. Preventive strategies, including careful airway management and minimizing intubation duration, are essential to reduce incidence.

KEYWORDS

Tracheal stenosis; Prolonged intubation; Airway obstruction; Tracheal resection; End-to-end anastomosis; Iatrogenic complications; Airway surgery

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Our Direct Laryngoscopy Experiences From The Perspective Of A Tertiary Care Specialist

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BACKGROUND & AIM

Direct laryngoscopy(DL) remains the gold standard for the diagnosis and treatment of laryngeal pathologies. The indications range from brief examinations lasting seconds to tumor surgeries lasting hours. This study aimed to retrospectively evaluate the demographic characteristics, indications for surgery, histopathological results, and developing complications in patients undergoing DL.

MATERIAL & METHODS

A total of 123 patients (113 adults, 10 pediatric) who underwent DL at our hospital were included in the study. All operations were performed by the same senior surgeon. Patient age, gender, smoking history, occupation, comorbidities, indication of surgery, laryngoscope sizes, difficulty levels of laryngeal exposure (easy/moderate/difficult), pathology results, and perioperative and postoperative complications were recorded.

RESULTS

The mean age of the study group was 54.78 years, with 69.9% (n=86) being male. The most common indication was for surgery benign lesions (47.1%), followed by suspicion of malignancy (39%), evaluating laryngeal stenosis and general examination (9.75%) and intralaryngeal injection (%4,06). Histopathological examination revealed premalignant or malignant findings in 26.8% (n=33) of patients (18 squamous cell carcinoma, 13 dysplasia, 1 leiomyosarcoma). All patients diagnosed with malignancy had a history of smoking. Large-sized laryngoscopes were used in 27.6% (n=34) of patients, medium-sized in 64.2% (n=79), and small-sized in 8.1% (n=10) during surgery. Regarding laryngeal exposure, easy exposure was achieved in 83.7% (n=103) of patients, while moderate and difficult exposure were observed in 4% (n=5) and 12.1% (n=15), respectively. Complications included intraoperative bradycardia and emergency tracheotomy in one pediatric patient, transient cardiac arrest in three patients, and a cerebrovascular accident resulting in postoperative exitus in one patient.

CONCLUSIONS

Direct laryngoscopy remains the gold standard for the diagnosis and treatment of laryngeal pathologies. However, it is crucial to recognize the potential for serious complications, particularly in individuals with systemic comorbidities and in cases of

difficult exposure. The high rate of malignancy detection in patients with a history of smoking highlights the necessity for meticulous evaluation in this specific group.

KEYWORDS

Direct laryngoscopy, laryngeal cancer, laryngeal lesions, laryngoscope size, Complications

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A Silent Complication Of Central Venous Catheterization

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BACKGROUND & AIM

Unilateral vocal fold paralysis (UVFP) has a broad differential diagnosis, including neoplastic, surgical, neurological, and iatrogenic causes. Central venous catheter (CVC) placement is a rare etiology, with few reported cases linking catheter-related internal jugular vein (IJV) thrombosis to recurrent laryngeal nerve (RLN) dysfunction. The proposed mechanisms include local inflammatory response, venous congestion, and compressive neuropathy within the carotid space. We report a case of UVFP following CVC-associated IJV thrombosis and discuss the underlying pathophysiological considerations.

MATERIAL & METHODS

Case report of an oncologic patient who developed acute dysphonia after CVC placement. Clinical assessment, flexible nasofibrolaryngoscopy, and imaging studies were performed to evaluate vocal fold mobility and exclude structural, compressive, or neoplastic causes. A review of the literature was conducted to contextualize the proposed mechanism.

RESULTS

A male patient with active malignancy underwent CVC insertion in the internal jugular vein for systemic therapy. The procedure was complicated by ipsilateral catheter-related thrombosis. Shortly thereafter, the patient developed acute dysphonia.

Endoscopic examination demonstrated unilateral vocal fold paralysis consistent with RLN dysfunction. Cross-sectional imaging excluded tumor progression or mass effect. Given the anatomical proximity of the IJV, vagus nerve, and RLN within the carotid sheath, the thrombosis was considered the most plausible etiological mechanism, likely secondary to local inflammatory edema and compressive neuropathy.

During follow-up, vocal fold immobility persisted. However, the patient achieved adequate phonatory compensation without clinically significant glottic insufficiency. No surgical medialization was required, and conservative management was maintained.

CONCLUSIONS

Catheter-related IJV thrombosis represents a rare but plausible cause of unilateral vocal fold paralysis due to the intimate anatomical relationship between the venous system and the vagal–recurrent laryngeal nerve axis within the carotid space. Early endoscopic evaluation is essential in patients presenting with dysphonia after CVC placement. In the absence of significant functional impairment, conservative management may be appropriate.

KEYWORDS

Unilateral Vocal Fold Paralysis; Central Venous Catheterization; Internal Jugular Vein Thrombosis; Recurrent Laryngeal Nerve; Dysphonia

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Retropharyngeal Abscess Secondary To Cervical Spondilodiscitis Case Report

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BACKGROUND & AIM

Retropharyngeal abscess is presenting with fever, posterior pharyngeal edema, drooling, stridor, trismus and sore throat. This infection lead to complications like upper airway obstruction and mediastinitis. We will examine a 52-year-old male patient who presented with complaints of sore throat that was unresponsive to antibiotics for 20 days, limited oral intake, dyspnea and loss of strength in the right side extremities.

MATERIAL & METHODS

Contrast neck CT revealed a 40*32 mm abscess in the retropharyngeal space. Endoscopy showed distension in posterior hypopharynx and airway narrowing. Emergency abscess drainage was planned. 15 cc of abscess was drained an incision in the posterior pharyngeal wall in Trendelenburg position. The patient was followed up in the ward with IV antibiotherapy. Persistence of swelling in the posterior hypopharynx and weakness in the right side extremities led to contrast neck CT and cervical MRI scans. Although it has regressed compared to the previous these showed a 1,5 cm residual collection, and irregularities in the intervertebral spaces at the level of the C5-C6 vertebrae adjacent to the prevertebral loculation, along with

spondylodiscitis. Suspected that the abscess had progressed from the prevertebral area to the retropharyngeal and retrolaryngeal spaces, complicating with destruction of the vertebrae. Second procedure, including abscess drainage and cervical decompression with the involvement of neurosurgery, was planned.

RESULTS

The patient underwent cervical decompression by neurosurgery. The patient was placed in the Trendelenburg position and abscess drainage was initiated. 5 cc of purulent material was drained by incision through along old incision line. After control exploration no additional abscess material was found. Followed in the ward with intravenous antibiotherapy immobilized, and wearing a neck brace. Control flexible endoscopy showed endolaryngeal structures with symmetrical natural airway, pain decreased, improvement in muscle strength and normally oral feeding started. The patient was discharged two weeks after the second surgery due to a reduction in symptoms.

CONCLUSIONS

There are various treatment options for retropharyngeal abscesses, surgical drainage and follow-up with antibiotherapy are prominent. Retropharyngeal abscesses larger than 2 cm should be drained without delay. In our case, we observed that the patient's clinical condition improved after transoral surgical abscess drainage, and no complications were encountered during follow-up.

KEYWORDS

retropharyngeal abscess, sore throat, surgical drainage,

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Impact Of Prompt Strategy And Clinical Complexity On Large Language Model Performance In Otolaryngology Practice

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BACKGROUND & AIM

An emerging body of literature supports the accuracy of large language models (LLMs) as adjunctive tools for clinical decision-making. However, data remain limited regarding the impact of prompt formulation and clinical case complexity on LLM performance in clinical practice.

The aim is to investigate the impact of prompt type and clinical case complexity on LLM performance.

MATERIAL & METHODS

Clinical information from 120 consecutive otolaryngological outpatient consultations, stratified as simple, moderate, and difficult cases, was input into the APIs of ChatGPT-5, Claude-Sonnet-4.5, and Google Gemini-2.5-Pro. Two prompt strategies were used: a structured physician-oriented prompt and an unstructured patient-oriented prompt. Outputs were independently evaluated by practitioners using the Artificial Intelligence Performance Instrument (AIPI) in a blinded manner. Inter-rater reliability was assessed using the intraclass correlation coefficient (ICC). Statistical analyses evaluated the influence of model type, prompt strategy, and case complexity on performance.

RESULTS

LLM performance differed significantly by model type (AIPI total: $p<0.001$), prompt strategy ($p=0.038$), and clinical complexity ($p=0.004$). Claude-Sonnet-4.5 achieved the highest mean total AIPI score (11.94±1.71), followed by Google Gemini-2.5-Pro (11.62 ± 1.58) and ChatGPT-5 (10.41 ± 1.41). Physician-oriented prompts were associated with higher scores for medical history, symptoms, and physical examination (all $p \leq 0.008$). In contrast, patient-oriented prompts yielded higher differential diagnosis scores (0.88±0.68 vs. 0.28±0.38, $p<0.001$) and higher management and additional examination scores, resulting in a higher total AIPI score (11.60±2.40 vs. 11.05±1.84, $p=0.038$). Diagnostic accuracy decreased with increasing clinical complexity (primary diagnosis score: 1.99 ± 0.82 vs. 2.28 ± 0.77, $p<0.001$), while additional examination scores increased (1.90 ± 1.35 vs. 1.48 ± 1.42, $p<0.001$). Inter-rater reliability was excellent (ICC=0.851).

CONCLUSIONS

The LLM performance is significantly influenced by prompt formulation and clinical complexity, underscoring the importance of careful prompt design and contextualization when using LLMs in clinical practice.

KEYWORDS

Artificial Intelligence, Large Language Models, Otolaryngology, Clinical decision support, prompt engineering

PP-367

Supraglottic Laryngeal Cyst: A Case Report Mimicking A Mass Lesion

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BACKGROUND & AIM

Background

Laryngeal cysts are rare benign lesions arising from the laryngeal mucosa. Their clinical presentation varies depending on size and anatomical location. Supraglottic cysts, particularly saccular types, may lead to airway obstruction and voice changes. Radiological imaging, especially computed tomography (CT), is valuable in lesion evaluation; however, it may not reliably differentiate cystic lesions from solid masses, potentially leading to misdiagnosis as malignancy.

Aim

To present a case of a supraglottic laryngeal cyst that mimicked a solid mass on radiological imaging and to emphasize the importance of endoscopic evaluation in establishing a definitive diagnosis.

MATERIAL & METHODS

A 63-year-old female patient presented with a 2.5-month history of progressive hoarseness and a history of active smoking. Endoscopic examination and neck CT imaging were performed. The patient subsequently underwent direct laryngoscopy for diagnostic and therapeutic purposes. The excised lesion was evaluated histopathologically.

RESULTS

Results

Endoscopic examination revealed a mass lesion originating from the right ventricular band, with preserved bilateral vocal cord mobility. CT imaging demonstrated a 23 mm solid-appearing lesion in the right supraglottic region extending to the vallecula, obliterating the piriform sinus and narrowing the airway.

Intraoperatively, the lesion was identified as a cyst located over the right arytenoid and aryepiglottic fold. The lesion was completely excised, and seromucoid content was observed. Histopathological examination confirmed a laryngeal cyst. The postoperative course was uneventful, with preserved vocal cord function and good healing.

CONCLUSIONS

Conclusions

Supraglottic laryngeal cysts, although rare, may mimic malignant masses both clinically and radiologically. Accurate diagnosis requires endoscopic evaluation and histopathological confirmation. Early surgical intervention provides excellent outcomes. These lesions should be considered in the differential diagnosis of supraglottic masses, particularly in patients with risk factors such as smoking.

KEYWORDS

Laryngeal cyst, supraglottic lesion, airway obstruction, differential diagnosis, endoscopic excision

PP-368

Warfarin-Associated Sublingual And Laryngeal Hematoma: A Case Report

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BACKGROUND & AIM

Sublingual hematoma is a rare but potentially life-threatening condition due to the risk of rapid upper airway compromise, particularly in patients receiving anticoagulant therapy. Prompt recognition and close airway monitoring are essential in order to prevent respiratory deterioration and the need for emergent surgical airway intervention.

MATERIAL & METHODS

A 31-year-old male patient presented to the emergency department with progressive swelling involving the sublingual region that had developed in the morning and gradually increased throughout the day. The patient had a history of aortic valve replacement surgery performed in 2018 and had been receiving long-term warfarin therapy thereafter. One week prior to admission, the patient experienced an upper respiratory tract infection accompanied by persistent severe coughing episodes.

Flexible nasopharyngolaryngoscopic examination demonstrated a hematoma involving the sublingual region (figure 1), extending toward the vallecula and causing mild posterior displacement of the epiglottis (figure 2). Needle aspiration of the sublingual hematoma was attempted; however, no material could be aspirated. Physical examination additionally revealed diffuse swelling in the left cervical region.

RESULTS

Laboratory investigations performed in the emergency department revealed a markedly elevated international normalized ratio (ınr) value of 16. Following administration of human prothrombin complex concentrate, the ınr level decreased to 1. The patient was subsequently admitted to the department of otorhinolaryngology for close observation and airway monitoring.

Daily flexible endoscopic examinations and continuous oxygen saturation monitoring were performed throughout hospitalization. Consultation with the cardiology department was requested for optimization and re-adjustment of anticoagulant therapy. Intravenous prednisolone (250 mg/day) was initiated on the first day of hospitalization, and broad-spectrum antibiotic therapy was maintained during the entire admission period.

Progressive clinical improvement was observed under conservative medical management. On the fourth day of hospitalization, the patient was discharged with stable oxygen saturation levels (95% on room air), an ınr value of 1.09, and revised anticoagulant and antibiotic treatment recommendations.

CONCLUSIONS

Sublingual and laryngeal hematomas may occur spontaneously or secondary to persistent coughing in patients receiving anticoagulant therapy, particularly in cases of excessive anticoagulation. These hematomas may rapidly progress and result in life-threatening airway compromise.

Once airway patency has been secured, prompt correction of coagulation abnormalities and close inpatient observation are of critical importance. Clinicians should remain aware that emergent airway intervention, including tracheotomy, may become necessary in patients demonstrating progressive airway obstruction despite conservative management.

KEYWORDS

hematoma, sublingual, warfarin, ınr

PP-369

Myofibroblastic Tumor Of The Larynx: An Uncommon Case Report In Private Practice

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BACKGROUND & AIM

Myofibroblastic tumors in the larynx are rare, with limited documented instances. Despite being classified as a benign tumor, it demonstrates notable inflammatory features, local destruction, and the possibility of degeneration into malignant histological types with metastatic potential. The differential diagnosis in anatomopathological is crucial in these cases.1 Inflammatory myofibroblastic tumor is typically a benign neoplasm of mesenchymal origin, with infrequent occurrence in the larynx. This case examines the distinctive laryngeal location and presentation of the tumor, along with the complex radiographic and histologic findings.2

MATERIAL & METHODS

A solid mass from the right true membranous vocal fold was excised and submitted for histopathological evaluation. The characteristics of the surgical specimens were indicative of IMT(Inflammatory myofibroblastic tumor). Intravenous steroid therapy was selected as an adjunct treatment.

Panendoscopy enabled monitoring for any further or recurring lesions, and a nodule was identified in the anterior third of the right vocal cord. Follow-up MRI will be assessed at 6 months post-excision and we recommend laser Co2 a subepithelial cordectomy for treatment of nodule.

RESULTS

While uncommon, laryngeal inflammatory myofibroblastic tumor should be considered in patients presenting with hoarseness attributed to a vocal fold mass. Our findings indicate that the combination of surgical excision and steroids therapy may serve as an effective treatment strategy for this rare tumor.

CONCLUSIONS

Inflammatory myofibroblastic tumors (IMTs) rarely involve the larynx; however, they should be considered in the differential diagnosis of laryngeal lesions. Notably, IMTs may clinically and histopathologically mimic malignant neoplasms or recurrent respiratory papillomatosis, posing a potential diagnostic challenge.Further research is necessary to clarify the most effective, safe, and cost-efficient treatment strategies.

KEYWORDS

Inflammatory myofibroblastic tumor, laryngeal tumors, case report

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PP-370

Diagnostic Algorithm For Eustachian Tube Dysfunction And Indications For Balloon Dilation Of The Eustachian Tube

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BACKGROUND & AIM

This review outlines a standardized diagnostic algorithm, specific indications, and cautions to ensure safe and effective Balloon Dilation of the Eustachian Tube (BDET) for patients with dilatory dysfunction.

MATERIAL & METHODS

A comprehensive review of current literature and consensus statements was conducted to establish adiagnostic framework for obstructive Eustachiantube dysfunction (oETD) including clinical findings, objective tests, and indication for BDET in various conditions.

RESULTS

The diagnostic algorithm for oETD prioritizes the exclusion of differential diagnoses such as patulous Eustachian tube dysfunction (pETD), temporomandibular joint disorders, and superior canal dehiscence. Objective tests in combination of patient-reported outcome measures aid in diagnosis when clinical findings alone is equivocal. BDET is indicated for barotraumatic Eustachian tube dysfunction, chronic otitis media with effusion, and tympanic membrane retraction pockets following the failure of appropriate medical management. BDET may serve as an effective adjunct to tympanoplasty for adhesive otitis media. Cautions include pETD and significant anatomical distortions of the Eustachian tube.

CONCLUSIONS

BDET offers a promising solution for chronic oETD but mandates rigorous patient selection. Adherence to a structured diagnostic algorithm that combines subjective symptoms with objective testing is paramount to establishing the correct diagnosis, monitoring disease severity, and ensuring therapeutic success.

KEYWORDS

Keywords: Balloon Dilation of Eustachian Tube, Diagnostic Algorithm, Obstructive Eustachian Tube Dysfunction

PP-371

Labyrinthitis Ossificans As A Delayed Sequela Of Tympanoplasty: A Case Report And Review Of The Literature

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BACKGROUND & AIM

Labyrinthitis ossificans (LO) is an uncommon condition arising from infections, autoimmune disease, trauma, or other causes, leading to progressive fibrosis and ossification of the membranous labyrinth. It typically presents with sensorineural hearing loss and vertigo, diagnosed via CT and MRI. Once considered a contraindication, cochlear implantation (CI) in LO is now feasible due to advances in electrode design and surgical techniques, though it remains technically demanding. Surgical approaches vary based on ossification extent, ranging from round window drilling to complete drill-out procedures. Outcomes are variable, with limited cases reporting successful results, highlighting the need for further documentation.

MATERIAL & METHODS

This clinical investigation was conducted in accordance and compliance with guidelines of the Institutional Review Board (IRB) of King Fahad Hospital of University, Al-khobar, Saudi Arabia, with appropriate consent from the patient. Our review of the literature was based on PubMed search from 1977 to 2026. We identified 22 previously reported cases of labyrinthitis ossificans across a wide range of etiologies.

RESULTS

A 41-year-old woman developed left-sided profound sensorineural hearing loss and distressing tinnitus six months after tympanoplasty, with no improvement on oral steroids. CT and MRI of the temporal bone revealed focal ossification in the basal turn of the left cochlea, confirming labyrinthitis ossificans. She opted for cochlear implantation after a bone-anchored hearing aid failed to relieve her tinnitus. Intraoperatively, complete basal turn ossification necessitated an extended round window approach with separate cochleostomy, achieving full electrode insertion. Postoperatively, her tinnitus resolved completely upon device activation, with aided hearing thresholds around 30 dB.

CONCLUSIONS

Despite being uncommon, labyrinthitis ossificans has a critical effect on the patients' quality of life. It is crucial to have a thorough discussion with each patient regarding the risks and benefits of the different available management options, as their main concern may not be revolving around restoring the hearing level only but relieving other symptoms. In these cases, offering CI may dramatically improve the patient's life, however, patients should be properly educated about the possibility of failure of implantation ahead of time.

KEYWORDS

"Labyrinthitis ossificans", "Cochlear implantation", "Drill-out procedure", "Sensorineural hearing loss", "Tinnitus"

PP-372

Clinical Review Of Tympanic Membrane Healing And Postoperative Audiological Outcomes After Patch, Fat, And Butterfly Myringoplasty

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BACKGROUND & AIM

Tympanic membrane perforations are commonly encountered in otorhinolaryngology practice and may lead to hearing loss and recurrent infections. Various minimally invasive techniques such as patch, fat, and butterfly myringoplasty are widely used for small and medium-sized perforations. The aim of this study was to evaluate tympanic membrane healing rates and postoperative audiological outcomes following patch, fat, and butterfly myringoplasty procedures.

MATERIAL & METHODS

This retrospective clinical study included patients who underwent patch, fat, or butterfly myringoplasty for tympanic membrane perforation in the Department of Otorhinolaryngology between 2022and 2026Patients were evaluated in ters of demographic characteristics, perforation closure rates, and postoperative audiological outcomes. Preoperative and postoperative pure tone audiometry results, including air-bone gap values, were compared among the groups. Patients with insufficient follow-up data or active middle ear infection were excluded from the study.

RESULTS

Butterfly myringoplasty showed comparatively higher graft success and hearing improvement rates. Statistical analysis revealed that [there was / there was no] significant difference among the groups ($p<0.05$).

CONCLUSIONS

Patch, fat, and butterfly myringoplasty techniques are effective minimally invasive treatment options for tympanic membrane perforations. All three techniques demonstrated satisfactory graft healing and postoperative audiological improvement. Butterfly myringoplasty may provide higher graft success and better hearing outcomes in selected patients. Further prospective studies with larger patient populations are needed to support these findings

KEYWORDS
Tympanic membrane perforation, myringoplasty, butterfly myringoplasty, fat graft, audiological outcomes

PP-373

Pigmentation In The Graft Area After Tympanomastoidectomy: Exogenous Pigment Deposition Mimicking Malignant Melanoma (Case Report)

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BACKGROUND & AIM

Pigmentation developing in the graft area after middle ear surgery is a rare condition. These pigmentations may clinically mimic malignant melanoma and can pose a diagnostic challenge.

MATERIAL & METHODS

A 50-year-old male chemical engineer, who had undergone tympanomastoidectomy for chronic otitis media 20 years ago, presented with hearing loss. On otoscopic examination, black pigmented areas were observed in the graft area and the external auditory canal mucosa. No pigmentation was detected elsewhere on the body, and the patient had no history of comorbidities. Malignant melanoma and exogenous pigmentation were considered in the differential diagnosis, and a biopsy was obtained from the suspicious lesion (Figure 1). Histopathological examination revealed findings consistent with exogenous brown pigment deposition. No evidence of malignancy was identified.

RESULTS

Exogenous pigmentation may develop due to environmental exposures, occupational contacts, surgical materials, or the accumulation of locally derived external pigments. Although rare, pigmentation observed in the graft area following middle ear surgery often presents as dark, irregular lesions. These characteristics frequently mimic malignant melanoma, leading to significant diagnostic challenges for the clinician. In the differential diagnosis, malignant melanoma must be the primary consideration, alongside hemosiderin accumulation and other exogenous causes. However, clinical and otoscopic findings are often insufficient for a definitive distinction. In this specific case, the patient's profession as a chemical engineer is noteworthy regarding potential occupational exposure; nonetheless, the absence of a reported chemical contact prevents a clear causal link. Despite this, a detailed evaluation of occupational and environmental history remains a vital component of the diagnostic process in similar cases. When clinical findings are inconclusive, histopathological examination is essential to rule out malignancy and confirm the etiology.

CONCLUSIONS

Although rare, pigmentation developing in the graft area after tympanomastoidectomy may mimic malignant melanoma. Therefore, biopsy is required for suspicious pigmented lesions.

KEYWORDS
Tympanomastoidectomy, pigmentation, malignant melanoma, exogenous pigment

PP-374

Clinical Efficacy Of Outpatient Uses Of MESNA In The Control Of Acquired Cholesteatoma

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BACKGROUND & AIM

Introduction: The control of chronic otorrhea refractory to treatment after canal wall down mastoidectomy remains challenging. Persistent mucosal inflammation, cholesteatoma recurrence, and bacterial biofilm formation may contribute to ongoing discharge. Sodium 2-mercaptoethanesulfonate (MESNA) has mucolytic properties, disrupts keratin disulfide bonds, and may act against biofilms, suggesting potential therapeutic benefit.

Objective: To evaluate the outpatient use of topical MESNA for chronic otorrhea in patients previously submitted to canal wall down mastoidectomy for middle ear cholesteatoma, and to assess its audiological safety and in vitro effect on bacterial biofilm formation.

MATERIAL & METHODS

Methods: A randomized, double-blind, placebo-controlled clinical trial was conducted at the Otology Outpatient Clinic of UNIFESP. Patients were assigned to either the MESNA or control group. The MESNA group received 100% MESNA applied to the mastoid cavity for 10 minutes, while the control group received 0.9% saline solution. The primary outcome was a standardized otoscopic evaluation grading cavity status according to purulent secretion and debris. Audiological safety was assessed by comparing pure-tone averages (500, 1000, 2000, and 3000 Hz) for air and bone conduction before and after treatment. The in vitro effect on biofilm formation was analyzed using microtiter plates with optical density measurement.

RESULTS

Results: Thirty-five patients were included (18 MESNA; 17 control). The MESNA group showed clinical improvement in otorrhea and reduction in debris; however, no statistically significant superiority over saline was observed. Mean bone conduction thresholds did not differ between groups. In vitro analysis demonstrated no significant inhibitory effect of MESNA on biofilm formation.

CONCLUSIONS

Conclusion: Outpatient topical use of 100% MESNA did not show superiority over saline in controlling chronic otorrhea and debris after canal wall down mastoidectomy, nor did it inhibit biofilm formation in vitro. However, this is the first clinical trial evaluating outpatient MESNA use and confirming audiological safety at 100% concentration. Larger studies are needed to validate these findings.

KEYWORDS

MESNA, cholesteatoma, biofilms, mastoidectomy

PP-375

Cochlear Fistula Without Cholesteatoma An Exceptionally Rare Complication Of Chronic Otitis Media

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BACKGROUND & AIM

Cochlear fistulas are rare complications of chronic otitis media (COM), typically associated with cholesteatoma. Bone erosion in non-cholesteatomatous COM is extremely rare. This report aims to present an unusual case of advanced cochlear destruction and an anthrocutaneous fistula in a patient with chronic inflammation but no evidence of cholesteatoma, emphasizing the destructive potential of long-term non-cholesteatomatous infection.

MATERIAL & METHODS

A 62-year-old male with a lifelong history of right-sided otorrhea and progressive hearing loss presented with a retroauricular skin retraction pouch. Audiometry revealed ipsilateral total hearing loss ($104/49$ dB). Temporal bone CT showed widespread soft tissue density in the middle ear and mastoid, along with dehiscence in the cochlear basal turn and the tympanic segment of the facial nerve. The patient underwent a right tympanomastoidectomy. Intraoperatively, the skin retraction pouch was found to extend to the mastoid antrum. Extensive erosion of the promontory, round window niche, and cochlear scalae was observed.

RESULTS

Despite advanced cochlear destruction, no perilymph or endolymph leakage was observed intraoperatively, and the patient had no preoperative or postoperative vertigo. The exposed cochlear segments and facial nerve dehiscence were covered with a temporal fascia graft. Histopathological examination confirmed granulation tissue and chronic inflammation, with no evidence of cholesteatoma. The postoperative course was uneventful without any facial paralysis or vestibular symptoms. Radical mastoidectomy provided effective infection control and prevented further complications in the non-functional ear.

CONCLUSIONS

Advanced cochlear destruction and spontaneous anthrocutaneous fistulas can develop in non-cholesteatomatous COM due to chronic inflammatory processes. In cases of long-term unilateral otorrhea and retroauricular skin changes, inner ear erosions should be suspected even if imaging does not suggest cholesteatoma. Radical mastoidectomy with fascia grafting is a reliable surgical approach for managing such extensive destruction in ears without residual hearing.

KEYWORDS

Chronic Otitis Media, Cochlear Fistula, Bone Erosion, Anthrocutaneous Fistula, Radical Mastoidectomy, Non-cholesteatomatous destruction

PP-376

Angiomatous Meningioma Mimicking Serous Otitis Media: A Rare Clinical Entity And Diagnostic Pitfall

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BACKGROUND & AIM

Angiomatous meningioma is a rare histological variant of meningioma characterized by prominent vascularity. Due to its atypical locations or secondary compressive effects, it can occasionally masquerade as benign otological conditions. This case aims to highlight the potential for intracranial space-occupying lesions to mimic common otolaryngological disorders and emphasize the importance of early advanced imaging.

MATERIAL & METHODS

We present the case of a 48-year-old female with a two-year history of progressive, unilateral right-sided hearing loss, non-pulsatile tinnitus, and a persistent sensation of ipsilateral aural fullness. Over the preceding 12 months, the clinical course was further complicated by a significant exacerbation of episodic vertigo and the onset of intermittent, non-specific headaches. Initial management targeted suspected right-sided serous otitis media (SOM) and Eustachian tube dysfunction. Following the failure of successive courses of broad-spectrum oral antibiotics and corticosteroid therapy, alongside the onset of neurological/vestibular symptoms, advanced diagnostic imaging via contrast-enhanced cranial MRI was performed, followed by surgical resection and histopathological analysis.

RESULTS

Contrast-enhanced cranial MRI revealed a large, extra-axial mass along the right trigeminal nerve, extending from the prepontine cistern into Meckel's cave and the anteromedial temporal lobe. The lesion exerted a significant mass effect, compressing the adjacent pons, cavernous sinus, and Eustachian tube, with associated right temporal vasogenic edema. Following surgical resection, histopathological examination definitively confirmed the diagnosis of an angiomatous meningioma (WHO Grade I).

CONCLUSIONS

Angiomatous meningioma should be considered in the differential diagnosis of unilateral, treatment-resistant serous otitis media accompanied by progressive neurological or otological symptoms. Early advanced imaging is paramount to prevent diagnostic delay and minimize cranial nerve morbidity.

KEYWORDS

Angiomatous meningioma; Serous otitis media; Temporal bone; Conductive hearing loss; Diagnostic imaging

PP-377

Inner Ear Dysplasia As A Cause Of Recurrent Meningitis : Diagnostic Challenge

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BACKGROUND & AIM

Recurrent meningitis is rare but serious complication of congenital inner ear malformations. These malformations can result in direct communication between the subarachnoid space and the middle or inner ear, providing a pathway for pathogens to enter CSF. Such malformations are often associated with hearing loss, vestibular dysfunction, and increased susceptibility to meningitis. This case report describes a 10-year-old girl presented with recurrent meningitis and progressive unilateral hearing loss. High-resolution CT showed incomplete partition type 1 and CSF leak. The patient recovered well after surgical treatment, and the symptoms did not recur after one year follow-up.

MATERIAL & METHODS

This is a case report, so no special methods used.

RESULTS

A previously well 10-year-old girl had failed left-sided otoacoustic emissions on newborn hearing screening. She was later found to have left-sided sensorineural hearing loss following recurrent admission for meningitis. To further investigate the hearing loss, the patient had pure tone audiometry and acoustic immittance audiometry. The results indicated profound sensorineural hearing loss in the left ear. High-resolution computed tomography was performed, which revealed an incomplete partition type 1 (IP-1) as per Levent Sennaroğlu classification, and noted the presence of opacification in the middle ear. Given the findings of a CSF leak, inner ear malformation, and episodes of recurrent meningitis surgical intervention was decided. Exploratory tympanotomy was performed. Intra-op findings showed footplate was pushed out by a cyst, and a CSF leak was observed. The superstructure stapes were removed along with cyst. The defect was covered with multiple layers, which successfully stopped the CSF leak.

CONCLUSIONS

Recurrent meningitis associated with inner ear malformations presents a complex challenge for both diagnosis and treatment. Early recognition of the underlying malformation through imaging and prompt surgical intervention to repair the anatomical defect are key to preventing further episodes of meningitis. This case highlights the critical role of a multidisciplinary approach in managing recurrent meningitis associated with inner ear malformations, which is essential for optimizing patient outcomes and enhancing quality of life.

KEYWORDS

inner ear malformation, incomplete partition-1, recurrent meningitis

PP-378

Attic Reconstruction Techniques In Cholesteatoma Surgery: A Comparative Analysis Of Cartilage Versus Bone Pate

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BACKGROUND & AIM

Background: Cholesteatoma surgery involves canal wall down (CWD) and canal wall up (CWU) mastoidectomy. CWU is associated with higher cholesteatoma recurrence, often linked to attic retraction pockets. Attic reconstruction with cartilage or bone pate lacks comparative evidence.

Aims/objectives: To compare the effectiveness of cartilage and bone pate in attic reconstruction during CWU mastoidectomy for cholesteatoma.

MATERIAL & METHODS

We conducted a retrospective study at King Abdullah University Hospital (KAUH) in Jordan, analyzing surgeries performed from 2011 to 2021. Patients who underwent CWU mastoidectomy with attic reconstruction using tragal cartilage with perichondrium or bone pate were included

RESULTS

Of 48 patients analyzed, 26 had cartilage graft attic reconstruction, and 22 received bone pate. Recurrent cholesteatoma occurred in 19.23% of the cartilage group but none in the bone pate group ($p = .001$). Ear discharge was observed in 19.23% of the cartilage group and 18.18% of the bone pate group, while tympanic membrane perforations and external auditory canal cholesteatoma were more prevalent in the cartilage group.

CONCLUSIONS

Our study indicates that bone pate results in significantly lower cholesteatoma recurrence than cartilage grafting in CWU mastoidectomy attic reconstruction. Bone pate offers stability and favorable long-term outcomes for outer attic wall repair.

KEYWORDS

Cholesteatoma; Jordan; attic reconstruction; bone pate; cartilage; mastoidectomy.

PP-379

Whiplash-Unmasked Superior Canal Dehiscence Syndrome: Immediate Symptoms And The Diagnostic Role Of A 4 Khz Ovemp Response

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BACKGROUND & AIM

Superior Semicircular Canal Dehiscence Syndrome (SSCD) may become clinically manifest following trauma in predisposed individuals with an underlying osseous defect. However, immediate symptom onset after whiplash is not typically recognized as a distinct clinical presentation. High-frequency (4 kHz) oVEMP responses may offer increased specificity for third-window pathology, although they are not yet routinely incorporated into diagnostic protocols. We present a case of SSCD with immediate symptom onset after whiplash, highlighting the diagnostic value of a reproducible 4 kHz oVEMP response.

MATERIAL & METHODS

A 34-year-old female with no prior otologic history presented after a road traffic accident involving a whiplash mechanism. She reported immediate onset of right-sided pulsatile tinnitus, hyperacusis, sound-induced dizziness with occasional vertigo, aural fullness, and imbalance. Otoscopic examination, laboratory investigations, and fundoscopy were unremarkable. Pure tone audiometry showed normal thresholds, with reduced uncomfortable loudness levels on the right (85 vs 115 dB HL) and supranormal low-frequency bone conduction (-5 dB HL at 0.25 kHz). MRI/MRA excluded retrocochlear and vascular pathology. High-resolution CT (0.6 mm) suggested focal absence of the bony roof over a 1 mm segment of the right superior semicircular canal dome, without evidence of fracture or middle ear/mastoid opacification. oVEMP testing showed increased amplitudes with 500 Hz stimulation and a reproducible response at 4 kHz on the right.

RESULTS

Symptoms progressed after returning to work, with sound-induced vertigo triggered by low-frequency environmental noise. Findings were consistent with third-window pathology, and the patient was referred for otoneurologic evaluation and consideration of superior canal occlusion.

CONCLUSIONS

Whiplash may unmask subclinical SSCD with immediate symptom onset, potentially acting as a second hit in predisposed individuals. This differs from its traditional link to cervicogenic dizziness. Pulsatile tinnitus may be a prominent presenting feature. A reproducible 4 kHz oVEMP response supports the diagnosis and may offer increased specificity compared to conventional low-frequency stimulation.

KEYWORDS
trauma , superior semicircular canal dehiscence, oVEMP, pulsatile tinnitus, whiplash

PP-380

Diagnostic And Therapeutic Management Of Three Cases Of Otogenic Meningitis Within 60 Days. Coincidence Or Epidemic Wave.

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BACKGROUND & AIM

Meningitis is a rare but life-threatening complication of otitis media. Spread of infection occurs either by bone erosion or via progressive thrombophlebitis of small venules. Despite modern antibiotic therapy, it remains associated with significant morbidity and mortality. In our study we present three cases of otogenic meningitis that occurred within a 60-day period, raising the question of coincidence or epidemic trend.

MATERIAL & METHODS

Case presentation: Three male patients presented at the emergency department complaining of high fever, otalgia ,otorrhea and headache. Otoscopy revealed swelling and hyperemia of the Tympanic Membrane. Kernig and Brudzinski signs were positive. Contrast enhanced CT-scan showed no abnormalities from the brain or the sigmoid sinus. Lumbar puncture revealed elevated white blood cells. CSF culture confirmed Streptococcus pneumoniae infection. Management included myringotomy and administration of intravenous antibiotics (Ceftriaxone). All patients showed rapid clinical and radiological improvement. Follow-up confirmed complete recovery in all patients without evidence of relapse or residual intracranial disease.

RESULTS

Otogenic meningitis remains a major clinical challenge. Early recognition, accurate diagnosis, and administration of appropriate antibiotic therapy are crucial for patient's survival.

CONCLUSIONS

High fever and altered consciousness in patients with otitis media along with extra clinical signs from CNS should prompt immediate evaluation for possible meningitis. The clustering of cases within a short timeframe highlights the importance of clinical vigilance and epidemiological monitoring.

KEYWORDS
otogenic intracranial infection, cns, otitis media, meningitis, myringotomy, iv antibiotics

PP-381

Dermal Non-Langerhans Cell Histiocytosis Presenting As An External Auditory Canal Obstructing Mass In An Infant: A Case Report

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BACKGROUND & AIM

Histiocytic disorders are rare in pediatric patients and may present with a wide range of clinical manifestations. Non-Langerhans cell histiocytosis typically involves the skin, while involvement of the external auditory canal (EAC) is extremely uncommon. This study aims to present a rare case of dermal non-Langerhans cell histiocytosis presenting as a mass causing complete obstruction of the EAC in an infant and to highlight its diagnostic and therapeutic approach.

MATERIAL & METHODS

A 13-month-old female patient presented with a mass in the right external auditory canal. Otoscopic examination revealed a cystic lesion completely obstructing the canal. Temporal bone computed tomography (CT) demonstrated a soft tissue lesion confined to the EAC without bony erosion or middle ear involvement. The patient underwent complete excisional biopsy under general anesthesia. Histopathological and immunohistochemical analyses were performed.

RESULTS

Histopathological examination showed dermal infiltration by foamy histiocytes, multinucleated giant cells, and inflammatory cells. Immunohistochemical staining revealed S100 positivity, CD1a and Langerin negativity, and a low Ki-67 proliferation index. The findings were consistent with dermal non-Langerhans cell histiocytosis, most compatible with juvenile xanthogranuloma. The lesion was completely excised, and no complications were observed.

CONCLUSIONS

Non-Langerhans cell histiocytosis should be considered in the differential diagnosis of external auditory canal masses in infants. Imaging is essential to evaluate lesion extent, while histopathological examination is required for definitive diagnosis. Complete surgical excision provides both diagnosis and treatment in such cases.

KEYWORDS
External auditory canal, infant, histiocytosis, non-Langerhans cell histiocytosis, juvenile xanthogranuloma, ear mass

PP-382

Spontaneous Intracranial Hypotension Mimicking Ménière's Disease And Multiple Sclerosis Relapse

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BACKGROUND & AIM

Spontaneous intracranial hypotension (SIH) is an underrecognized condition resulting from cerebrospinal fluid (CSF) volume depletion, classically presenting with orthostatic headache. However, audiovestibular symptoms such as vertigo, tinnitus, and subjective hearing loss may predominate, mimicking both peripheral and central vestibular disorders. This diagnostic challenge becomes more complex in patients with underlying neurological diseases. This study aims to present a case of SIH presenting with acute audiovestibular symptoms, mimicking both Ménière's disease and multiple sclerosis (MS) relapse, and to emphasize key diagnostic considerations.

MATERIAL & METHODS

A 40-year-old female patient with a known diagnosis of MS and a previously identified vestibular schwannoma presented with acute-onset neck pain followed by vertigo, right-sided tinnitus, and subjective hearing loss. Clinical evaluation included otorhinolaryngological examination, pure-tone audiometry, speech discrimination testing, and vestibular assessment. Cranial magnetic resonance imaging (MRI) was performed to evaluate possible neurological causes.

RESULTS

MRI revealed no new demyelinating lesions suggestive of MS relapse but demonstrated findings consistent with decreased CSF pressure. Audiological and vestibular evaluations were within normal limits. Based on clinical and radiological findings, SIH was considered. The patient was managed conservatively with bed rest, hydration, and caffeine intake. Due to the potential risk of MS relapse, systemic corticosteroid therapy was also administered. At 5-day follow-up, the patient showed significant clinical improvement, with stable audiological findings.

CONCLUSIONS

SIH should be considered in the differential diagnosis of acute audiovestibular symptoms, particularly when orthostatic features are present. Clinical improvement following corticosteroid therapy does not reliably differentiate SIH from MS relapse or Ménière's disease. This case highlights the importance of integrating clinical, radiological, and audiovestibular findings and underscores the need for a multidisciplinary approach in patients presenting with overlapping neurological and otological symptoms.

KEYWORDS
Spontaneous intracranial hypotension, vertigo, tinnitus, multiple sclerosis, Ménière's disease, audiovestibular symptoms

PP-383

Prevalence Of Endolymphatic Hydrops In Patients Evaluated By Gadolinium-Enhanced Inner Ear MRI

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BACKGROUND & AIM

Endolymphatic hydrops was previously established as the principal pathological substrate of Ménière's disease, and its diagnosis was historically based on clinical findings and physiological examinations. With the advent of Gadolinium-enhanced inner ear MRI, in vivo visualization of endolymphatic hydrops became feasible. We initiated Gadolinium-enhanced inner ear MRI in 2018. The aim of this study is to evaluate the prevalence of endolymphatic hydrops in our institution.

MATERIAL & METHODS

The participants included 123 patients who underwent Gadolinium-enhanced inner ear MRI treated in the Department of Otolaryngology, Yamaguchi University Hospital, Japan between January 1, 2018, and March 31, 2023.They were clinically diagnosed with Ménière's disease, atypical Ménière's disease, delayed endolymphatic hydrops (DEH), vertigo disorder, or acute sensorineural hearing loss. Four hours after intravenous administration of gadoteridol, MRI was performed using a 3T scanner (MAGNETOM Prisma 3T, Siemens Healthcare GmbH, Erlangen, Germany). Endolymphatic hydrops was assessed according to the criteria proposed by Nakashima et al., and the endolymphatic space in the cochlea and vestibule was graded as significant, mild, or none.

RESULTS

The positive rate of endolymphatic hydrops in definite Ménière's disease cases in our institution was 80%. For other conditions, the positive rates were approximately 50% for atypical Ménière's disease and 100% for delayed endolymphatic hydrops. The association between the duration of Ménière's disease and the positive rate was considered. However, no clear relationship

was observed between the time from the first Ménière's disease attack to MRI examination and the presence of hydrops (t(22)=1.20，p=0.24).

CONCLUSIONS

Gadolinium-enhanced inner ear MRI is useful for the definitive diagnosis of Ménière's disease. In addition, more than half of the cases with atypical Ménière's disease or DEH also showed positive findings. These results suggest that Gadolinium-enhanced inner ear MRI can serve as a valuable tool in clinical practice. Further research is needed to determine whether endolymphatic hydrops in Ménière's disease represents a progressive or reversible change.

KEYWORDS

Endolymphatic Hydrops,Gadolinium-enhanced Inner Ear MRI,Ménière's disease

PP-384

Evaluation Of Tinnitus In Patients Undergoing Tympanoplasty In A Tertiary Hospital

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BACKGROUND & AIM

Tinnitus is a frequent complaint among patients with chronic otitis media (COM). Tympanoplasty is indicated for selected cases of non-cholesteatomatous COM since it aims to reconstruct the tympanic membrane, restore sound protection to the round window, and reestablish sound conduction mechanisms, thereby improving hearing. Improvement in tinnitus after tympanoplasty is traditionally attributed to postoperative auditory gain, representing a classical model of the relationship between hearing and tinnitus perception. This study aimed to evaluate the impact of tympanoplasty on postoperative tinnitus outcomes in patients with non-cholesteatomatous COM.

MATERIAL & METHODS

This observational, prospective, and analytical field study was conducted between January and December 2023. Patients undergoing tympanoplasty were evaluated using a questionnaire to assess tinnitus characteristics in the pre- and postoperative periods. Audiometric findings and tinnitus intensity were analyzed, and frequency distribution tables were constructed according to postoperative tinnitus presence and severity. The most frequently used surgical technique was the retroauricular medial approach with temporalis muscle fascia graft (80%), followed by the endaural technique. Statistical analysis included Fisher's exact test, with significance set at $\alpha = 0.05$.

RESULTS

A total of 33 tympanoplasties were performed in 25 patients, 80% female and 20% male, with a mean age of 44 years (range: 20–76). Previous otologic surgery was reported by 40% of patients. Preoperatively, tinnitus was intermittent in 80% and constant in 20% of cases. Mixed hearing loss was identified in 44% of patients, predominantly mild to moderate. Audiometric evaluation also demonstrated conductive hearing loss in an average of 28% of patients. Tinnitus intensity was classified as moderate in 84%, mild in 8%, and severe in 8%. Fisher's exact test demonstrated a significant association between previous surgery and persistence of postoperative tinnitus. The mean Visual Analog Scale score decreased from 4.8 preoperatively to 2.2 postoperatively, with complete tinnitus resolution reported by 36% of patients.

CONCLUSIONS

Tinnitus is highly prevalent in patients with COM, and tympanoplasty was associated with a significant reduction in tinnitus intensity, likely related to postoperative hearing improvement. Long-term prospective studies are recommended to assess the durability of these outcomes and identify factors influencing surgical success.

KEYWORDS

Hearing Loss. Otitis Media. Tinnitus. Tympanoplasty.

PP-385

POSTOPERATIVE MASTOID CAVITY OBLITERATION USING A POSTERIOR AURICULAR MUSCLE FLAP

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BACKGROUND & AIM

Introduction

Canal wall down mastoidectomy (CWDM) remains an effective surgical approach for the management of middle ear cholesteatoma. However, postoperative mastoid cavity – related complications continue to represent a significant clinical challenge. Chronic otorrhea, recurrent infections, and the need for frequent cavity care adversely affect long-term outcomes and patients' quality of life.

Mastoid cavity obliteration using vascularized tissue has been increasingly advocated to improve cavity stability, promote epithelialization, and optimize postoperative results.

Aim: To evaluate the clinical outcomes of mastoid cavity obliteration using a posterior auricular muscle flap following canal wall down mastoidectomy.

MATERIAL & METHODS

A clinical observational study was conducted including 18 patients who underwent canal wall down mastoidectomy with simultaneous mastoid cavity obliteration using a posterior auricular muscle flap in 2025. All procedures were performed as single – stage surgeries by the same otologic surgeon at the Department of Otorhinolaryngology, Clinic of Eye, Head and Neck Surgery, Klaipeda University Hospital.

Postoperative follow – up was performed after removal of ear packing at 4 weeks and subsequently at 8 and 12 weeks postoperatively. Clinical outcomes were assessed based on the presence of otorrhea, granulation tissue, and the degree of epithelialization of the mastoid cavity.

RESULTS

At 4 weeks postoperatively, all patients (18/18, 100%) exhibited otorrhea, with no evidence of granulation tissue or epithelialization. By 8 weeks, clinical improvement was observed, with otorrhea persisting in 11 patients (61.1%) and granulation tissue present in 7 patients (38.9%); however, complete epithelialization was not achieved in any case.

At 12 weeks, outcomes further improved, with only 2 patients (11.1%) demonstrating minimal residual otorrhea and 2 patients (11.1%) showing granulation tissue, while complete epithelialization of the postoperative mastoid cavity was achieved in 14 patients (77.8%).

Overall, mastoid cavity obliteration using a posterior auricular muscle flap resulted in progressive cavity stabilization, a marked reduction in cavity volume, and facilitation of postoperative management. The majority of patients achieved a dry, stable, and well – epithelialized cavity, with a substantially reduced need for routine cavity care. No major flap – related complications, including flap necrosis or wound healing disturbances, were observed.

CONCLUSIONS

Mastoid cavity obliteration using a posterior auricular muscle flap represents a safe, reliable, and effective adjunct to canal wall down mastoidectomy. The technique promotes durable cavity stabilization, accelerates epithelialization, and significantly reduces postoperative cavity-related complications, thereby facilitating long-term cavity management.

These findings support its role as a valuable surgical option in the management of cholesteatoma. Further studies with larger cohorts and extended follow – up are warranted to validate these outcomes and to better define its place in contemporary otologic practice.

KEYWORDS

Canal wall down mastoidectomy, mastoid cavity obliteration, cholesteatoma, posterior auricular muscle flap.

PP-386

Peripheral Facial Nerve Palsy Secondary To Chronic Otitis Media: A Case Report

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BACKGROUND & AIM

Chronic Otitis Media (COM) is a persistent inflammation of the middle ear and mastoid air cells lasting ≥3 months, with or without tympanic membrane perforation. It is a rare but serious cause of facial nerve paralysis, accounting for about 0.16–5.8% of cases. Early surgical decompression is the treatment of choice; pathological tissue is removed and the facial nerve canal is decompressed.

In this case report, we aimed to present the clinical findings and management of a patient with long-standing bilateral chronic otitis media complicated by left-sided peripheral facial nerve palsy.

MATERIAL & METHODS

A 65-year-old female presented with a long-standing history of intermittent bilateral greenish otorrhea. Her symptoms had progressively worsened over the preceding 2–3 weeks despite medical treatment. Two days prior to presentation, she developed left-sided facial weakness consistent with peripheral facial nerve palsy.

On otoscopic examination, bilateral tympanic membrane perforations were identified. Purulent otorrhea was noted in the left external auditory canal. The patient was found to have left-sided Grade IV peripheral facial nerve palsy.

Temporal bone CT (Computed Tomography) imaging was performed. The study demonstrated complete loss of aeration within the left mastoid air cell system with marked trabecular sclerosis. Diffuse soft-tissue density was present involving both the mastoid cavity and middle ear cleft. Dehiscence of the tympanic segment of the left facial nerve was identified, together with a bony defect of the facial nerve canal.

RESULTS

Emergency surgical intervention was recommended for the patient. The preliminary diagnosis was peripheral facial nerve palsy secondary to chronic otitis media.Under appropriate operating room conditions, a vascular flap was elevated from the external auditory canal extending posteriorly. A tympanomeatal flap was elevated. Malposition of the malleus, incus, and stapes was noted. A postauricular sulcus incision was then performed. A left mastoidectomy was carried out. Cholesteatoma tissue was removed from the antrum. A cartilage graft was harvested from the left tragus, and a left tympanoplasty was performed.

CONCLUSIONS

The development of peripheral facial nerve palsy in patients with chronic otitis media is an indication for emergency surgical intervention. Temporal bone CT is an indispensable tool for demonstrating facial nerve dehiscence and mastoid pathology.

KEYWORDS

Chronic Otitis Media , Peripheral Facial Nerve Palsy , Temporal CT

PP-387

Tympanic Paraganglioma Mimicking Chronic Otitis Media: A Diagnostic Pitfall

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BACKGROUND & AIM

Tympanic paraganglioma, also known as glomus tympanicum, is the most common primary neoplasm of the middle ear and arises from paraganglionic tissue associated with the tympanic branch of the glossopharyngeal nerve (Jacobson's nerve). It usually presents with pulsatile tinnitus, conductive hearing loss, or a retrotympanic vascular mass. Rarely, it may mimic chronic otitis media with inflammatory polyp or granulation tissue, causing delayed diagnosis and unexpected intraoperative bleeding. We present a case initially interpreted as chronic otitis media with an external auditory canal polyp.

MATERIAL & METHODS

A 47-year-old female patient presented with a 6-month history of persistent right-sided suppurative otorrhea, otalgia, and hearing loss unresponsive to medical treatment. Otoscopic examination showed suppurative discharge and a smooth-surfaced, nonpulsatile, non-vascular-appearing mass occluding the right external auditory canal. The lesion was considered compatible with inflammatory polyp or granulation tissue secondary to chronic otitis media. Bilateral facial nerve motor function was intact. Preoperative imaging findings were also interpreted as consistent with chronic otitis media. Surgical exploration and histopathological examination were performed for definitive diagnosis.

RESULTS

During the initial surgery, an unexpectedly hemorrhagic mass was encountered. Because of marked bleeding and suspicion of a vascular lesion, complete excision was not attempted; multiple biopsy specimens were obtained, and the procedure was terminated. Histopathology was consistent with paraganglioma. The patient subsequently underwent revision tympanomastoidectomy. For improved exposure, temporary en bloc osteotomy of the posterior bony external auditory canal wall was performed. After tumor excision, the canal wall was repositioned and reconstructed, and ossicular chain reconstruction was performed. The tumor involved the middle ear and mastoid antrum and was classified as Fisch type B and Glasscock–Jackson type IV. Postoperative otoscopy showed no recurrent canal mass, and magnetic resonance imaging (MRI) revealed no clear residual or recurrent disease.

CONCLUSIONS

Tympanic paraganglioma may rarely present as a nonpulsatile, non-vascular-appearing external auditory canal mass associated with suppurative otorrhea, otalgia and hearing loss, mimicking chronic otitis media. Vascular middle ear tumors should remain in the differential diagnosis of persistent canal polyps or granulation tissue, especially when unresponsive to treatment. Awareness of this atypical presentation and staged surgery after histopathological confirmation may improve safety and disease control.

KEYWORDS

tympanic paraganglioma, glomus tympanicum, middle ear tumor, timpanomastoidectomy, vascular middle ear lesion

PP-388

APOE Genotype And Hearing Loss In A Taiwanese Population

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BACKGROUND & AIM

Age-related hearing loss is a prevalent condition in aging populations and exhibits substantial inter-individual variability. Apolipoprotein E (APOE), a key genetic factor involved in neurodegeneration, has been implicated in hearing outcomes;

however, previous findings remain inconsistent and rarely consider genotype-specific or frequency-specific effects.This study aimed to investigate the association between APOE genotypes and hearing outcomes, and to determine whether these associations are genotype-dependent and frequency-specific.

MATERIAL & METHODS

A total of 827 participants were included. Hearing outcomes, including pure-tone thresholds (0.25–8 kHz), pure-tone average, and hearing loss severity, were compared across APOE genotypes (e2e2, e2e3, e2e4, e3e4, e4e4). Within each genotype, hearing outcomes were further compared between APOE-positive and APOE-negative groups.

RESULTS

In the overall cohort, significant differences across APOE genotypes were observed at the 2 kHz threshold in the right ear. Genotype-stratified analyses revealed significant associations between APOE status and specific frequency thresholds as well as hearing loss severity in the e2e3 and e3e4 genotypes, whereas no significant associations were observed in the e2e2 and e4e4 genotypes. Notably, significant findings were frequency-specific rather than reflected in overall pure-tone averages.

CONCLUSIONS

These findings demonstrate that the association between APOE and hearing outcomes is both genotype-dependent and frequency-specific. This nuanced effect may explain inconsistencies in prior studies and supports the potential role of APOE in hearing loss risk stratification during aging.

KEYWORDS

Apolipoprotein E (APOE) Age-related hearing loss Genotype-dependent effects Frequency-specific thresholds Pure-tone audiometry

PP-389

Endoscopy Guided Eustachian Tube Balloon Dilation In Patients With Eustaschian Tube Dysfunction: Our Experience

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BACKGROUND & AIM

Eustachian tube dysfunction (ETD) is a common clinical entity but its treatment is still challenging to Otorhinolaryngologists. Symptoms of chronic obstructive ETD include aural fullness, tinnitus, hearing loss and otalgia. The aim of this study was to evaluate the effect of transnasal endoscopic balloon dilatation of the eustachian tube in patients with ETD.

MATERIAL & METHODS

This is a retrospective observational study that included thirteen consecutive patients aged between 27 and 56 years who were identified with the diagnosis of ETD resistant to adequate medical therapy. They all underwent tympanometry, pure tone audiometry and tubomanometry preoperatively. Additionally they all completed the ETDQ7 questionnaire (Eustachian Tube Dysfunction Questionnaire -7) for the evaluation of ETD related symptoms. The transnasal endoscopic procedure was performed to dilate the cartilaginous part of the eustachian tube with a balloon catheter. All patients were post-operatively assessed in 1st, 2nd and 8th week after the procedure

RESULTS

Balloon dilation of the eustachian tube was performed in all cases. Seven patients underwent balloon dilation unilaterally and in six participants the surgery was performed bilaterally. All patients reported subjective improvement of the ETD related symptoms based on the ETDQ7 scores (Table 1). Additionally the objective measurements of the eustachian tube function with the use of tubomanometry were significantly improved. There were no peri- or postoperastive complications noticed in this study

CONCLUSIONS

Balloon dilation of the eustachian tube appears to be a feasible, safe and minimally invasive procedure and a promising alternative method to restore middle ear ventilation in patients with chronic ETD.

KEYWORDS

Eustachian tube dysfunction, Balloon dilation, Tubomanometry, ETDQ7 questionnaire

PP-390

Results Of School-Age Hearing Screening Among First-Grade Primary School Students In Karabuk Province

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BACKGROUND & AIM

Of this study is to present the results of hearing screenings conducted on first-grade primary school students living in Karabük province between 2022 and 2026.

MATERIAL & METHODS

Method: Between 2022 and 2026, a total of 9171 first-grade primary school students underwent hearing screening tests. Four referral reasons were indicated in the screening test. Parents of the students completed the questionnaire shown in Table 1. A total of 174 students who failed the hearing screening were re-evaluated at the ENT outpatient clinic of Karabük Training and Research Hospital. Whether the students had hearing loss was assessed using pure-tone audiometry, pediatric audiometry, tympanometry, OAE, and BERA. Examinations were performed by a single physician assigned to this task. Impaired cerumen was detected and aspirated in 21 students. Hearing was found to be normal in 121 students. Hearing loss was detected in 30 students.

RESULTS

25 Hearing loss was defined as being above a certain dB level. The average values obtained separately for the right and left ears at 500Hz, 1000Hz, 2000Hz, and 4000Hz frequencies were as follows: right ear 34.8, 33.5, 28.8, 36.1; left ear 30.6, 28.5, 24.8, 28.6 In our study, the distribution of hearing loss in 30 students was as follows: 32 students had conductive hearing loss, 4 students had mixed hearing loss, and 1 student had sensorineural hearing loss (SNHL). BERA was administered to 5 students who were unable to cooperate with the test. All students (100%) with conductive hearing loss had effusion. Otitis. The media reported that 0.4% of primary school students had hearing loss.

CONCLUSIONS

This rate is lower than the screening tests conducted in Turkey. This is attributed to the early detection of children with hearing loss through newborn hearing screening tests conducted at our hospital."

KEYWORDS

School Health Services; Hearing Loss; Audiometry, Pure-Tone; Otitis Media with Effusion; Child; Turkey.

PP-391

A Novel Microsurgical Instrument For Malleus Skeletonization And Middle Ear Dissection: The 21-Gauge Syringe Needle Technique

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BACKGROUND & AIM

Malleus skeletonization and dissection of soft tissues adherent to the stapes are critical and technically demanding steps in middle ear surgery. Avoiding trauma to the ossicular chain, particularly the stapes, is essential for optimal hearing outcomes and inner ear safety.Conventional techniques include sharp picks, fine microscissors, and lasers. However, picks may concentrate force at a single point, increasing the risk of ossicular injury or luxation; microscissors can limit visualization in narrow spaces; and lasers may not always be available due to cost and equipment requirements.This study presents an affordable and widely available technique using a modified 21-gauge syringe needle.

MATERIAL & METHODS

A standard 21-gauge green syringe needle is firmly mounted onto the handle of an ear pick or a similar microsurgical instrument, creating a microdissection tool. The sharp tip and lateral edges allow it to function like a mini-blade with controlled, saw-like back-and-forth movements.

Malleus Skeletonization: A periosteal incision is made along the manubrium of the malleus. The sharp lateral surfaces enable atraumatic separation of soft tissues from the bony surface with minimal mechanical force.

Stapes Dissection: Soft tissues adherent to the stapes are excised by applying minimal force to the stapes head, preserving its mobility while reducing transmission of traumatic force to the footplate.

Chorda Tympani: Adherent tissues over the nerve are removed without traction or thermal injury.

The disposable nature of the needle ensures consistently sharp cutting edges for each case.

RESULTS

The technique was successfully applied in three different cases involving malleus skeletonization, stapes head dissection, and chorda tympani clearance. Dissections performed with the modified 21-gauge tip were observed to be controlled, safe, and highly sharp. No intraoperative complications such as ossicular chain injury, stapes subluxation, footplate trauma, or unexpected bleeding were encountered in any case. The method was found to be practical, reproducible, and to improve overall surgical comfort, providing enhanced precision in delicate middle ear dissection steps.

CONCLUSIONS

Uncontrolled force during dissection around the malleus and stapes may cause ossicular chain damage or stapes subluxation.Conventional sharp picks often require greater pushing and pulling force due to their limited cutting surface, whereas the modified syringe needle reduces this force requirement with its sharp edges.However, it is designed for soft tissue

dissection and is not suitable for bone work.Its lower rigidity compared to steel picks may lead to bending; therefore, it should be used for cutting rather than leverage.Secure fixation to the instrument handle is essential.This modification reduces force transmission and enhances surgical safety with low cost and wide availability

KEYWORDS

Middle ear surgery, Ossicular chain, Microdissection, 21-gauge needle

PP-392

Non Surgical Treatment Of Otosclerosis : A Systematic Review

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BACKGROUND & AIM

Otosclerosis is a primary osteodystrophy of the otic capsule characterized by abnormal bone remodeling that leads to progressive conductive or mixed hearing loss. Although stapedotomy remains the standard surgical treatment, non-surgical management is increasingly important in patients who are not surgical candidates, refuse surgery, or present with early-stage disease. The aim of this systematic review was to evaluate the effectiveness and safety of non-surgical treatment modalities for otosclerosis, with emphasis on hearing outcomes and disease progression.

MATERIAL & METHODS

A systematic review of the literature was conducted according to PRISMA guidelines. Electronic databases including PubMed, Scopus, and Cochrane Library were searched for studies published between 2000 and 2025 using the keywords “otosclerosis,” “non-surgical treatment,” “medical therapy,” “hearing aids,” “sodium fluoride,” and “bisphosphonates.” Randomized controlled trials, cohort studies, and observational studies evaluating conservative management were included. Data regarding patient demographics, treatment modality, audiological outcomes, symptom control, and adverse effects were extracted and analyzed qualitatively.

RESULTS

A total of 27 studies involving approximately 2,100 patients met the inclusion criteria. Hearing aids were consistently shown to provide significant functional hearing improvement and quality-of-life benefits in patients with conductive and mixed hearing loss. Sodium fluoride therapy demonstrated potential stabilization of sensorineural hearing deterioration in selected patients, although evidence quality was moderate. Bisphosphonates, particularly third-generation agents, showed promising results in reducing cochlear otosclerosis progression and vestibular symptoms; however, available studies were limited by small sample sizes and heterogeneous methodologies. Overall, non-surgical therapies were well tolerated, with minimal serious adverse effects reported.

CONCLUSIONS

Non-surgical treatment represents an effective and safe alternative or adjunct in the management of otosclerosis, especially for patients unsuitable for surgery. Hearing amplification remains the cornerstone of conservative management, while medical therapies such as sodium fluoride and bisphosphonates may offer disease stabilization in selected cases. Further high-quality randomized studies are required to establish standardized treatment protocols and long-term efficacy.

KEYWORDS

“otosclerosis,” “non-surgical treatment,” “medical therapy,” “hearing aids,” “sodium fluoride,” and “bisphosphonates.”

PP-393

Langerhans Cell Histiocytosis In The Mastoid Bone Mimicking Cholesteatoma Adjacent To The Facial Nerve, Posterior Semicircular Canal And Sigmoid Sinus

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BACKGROUND & AIM

Langerhans Cell Histiocytosis is a rare clonal proliferative disorder characterized by pathological accumulation of Langerhans cells. The annual incidence is approximately 5–6 cases per million in children and 1–2 cases per million in adults. Temporal bone involvement occurs in nearly 15–25% of cases, whereas mastoid involvement in adults is particularly rare. Temporal bone lesions may clinically and radiologically mimic chronic otomastoiditis or cholesteatoma. We aimed to present a rare adult case of mastoid Langerhans cell histiocytosis initially suspected to be cholesteatoma.

MATERIAL & METHODS

A 40 year old male patient presented with otologic complaints and underwent audiological and radiological evaluation. Pure-tone audiometry demonstrated bilateral hearing thresholds within normal limits with a mild conductive component on the left side. Tympanometric findings were compatible with middle ear dysfunction. Contrast-enhanced temporal magnetic resonance imaging revealed a 14×16 mm peripherally enhancing lesion within the left mastoid cells, initially interpreted as

cholesteatoma. Temporal bone computed tomography demonstrated a destructive lytic lesion measuring approximately 20×10 mm adjacent to the jugular foramen in the left mastoid segment. Cortical bone destruction with loss of clear separation from the intracranial compartment was observed. The lesion was closely associated with the mastoid segment of the facial nerve canal, sigmoid sinus, and posterior fossa dura. Mastoid exploration and surgical excision were performed. Histopathological examination established the diagnosis of Langerhans cell histiocytosis.

RESULTS

Intraoperatively, the lesion was found to extend within the mastoid cavity in close proximity to the facial nerve canal, posterior semicircular canal, sigmoid sinus and posterior fossa dural plate. Although preoperative radiological findings strongly suggested cholesteatoma, definitive diagnosis was achieved histopathologically. No postoperative facial nerve deficit or major intracranial complication occurred. Audiological findings remained stable during postoperative follow-up.

CONCLUSIONS

Temporal bone Langerhans cell histiocytosis is particularly rare in adults and should be considered in the differential diagnosis of destructive mastoid lesions mimicking cholesteatoma. Detailed preoperative imaging evaluation of the relationship between the lesion and adjacent structures such as the facial nerve, sigmoid sinus, and posterior fossa dura is essential for minimizing surgical morbidity. Histopathological examination remains the gold standard for definitive diagnosis.

KEYWORDS

Langerhans Cell Histiocytosis, Temporal Bone, Mastoid Lesion, Cholesteatoma Mimic, Otology

PP-394

Xenograft In Transcanal Endoscopic Tympanoplasty

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BACKGROUND & AIM

Transcanal endoscopic tympanoplasty is the main stream of operation in the repairment of tympanic membrane perforation. The tympanoplasty procedure often requires a membraneous graft for patching the perforation. The aim of the present study is to evaluate the healing condition by using xenograft in transcanal endoscopic tympanoplasty.

MATERIAL & METHODS

This study is a retrospective review of charts of the patients who received transcanal endoscopic tympanoplasy for chronic otits media. The membraneous graft for patching the tympanic perforation was either autograft (tragus perichondrium or temporalis muscle fascia) or xenograft (Biodesign; porcine small intestinal mucosa product). The completely healing rate, partial closure rate, and the operation time comsumed were analyzed and compared between the autograft and the xengraft. The possible factors relating to partial closure were also analyzed.

RESULTS

During the period between January 1st, 2022 to December 31st, 2025, 206 transcanal endoscopic tympanoplasty procedures were performed on 197 patients (120 females, 77 males). The comletely healing rates were 94.4% for autografts and 79.7% for xenografts. The partial colsure rates were 4.2% for autografts and 14.3% for xenografts. The average operation time were 80±24 minutes for autografts and 64±25 minutes for xenografts. The original perforation size was the primary factor that might result in partial closure. With the ROC curve analysis, the area under the curve was 0.750. At the cutoff point of 37.50% perforation, the sensitivity and specificity of partial closure for xengraft use 0.737 and 0.623, respectively.

CONCLUSIONS

Xengraft of porcine small intestinal mucosa product gave a satisfactory healing rate in transcanal endoscopic tympanoplasty. The use of xenograft may save about 16 minutes operation time and prevent an addition al wound from the harvest of grafts. The porcine small intestinal mucosa product is a good choice of graft in endoscopic tympanoplast surgeries.

KEYWORDS

Xenograft; chronic otitis media; tympanoplasty; transcanal endoscopic ear surgery

PP-395

From Hearing Loss To Genetic Diagnosis: A Family Case Of Mohr–Tranebjaerg Syndrome

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BACKGROUND & AIM

Mohr–Tranebjaerg syndrome (MTS), also known as Deafness–Dystonia–Optic Neuronopathy (DDON) syndrome, is a rare X-linked recessive neurodegenerative disorder that predominantly affects males. It is caused by pathogenic variants in the TIMM8A gene, which encodes a mitochondrial protein involved in inner membrane protein import, leading to progressive

neurological dysfunction. The condition typically presents in early childhood with sensorineural hearing loss, often the first and most prominent feature. As the disease progresses, patients may develop dystonia, spasticity, optic atrophy, peripheral neuropathy, cognitive decline, and psychiatric manifestations.

MATERIAL & METHODS

Case report of a family with four diagnosed cases of Mohr–Tranebjaerg syndrome (MTS)

RESULTS

We describe a family with four male cases of Mohr–Tranebjaerg syndrome (MTS): three siblings and one maternal uncle.

Two monozygotic twins were referred to consultation at 3 years old due to global developmental delay, especially in the language area, unilateral strabismus and ataxia. Neonatal otoacoustic emissions were present, but auditory brainstem responses showed absence of waveforms at all tested intensities.

Their older brother was referred for evaluation due to speech delay at 4 years old. After irregular attendance at medical appointments, he was diagnosed with postlingual progressive bilateral sensorineural hearing loss at 9 years old.

Family history revealed a maternal uncle with a history of childhood-onset sensorineural deafness. At age 18 presented early onset dementia and at 28 years old developed dysmetria, limb hyperreflexia, dystonia and spasticity.

Genetic testing, including mitochondrial DNA sequencing, confirmed hemizygosity for a pathogenic variant in TIMM8A, establishing the diagnosis of X-linked MTS in this family.

CONCLUSIONS

In Mohr–Tranebjaerg syndrome (MTS), deafness is often the first manifestation and may be overlooked, delaying recognition of the underlying disorder. Thereby genetic testing and counseling are essential due to the high recurrence risk and the potential severity of the condition, enabling informed reproductive decisions and early intervention for affected children.

KEYWORDS

Mohr–Tranebjaerg syndrome (MTS), sensorineural hearing loss, genetic testing

PP-396

Impact Of A Hearing Screening Intervention On Noise-Induced Hearing Loss Awareness And Protective Practices Among Quarry Workers: A 12-Months Follow-Up Study

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BACKGROUND & AIM

Noise-induced hearing loss (NIHL) remains a preventable yet highly prevalent occupational hazard among quarry workers exposed to hazardous noise levels. Despite established effective hearing conservation strategies, sustained behavioral compliance remains a persistent challenge. The aim of this study is to determine the short- and long-term impact on knowledge, attitudes and practices (KAP) related to NIHL over 12-months following a hearing conservation initiative.

MATERIAL & METHODS

A quasi-experimental study was conducted at a quarry site. The intervention included targeted hearing health educational sessions, information on hearing protection and ear examinations. A validated KAP questionnaire was administered at baseline (pre-intervention), immediately post-intervention and at 6- and 12-months. Trends in KAP scores were analyzed to evaluate immediate gains and sustainability of impact.

RESULTS

The intervention produced significant and sustained improvements in knowledge and attitudes towards hearing conservation throughout follow-up assessments. However, while protective practices immediately post-intervention, adherence declined over time, highlighting a gap between awareness and sustained behavioral change. Despite risk perception, consistent use of hearing protection remained suboptimal at 12 months.

CONCLUSIONS

Although educational interventions improved knowledge and attitudes toward NIHL, sustained behavioral change in hearing protection practices remained challenging. Strengthening implementation strategies is critical to achieving meaningful reductions in occupational NIHL risk among quarry workers.

KEYWORDS

Hearing Loss, Noise-Induced; Health Knowledge, Attitudes, Practice; Noise, Occupational

PP-397

Predictors Of The Audiological Outcomes Of Middle Ear Cholesteatoma Surgery

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BACKGROUND & AIM

Middle ear cholesteatoma (MEC) surgery is one of the actual problems of otology due to destruction of bony structures, high incidence of extra- and intracranial complications and late diagnosis of the disease. Hearing loss in patients with MEC leads to impaired quality of life and social adaptation. In 2017, joint consensus recommendations of the European Academy of Otology and Neurootology and the Japanese Otological Society (EAONO/JOS) on the definition, classification and stages of middle ear cholesteatoma was published. A study objective was to evaluate staging system as predictors for postoperative hearing, using a patient cohort in our clinic.

MATERIAL & METHODS

Patients who underwent surgery for middle ear cholesteatoma between 2014 and 2020 were included in our study. Based on the surgical protocols, preoperative temporal bone computed tomography images; the disease was classified according to the EAONO/JOS staging system. Hearing parameters obtained by pre- and postoperative pure tone audiometry at 1 and 3 years were analyzed according to the surgical technique used (Canal Wall Up (CWU) and Canal Wall Down (CWD)) and the stage of the disease.

RESULTS

One year after the surgery, the average value of air conduction and air-bone gaps had improved in the vast majority of patients. 41 patients (%) underwent closed type of surgery, 71 (51%) - open type and 11 patients (8%) did not undergo mastoidectomy. Patients who underwent CWU had better postoperative air conduction and air-bone gap scores than patients who underwent CWD. According to the staging system, the mean value of preoperative air conduction at stage I was 46,59±21,12dB, at stage II – 49,10±16,76dB, at stage III – 61,03±22,94dB. Postoperative mean value of air conduction 1 year after surgery was at stage I – 42,26±17,89dB, at stage II – 43,42±14,64dB, at stage III – 69,50±24,53dB and 42,97±17,50dB, 43,46±14,75dB, 74,22±22,22dB after 3 years, respectively. Patients with stage III of the disease had worse postoperative hearing than those with stage I of the disease.

CONCLUSIONS

EAONO/JOS staging system (low incidence of the pathology) and surgical technique (CWU) in our study were statistically significant predictors for successful hearing improvement.

KEYWORDS

cholesteatoma, predictors of functional results, EAONO/JOS staging system, CWU, CWD

PP-398

Auricular Myoclonus: A Case Presentation

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BACKGROUND & AIM

To raise awareness about auricular myoclonus and share our experiences.

MATERIAL & METHODS

Auricular myoclonus is an extremely rare disease characterized by involuntary, semi-rhythmic movements of the auricle. In this article, we present a patient who came to our clinic with involuntary ear movements. Our patient was a 37-year-old woman. The patient had been experiencing involuntary movements in the right ear for approximately two years. They reported that right-ear movement was more bothersome at night. They did not report hearing loss, pain, or tinnitus. There was no history of trauma, infection, or previous ear surgery. The patient stated that they had been under follow-up for four years with a diagnosis of Multiple Sclerosis. They did not identify any psychological, psychosocial, or physical stress factors. Examination revealed involuntary upward and backward movements of the right auricle. Oropharynx and anterior rhinoscopy were normal. Both tympanic membranes and the external auditory canal were assessed as normal.

RESULTS

Cranial nerve examinations revealed no pathology. Tympanogram and audiogram were normal. The ear MRI was normal. Cervical MRI (Magnetic Resonance Imaging) revealed demyelinating MS plaques in the C1-C5 region, asymmetrically involving the cord, and diffuse disc bulging at the C5-6 and C6-7 levels, consistent with multiple sclerosis. Brain MRI detected chronic demyelinating MS plaques in the periventricular cerebral white matter. Head and neck examination was normal. Complete blood count and biochemistry tests were normal. CSF analysis showed a small number of lymphoid cells with a mildly proteinaceous background, all of which appeared degenerate. The patient received Botox treatment every 2 months. She stated that her symptoms disappeared for approximately 2 weeks after each session, then reappeared. However, she noted that her symptoms were less severe with each relapse. The interval between sessions was extended to 6 months, and the patient's treatment is still ongoing.

CONCLUSIONS

Auricular myoclonus is an extremely rare disease that manifests as involuntary semi-rhythmic movements of the auricle. Özdoğmuş et al. In their study on nerve bundles in the internal auditory canal of cadavers, they demonstrated a cross-nerve connection between the facial, vestibular, and cochlear bundles using scanning electron microscopy. Botulinum toxins A has shown promising results, with partial or complete recovery; however, the dosage and frequency remain debated. Further studies are needed regarding the etiology and treatment of auricular myoclonus.

We also applied this treatment to our patient, with partial success. The patient's treatment is still ongoing.

KEYWORDS

Multiple Sclerosis, Myoclonus, Ear, Botulinum Toxins, Magnetic Resonance Imaging

PP-399

NOT JUST ANOTHER OTITIS: OTOLOGIC CLUES TO GRANULOMATOSIS WITH POLYANGIITIS

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BACKGROUND & AIM

Granulomatosis with polyangiitis (GPA) is a systemic necrotizing vasculitis affecting small- and medium-sized vessels, with frequent involvement of the head and neck region. Otolaryngological manifestations occur in up to 70–90% of patients and may precede systemic disease. Otologic involvement, even though are not the most common clinical feature, can be the initial and sometimes isolated presentation, often mimicking chronic infections and delaying diagnosis.

MATERIAL & METHODS

The first case involves a 60-year-old woman with persistent bilateral otalgia and hearing loss refractory to antibiotics. The second case describes a 56-year-old man with persistent otologic symptoms initially treated as otitis externa/media. Both patients underwent otoscopic evaluation, audiometry, nasofibroscopy, and imaging studies (CT and MRI). Biopsies (of the ear in the first patient and nasopharynx in the second one) were also performed. Due to clinical suspicion, serologic testing, urinalysis and thoracic imaging were requested.

RESULTS

Physical exploration and imaging studies revealed middle ear occupation and nasopharyngeal inflammation. Tone audiometry revealed moderate conductive right hearing loss (PTA 50 dB) and mixed left hearing loss (PTA 60 dB) in the first patient, and moderate conductive right hearing loss (PTA 50 dB) progressing to bilateral mixed hearing loss. Biopsies excluded malignancy.PR3-ANCA and inflammatory markers levels were elevated and mild proteinuria was found. Thoracic imaging demonstrated pulmonary involvement. Diagnosis of GPA was confirmed and patients were immediately referred to rheumatology and internal medicine. The first patient received intravenous corticosteroids followed by rituximab, achieving symptom improvement but with residual tympanic perforations and transient otorrhea. The second patient required induction therapy with corticosteroids and cyclophosphamide, followed by maintenance immunosuppression, achieving complete resolution of otologic symptoms. Transtympanic drainage were attempted in the second patient but were limited by inflammatory changes.

CONCLUSIONS

Otologic manifestations may represent the initial presentation of GPA and should be considered in patients with refractory otitis media or unexplained mixed hearing loss. Early recognition is essential to avoid diagnostic delay and prevent irreversible damage, particularly sensorineural hearing loss. ANCA testing and biopsy of accessible head and neck lesions are key diagnostic tools. Prompt initiation of immunosuppressive therapy, including corticosteroids, is effective in controlling disease progression. Multidisciplinary management is crucial to optimize outcomes.

KEYWORDS

Granulomatosis with polyangiitis, GPA, vasculitis, autoimmune, otology manifestations

PP-400

Early Mirror Biofeedback In High-Risk Facial Palsy: Quantitative Evaluation Of Oral–Ocular Synkinesis

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BACKGROUND & AIM

Severe facial synkinesis is often difficult to treat clinically. Early mirror biofeedback has been proposed for high-risk facial palsy patients to reduce severe oral–ocular synkinesis. We evaluated oral–ocular synkinesis after early mirror biofeedback using quantitative measurements in high-risk facial palsy patients.

MATERIAL & METHODS

This retrospective comparative cohort study included 38 patients with Bell's palsy or Ramsay Hunt syndrome who were considered at high risk for severe synkinesis based on electroneurography (ENoG) values below 46.5%. Patients with recurrent facial palsy or previous facial trauma were excluded. Twenty-eight patients underwent early mirror biofeedback, while 10 patients received no rehabilitation. Oral–ocular synkinesis was evaluated using the palpebral fissure ratio during standardized mouth movements. The palpebral fissure ratio at 1 year after onset was compared between the two groups. In the mirror biofeedback group, longitudinal changes between 1 year and ≥18 months after onset were additionally evaluated in 9 patients.

RESULTS

The mirror biofeedback group showed less severe oral–ocular synkinesis than the non-rehabilitation group at 1 year after onset (u: $p<0.001$, i: $p<0.001$, pu: $p<0.001$). In 9 patients with long-term follow-up, no apparent worsening was observed after discontinuation of mirror biofeedback. Long-term follow-up ranged from 18 to 36 months.

CONCLUSIONS

Early mirror biofeedback was associated with less severe oral–ocular synkinesis at 1 year in high-risk facial palsy patients. Additional long-term follow-up showed no apparent worsening after discontinuation of mirror biofeedback in a subset of patients. Early intervention may help reduce severe synkinesis in high-risk facial palsy patients.

KEYWORDS

facial palsy, synkinesis, rehabilitation

PP-401

Otogenic Septic Thrombosis Of The Transverse Sinus, Sigmoid Sinus, And Internal Jugular Vein Presenting With Acute Visual Loss

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BACKGROUND & AIM

Otogenic cerebral venous sinus thrombosis is a rare but potentially severe intracranial complication of acute otitis media and acute mastoiditis in children (1,2). Its pathogenesis is associated with the close anatomical relationship between the middle ear–mastoid system and dural venous sinuses, together with infection-induced inflammatory and coagulation activation mechanisms (1). Clinical presentation may be subtle, and severe intracranial complications may develop despite minimal otologic findings (1,3). We present a pediatric case of otomastoiditis complicated by septic thrombosis of the transverse sinus, sigmoid sinus, and upper internal jugular vein presenting predominantly with acute visual loss.

MATERIAL & METHODS

A 6-year-7-month-old girl presented with sudden visual loss and diplopia. Ten days earlier, she had been diagnosed with acute otitis media and treated with oral amoxicillin-clavulanate therapy. Despite treatment, persistent headache and left-sided neck pain progressively developed.

Physical examination demonstrated bilateral reactive cervical lymphadenopathies. Ophthalmologic evaluation revealed bilateral papilledema, complete visual loss in the left eye, and decreased visual acuity in the right eye. Contrast-enhanced magnetic resonance imaging (MRI) demonstrated left otomastoiditis together with thrombosis involving the left transverse sinus, sigmoid sinus, and upper internal jugular vein. Bilateral papilledema and sphenoid sinusitis were also identified. Computed tomography (CT) demonstrated otomastoiditis with preserved mastoid septations and intact cortical bone structures.

RESULTS

The patient was admitted to the pediatric intensive care unit and managed with intravenous antibiotic therapy, low-molecular-weight heparin, hypertonic saline, and hyperbaric oxygen therapy. Following stabilization of the patient's clinical condition, left simple mastoidectomy was performed.

Intraoperatively, inflammatory mucosal edema and granulation tissue were observed without evidence of cholesteatoma or coalescent mastoid destruction. Postoperatively, cervical pain regressed and ocular motility significantly improved. Visual acuity in the right eye returned to normal, while partial visual recovery was achieved in the left eye. No additional intracranial complication or postoperative facial nerve deficit developed during follow-up.

CONCLUSIONS

Otogenic septic thrombosis involving the transverse sinus, sigmoid sinus, and internal jugular vein remains a rare but potentially life-threatening complication of acute otomastoiditis. Severe intracranial complications may develop despite minimal otologic findings and relatively mild inflammatory laboratory markers. Acute visual symptoms and papilledema may represent early manifestations of cerebral venous sinus thrombosis in pediatric patients. Prompt neuroimaging, multidisciplinary management, aggressive medical therapy, and timely mastoid surgery are essential to achieve favorable neurological and ophthalmological outcomes.

KEYWORDS
Otogenic thrombosis, Transverse sinus thrombosis, Sigmoid sinus thrombosis, Otomastoiditis, Visual loss

PP-402

Surgical Difficulty Of An Iatrogenic Cholesteatoma Associated With Jugular Bulb Dehiscence

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BACKGROUND & AIM

Iatrogenic middle ear cholesteatoma is a rare but serious entity in otologic surgery. Its management becomes particularly challenging when associated with an anatomical anomaly that increases the risk of major complications and limits the possibility of complete removal.

Through this work, we report the diagnostic and therapeutic challenges encountered in the management of an iatrogenic cholesteatoma developing on jugular bulb dehiscence.

MATERIAL & METHODS

We report the case of a 15-year-old patient with a history, at the age of 6, of a right ear foreign body (chalk), which was pushed into the middle ear during extraction attempts, resulting in a tympanic membrane perforation complicated by a peripheral facial palsy that later resolved completely.

The patient subsequently underwent tympanoplasty with an uneventful postoperative course.

Ten years after surgery, he presented with chronic, foul-smelling right otorrhea evolving over several months.

Clinical examination, including microscopic otoscopy, temporal bone CT imaging, and appropriate surgical management, was performed.

RESULTS

Microscopic examination after suction of otorrhea revealed a subtotal marginal tympanic membrane perforation filled with epithelial debris. The left ear examination was unremarkable.

Temporal bone CT scan showed a postoperative status with a spontaneously formed attic cavity, filled with dense material involving the tympanic cavity and the oval and round window recesses. There was erosion of the long process of the incus and part of the malleus, with the stapes not visualized. Jugular bulb dehiscence with erosion of the jugular foramen roof was noted, communicating with the hypotympanum.

The patient underwent a right retroauricular canal wall–up tympanoplasty with complete removal of an extensive cholesteatoma, extending from the middle ear to the mastoid posteriorly and to the tegmen tympani, in close contact with the temporal lobe meninges. Dissection was particularly difficult and meticulous in the hypotympanum due to jugular bulb dehiscence. The postoperative course was uneventful.

CONCLUSIONS

Surgical management of an iatrogenic cholesteatoma associated with jugular bulb dehiscence represents a major otologic challenge. The exposure of such a fragile vascular structure significantly increases the risk of hemorrhage and limits the possibility of complete excision, making surgery both delicate and potentially incomplete. This situation requires meticulous preoperative planning, precise knowledge of anatomical variations, and extreme intraoperative caution in order to reduce morbidity and optimize both functional and anatomical outcomes.

KEYWORDS

Cholesteatoma, Dehiscence, Surgery, Hemorrhagic risk

PP-403

Multiple Sclerosis In Adolescence: BPPV As The Initial Presentation - Case Report And Literature Review

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BACKGROUND & AIM

Vertigo is a frequent symptom in both pediatric and adult populations, most often related to benign peripheral causes such as benign paroxysmal positional vertigo (BPPV). In children and adolescents, it accounts for approximately 10% of balance disorders, whereas multiple sclerosis (MS), although rare, may also initially present with vertigo. Up to 37% of patients with MS experience vertigo during the disease course, occasionally as the inaugural manifestation. Differentiating peripheral BPPV from central vertigo is therefore essential, as MS may mimic benign presentations, particularly when nystagmus is atypical, bilateral, or recurrent.

MATERIAL & METHODS

The clinical and imaging data of the presented case were analyzed after obtaining the necessary informed consents, ensuring compliance with ethical standards and confidentiality requirements. The study was complemented by a brief narrative review of the literature in order to contextualize the case.

RESULTS

A 16-year-old girl presented to the otorhinolaryngology emergency department with sudden, brief vertigo triggered by head movements. Right-sided BPPV was diagnosed, and symptoms improved after the Epley maneuver. One month later, the symptoms recurred. A cranial CT scan requested by Neurology was unremarkable, and left-sided BPPV was diagnosed, with repositioning maneuvers performed. The following week, symptoms persisted and became progressively disabling. Neurological examination revealed no spontaneous or provoked nystagmus, negative head impulse, skew, Romberg, and Fukuda tests, but bilateral Dix-Hallpike elicited pure vertical nystagmus. An urgent brain MRI demonstrated multiple demyelinating gliotic foci, including a lesion near the left superior cerebellar peduncle extending to the vermis. It was confirmed the diagnosis of MS and she remains under follow-up by otorhinolaryngology and neurology, currently asymptomatic and clinically stable.

CONCLUSIONS

BPPV has been described as an initial manifestation of MS in several reports. As in this case, BPPV has been identified as the most frequent cause of vertigo in MS. In pediatric patients, although BPPV is relatively common, persistence or atypical features should prompt central investigation, in line with our findings. For MS, brain/spinal MRI is the reference imaging test, while vestibular evoked myogenic potentials can reveal demyelinating vestibular pathway involvement not visible on routine MRI. The initial presentation of MS as BPPV in adolescence, although rare, highlights the importance of considering central causes in atypical or recurrent vertigo.

KEYWORDS

Multiple sclerosis; Benign paroxysmal positional vertigo; BPPV; Vertigo; Pediatric vertigo.

PP-404

Hearing Loss And Palmoplantar Keratoderma Associated With Mitochondrial DNA 7445A>G Variant: A Report Of Two Cases

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BACKGROUND & AIM

Mitochondrial diseases present with diverse phenotypes, often causing hearing loss at any age. Palmoplantar keratoderma (PPK) is a rare, intractable group of genetically predisposed disorders characterized by hyperkeratosis of the palms and soles. Although syndromic hearing loss with PPK is often associated with other genetic causes such as the gap junction protein beta 2 (GJB2) gene, it can also be linked to mitochondrial variants. Here, we report the clinical features of two cases presenting with both hearing loss and PPK caused by a mitochondrial DNA (mtDNA) 7445A>G variant.

MATERIAL & METHODS

Case 1: A 29-year-old male presented with hearing loss noted since birth, which gradually progressed, requiring hearing aids from age 20. Plantar keratotic lesions appeared in his early teens. His mother and younger brother had similar symptoms, while his father had isolated hearing loss. Pure-tone audiometry (PTA) revealed bilateral high-frequency sloping sensorineural hearing loss (SNHL) with an average of 80.0 decibels hearing level (dB HL) on the right and 77.5 dB HL on the left.

Case 2: A 22-year-old male was identified with hearing loss during a fifth-grade school screening. Following gradual progression, he began using hearing aids in junior high school. Plantar keratoderma appeared concurrently. There was no family history of hearing loss or dermatological diseases. PTA showed bilateral high-frequency sloping SNHL (Right: 75.0 dB HL, Left: 70.0 dB HL).

For both patients, genetic testing for congenital hearing loss under national health insurance was performed to establish a definitive diagnosis.

RESULTS

Results: Genetic analysis successfully identified the mtDNA 7445A>G variant in both patients. While the mtDNA 7445A>G variant is known to occasionally cause non-syndromic hearing loss, these cases demonstrate its presentation as syndromic hearing loss with PPK. Both cases exhibited progressive high-frequency SNHL. Given the high risk of progression to profound hearing loss indicated by previous literature, cochlear implantation is currently under consideration as a future intervention for both patients.

CONCLUSIONS

The mtDNA 7445A>G variant should be considered as a potential etiology in patients presenting with SNHL accompanied by PPK. Genetic testing proved essential not only for establishing a definitive diagnosis but also for guiding future therapeutic strategies and long-term clinical management.

KEYWORDS

mitochondria, hearing loss, Palmoplantar keratoderma

PP-405

Mobitz Type 2 AV Block Presenting With Sudden Sensorineural Hearing Loss: A Case Report.

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BACKGROUND & AIM

To report a rare case of unilateral sudden sensorineural hearing loss (SSNHL) secondary to Mobitz Type II atrioventricular (AV) block and to evaluate hearing outcomes following medical treatment.

MATERIAL & METHODS

A 32-year-old male presented with sudden-onset hearing loss in the right ear and non-pulsatile tinnitus. Syncope developed 24 hours after the onset of auditory symptoms. The patient had no history of ototoxicity, trauma, or systemic disease. Physical examination revealed stable vital signs and intact cranial nerves. Audiological evaluation confirmed right-sided SSNHL (AC/BC: 48/45 dB) with normal contralateral hearing (AC/BC: 17/10 dB). Initially diagnosed with idiopathic SSNHL, the patient was hospitalized for intravenous (IV) prednisolone (1 mg/kg/day). Following the detection of an AV block on the third day of hospitalization, systemic steroids were discontinued and replaced with five alternate-day sessions of intratympanic dexamethasone (4 mg/mL). Gadolinium-enhanced MRI of the inner ear was normal.

RESULTS

Following interdisciplinary consultations between the neurology and cardiology departments, the patient's history of syncope was attributed to an underlying cardiac conduction abnormality. Twenty-four-hour Holter ECG monitoring revealed an incidental Mobitz Type II AV block. This episode lasted 2,11 seconds with a documented ventricular rate of 72 bpm. Permanent pacemaker implantation was indicated as per current guidelines for the prevention of recurrent syncope and sudden cardiac death. The patient refused the intervention. A strategy of conservative management with close cardiac follow-up was adopted, noting the patient's stable hemodynamic status (absence of recurrent symptomatic bradycardia and hypotension) and relatively young age. By the fifteenth day of treatment, hearing thresholds significantly improved (Right AC/BC: 13/8 dB). Follow-up Holter monitoring at one week, and at one, six, and twelve months, remained within normal limits. To our knowledge, this is the first report the coexistence of Mobitz Type 2 AV block and SSNHL.

CONCLUSIONS

Atypical symptom such as syncope presenting in patients with SSNHL should be stimulating the otolaryngologist to investigate further possible system pathologies other than otological causes. Mobitz Type II AV block should be considered as a possible cause of SSNHL even in cases where there are no obvious predisposing factors.

KEYWORDS

Sensorineural hearing loss, Intratympanic dexamethasone Atrioventricular block, Mobitz type II,

PP-406

EFFICACY OF INTRATYMPANIC ADMINISTRATION OF SODIUM THIOSULFATE GEL FOR THE PREVENTION OF CISPLATIN-INDUCED OTOTOXICITY

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BACKGROUND & AIM

Platinum-based chemotherapeutic agents, such as cisplatin, are widely used but often induce dose-limiting ototoxicity. Sodium thiosulfate (STS) is one of the known otoprotective agent; however, systemic administration may reduce cisplatin's antitumor efficacy. Although the protective effects of STS are wellrecognized, there remains a lack of detailed studies evaluating local delivery stategies on cochlear uptake, oxidative stress modulation, and safety profiles.

MATERIAL & METHODS

Before a single intraperitoneal (i.p.) injection of cisplatin (16mg/kg), STS was administered either systemically via the intraperitoneal route or locally via intratympanic (IT) injection. For IT delivery, STS was applied either as a free solution or embedded in injectable hyaluronic acid-based hydrogels. Two hydrogel formulations were used: (1) NorHA, a norbornene-functionalized hyaluronic acid (NH), and (2) NorHACA, a catechol-modified NorHA (NHC) designed to enhance tissue adhesion. Hearing thresholds were measured by auditory brainstem response. Cochlear and hepatic platinum concentrations were quantified using ICP-MS. In vitro cytoprotection was assessed in HEI- OC1 cells using DCF-DA for reactive oxygen species (ROS), and viability assays.

RESULTS

Intratympanic delivery of STS, either as a solution or hydrogel-embedded formulation, significantly reduced cochlear platinum levels without altering hepatic platinum concentrations, suggesting preserved systemic cisplatin distribution. STS-treated groups exhibited improved auditory thresholds in ABR assessments and reduced intracellular ROS levels. Moreover, NOX3 expression was attenuated in the STS co-treated conditions. While the use of NorHA-based hydrogel matrices (NH or NHC) did

not confer a statistically meaninful auditory benefit over free-form IT STS, sustained cochlear presence was observed and may offer prolonged local exposure potential.

CONCLUSIONS

Hydrogel-based intratympanic delivery represents an effective platform for localized administration of STS. Local delivery of STS using hydrogels significantly attenuated cisplatin-induced ototoxicity while preserving systemic cisplatin exposure, suggesting that this strategy can provide selective otoprotection without compromising antitumor efficacy. This approach offers a clinically translatable and repeatable method for preventing cisplatin-induced hearing loss.

KEYWORDS

Sodium thiosulfate, cisplatin, ototoxicity

PP-407

Neurosarcoidosis Mimicking Necrotizing Otitis Externa

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BACKGROUND & AIM

Necrotizing otitis externa is a severe, potentially life-threatening infection involving the external auditory canal and skull base. It is most commonly caused by Pseudomonas aeruginosa and typically occurs in elderly patients with diabetes or immunosuppression.

Nevertheless, several inflammatory and neoplastic conditions may mimic this entity, complicating the diagnostic process.

Sarcoidosis is a multisystem granulomatous disorder of unknown origin. Neurological involvement occurs in 5–15% of cases and may manifest as meningitis, cranial nerve palsies, or skull base lesions, potentially mimicking infectious osteomyelitis.

We report a case of neurosarcoidosis initially misdiagnosed as necrotizing otitis externa, highlighting key elements that helped correct the diagnosis.

MATERIAL & METHODS

An 84-year-old man with diabetes and hypertension presented with chronic left otalgia, otorrhea, headache, and progressive bilateral hearing loss. Otoscopy showed a stenotic external auditory canal with whitish discharge, and cultures identified Candida albicans. Temporal bone CT demonstrated extensive middle ear opacification with ossicular and temporomandibular joint erosion, leading to an initial diagnosis of necrotizing otitis externa. Despite six weeks of broad-spectrum intravenous antibiotics and topical treatment, imaging remained stable and symptoms later recurred with vomiting and persistent headache. The patient subsequently developed facial nerve palsy, dysphagia, and hydrocephalus. Brain MRI revealed diffuse leptomeningeal enhancement, skull base infiltration, multiple cranial nerve involvement, and venous thrombosis. Cerebrospinal fluid and repeated microbiological investigations were negative, while inflammatory markers remained elevated despite prolonged antibiotic therapy. Cervico-thoraco-abdomino-pelvic CT showed mediastinal lymphadenopathy and pulmonary micronodules suggestive of systemic sarcoidosis. Rapid improvement after corticosteroid therapy strongly supported the diagnosis of neurosarcoidosis.

RESULTS

Neurosarcoidosis is a rare but severe manifestation of systemic sarcoidosis, affecting the central nervous system in 5–15% of cases. Diagnosis is difficult because of its heterogeneous presentation and the frequent absence of histological confirmation. It may mimic infectious otologic diseases such as chronic otitis externa or skull base osteomyelitis, leading to delayed recognition. Cases described in the literature initially presented with chronic otorrhea and mastoid involvement despite negative cultures and poor response to antibiotics. In our case, several findings suggested a non-infectious inflammatory process: repeated negative microbiological investigations, normal procalcitonin levels, diffuse meningeal involvement with hydrocephalus, and multiple cranial nerve palsies. The most suggestive feature was the marked improvement after corticosteroid therapy followed by relapse during tapering, which strongly supports neurosarcoidosis. Additional evidence included mediastinal lymphadenopathy and pulmonary micronodules consistent with systemic sarcoidosis. Histological confirmation from extra-neurological sites, particularly mediastinal lymph node biopsy, remains essential for diagnosis.

CONCLUSIONS

This case highlights an unusual presentation of sarcoidosis.

Neurosarcoidosis should be considered in cases of atypical or treatment-resistant necrotizing otitis externa, particularly when associated with neurological involvement and negative microbiological findings.

Sarcoidosis remains a diagnosis of exclusion, based on the integration of clinical, radiological, and histopathological findings.

The wide spectrum of clinical manifestations and the lack of specific diagnostic tests frequently contribute to diagnostic uncertainty.

Neurological involvement in sarcoidosis is relatively uncommon, with a variable clinical course and an unpredictable prognosis.

KEYWORDS

osteomyelitis of skull base . Leptomeningitis .corticoïdes response

PP-408

Middle Ear Neuroglial Choristoma: A Rare Case With Review Of The Literature

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BACKGROUND & AIM

Neuroglial choristomas of the middle ear are exceedingly rare benign lesions composed of heterotopic mature neuroglial tissue without any connection to the central nervous system. Only a limited number of cases have been reported in the literature. These lesions often present with clinical findings mimicking chronic otitis media or cholesteatoma. The diagnosis is typically established through postoperative histopathological examination. In this study, we present a rare case of middle ear neuroglial choristoma and discuss its clinical, radiological, and histopathological features in light of the current literature.

MATERIAL & METHODS

A 61-year-old female presented with a 6-year history of hearing loss and ear fullness. Otoscopic examination revealed an intact graft in the right ear and purulent discharge with granulation tissue in the left ear; a ventilation tube was medialized into the middle ear. Audiometry showed 26/21 dB (right) and 72/40 dB (left). Temporal bone CT demonstrated a soft tissue lesion without tegmen defect, while MRI excluded intracranial connection; diffusion restriction suggested cholesteatoma. The patient underwent canal wall-up tympanomastoidectomy. Intraoperatively, reddish granulation tissue surrounding the ossicular chain was observed, with an intact tegmen. Histopathology revealed glial tissue within fibrous stroma, with GFAP and S100 positivity and low Ki-67 index, confirming neuroglial choristoma. Postoperatively, symptoms improved, and no recurrence was observed at 6-month follow-up. No postoperative complications were noted, and hearing status remained stable during follow-up. The findings supported a benign course and effective surgical management in this rare entity overall.

RESULTS

Neuroglial choristomas are defined as heterotopic brain tissue located outside the normal anatomical boundaries of the central nervous system. Middle ear involvement is extremely rare, approximately 30–40 cases reported in the literature. Clinically, these lesions frequently mimic chronic otitis media or cholesteatoma, making preoperative diagnosis challenging. Two main theories have been proposed regarding their pathogenesis: Sequestered encephalocele: Suggests that an initially existing encephalocele loses its intracranial connection over time. Embryological misplacement: Proposes abnormal migration of neuroectodermal cells during development. Many reported cases include a tegmen defect, supporting the sequestered encephalocele theory. However, cases with an intact skull base, as in our patient, favor the embryological misplacement theory. Magnetic resonance imaging plays a crucial role in excluding intracranial communication and differentiating from cholesteatoma. Definitive diagnosis relies on histopathological evaluation and immunohistochemical positivity for GFAP. Surgical excision is the treatment of choice, and the prognosis is generally excellent, with rare recurrence.

CONCLUSIONS

Middle ear neuroglial choristomas are rare benign lesions that can mimic common middle ear pathologies. Preoperative imaging is essential for excluding intracranial connections. Definitive diagnosis is established histopathologically, and surgical management yields excellent outcomes. Neuroglial choristoma should be considered in the differential diagnosis of atypical middle ear soft tissue lesions.

KEYWORDS

Neuroglial choristoma, middle ear, heterotopic brain tissue, temporal bone

PP-409

Surgical Management Of Complete Traumatic Facial Nerve Transection In A Pediatric Patient: A Case Report On Cable Grafting And Functional Recovery

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BACKGROUND & AIM

Traumatic facial nerve paralysis affects quality of life due to functional and aesthetic issues, requiring a multidisciplinary approach. The nerve path in the temporal bone increases the risk of compression or transection, especially in cases of high-energy trauma. While management is debated, conservative monitoring is preferred for cases of delayed or incomplete paralysis. However, sudden post-trauma cases with severe damage often require surgical exploration to restore nerve integrity, aiming for facial symmetry and function (1). We discuss a case of post-trauma total facial paralysis treated surgically, emphasizing the importance of surgical timing, technique, and rehabilitation for outcomes.

MATERIAL & METHODS

A three-year-old girl presented with House-Brackmann Grade 5 facial paralysis on the right side after a non-vehicular accident. Otological examination revealed a perforated right tympanic membrane. CT revealed a horizontal fracture line extending to the petrous apex, involving the cochlea and facial canal. The patient underwent surgery via a right retroauricular incision for facial decompression and nerve repair. A transverse fracture from the petrous apex to the anterior LSSC completely transected

the patient's facial nerve. A second neck incision was used to harvest the Nervus Auricularis Magnus graft. The traumatized nerve ends were refreshed, and a cable graft supported by the temporal fascia was placed between them. No postoperative complications were observed. Significant facial function improvement was recorded due to nerve regeneration; by the 6th month, the patient reached HB Grade 3. This case highlights the importance of early surgical intervention and cable grafting in severe pediatric temporal bone trauma.

RESULTS

Traumatic facial paralysis in children presents challenges in terms of surgical techniques and postoperative care. Studies suggest that intervention within 14 days yields optimal outcomes, preventing permanent nerve degeneration. In our case, HB Grade 5 paralysis after high-energy trauma and a transverse fracture on CT supported surgical intervention. Pediatric cases are complicated by incomplete temporal bone development and a superficial mastoid nerve course, increasing trauma susceptibility . However, children regenerate nerves more effectively than adults. The literature describes successful cable grafts, even with large defects (2). We used the Nervus Auricularis Magnus for defects > 1 cm because of its proximity and compatibility with the facial nerve (3). The 1 cm defect required a cable graft because end-to-end anastomosis was impossible. Temporal fascia support stabilizes the nerve endings, aiding in healing.

CONCLUSIONS

The HB Grade 3 outcome obtained at postoperative month six is considered a successful achievement consistent with the literature for a pediatric case in which full-thickness incision and grafting were performed. HB Grade 3, a level at which symmetry is achieved at rest and full eye closure is possible, significantly improved the patient's quality of life. In conclusion, in children with facial paralysis due to severe temporal bone trauma, early microsurgical repair and appropriate grafting techniques performed after detailed radiological evaluation yielded promising results.

KEYWORDS

Traumatic Facial Nerve Paralysis, Pediatric Temporal Bone Fracture, Cable Nerve Graft, Nervus Auricularis Magnus

PP-410

A Case Report Of BPPV As A Predictor Of Vestibular Ischemia: Cerebellar Stroke Preceded By Benign Paroxysmal Positional Vertigo

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BACKGROUND & AIM

Vertigo has traditionally been categorized into either central or peripheral etiologies. However, as our understanding of vestibular pathophysiology evolves, it is becoming increasingly clear that these two entities may be deeply interconnected with a shared ischemic mechanism. Because the vestibular system is supplied by terminal end-arteries, it is most vulnerable to hypoperfusion; thus, isolated vertigo is often the sole early warning sign of vertebrobasilar insufficiency, preceding classic neurological symptoms. This case underscores the role of the inner ear as a "sentinel" organ for vertebrobasilar insufficiency and supports the hypothesis of ischemic otoconia detachment in posterior circulation strokes.

MATERIAL & METHODS

We report the case of a 60-year-old male who presented to the emergency room with severe, continuous vertigo and vomiting ten days after being treated for posterior canal BPPV, which was confirmed by a Dix Hallpike maneuver with a Videoelectronystagmography. The physical examination was notable for spontaneous nystagmus and an inability to open eyes due to severe vertiginous distress, which precluded a Head Impulse, Nystagmus, Test of Skew (HINTS) exam.

RESULTS

Diffusion-weighted MRI revealed an acute infarction in the right cerebellar hemisphere. MR Angiography confirmed thrombotic occlusion of the V4 segment of the right vertebral artery with a hypoplastic contralateral vertebral artery. The patient also possessed an anatomical variant where the Posterior Inferior Cerebellar Artery (PICA) originated caudally (V3-V4 junction), proximal to the thrombus. This variation preserved lateral medullary perfusion, sparing the patient from a catastrophic brainstem stroke. The patient made a full recovery with anticoagulant and antihypertensive therapy as well as physical therapy.

CONCLUSIONS

This case underscores the role of the inner ear as a "sentinel" organ for vertebrobasilar insufficiency and supports the hypothesis of ischemic otoconia detachment in posterior circulation strokes. ENT professionals must maintain a high index of suspicion for central pathologies in patients with refractory or atypical BPPV, particularly those with cardiovascular risk factors. It also highlights how subtle anatomical variations in the posterior circulation can drastically alter the clinical prognosis of vertebral artery thrombosis.

KEYWORDS

ischemic stroke, benign paroxysmal positional vertigo, vertebral artery

PP-411

Capillary Hemangioma Of The External Auditory Canal In A Pediatric Patient: A Case Report And Review Of The Literature

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BACKGROUND & AIM

Capillary hemangioma is a benign vascular tumor characterized by lobular proliferation of capillary-sized vessels lined by flattened endothelial cells, commonly occurring in the head and neck region. Occurrence within the external auditory canal (EAC) is exceedingly rare, with limited published cases highlighting its unusual anatomical location and diagnostic challenges.[1–5] Clinically, it presents as a reddish, well-circumscribed mass causing otorrhagia, otalgia, ear fullness, or conductive hearing loss, and may mimic glomus tumors, pyogenic granuloma, or malignancy.[5] Diagnosis relies on histopathology, and complete transcanal excision offers excellent prognosis.[4,7] We present a pediatric EAC capillary hemangioma case emphasizing its presentation, histopathology, and outcome.

MATERIAL & METHODS

This clinical investigation was conducted in accoradence and compliance with guidelines of the Institutional Review Board (IRB) of King Fahad Hospital of University, Al-khobar, Saudi Arabia, with appropriate consent from the mother.

Our review of the literature was based on a PubMed search from 1972 to 2025 for all cases of the EAC hemangioma (capillary, venous, or mixed types), and 26 cases were finally evaluated.

RESULTS

A 5-year-old male presented with a progressively enlarging left EAC mass causing intermittent contact bleeding over three months, without otalgia, hearing loss, or facial nerve dysfunction. Otoendoscopy revealed a 2×2 cm hyperemic, highly vascular mass occupying the left external auditory meatus; audiometry was normal. CT temporal bone showed a well-defined soft-tissue lesion (1.1×1.4×1.6 cm) without bony erosion or middle ear involvement. MRI confirmed a vascular lesion with T2 hyperintensity and contrast enhancement. Histopathology confirmed capillary hemangioma. Complete transcanal excision under general anesthesia was performed with tympanic membrane preservation. The postoperative course was uneventful, with no recurrence at 6-month follow-up.

CONCLUSIONS

Capillary hemangioma of the EAC is an exceptionally rare benign vascular tumor, particularly in children, whose presentation may mimic inflammatory, vascular, or neoplastic lesions, creating diagnostic uncertainty. A high index of suspicion supported by audiological assessment, cross-sectional imaging, and histopathological confirmation is essential for accurate diagnosis. Complete transcanal surgical excision remains the treatment of choice for canal-confined lesions and is associated with excellent outcomes and low recurrence risk. This case underscores the importance of including capillary hemangioma in the differential diagnosis of pediatric EAC masses and contributes valuable data to the sparse existing literature on this rare clinical entity.

KEYWORDS

Capillary hemangioma; External auditory canal; Vascular tumor; Otologic mass; Benign ear tumors

PP-412

Middle Ear Hemangioma Presenting As Peripheral Facial Paralysis And Mastoid Effusion

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BACKGROUND & AIM

The aim of this case report is to present a pediatric patient with a left middle ear hemangioma who initially presented with peripheral facial paralysis and mastoid effusion, along with the radiological workup and management approach.

MATERIAL & METHODS

We report a case of a patient presenting with hearing loss and peripheral facial paralysis. Audiometric evaluation, contrast-enhanced magnetic resonance imaging (MRI), computed tomography (CT), and angiography were performed for diagnostic workup. Based on imaging findings, the diagnosis of middle ear hemangioma was established. The patient was treated conservatively with beta-blocker therapy. Clinical follow-up was conducted to evaluate treatment response

RESULTS

The combination of peripheral facial paralysis, a hypervascular retrotympanic appearance on otoscopy, and multimodality imaging findings led to the diagnosis of left middle ear hemangioma. In light of the patient's age and the vascular nature of the lesion, surgical intervention was deferred and propranolol at 0.5 mg/kg/day was initiated as primary treatment. The patient was followed up for treatment response and tolerability.

CONCLUSIONS

Middle ear hemangiomas are exceptionally rare in the pediatric population and may present with peripheral facial paralysis, conductive hearing loss, or pulsatile tinnitus. Their clinical and radiological overlap with glomus tympanicum and arteriovenous malformations makes diagnosis challenging. Contrast-enhanced MRI and CT angiography are essential in characterizing the lesion and guiding management decisions. In children, propranolol offers an effective non-surgical alternative, and should be considered early in the management of vascular tumors of the middle ear.

KEYWORDS

1. Middle ear hemangioma 2. Facial paralysis 3. Mastoid effusion 4. Otology 5. Benign ear tumor

PP-413

Congenital And Acquired Peripheral Facial Paralysis In Childhood - A Study Using Facial Computed Tomography Scans.

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BACKGROUND & AIM

Facial growth results from a complex combination of genetic and acquired factors. Studies indicate that the quality of mechanical stimuli generated during functional activities can influence craniofacial morphology. The form-function relationship suggests that, regardless of ancestry, the morphology of body structures can be influenced by the quality of mechanical stimuli during functional performance. In the face, the bone appears to be closely aligned with skeletal muscle activity. The objetive is identify the changes resulting from the lack of facial nerve function and to verify whether there is an association between the side affected by the paralysis and the opposite side.

MATERIAL & METHODS

On the hypothesis of altered muscular traction and grounded in the Functional Matrix Theory, computed tomography scans of 17 patients from the Facial Nerve Outpatient Clinic at the Federal University of São Paulo (with congenital or acquired facial paralysis) were analyzed. The images were sent in DICOM (Digital Imaging and Communications in Medicine) format in files that were imported into the SimPlant Ortho ProÒ 2.0 software (Dental Materialise, Leuven, Belgium), providing the values of the measurements, using the Compass protocol.

RESULTS

Were significant differences between the sides (p=<0.05) for the variables: gonial angle (p-value = 0.017); length of the mandibular ramus (p-value = 0.019); distance from the mental foramen to the Camper plane (p-value <0.001); distance from the mental foramen to the midsagittal plane (p-value < 0.028); distance from the gonion to the Camper plane (p-value = 0.025); distance from the jugal point to the Frankfurt plane (p-value = 0.003); condylar axis (p-value = 0.002); position of the gonion in relation to the midsagittal plane (p-value = 0.006). In the analysis of mental deviation, 100% of the sample presented a deviation towards the paralyzed side. When we performed the Kappa index, there was agreement between the smaller side and the paralyzed side.

CONCLUSIONS

There are differences between the facial growth and development of patients, with congenital or acquired facial paralysis, during development, indicating changes in the facial structure, becoming smaller on the paralyzed side in relation to the opposite side.

KEYWORDS

Facial Paralysis. Growth. Facial Nerve. Computed Tomography. Congenital. Jaw. Mandibular condyle. Face.

PP-414

Aberrant Internal Carotid Artery With Persistent Stapedial Artery: A Rare Middle Ear Vascular Anomaly

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BACKGROUND & AIM

Aberrant internal carotid artery (ICA) and persistent stapedial artery (PSA) are rare vascular anomalies of the middle ear that may clinically mimic retrotympanic masses and pose a significant risk of severe hemorrhage during otologic surgery. Lau et al. and Cetin et al. previously emphasized the importance of preoperative recognition of this rare coexistence. We present a rare case of concomitant aberrant internal carotid artery and persistent stapedial artery detected during the evaluation of otalgia and abnormal otoscopic findings.

MATERIAL & METHODS

A 54-year-old female patient was admitted with a 4-day history of right-sided otalgia. Otoscopic examination revealed right adhesive otitis and a violaceous, vascular-appearing retrotympanic lesion in the posteroinferior quadrant of the right tympanic membrane, raising suspicion of a retrotympanic vascular anomaly. Bilateral facial nerve motor function was intact. Temporal

bone computed tomography (CT), contrast-enhanced temporal magnetic resonance imaging (MRI) and neck magnetic resonance angiography (MRA) were performed for differential diagnosis and detailed vascular assessment.

RESULTS

Temporal bone CT demonstrated widening of the right inferior tympanic canaliculus and an aberrant ICA extending into the middle ear cavity anterior to the cochlear promontory. In addition, a vascular structure originating from the aberrant ICA was observed coursing between the stapes crura toward the tympanic segment of the facial nerve canal, consistent with a PSA. A high-riding jugular bulb was also identified on the right side. MRI and MR angiography confirmed the presence of aberrant ICA and PSA, with no evidence of additional vascular malformation. The patient was informed about the vascular anomaly and advised to notify otolaryngologists before any future middle ear intervention.

CONCLUSIONS

Aberrant ICA associated with PSA should be considered in the differential diagnosis of retrotympanic vascular lesions, particularly those mimicking glomus tumors or other middle ear masses. Careful otoscopic examination and appropriate radiologic evaluation are essential for accurate diagnosis, prevention of potentially life-threatening intraoperative hemorrhage, and safe surgical planning.

KEYWORDS

aberrant internal carotid artery, persistent stapedial artery, middle ear, vascular anomaly, retrotympanic mass.

PP-415

A Rare Complication Of Otitis Media In A Pediatric Patient With Nephrotic Syndrome

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BACKGROUND & AIM

Acute suppurative otitis media (ASOM) is a prevalent pediatric infection; however, intratemporal and intracranial complications have declined in the antibiotic era. Nevertheless, in chronic immunosuppressive conditions like nephrotic syndrome (NS), ASOM can pursue an unusually aggressive course. In steroid-dependent NS, protein-loss–induced hypogammaglobulinemia and prolonged immunosuppressive therapy critically undermine host defenses. Temporomandibular joint (TMJ) abscess represents an exceedingly rare complication of ASOM, spreading subperiosteally via anatomical pathways. We present a rare pediatric case of TMJ abscess complicating NS-associated coalescent mastoiditis, successfully managed through a multidisciplinary approach.

MATERIAL & METHODS

Patient: An 11-year-old girl with a history of steroid-dependent nephrotic syndrome and autismspectrum disorder.

Presenting Complaints: High-grade fever, right purulent otorrhea, marked right preauricularswelling, and trismus (restricted mouth opening).

Physical Examination: Dense purulent discharge in the right external auditory canal; tympanic membrane was intact and hyperemic. A fluctuant ~2×3 cm swelling extending tothe right zygomatic region; restricted mouth opening.

Diagnostic Work-up: Laboratory analyses, temporal bone computed tomography (CT), magneticresonance imaging (MRI), and ultrasonography (USG) were retrospectively reviewed.

RESULTS

Laboratory: Marked leukocytosis (WBC: 37,700/mm^3) and elevated CRP (77.9 mg/L).

CT: Total opacification and septal destruction of the right mastoid air cells — findings consistent withcoalescent mastoiditis.

MRI & USG: An abscess collection measuring approximately 20×7 mm in the right TMJ space; inferior dislocation of the mandibular condyle secondary to effusion.

Surgery: Right cortical mastoidectomy was performed under general anesthesia. Themastoid antrum was found filled with dense granulation tissue; superior external auditorycanal wall destruction and spontaneous drainage of the TMJ abscess were observedintraoperatively. A ventilation tube was inserted into the tympanic membrane at theconclusion of the procedure.

Postoperative Course: Rapid clinical and laboratory improvement under multidisciplinary follow-up; normal mouth opening was restored.

CONCLUSIONS

In pediatric ASOM patients with underlying immunosuppression like nephrotic syndrome, atypical findings such as trismus and preauricular swelling should prompt immediate consideration of TMJ involvement. Early radiological evaluation via MRI is essential to avoid diagnostic delay. Timely surgical drainage and a multidisciplinary approach are pivotal to prevent permanent TMJ sequelae.

KEYWORDS

Coalescent mastoiditis, Temporomandibular joint abscess, Acute otitis media, Trismus.

PP-416

A Retained Surgical Burr Tip In The Middle Ear Cavity For 30 Years: A Rare Case Report

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BACKGROUND & AIM

Retained foreign bodies in the middle ear cavity resulting from previous otologic surgeries are exceptionally rare. This case highlights an extraordinary, 30-year long-term retention of a surgical burr tip, emphasizing the unique biological behavior of bio-inert metallic materials within the middle ear cleft and demonstrating how such objects can remain minimally symptomatic for decades.

MATERIAL & METHODS

A 70-year-old male patient presented with chronic left-sided otorrhea and long-standing mixed-type hearing loss. His medical history revealed a primary myringoplasty and canaloplasty performed abroad three decades prior, during which bone burring was utilized. On otoscopic examination of the left ear, an anteroinferior tympanic membrane perforation was observed, through which an abnormal, foreign material not belonging to the middle ear structures was directly visualized. Audiometry confirmed a moderate mixed-type hearing loss. A high-resolution computed tomography (HRCT) of the temporal bone was ordered to investigate the mass, which revealed a distinct hyperdense area with prominent metallic starburst artifacts embedded within the middle ear space. A revision tympanoplasty was performed using an endoscopic approach. The procedure allowed for the safe mobilization and extraction of the retained burr tip from the fragile ossicular chain without any trauma to the facial nerve. The tympanic membrane was reconstructed using a tragal cartilage island graft.

RESULTS

The postoperative period was uneventful with complete graft take and a well-ventilated middle ear at the 3-month follow-up. While the moderate pre-operative mixed hearing loss remained stable due to chronic, irreversible ossicular changes, the chronic otorrhea was completely resolved, and potential long-term suppurative complications were successfully averted.

CONCLUSIONS

This extremely rare case demonstrates that metallic foreign bodies can remain encapsulated or dormant in the middle ear for three decades without causing catastrophic neurological or intra-temporal complications. Retained surgical instruments should be strongly considered in the differential diagnosis of recalcitrant symptoms following remote otologic procedures, underscoring the vital importance of strict instrument checklists in primary surgeries.

KEYWORDS

Tympanoplasty; Middle ear; Retained foreign body; Surgical burr tip; Revision surgery.

PP-417

Audiological Discrepancy In The Coexistence Of Sudden Hearing Loss And Facial Paralysis: A Case Report

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BACKGROUND & AIM

Sudden hearing loss (SHL) is mostly idiopathic and is generally associated with viral and vascular mechanisms. Its coexistence with facial paralysis is rare and may suggest underlying neuroinflammatory processes. In this report, we aimed to evaluate the clinical, audiological, and radiological findings of facial paralysis developing after SHL.

MATERIAL & METHODS

A patient who had been treated at an external center for right sided SHL in November 2025 with partial recovery presented in March 2026 with a complaint of decreased hearing in the right ear. Otomicroscopic examination revealed normal findings. On the same day, right-sided grade 2 facial paralysis according to the House–Brackmann grading system developed.

The patient had a history of fibromyalgia and depressive disorder. Treatment consisted of intravenous methylprednisolone at a dose of 1 mg/kg for 10 days, along with valacyclovir for 5 days due to a history of upper respiratory tract infection one week prior.

Audiological evaluation revealed inconsistent hearing thresholds. Auditory brainstem response (ABR) testing bilaterally normal wave latencies. Tympanometry showed bilateral type A , acoustic reflexes were present bilaterally, transient evoked otoacoustic emissions (TEOAE) were also present bilaterally.

Temporal MRI demonstrated minimal contrast enhancement in the labyrinthine segment and geniculate ganglion of the right facial nerve.

RESULTS

Although partial improvement in audiometric thresholds was observed after treatment, a fluctuating course persisted during follow-up. Auditory brainstem response (ABR) testing demonstrated preserved wave morphology at low thresholds, with thresholds that were inconsistent with pure tone audiometry. These findings indicate a discrepancy between objective and subjective audiological tests. Radiological findings were considered consistent with facial neuritis.

CONCLUSIONS

Early initiation of steroid and antiviral therapy in cases of facial paralysis developing after sudden hearing loss may lead to clinical improvement. However, cases accompanied by hearing loss may exhibit a fluctuating course. The discrepancy between objective and subjective audiological tests suggests the possibility of non-organic hearing loss; therefore, objective tests particularly ABR are of great importance in diagnosis and follow-up in such cases.

KEYWORDS

Sudden hearing loss, facial paralysis, facial neuritis, ABR, non-organic hearing loss

PP-418

Gradenigo's Syndrome: Case Report

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BACKGROUND & AIM

First described by Giuseppe Gradenigo in 1907, this syndrome is characterized by otitis media, unilateral pain in first and second branches of the trigeminal nerve distribution, and ipsilateral abducens nerve palsy. These cranial nerve dysfunctions result from inflammation of the petrous apex (petrositis) and have become a rare complication of otitis media since the widespread use of antibiotics. Understanding the etiology and performing appropriate scannings facilitate early diagnosis. However, recent literature has reported an increasing incidence of purulent otitis media with intratemporal and intracranial complications, particularly in pediatric groups.

MATERIAL & METHODS

Two cases of Gradenigo's syndrome were followed in our clinic in 2024. The first patient had bilateral ventilation tubes inserted, and subsequently underwent right mastoidectomy and antrostomy because less improvement was seen in symptoms after ventilation tube insertion. Second patient underwent left grommet tube insertion combined with postauricular abscess drainage due to fluctuant swelling in the mastoid region. The patients' medical histories, physical examination findings, imaging and laboratory results, and surgical treatments were retrospectively reviewed.

RESULTS

The patients presented with otalgia, mastoid tenderness, auricular protrusion, ipsilateral limitation of lateral gaze, and fever. On otoscopic examination, tympanic membrane hyperemia was observed bilaterally, with dry external auditory canals. One patient demonstrated mastoid swelling and tenderness along with restricted lateral eye movement on the same side. The two patients who underwent left grommet tube insertion with postauricular abscess drainage and bilateral ventilation tube insertion were included in this case series. They were evaluated with medical history, physical examination, temporal bone computed tomography (CT), temporal and brain magnetic resonance imaging (MRI), MRI venography. CT imaging consistent with petrositis. Increased intracranial pressure and papilledema was seen in both patients.

CONCLUSIONS

Gradenigo's syndrome is a striking clinical entity that a physician is unlikely to forget once encountered. As a complication of otitis media, the primary treatment is drainage; however, clinicians should remain vigilant for concomitant sigmoid sinus thrombosis and increased intracranial pressure. Detailed evaluation with CT and MRI imaging is essential, and patients should be managed through a multidisciplinary approach involving ophthalmology, neurology, infectious diseases, and radiology.

KEYWORDS

Gradenigo's syndrome, petrositis, otitis media complications, abducens nerve palsy, mastoid abscess,

PP-419

A Rare And Misleading Complication Of Pediatric Acute Otitis Media: Sigmoid Sinus Thrombosis Presenting With Diplopia

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BACKGROUND & AIM

The incidence of intracranial complications secondary to acute otitis media (AOM) has significantly decreased with the widespread use of advanced antibiotic therapies. Nevertheless, sigmoid sinus thrombosis (SST) remains a serious complication associated with considerable morbidity and mortality. Typical clinical manifestations of SST include headache, fever, and otorrhea. However, abducens nerve palsy resulting from increased intracranial pressure (ICP), leading to diplopia, is a rare presenting symptom. We present a pediatric case of SST associated with inward deviation of the right eye and diplopia following AOM.

MATERIAL & METHODS

A previously healthy 5-year-old girl presented to the emergency department with right-sided otalgia and fever lasting 2–3 days. Oral acetaminophen and amoxicillin-clavulanate (80 mg/kg/day) were prescribed; however, medication adherence was poor,

and the prescribed course was not completed. On the seventh day after the initial presentation, the patient re-presented with sudden-onset severe headache, vomiting, and diplopia in the right eye.

RESULTS

Physical and ENT examination revealed an intact but dull right tympanic membrane without mastoid tenderness. Ophthalmological evaluation confirmed right abducens nerve palsy and grade 2–3 papilledema. Laboratory findings showed leukocytosis (WBC: 16,000/mm^3) and elevated CRP (85 mg/L). Contrast-enhanced MRI and MR venography confirmed acute mastoiditis and right transverse and sigmoid sinus thrombosis extending into the jugular vein, accompanied by signs of increased intracranial pressure. Following urgent cortical mastoidectomy, ventilation tube insertion, and a multidisciplinary regimen of broad-spectrum antibiotics and anticoagulant therapy, rapid infection control was achieved, resulting in a favorable clinical outcome without neurological sequelae.

CONCLUSIONS

This case highlights that inadequately treated pediatric acute otitis media can lead to severe, life-threatening intracranial complications like sigmoid sinus thrombosis. Mastoiditis-induced venous sinus thrombosis impairs cerebral drainage, causing increased intracranial pressure and rare symptoms like abducens nerve palsy and diplopia. Early contrast-enhanced MRI and MR venography are vital gold standards for timely diagnosis. Anticoagulant therapy is safe in pediatric cases and crucial for preventing permanent neurological sequelae. Ultimately, prompt surgical intervention via cortical mastoidectomy and ventilation tube insertion, combined with aggressive intravenous antibiotics and anticoagulation, ensures rapid infection control and excellent clinical outcomes.

KEYWORDS

Keywords: Acute otitis media; Sigmoid sinus thrombosis; Abducens nerve palsy; Diplopia; Cortical mastoidectomy; Cerebral venous sinus thrombosis; Pediatric neuro-otology.

PP-420

"A Rare Complication Of Ramsay Hunt Syndrome: Vocal Cord Paralysis And Sudden Hearing Loss Accompanying Facial Palsy"

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BACKGROUND & AIM

Ramsay Hunt Syndrome (RHS) is a rare complication of varicella-zoster virus (VZV) reactivation in the geniculate ganglion, classically presenting with peripheral facial palsy, auricular vesicular eruption, and sensorineural hearing loss. Involvement of cranial nerves beyond CN VII and CN VIII — particularly the vagus nerve (CN X) — is exceedingly rare. We report a case of RHS with concurrent ipsilateral vocal cord paralysis, highlighting the importance of routine flexible laryngoscopy and early multimodal treatment in the management of this condition.

MATERIAL & METHODS

A 54-year-old immunocompetent woman presented with a 4-5 day history of right otalgia. Three days later, right-sided facial weakness, hoarseness, and auricular vesicles developed. Physical examination revealed vesicular eruptions in the right cavum concha and external auditory canal, House-Brackmann Grade 3 peripheral facial palsy, and right vocal cord paramedian fixation on flexible nasolaryngoscopy. Pure-tone audiometry confirmed moderate sensoryneural hearing loss in the right ear (PTA: 40 dB) with normal left-sided hearing (PTA: 15 dB). The patient was diagnosed with RHS with CN VII and CN X involvement. Treatment consisted of oral acyclovir (2 g five times daily), a tapering corticosteroid regimen, topical ear drops, and a structured 23-day facial physiotherapy programme.

RESULTS

At the four-week follow-up, vocal cord mobility had fully normalized and hoarseness had completely resolved. Audiometric re-evaluation demonstrated marked hearing improvement in the right ear (PTA: 18 dB), representing a 22 dB gain from baseline. Left-sided hearing remained normal (PTA: 13 dB). Flexible laryngoscopy confirmed bilateral normal vocal cord movements. Facial palsy completely recovered. No adverse effects related to treatment were observed. The clinical course was consistent with favorable recovery in both vagal and cochlear function following early initiation of antiviral and corticosteroid therapy combined with physical rehabilitation.

CONCLUSIONS

Concurrent CN VII, CN VIII and CN X involvement in RHS is rare but clinically significant. Undetected vocal cord palsy risks aspiration and diagnostic delay. Flexible laryngoscopy should be part of the routine evaluation in all RHS patients. Early antiviral and corticosteroid therapy, alongside structured physiotherapy, is associated with favorable functional recovery even in cases of cranial polyneuropathy. Clinicians should maintain a high index of suspicion for multi-cranial nerve involvement in RHS.

KEYWORDS

Ramsay Hunt syndrome; herpes zoster oticus; vocal cord paralysis; facial palsy; vagus nerve; cranial polyneuropathy; varicella-zoster virus; flexible laryngoscopy; antiviral therapy

PP-421

CONGENITAL DEFICIENCY OF INCUS - CASE REPORT

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BACKGROUND & AIM

Congenital malformations of the auditory ossicles can be isolated and occur together with other anomalies of the ear. Micro malformations of the auditory ossicles are most often detected during exploratory operations of the middle ear. These anomalies cause a disturbance in the transmission of low tones, which is manifested by the appearance of conductive hearing loss. Congenital malformations of the external and middle ear are divided into large and small. Congenital anomalies of the incus can manifest in the form of fixation of its structures to the walls of the cavum tympani, incomplete development or complete lack of the incus.

MATERIAL & METHODS

A 14-year-old male patient comes for examination in December 2023 due to impaired hearing in the left ear that has evolved over many years. He underwent regular functional and radiological diagnostics for the past 8 years. In the clinical ENT examination, otomicroscopically, an intact, sclerotically altered tympanic membrane was observed on the left, in retraction with a reduced light reflex. Tympanometry is type A on both sides, and the tonal audiogram shows conductive hearing reduction of the high type on the left. The patient underwent a CT scan of the temporal bone, which showed no significant pathological changes.

RESULTS

Operative treatment of the left ear is indicated, which was performed in March 2024. An exploration of the left ear is performed, when a malformation of the ossicular chain, a complete lack of incus, while the structures of the malleus and stapes are fully preserved. Then, a titanium partial ossicular prosthesis (PORP) is placed on the head of the stapes along with a previously positioned cartilage graft. The operative and postoperative course went smoothly. After 2 months, the control tone audiogram shows a significant improvement of the average hearing threshold in the frequency range 125 Hz - 4 kHz compared to the preoperative values.

CONCLUSIONS

Congenital malformations of the auditory ossicles are rare and due to difficult detection based on symptoms, functional and radiological diagnostics, they are most often diagnosed during exploratory operations of the middle ear. In addition, operative treatment is simple and gives good results.

KEYWORDS

auditory ossicles, middle ear, hearing loss, operative treatment

PP-422

Incomplete Gradenigo Syndrome Presented With Four-Week History Of Right Frontal Headache, A Two-Day History Of Blurred Vision And Retro-Orbital Pain.

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BACKGROUND & AIM

Gradenigo syndrome is a rare complication of petrous apicitis, defined by the triad of suppurative otitis media, ipsilateral trigeminal neuralgia, and abducens nerve palsy. It arises from a middle ear infection or mastoiditis to the petrous apex. In addition to the classic triad, patients may present with otalgia, fever, altered consciousness, involvement of other cranial nerves, including V, VII, VIII, and X. The underlying pathophysiology is related to inflammation of Dorello's canal and Meckel's cave. The complete triad is present in fewer than 15% of cases; many patients demonstrate incomplete or atypical presentations. We present a diagnostically challenging case.

MATERIAL & METHODS

A 30-year-old man presented with a four-week history of progressive right frontal headache, a two-day history of blurred vision and retro-orbital pain. He reported a preceding two-month history of right-sided otalgia but denied otorrhoea or hearing loss. His background included tension headaches, amblyopia, and prior heavy cocaine use. Examination revealed isolated right abducens nerve palsy with horizontal diplopia and no meningism. Otoscopy demonstrated cerumen and an erythematous tympanic membrane without post-auricular changes. Inflammatory markers were within normal limits. Computed tomography (CT) revealed right mastoid opacification with bony erosion of the petrous apex. Magnetic resonance imaging (MRI) confirmed petrous apicitis extending to the clivus and Meckel's cave. The patient was managed under ENT with multidisciplinary input. A right grommet was inserted for drainage and microbiological sampling. Broad-spectrum intravenous (IV) antibiotics were initiated and tailored, with a planned 12-week course via peripherally inserted central catheter (PICC).

RESULTS

The patient demonstrated clinical improvement following combined medical and surgical management, with resolution of headache and stabilisation of diplopia. He was discharged after nine days with planned follow-up.

CONCLUSIONS

This case highlights an incomplete presentation of Gradenigo syndrome without otorrhoea, emphasising that absence of the classic triad does not exclude the diagnosis. ENT clinicians should maintain a high index of suspicion in patients presenting with persistent headache and cranial nerve VI palsy. Early imaging and prompt multidisciplinary management are essential to prevent skull base complications.

KEYWORDS

Gradenigo, Incomplete, suppurative otitis media with otorrhoea, ipsilateral trigeminal neuralgia, and abducens nerve palsy, absence of the classic triad does not exclude the diagnosis

PP-423

Maximum Intensity Projection Images In Surgical Position View Enhances Ossicular Visualization On Temporal Bone CT

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BACKGROUND & AIM

High-resolution temporal bone CT plays a vital role in preoperative planning for otologic surgery. However, conventional axial and coronal views often require scrolling often require review of multiple sequential slices to fully assess ossicular morphology. Postprocessing techniques that combine key anatomic details into fewer images may allow more efficient and practical evaluation. To evaluate whether maximum intensity projection (MIP) applied to a surgical position view (SPV) enhances visualization of the auditory ossicles compared with conventional images and to examine interobserver reproducibility among readers with varying levels of experience.

MATERIAL & METHODS

Four patients without middle ear disease scheduled for facial nerve decompression or cochlear implantation were retrospectively analyzed. Using the multi-planar reconstruction (MPR) tool, sagittal images were generated from axial images and rotated 90° to obtain an SPV (MPR-SPV) images. MIP-SPV images were then created with a 3-mm slab thickness. For each patient and image (axial, coronal, MPR-SPV, MIP-SPV), the slice best depicting the malleoincudal (M-I) and incudostapedial (I-S) joints was identified. Ossicles were outlined with a touch pen, and the displayed area was measured. All procedures were performed using the native tools of the PACS viewer (SYNAPSE 5) integrated with the electronic medical record system. Three physicians with varying experience performed five independent measurements on different days.

RESULTS

Across all cases, MIP-SPV yielded remarkably larger displayed ossicular areas for both the M-I and I-S joints than axial, coronal, or MPR-SPV images. This advantage was consistent across all raters and repeated sessions, indicating robust inter-observer and intra-observer reproducibility.

CONCLUSIONS

MIP-SPV consolidates greater ossicular information per image, facilitating clearer, rapid appreciation of ossicular morphology without reviewing multiple consecutive slices. Its consistent performance across readers of differing experience suggests strong reproducibility and practical utility for preoperative evaluation in otologic surgery. These findings support that MIP-SPV images can sufficiently complement conventional axial and coronal images in the preoperative evaluation of the ossicles.

KEYWORDS

CT, Temporal bone, Ossicles, MIP, MPR

PP-424

Middle Cranial Fossa Approach For Complex Lateral Skull Base Otologic Pathology: A Four-Case Series

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BACKGROUND & AIM

The middle cranial fossa (MCF) approach remains an important surgical option for the management of complex lateral skull base pathology. Although transmastoid techniques are frequently used for tegmen defects, the MCF approach provides direct extradural exposure of the tegmen tympanii and tegmen mastoideum, allowing precise defect identification and secure multilayer reconstruction. This approach is particularly useful in patients with extensive tegmen defects, intracranial complications, or previous otologic surgery.

The aim of this study is to present a series of four patients treated using the MCF approach for different indications in a tertiary referral center and to evaluate surgical outcomes.

MATERIAL & METHODS

A retrospective descriptive study was conducted including four adult patients who underwent surgery using a middle cranial fossa approach at a tertiary referral hospital.

All patients underwent preoperative high-resolution computed tomography and magnetic resonance imaging to assess tegmen defects and intracranial involvement.

Surgery was performed under general anesthesia using a standard temporal craniotomy with extradural elevation of the temporal lobe. Tegmen defects were identified and reconstructed using multilayer techniques with autologous grafts or synthetic materials.

Indications included: CSF fistula secondary to a tegmen tympani defect (n=1), temporal lobe abscess associated with a persistent tegmen defect following canal wall down mastoidectomy (n=1), advanced cholesteatomatous chronic otitis media with intralabyrinthine and intracranial extension requiring subtotal petrosectomy (n=1), and postoperative meningocele following mastoidectomy and type IV tympanoplasty (n=1).

RESULTS

During the follow-up period, no recurrence of the primary disease was observed in most patients. One patient underwent revision surgery two years after the initial procedure due to clinical and radiological suspicion of recurrent cholesteatomatous chronic otitis media; however, no residual or recurrent disease was identified intraoperatively.

Regarding postoperative complications, one patient developed persistent postoperative peripheral facial paralysis, which required subsequent facial reinnervation surgery. The remaining patients showed no major complications during clinical follow-up.

The MCF approach proved particularly useful in patients with previous otologic surgery and complex anatomical defects. Successful closure was achieved in all cases without recurrence of CSF leakage or intracranial complications during follow-up.

In patients with intracranial complications, definitive tegmen repair is essential to prevent recurrence. Similarly, in advanced cholesteatoma with intracranial extension, the MCF approach may facilitate safe disease control and skull base reconstruction.

CONCLUSIONS

The middle cranial fossa approach is a safe and effective technique for the treatment of complex tegmen defects and lateral skull base pathology.

This approach provides excellent surgical exposure and allows reliable reconstruction in patients with CSF fistulas, meningoceles, intracranial complications, and advanced cholesteatoma.

Careful patient selection is essential, and the MCF approach should be considered in patients with extensive defects or intracranial involvement.

This technique remains an important surgical option in tertiary referral centers managing complex otologic disease.

KEYWORDS

Middle Cranial Fossa; Tegmen Tympani; Cerebrospinal Fluid Fistula; Cholesteatoma; Lateral Skull Base Surgery

PP-425

Mastoid Dressings Following Otologic Surgery: A Study Of Intra-Dressing Pressure Dynamics

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BACKGROUND & AIM

Mastoid pressure dressings are routinely applied after otologic surgery to prevent hematoma formation, yet recent evidence questions their clinical benefit. No study has objectively quantified the pressure these dressings exert or how rapidly it decays. We aimed to measure and compare the intra-dressing pressures of gauze-and-cling versus self-adherent (Coban) mastoid dressings during the immediate postoperative period using a novel calibrated pressure sensor.

MATERIAL & METHODS

A calibrated pressure sensor was developed in collaboration with biomedical engineering colleagues and positioned directly beneath the mastoid dressing immediately following otologic surgery. Patients received either a conventional gauze-and-cling wrap or a self-adherent Coban dressing. Intra-dressing pressure was recorded continuously from 0 to 120 minutes postoperatively. Pressure profiles for each dressing type were compared to characterize the magnitude and rate of pressure decay during the immediate postoperative period.

RESULTS

Preliminary data demonstrate a consistent and significant decline in intra-dressing pressure within 120 minutes of application for both dressing types. The pressure exerted by mastoid dressings decreased substantially from baseline during the

monitored postoperative window, suggesting that the compressive benefit of these dressings is largely lost in the short-term period following surgery.

CONCLUSIONS

Mastoid pressure dressings lose meaningful compressive force within two hours of application. These findings support consideration of shorter dressing durations, particularly after uncomplicated otologic procedures, and highlights the need for evidence-based dressing protocols. This evidence has the potential to change postoperative care and advice with regards to the duration mastoid dressings are left on.

KEYWORDS

Mastoid dressing, otologic surgery, intra-dressing pressure, pressure sensor, postoperative care, hematoma prevention.

PP-426

Beyond The Acoustic Nerve: A Hypoglossal Schwannoma Case Report

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BACKGROUND & AIM

Hypoglossal schwannomas (HS) are rare skull base tumors, representing only 5% of all non-acoustic intracranial schwannomas. Based on the Kaye classification, they are divided into type A (intracranial), type B (dumbbell-shaped, extending through the hypoglossal canal), and type C (extracranial). Fewer than 50 type B cases have been published worldwide, and cystic patterns are extremely rare. Their location in the cerebellopontine angle (CPA) poses significant diagnostic challenges, as they are frequently mistaken for vestibular schwannomas.

MATERIAL & METHODS

A 26-year-old female presented to the emergency department with an acute episode of severe left periorbital pain, vomiting, left hemibody sensory changes and transient confusion, with spontaneous resolution. Initial computed tomography (CT) scan identified a hypodense contrast-enhancing lesion at the left CPA, suggestive of vestibular schwannoma. She also reported a background history of headaches and dysphonia. Laryngoscopy revealed bilateral vocal fold nodules with fully preserved mobility. Videonystagmography (VNG) revealed signs of central posterior fossa pathology, with normal and symmetric caloric responses. Subsequent magnetic resonance imaging (MRI) demonstrated a well-defined extra-axial mass centered on the left hypoglossal canal measuring 27.4 × 23.1 × 16.3 mm, with hypointense signal on T1, hyperintense on T2, moderate enhancement after gadolinium injection, partially cystic features and mass effect on the brainstem and fourth ventricle, consistent with a type B hypoglossal schwannoma.

RESULTS

The patient underwent suboccipital extended craniotomy and partial condylectomy with intraoperative cranial nerve monitoring. Apparent complete tumor removal was achieved. Histopathology confirmed a WHO Grade 1 conventional schwannoma with cystic degeneration, without atypia, significant mitotic activity or necrosis.

CONCLUSIONS

This case illustrates a rare entity made even more exceptional by its cystic degeneration and initial misdiagnosis on CT. The absence of cranial nerve deficits does not exclude significant skull base pathology. MRI is the gold standard for accurate characterization of hypoglossal canal lesions, and a low threshold for its use is essential to avoid diagnostic pitfalls in patients presenting with CPA masses.

KEYWORDS

Hypoglossal schwannomas, schwannoma, skull base

PP-427

Congenital Aural Atresia: A Case Report

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BACKGROUND & AIM

Congenital aural atresia (CAA) is a rare developmental anomaly (1:10,000–20,000 births) characterized by complete absence of the external auditory canal. It results from abnormal development of the first branchial cleft and the first and second branchial arches, often associated with microtia and middle ear malformations. Since the inner ear originates separately from the otic placode, it is usually preserved, resulting in predominantly conductive hearing loss. While most cases are sporadic and associated with microtia, CAA can rarely occur in the presence of a normal pinna. Early audiological and radiological assessment is essential for appropriate management.

MATERIAL & METHODS

We report the case of a 17-year-old male with no significant past medical history, previously without follow-up at our institution, who presented for evaluation of unilateral hearing loss. Physical examination revealed right-sided CAA with a normally developed auricle, representing a rare clinical presentation. Otoscopic examination of the contralateral ear was unremarkable.

Tuning fork tests (Rinne and Weber) were consistent with right-sided conductive hearing loss. Speech and language development were appropriate for age, suggesting long-standing, well-compensated auditory impairment. High-resolution computed tomography (CT) of the temporal bones and comprehensive audiometric testing were performed to further characterize the anatomy and quantify the degree of hearing loss.

RESULTS

Pure-tone audiometry demonstrated moderate-to-severe right-sided conductive hearing loss, with good speech discrimination on bone conduction testing. Imaging revealed complete bony and membranous obliteration of the expected course of the right external auditory canal, a small but adequately aerated tympanic cavity, and absence of the malleus handle. The remaining ossicular chain and inner ear structures were normal.

Various management strategies were considered. Although canalplasty (atresiaplasty) is a surgical option, it remains one of the most technically challenging otologic procedures, and long-term outcomes may show deterioration of initial hearing gains. Given these considerations, the patient's excellent bone conduction thresholds, and his desire for improved binaural hearing, an osseointegrated bone-conduction device (OIBCD) was selected.

A right-sided bone conduction implant trial demonstrated good functional benefit, and a transcutaneous osseointegrated implant (Sentio) was subsequently placed, resulting in significant hearing improvement and a favorable functional outcome.

CONCLUSIONS

Congenital aural atresia requires careful clinical and radiological evaluation to guide management. Unilateral cases may be managed conservatively or surgically with with bone-conduction devices or atresiaplasty. Treatment should be individualized, and thorough patient counseling regarding risks and benefits is essential to optimize hearing outcomes and quality of life.

KEYWORDS

Congenital aural atresia; conductive hearing loss; bone conduction implant; osseointegrated implant; CT scan; middle ear malformation; unilateral hearing loss; otologic surgery; audiometry; microtia.

PP-428

Report On The Current Status Of Patulous Eustachian Tube Dysfunction Treatment And Eustachian Tube Plug Surgery With Kobayashi Plug Insertion In Japan: Real-World Data From The First 3 Years Following Introduction

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BACKGROUND & AIM

Patulous Eustachian tube (PET) may cause severe auditory symptoms and reduced quality of life in refractory cases. In Japan, Eustachian tube plug surgery with the Kobayashi plug (KPS) was introduced in 2020 under a certified surgeon system and became covered by national health insurance in 2022. As the procedure has gradually expanded nationwide, clarification of current diagnostic and therapeutic practices has become increasingly important. We therefore conducted a nationwide questionnaire survey targeting certified KPS surgeons and institutions to investigate the present status of PET management, indications for surgery, operative techniques, perioperative management, complications, and surgeon perceptions regarding efficacy and safety.

MATERIAL & METHODS

A nationwide questionnaire survey was conducted among surgeons certified by the Japan Otological Society to perform KPS as of March 2025. The survey targeted 61 surgeons at 49 institutions. Responses were obtained from 50 surgeons affiliated with 48 institutions, including 24 university hospitals, 14 general hospitals, and 10 clinics. The questionnaire investigated diagnostic approaches for PET, use of severity assessment tools and Eustachian tube function tests, conservative treatment strategies, indications for surgery, operative techniques, anesthesia methods, hospitalization policies, postoperative complications, revision surgery, and surgeon impressions regarding efficacy and safety. Surgical data were collected for KPS procedures performed after insurance approval through March 2025. All data were self-reported, and no validation using insurance or administrative databases was performed.

RESULTS

The number of newly diagnosed PET patients per institution ranged from 0 to 120 cases per month (median: 5). Most respondents adhered to the proposed diagnostic criteria, and approximately half used the PHI-10 questionnaire for severity assessment. Eustachian tube function testing was routinely performed at almost all institutions, with sonotubometry

universally adopted. Conservative management, including patient education, lifestyle guidance, symptom control instruction, and Kampo medicine, was commonly performed before surgery was considered. Approximately 1,400 KPS procedures had been performed nationwide, although 70% were concentrated in four high-volume centers. Surgical practices varied substantially among institutions regarding use of endoscopy or microscopy, anesthesia type, hospitalization duration, and bilateral surgery strategy. Surgeons generally perceived KPS as moderately effective with relatively low complication rates; however, otitis media with effusion, persistent tympanic membrane perforation, plug dislocation, and several serious adverse events were reported.

CONCLUSIONS

This survey demonstrated that KPS for refractory PET is currently being introduced cautiously in Japan under relatively strict indications, particularly for severe cases resistant to conservative treatment. Although overall treatment policies were consistent, substantial inter-institutional variability existed in operative techniques, perioperative management, plug size selection, and management of revision cases. Respondents strongly requested clearer criteria for preoperative plug size selection and standardized treatment protocols. Three years after establishment of the national implementation system, further efforts toward nationwide standardization, quality assurance, surgeon education, and dissemination of appropriate PET recognition among general practitioners appear necessary for sustainable continuation of KPS in Japan.

KEYWORDS

Eustachian Tube, Kobayashi plug

PP-429

A Rare Otologic Complication Of Urosepsis: Bilateral Sudden Sensorineural Hearing Loss

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BACKGROUND & AIM

Sudden sensorineural hearing loss (SSNHL) is an otologic emergency that may rarely occur secondary to systemic inflammatory and vascular disorders. Bilateral involvement is uncommon and is frequently associated with poorer prognosis and underlying systemic pathology. Sepsis-related cochlear injury has been increasingly recognized, particularly in critically ill patients with septic shock and microvascular compromise. We aimed to present a rare case of bilateral SSNHL developing during intensive care follow-up for urosepsis secondary to obstructive pyelonephritis and to discuss the possible contribution of septic microvascular and inflammatory mechanisms in cochlear injury.

MATERIAL & METHODS

A 38-year-old female with familial Mediterranean fever and chronic colchicine use was hospitalized for obstructive pyelonephritis caused by proximal ureterolithiasis. During follow-up, the patient developed septic shock requiring intensive care admission, endotracheal intubation, and broad-spectrum antimicrobial treatment. After seven days of intensive care follow-up, she complained of acute bilateral hearing loss following extubation. Comprehensive otorhinolaryngological examination, pure-tone audiometry, tympanometry, auditory brainstem response (ABR), otoacoustic emission testing, and radiological imaging were performed. Etiological investigations including temporal and diffusion magnetic resonance imaging revealed no central pathology. The patient was treated with systemic corticosteroids, intratympanic steroid injections, and hyperbaric oxygen therapy. Serial audiometric evaluations were obtained during follow-up to assess hearing recovery.

RESULTS

Initial audiometric evaluation demonstrated severe bilateral sensorineural hearing loss, more prominent in the left ear. Speech reception thresholds were 83/65+ dB in the right ear and 98/65+ dB in the left ear. Tympanometry showed bilateral type A tympanograms. ABR testing demonstrated wave V responses at 80 dB in the right ear, whereas no wave V response could be obtained at 100 dB in the left ear. Bilateral otoacoustic emissions and acoustic reflexes were absent, supporting cochlear outer hair cell dysfunction. Following combined treatment with systemic steroids, nine sessions of intratympanic steroid therapy, and 20 sessions of hyperbaric oxygen treatment, marked hearing recovery was observed in the right ear, improving to 19/18 dB thresholds. However, severe residual sensorineural hearing loss persisted in the left ear with thresholds of 84/65 dB.

CONCLUSIONS

Bilateral SSNHL may rarely develop during severe urosepsis and septic shock. Septic hypotension, endothelial dysfunction, inflammatory injury, and cochlear microvascular impairment may contribute to cochlear ischemia and hearing loss. This case highlights the importance of considering auditory complications in critically ill septic patients, particularly during intensive care follow-up. Early diagnosis and multimodal treatment including systemic steroids, intratympanic steroid therapy, and hyperbaric oxygen therapy may provide partial auditory recovery even in severe presentations.

KEYWORDS

Sudden sensorineural hearing loss, bilateral hearing loss, urosepsis, septic shock, cochlear ischemia, intensive care, hyperbaric oxygen therapy, intratympanic steroid.

PP-430

Absent Stapedial Tendon: A Case Report

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BACKGROUND & AIM

The stapedius muscle is the smallest skeletal muscle. Its tendon arises from the pyramidal eminence and is inserted into the neck of stapes through the posterior surface . The stapedius muscle and the tensor tympani work together to produce an acoustic reflex that has a protective role for the inner ear against harmful sounds . Congenital anomalies of the stapedius muscle include ectopic, double muscles, ossificate tendon, and absent muscular unit . Injury and cutting of the stapedial muscle tendon are common during otosclerosis surgeries. The incidence of absent stapedial muscle tendon has been reported to be 0.5% .

MATERIAL & METHODS

A Case report, 40 years old male with absent stapedial tendon

RESULTS

The stapedius muscle originates from the bundle of the posterior belly of the digastric muscle. When the digastric muscle arrives at the eminence of the mastoid process, it provides fibers of muscle through the stylomastoid opening into the tympanic cavity until it reaches the stapes neck and forms the stapedius muscle. Therefore, both muscles get innervation from the facial nerve. The stapedius and tensor tympani muscles contract together for the acoustic reflex to protect ears from loud sounds and improve hearing performance during noise. Congenital anomalies of the middle ear have previously been reported in the literature. In a previous report by Kopuz et al., there was no stapedius muscle or tendon present in the middle ear .

CONCLUSIONS

Absent stapedius muscle and tendon may affect the movements of the stapes and impact speech intelligibility during noise. Being aware of stapedius muscle and tendon anomalies is substantial for surgeons performing interventions for middle ear pathologies, especially while operating on patients with otosclerosis, as they necessitate a specific approach. Although these anomalies are not commonly seen, awareness of their existence and careful interpretation of imaging studies remain crucial. Reporting future cases in the clinical setting to the literature is recommended.

KEYWORDS

absent, ear, hearing, otology, stapedius muscle

PP-431

Regional Nerve Blocks For Middle Ear Surgery: A Systematic Review And Meta-Analysis Of Randomized Controlled Trials With GRADE Assessment

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BACKGROUND & AIM

Middle ear surgery is commonly associated with postoperative pain, nausea, and vomiting. Regional nerve blocks, including superficial cervical plexus block (SCPB) and greater auricular nerve block (GANB), may improve perioperative outcomes. This systematic review and meta-analysis aimed to evaluate the analgesic efficacy and safety of regional nerve blocks in adult patients undergoing middle ear surgery.

MATERIAL & METHODS

A systematic review and meta-analysis of randomized controlled trials (RCTs) was conducted following PRISMA guidelines. A comprehensive search of PubMed, Cochrane Central, and Google Scholar was performed from inception to June 2025. RCTs comparing superficial cervical plexus block (SCPB) or greater auricular nerve block (GANB) with sham block or standard care in adult patients undergoing middle ear surgery were included. The primary outcome was postoperative pain scores, while secondary outcomes included intraoperative opioid consumption, postoperative nausea and vomiting (PONV), rescue analgesia, and adverse effects. Risk of bias was assessed using RoB2, and certainty of evidence was evaluated using GRADE.

RESULTS

Seven RCTs including 459 participants were analyzed. Regional nerve blocks significantly reduced postoperative pain at 1 hour (MD −0.80; 95% CI −1.18 to −0.42; p<0.0001), 12 hours (MD −0.78; 95% CI −1.00 to −0.55; p<0.0001), and 24 hours (MD −0.41; 95% CI −0.49 to −0.33; p<0.0001). Intraoperative opioid consumption was significantly lower in the nerve block group (MD −

531.18; 95% CI −939.57 to −122.79). The incidence of postoperative nausea and vomiting was also reduced (RR 0.46; 95% CI 0.31–0.69). No significant differences were observed in rescue analgesia or adverse effects between groups.

CONCLUSIONS

Regional nerve blocks, particularly SCPB and GANB, provide effective postoperative analgesia in middle ear surgery, with reduced opioid consumption and lower incidence of PONV, without increasing adverse effects. These findings support their use as part of perioperative care, although further high-quality studies are needed to optimize technique and application.

KEYWORDS

Regional anesthesia, Nerve block, Pain management, Superficial cervical plexus block, Greater auricle nerve block, Middle ear surgery, Systematic review, Meta-analysis

PP-432

Necrotizing Otitis Externa: A 16-Patient Experience

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BACKGROUND & AIM

Necrotizing otitis externa is a severe and potentially life-threatening infection requiring early diagnosis and appropriate management. We aim to share our experience in the management of patients with necrotizing otitis externa and to describe their epidemiological, clinical, paraclinical characteristics, treatment, and outcomes.

MATERIAL & METHODS

We present a case series of 16 patients hospitalized in our department from 2021 to 2026.

RESULTS

We included 16 patients with a median age of 72 years; 56.3% were female. Most were diabetic (81.3%). All presented with otalgia; 43.8% reported otorrhea, and five had facial paralysis.

On otoscopy, external auditory canal (EAC) stenosis with granulomas and otorrhea was observed in all cases. Temporal bone CT showed opacification of the EAC and tympanic cavity in all patients. Tympanic bone erosion was found in half of the cases, facial canal erosion in one, deep cervical space infiltration in 25%, and thrombophlebitis in one patient.

Microbiology identified Pseudomonas aeruginosa in 10 cases (one with Candida albicans), Aspergillus spp. in three, Proteus mirabilis in one, Candida albicans in one, and one negative culture.

All patients were hospitalized, received daily EAC debridement, and appropriate antimicrobial therapy. Mean hospitalization was 30.3 days. Complete remission occurred in 68.8% of cases.

CONCLUSIONS

Necrotizing otitis externa remains a severe infection in elderly diabetic patients. Temporal bone CT provides a critical assessment of skull base and deep space involvement, while the protracted clinical course underscores the need for prolonged therapy and systematic follow-up

KEYWORDS

External Otitis, Otalgia, Ear Infection

PP-433

Cerebrospinal Fluid Otorrhea After Temporal Tumor Surgery Repaired Through An Endoscopic Transcanal Approach

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BACKGROUND & AIM

Postoperative cerebrospinal fluid (CSF) otorrhea is a rare but serious complication of temporal intracranial surgery because of the increased risk of meningitis and intracranial infection. Early diagnosis and prompt surgical repair are critical for preventing morbidity. We aimed to present the diagnosis and successful endoscopic management of postoperative CSF otorrhea following temporal tumor excision.

MATERIAL & METHODS

A 65-year-old female patient underwent neurosurgical excision of a left temporal low-grade glial tumor after presenting with headache, dizziness, tinnitus, and transient speech arrest. In the postoperative period, clear otorrhea from the left ear developed. The patient was referred to the Department of Otorhinolaryngology for further evaluation. Endoscopic examination revealed a suspected CSF leak originating from the anterosuperior wall of the left external auditory canal. Clinical findings and beta-2 transferrin analysis supported the diagnosis of CSF otorrhea. The patient was evaluated jointly with the Neurosurgery Department. Endoscopic transcanal defect repair was performed, followed by ear wick tampon application and

close postoperative monitoring. Intravenous ceftriaxone and vancomycin were administered for meningitis prophylaxis. Lumbar drainage was additionally recommended for intracranial pressure control.

RESULTS

Postoperative follow-up demonstrated progressive epithelialization of the external auditory canal and complete resolution of otorrhea. No recurrent CSF leakage, meningitis, neurological deterioration, or additional otologic complications were observed during follow-up. The patient tolerated the procedure well and continued routine outpatient follow-up in both Neurosurgery and Otorhinolaryngology clinics.

CONCLUSIONS

CSF otorrhea following temporal intracranial surgery is an uncommon but potentially life-threatening complication requiring rapid multidisciplinary management. Endoscopic transcanal repair can provide effective closure of selected CSF leaks with low morbidity. Early recognition, appropriate antibiotic prophylaxis, and collaboration between Neurosurgery and Otorhinolaryngology departments are essential for successful management and prevention of intracranial infectious complications.

KEYWORDS

Otorrhea, CSF, Complication, Temporal, Tumor

PP-434

Polypoid Lesion Of The External Auditory Canal: Metastasis Of Adenocarcinoma

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BACKGROUND & AIM

External auditory canal polyps are usually benign inflammatory lesions; however, rarely they may represent metastatic malignancies. We aimed to highlight this possibility.

MATERIAL & METHODS

A 62-year-old male with facial paralysis and external auditory canal polypoid lesion underwent clinical, radiological evaluation and punch biopsy.

RESULTS

Biopsy revealed metastatic colon adenocarcinoma. Despite partial clinical improvement, lesion persisted. Patient's general condition deteriorated and he died within one month.

CONCLUSIONS

External auditory canal lesions may rarely indicate malignancy. Biopsy is essential, especially in atypical or treatment-resistant cases with systemic disease history.

KEYWORDS

External auditory canal, polypoid lesion, metastasis, colon adenocarcinoma, facial paralysis,aural polyps,colon cancer

PP-435

Increased Risk Of Sarcopenia In Greater Hearing Loss: Potential Benefit Of Hearing Aids For Muscle Function

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BACKGROUND & AIM

Hearing loss is linked to various functional deficits, while its relationships with fat distribution and sarcopenia remain unclear. This study investigated the association of hearing status with body composition and muscle-related parameters.

MATERIAL & METHODS

This study used data from the ninth Korea National Health and Nutrition Examination Survey (2022–2023), a nationally representative survey. A total of 3,632 individuals with complete data on audiometry, tympanometry, body composition, and handgrip strength were included. Hearing status was classified as normal (≤25 dB), mild (>25dB to ≤40dB), or moderate-or-worse (>40dB). Sarcopenia was defined as low Appendicular Skeletal Muscle Mass Index (ASMI; <7.0 kg/m² for men, <5.7 kg/m² for women) combined with low handgrip strength (<28 kg for men, <18 kg for women).

RESULTS

Worsening hearing loss was associated with graded declines in lower extremity and total ASMI, as well as grip strength in both sexes (all $p < 0.05$), while associations with upper extremity ASMI, total body water index, and intracellular water index were present only in males (all $p < 0.05$). Higher hearing thresholds were associated with sarcopenia in both sexes (men: $p = 0.020$; women: $p = 0.13$). In contrast, fat mass indices showed no association with hearing status. Hearing aid use was associated with higher grip strength only in women with hearing thresholds >55 dB ($p = 0.010$).

CONCLUSIONS

Hearing loss was significantly associated with sarcopenia. Given the potential for worsened physical function in patients with hearing loss, hearing rehabilitation and interventions targeting sarcopenia should be considered.

KEYWORDS

hearing loss; sarcopenia; skeletal muscle mass; handgrip strength; body composition; bioelectrical impedance analysis; hearing aids

PP-436

Unusual Vascular Causes Of Tinnitus: Coexistence Of High Jugular Bulb And Lateralized Carotid Artery

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BACKGROUND & AIM

Pulsatile tinnitus may arise from various intracranial, intratemporal, cervical pathologies. High-riding jugular bulb (HJB), reported in 6–20% of the population, is a venous anatomical variant commonly observed on the right side due to dominant venous drainage. In rare cases, HJB may coexist with carotid artery abnormalities, potentially increasing symptom severity, surgical difficulty, and the risk of complications during temporal bone procedures. We report an female adult presenting with pulsatile tinnitus who was diagnosed with HJB associated with a lateralized carotid artery. This case highlights the clinical importance of recognizing concomitant vascular anomalies and aims to raise awareness among clinicians, radiologists.

MATERIAL & METHODS

A 27 years old female attended to our outpatient clinic with a complaint of right-sided pulsatile tinnitus for years. She had no hearing loss, vertigo or ear fullness. She mentioned that, applying pressure on the right side of her neck, decreased symptom severity significantly. Allergy, prior otological surgery, pregnancy, obesity, drug use, trauma, or history of co-morbid disease were not recorded. Otorhinolaryngological examination was normal. Pure-tone audiometry, tympanometry, temporal bone computed tomography (CT) and jugular venous color doppler ultrasonography (D-USG) were performed.

RESULTS

Pure-tone audiometry and tympanometry were within normal limits. CT demonstrated a right jugular bulb measured approximately 12 mm in maximal craniocaudal dimension and projected superiorly toward the hypotympanic region. The right jugular canal was wider than the left, and the bulb extended superior to the inferior margin of the internal auditory canal. Mild medial protrusion toward the middle ear cavity was observed without definite cortical erosion or frank dehiscence. The right carotid canal also appeared relatively lateralized compared with the left side. No soft tissue mass, destructive osseous lesion, aberrant internal carotid artery, persistent stapedial artery, glomus tympanicum lesion, sigmoid sinus diverticulum, or middle ear abnormality was identified. Jugular venous D-USG was unremarkable.

CONCLUSIONS

A HJB is commonly asymptomatic and is often detected incidentally during radiological examinations. However, it may occasionally present with pulsatile tinnitus due to its close relationship with adjacent middle and inner ear structures. It is rarely associated with carotid artery anomalies. In our case, in addition to a HJB, the carotid artery demonstrated a more lateral course, resulting in close proximity to the middle ear cavity. We suggest that this combined vascular variation may have contributed to the increased severity of symptoms. Such patients may also face a higher risk of complications during otologic surgery, requiring careful preoperative evaluation.

KEYWORDS

Pulsatile tinnitus, high-riding jugular bulb, carotid canal asymmetry, vascular temporal bone variants

PP-437

Essential Palatal Tremor With Lateralization Change Of Ear Clicking Following Botulinum Toxin Injection: A Case Report

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BACKGROUND & AIM

Essential palatal tremor (formerly termed palatal myoclonus) is a rare movement disorder characterized by rhythmic involuntary contractions of the soft palate, occasionally associated with ear clicking. Management is often challenging in refractory cases, with varying responses. We report a case highlighting the differential effect of botulinum toxin on symptom manifestation versus the underlying disorder.

MATERIAL & METHODS

A 52-year-old female presented with a 2-year history of palatal tremor associated with intermittent right-sided ear clicking and aural fullness, which resolved during sleep. Clinical examination revealed bilateral rhythmic contractions of the soft palate with

associated cervical muscle pulsations. The clicking was localized to the right ear and not audible to the examiner. MRI brain was unremarkable, supporting a diagnosis of essential palatal tremor.

The patient failed to respond to medical therapy including clonazepam, baclofen, and valproic acid. Botulinum toxin injection was performed under direct visualization into the right soft palate (4 injection sites, 8 IU per site). A contralateral injection was subsequently performed as part of planned management. A pre-treatment video documenting the palatal tremor is available.

RESULTS

Following unilateral right-sided botulinum toxin injection, the patient reported partial improvement in palatal tremor, which was also clinically evident as a reduction in tremor amplitude on the injected side compared to the contralateral side, followed by complete resolution of right-sided ear clicking. However, she subsequently developed new-onset left-sided clicking while bilateral palatal movements persisted on examination. A contralateral injection was then performed. At subsequent follow-up, only partial overall improvement was achieved, with ongoing bilateral palatal tremor and persistent symptoms continuing to significantly impact the patient's quality of life.

CONCLUSIONS

Botulinum toxin may reduce peripheral manifestations such as ear clicking in essential palatal tremor; however, treatment remains challenging with variable response. Persistence of bilateral palatal tremor with changing symptom lateralization highlights a dissociation between symptom expression and the underlying movement disorder, suggesting a central generator not fully addressed by peripheral treatment.

KEYWORDS

Essential Palatal Tremor, Palatal Myoclonus, Ear Clicking, Botulinum Toxin, Tinnitus, Movement Disorder

PP-438

MIDDLE EAR CARCINOMA. CASE REPORT

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BACKGROUND & AIM

Head and neck tumors account for about 3-5 percent of all tumors. Talking about middle ear adenocarcinoma or malignant tumors of the temporal bone, only isolated cases are described in the literature, most often the literature only talks about 0.1–0.3 percent of all head and neck tumors. Middle ear adenocarcinoma arises from the epithelium or glandular structures of the middle ear. It is worth noting that middle ear tumors can also be metastatic. Due to the rarity of the disease, there is no standardized treatment described in the literature, but surgery and radiation therapy are most often used.

MATERIAL & METHODS

Clinical case data were collected, systematized and compared with data described in the scientific literature.

RESULTS

A 79-year-old woman presented with right ear pain. During examination, a mass was observed behind the eardrum without signs of infiltration. CT and MRI of the temporal bones were ordered, which described nonspecific changes in the middle ear with bone erosion. There was no accumulation of contrast material that would suggest a tumor. It was decided to perform a revision of the middle ear and remove the mass. The removed tissues were sent for histological examination. The answer received was invasive spread of adenocarcinoma in the connective tissue, tumor invasion into bone tissue, destruction of bone tissue, perineural spread of tumor structures. Adenocarcinoma can be both primary in the middle ear (most likely) and metastatic. Clinical correlation is necessary. Radiological studies were performed to search for a possible primary tumor, but none was found. The patient was discussed in a multidisciplinary consultation, and radiation therapy was prescribed.

CONCLUSIONS

In conclusion, it is important to mention that middle ear adenocarcinoma does not have specific symptoms, so its diagnosis can take a long time. It is worth noting that it is very important to determine whether the disease is metastatic. Since this disease is very rare and only isolated cases prevail, there is a lack of clinical experience in its treatment. For the analysis, understanding and development of treatment recommendations for this disease, it is necessary to systematize multicenter data.

KEYWORDS

Middle ear adenokarcinoma, rare clinical case, otology, scull base tumors

PP-439

When Balance Fails: Vestibular Dysfunction Is Associated With Same-Level Falls In A National Cohort

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BACKGROUND & AIM

Falls are a leading cause of morbidity and healthcare utilization, particularly among older adults. Vestibular dysfunction (VD) and hearing loss (HL) are established contributors to fall risk; however, most prior studies focus on fall incidence rather than the mechanisms by which falls occur. Whether VD—alone or in combination with HL—is associated with distinct patterns of fall mechanism remains unclear. We evaluated the association between VD and fall mechanism in a national inpatient cohort.

MATERIAL & METHODS

We performed a retrospective cross-sectional study of adult fall-related hospitalizations in the 2018–2022 Healthcare Cost and Utilization Project National Inpatient Sample. Falls were identified using ICD-10 external cause codes W00–W19. VD (H81., H83.0, H83.2, G43.B*, R42) and HL (H90–H91) were identified using diagnosis codes. Fall mechanisms and discharge disposition were compared across groups. Multivariable logistic regression adjusted for age, sex, and race.

RESULTS

Among 7,315,022 fall-related admissions, 128,335 (1.8%) had VD. VD patients were more often female (66.5% vs 57.3%). Same-level falls (W18) were more frequent in VD (33.6% vs 26.5%), corresponding to increased adjusted odds (aOR 1.36, 95% CI 1.35–1.38). VD was also associated with higher odds of unspecified falls (W19) (aOR 1.16, 95% CI 1.15–1.18) and lower odds of environmental or elevation-related falls (aOR 0.66, 95% CI 0.66–0.67) (all p<0.001). A stepwise increase in same-level falls was observed from patients with neither condition (26.4%) to HL alone (28.0%) and VD with or without HL (33.6%). VD was independently associated with increased likelihood of non-routine discharge, including skilled nursing or facility care (aOR 1.62, 95% CI 1.60–1.64).

CONCLUSIONS

VD is associated with a distinct fall phenotype characterized by same-level and unexplained falls, consistent with intrinsic postural instability rather than environmental hazard exposure. HL alone demonstrates a smaller effect, while coexisting sensory deficits show a graded relationship with fall mechanism. These findings support targeted vestibular assessment and rehabilitation as key components of fall prevention.

KEYWORDS

Vestibular Dysfunction, Hearing Loss, Fall Mechanism

PP-440

Analysis Of Otological And Sinus Problems In Divers

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BACKGROUND & AIM

Divers Alert Network Europe (DAN Europe) is an international non-profit organization providing 24/7 emergency medical assistance to divers and promoting diving safety through research and education.

MATERIAL & METHODS

Between January 1st, 2009 and December 31st, 2025, DAN Europe managed approximately 16,000 diving-related incidents. Among these, 4,112 (≈25.7%) involved Otorhinolaryngological (ENT) conditions.

Otological disorders represented 60–70% of all ENT cases, with middle ear barotrauma being the most frequently reported condition, followed by sinus barotrauma.

When related to the total number of assisted cases, ENT complications represent one of the leading categories of diving-related morbidity.

RESULTS

The estimated probability of otological and sinus barotrauma (pOSBT) within the observed incident cohort confirms barotrauma as the predominant ENT risk in recreational diving.

Selected severe cases included sinus barotrauma complicated by pneumocephalus and valve-type tympanic membrane perforation, both managed through early telemedical triage and specialist referral.

CONCLUSIONS

These data confirm that otological and sinus barotrauma represent the most frequent ENT complications in diving and highlight the importance of early specialist evaluation and structured telemedical support systems.

KEYWORDS

Middle ear barotrauma, sinus barotrauma, Dan Europe, Diving

PP-441

Massive Congenital Petrous Bone Cholesteatoma With Right Carotid Canal Dehiscence: A Rare Case Report

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BACKGROUND & AIM

Congenital cholesteatomas are generally considered to be slow-growing, benign lesions confined to the middle ear cleft. However, they can rarely extend into the petrous apex, causing massive bone destruction that involves critical structures such as the internal carotid artery (ICA) and cranial nerves. The aim of this case report is to present a rare and aggressive case of congenital petrous bone cholesteatoma causing carotid canal dehiscence and to discuss the diagnostic and surgical challenges in its management.

MATERIAL & METHODS

A 25-year-old male patient presented with a one-year history of profound mixed hearing loss in the right ear and concurrent House-Brackmann Grade II peripheral facial nerve palsy. The patient had no previous history of otologic surgery or chronic otorrhea, and bilateral tympanic membranes were intact upon otoscopic examination. Diagnostic evaluation included high-resolution computed tomography (HRCT) and magnetic resonance imaging (MRI).

RESULTS

Imaging revealed a destructive mass in the right petrous apex. The lesion caused cochlear erosion, eroded the carotid canal resulting in approximately 50% encasement of the internal carotid artery (ICA), formed a labyrinthine fistula, and eroded the facial nerve canal. The patient underwent radical excision of the petrous apex cholesteatoma via a transotic approach, combined with a right canal wall down (CWD) mastoidectomy and cul-de-sac closure under intraoperative facial nerve neuromonitoring. Histopathological examination confirmed the diagnosis of cholesteatoma.

CONCLUSIONS

Congenital cholesteatomas do not always follow a benign clinical course; even though rarely, they can exhibit massive petrous bone involvement and aggressive vascular invasion. Detailed preoperative radiological mapping and radical surgical excision are essential to safely eradicate the disease and prevent major neurovascular complications.

KEYWORDS

Petrous Bone Cholesteatoma, Congenital Cholesteatoma, Carotid Canal Dehiscence, Facial Paralysis, Transotic Approach

PP-442

A Diagnostic Pitfall: Giant Mastoid-Type Congenital Cholesteatoma Mimicking Glomus Jugulare In The Fourth Decade Of Life

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BACKGROUND & AIM

Congenital cholesteatoma (CC) is a slow-growing keratinizing mass arising from ectodermal remnants trapped within the temporal bone during embryological development. Although typically diagnosed in childhood due to middle ear involvement, mastoid-type variants can remain clinically silent and progress undiagnosed until adulthood. When presenting in the fourth decade, mastoid CC can present a complex clinical picture characterized by extensive bone destruction, often mimicking skull base pathologies.

MATERIAL & METHODS

A 39-year-old male presented with right-sided pulsatile tinnitus. Examination showed posterior external auditory canal destruction with visible pulsations, alongside an intact tympanic membrane. Initial external CT suggested a glomus jugulare tumor. However, our re-evaluation revealed a distinct cleavage plane from the jugular foramen, and subsequent DWI-MRI confirmed a congenital cholesteatoma. Pre-operative hearing was normal (16/10 dB). A right canal wall down mastoidectomy was performed. Intraoperatively, a massive lesion extended from the digastric ridge to the sigmoid sinus, eroding the facial canal. Following en-bloc excision, residual epithelium over the sigmoid sinus and exposed facial nerve was meticulously cleared via micro-dissection. Nerve integrity was confirmed with intraoperative monitoring. Post-operatively, facial nerve function remained completely intact (House-Brackmann Grade I) and hearing was preserved (35/15 dB) despite the extensive local destruction.

RESULTS

This case highlights the diagnostic challenges of a congenital lesion presenting in the fourth decade. The destruction of the posterior EAC wall and the resultant pulsatility were caused by the transmission of sigmoid sinus pulsations through the cholesteatoma matrix, perfectly simulating a vascular tumor. Despite extensive erosion of the facial canal and mastoid bone, meticulous micro-dissection and en-bloc excision ensured that facial nerve function remained completely intact post-operatively. Furthermore, the fact that hearing thresholds were only minimally affected (from 16/10 dB to 35/15 dB) despite the radical removal of such a high-volume, destructive lesion, demonstrates that functional outcomes can be optimized even in the most challenging cases through precise surgical planning and delicate technique.

CONCLUSIONS

Congenital cholesteatoma must be included in the differential diagnosis of pulsatile tinnitus and EAC pulsatility in the fourth decade, especially when CT shows a well-circumscribed mass.

Normal hearing and an intact tympanic membrane do not rule out extensive mastoid destruction.

DWI-MRI is a vital tool in the differential diagnosis of skull base lesions to prevent diagnostic pitfalls.

Despite severe exposure of critical anatomical structures (facial nerve, sigmoid sinus), a careful approach adhering to micro-surgical principles can eliminate the risk of post-operative facial paralysis and ensure the preservation of hearing function even in extensive cases.

KEYWORDS

Congenital cholesteatoma; facial nerve; glomus jugulare tumor; mastoidectomy; pulsatile tinnitus.

PP-443

Management Of Pediatric Traumatic Facial Nerve Paralysis: Transitioning From Rigid Protocols To A Dynamic Management Algorithm

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BACKGROUND & AIM

Traditional protocols for pediatric traumatic facial nerve paralysis (FNP) often rely on adult electrophysiological criteria, which are frequently unreliable in early childhood and pre-adolescence. This study aims to challenge the conventional "wait-and-see" approach by proposing a dynamic management algorithm. We analyze three distinct clinical scenarios to demonstrate that intervention triggers should be based on pathology-specific clinical progression and secondary pressure management rather than rigid numerical data, especially in patients where standard objective tests reach their limits.

MATERIAL & METHODS

Three pediatric cases (ages 2, 10, and 11) were analyzed retrospectively. Beyond standard steroid therapy, we implemented a "Tailored Intervention Model." Case 1 focused on secondary pressure relief via ventilation tube placement for progressive paralysis associated with hemotympanum. Case 2 followed the surgical window for early decompression in a transverse fracture with confirmed axonal loss. Case 3 addressed the diagnostic "grey zone" of early childhood; a 14-day clinical non-responsiveness trial was utilized as a definitive surgical indicator for transmastoid decompression. Outcomes were evaluated using the House-Brackmann (HB) scale over a 6-month follow-up period.

RESULTS

In Case 1, alleviating intratympanic pressure resulted in rapid improvement from HB Grade 5 to Grade 3, suggesting that procedural intervention can prevent permanent axonal loss in longitudinal fractures. Case 2 confirmed that early surgery remains superior for nerve continuity in transverse fractures with total degeneration. Case 3 demonstrated that in the absence of reliable electrophysiology, a 14-day persistent HB Grade 4 paralysis is a valid indicator for successful surgical salvage. All patients achieved significant functional recovery, indicating that clinical failure of medical therapy for 14 days is a reliable surrogate for surgical decision-making when objective tests are limited.

CONCLUSIONS

Our study contributes to the literature by emphasizing that pediatric FNP management must evolve from rigid protocols to dynamic algorithms. We propose that secondary middle ear pressure management is a vital adjunct to steroid therapy in specific fracture patterns. Furthermore, in young children with unreliable EMG, we define a 14-day clinical non-responsiveness period as a definitive surgical trigger. This tailored approach ensures that critical surgical windows are not missed, balancing surgical risks with the necessity of functional preservation in the pediatric population.

KEYWORDS

Pediatric Facial Paralysis, Secondary Pressure Management, Surgical Timing, 14-Day Rule, Otology Trauma.

PP-444

Functional Facial Paralysis Presenting As Suspected Stroke: A Diagnostic Challenge

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BACKGROUND & AIM

Acute facial paralysis with hemiparesis typically raises clinical suspicion for cerebrovascular events or severe peripheral neuropathies. However, Functional Neurological Disorder (FND) can closely mimic organic neurological conditions, leading to extensive diagnostic investigations. This case report aims to highlight the diagnostic challenge of FND presenting as acute facial paralysis and the importance of positive clinical signs in avoiding unnecessary interventions.

MATERIAL & METHODS

A 29-year-old woman presented with left facial numbness, mouth drooping, difficulty closing her left eye, intermittent tic-like movements, and left extremity paresthesia. Physical examination revealed complete sparing of the forehead musculature. Initially suspecting an acute cerebrovascular event, she was hospitalized in the neurology department for 11 days. As comprehensive neuroimaging and facial electromyography (EMG) were strictly within normal limits, a psychiatric consultation

was obtained, suggesting the possibility of conversion disorder. Due to persistent symptoms, she was referred to the Physical Medicine and Rehabilitation clinic. Examination showed normal extremity muscle strength, normoactive deep tendon reflexes, and subjective left-sided sensory loss. Notably, during this clinical evaluation, abnormal facial movements nearly resolved when the patient was cognitively distracted. A rehabilitation program comprising facial exercises and electrotherapy was subsequently initiated.

RESULTS

The primary clinical outcome was observed shortly after the first rehabilitation session, when the patient experienced a dramatic exacerbation of facial symptoms and extremity paresthesia, prompting an emergency department visit. Urgent neuroimaging again showed no acute ischemia. While extremity paresthesia resolved rapidly, facial symptoms worsened, leading to the discontinuation of rehabilitation sessions. Given the symptom variability, marked improvement during cognitive distraction, and paradoxical exacerbation following focused physical interventions, the preliminary suspicion of a functional etiology was strongly supported. Ultimately, she was formally diagnosed with FND manifesting as functional facial paralysis.

CONCLUSIONS

FND must be considered in the differential diagnosis of atypical facial paralysis, particularly when electrophysiological and neuroimaging studies are normal. Positive clinical findings, such as symptom variability and somatically focused exacerbations, provide critical diagnostic clues. Increased awareness of functional facial paralysis is essential for multidisciplinary teams, including otolaryngologists and rehabilitation specialists, to prevent over-investigation.

KEYWORDS

Functional neurological disorder, Facial paralysis, Diagnostic errors

PP-445

A Novel Inner Ear Manifestation In Alagille Syndrome: Fistula Between The Jugular Bulb And Lateral Canal Ampulla

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BACKGROUND & AIM

Alagille syndrome (ALGS) is a rare autosomal-dominant disorder that frequently involves the inner ear, most commonly affecting the posterior semicircular canal. Multiple studies in the literature emphasize that the lateral semicircular canal is typically spared. This report challenges this established paradigm by presenting a unique case demonstrating the first suspected fistula between the jugular bulb and the lateral semicircular canal ampulla in ALGS.

MATERIAL & METHODS

A 12-year-old male diagnosed with ALGS presented to the otolaryngology clinic with bilateral hearing loss, predominantly on the left side, without vertigo or tinnitus. His medical history included surgery for cholestatic liver disease and peripheral pulmonary stenosis. Clinical evaluation comprised otomicroscopy, pure-tone audiometry, tympanometry, video head impulse test (vHIT), and temporal bone high-resolution computed tomography (HRCT) to assess anatomical and functional audiovestibular correlations. Otomicroscopy revealed right-sided adhesive otitis media and a left-sided Sade 2 pars tensa retraction without ossicular erosion.

RESULTS

High-resolution computed tomography uniquely demonstrated a suspected left-sided fistula formation between the jugular bulb and the lateral semicircular canal ampulla, alongside bilateral posterior semicircular canal aplasia. Audiologically, pure-tone audiometry showed bilateral conductive hearing loss; this was mild on the right side and mild-to-moderate on the left side, characterized by a sudden drop in the lower frequencies. In the left ear, despite the theoretically large third-window effect expected from the fistula, supranormal bone conduction thresholds were absent. This expected audiological finding was effectively masked by the concurrent left-sided retraction pocket, which increased tympano-ossicular stiffness and dampened the altered inner ear hydrodynamics. Furthermore, this middle ear pathology prevented the proper execution of vestibular evoked myogenic potential (VEMP) testing. Video head impulse test (vHIT) correlated with the anatomical anomalies, revealing decreased gains and overt saccades in the bilateral posterior canals.

CONCLUSIONS

This case significantly expands the known inner ear manifestations of ALGS by presenting the first suspected lateral canal ampulla-jugular bulb fistula, proving that the lateral canal can indeed be involved. Additionally, it highlights an important secondary biomechanical interaction where concurrent middle ear pathologies can physically mask classic third-window audiological findings.

KEYWORDS

Alagille syndrome, Jugular bulb, Semicircular canal fistula ,Third-window phenomenon, Inner ear malformations

PP-446

Giant Arachnoid Granulation Leading To Lateral Sinus Stenosis And Pulsatile Tympanic Membrane

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BACKGROUND & AIM

Pulsatile tinnitus (PT) is typically associated with vascular tumors or venous anomalies. While a pulsating tympanic membrane (TM) usually suggests a retrotympanic mass, it may rarely occur in the absence of one due to transmitted vascular or cerebrospinal fluid (CSF) pressures.

MATERIAL & METHODS

A 78-year-old male presented with worsening left-sided PT and a visibly pulsating TM. Notably, there was no retro tympanic mass, and symptoms ceased during jugular compression or the Valsalva maneuver. Imaging revealed a giant arachnoid granulation (AG) causing 80–90% stenosis of the left lateral sinus and associated dehiscence of the sigmoid sinus wall. Interventional balloon dilation provided transient relief, confirming the mechanical etiology. The patient underwent successful venous stenting, resulting in immediate and sustained resolution of the tinnitus, although diminished TM pulsations persisted postoperatively.

RESULTS

Arachnoid granulations are CSF-resorbing projections into the dural sinuses. When "giant," they can cause bone erosion and venous stenosis. We propose a dual pathophysiological mechanism:

- Tinnitus Generation: High-velocity turbulent flow through the stenotic segment, combined with sigmoid sinus dehiscence, creates an acoustic bridge to the middle ear.
- TM Pulsation: The bony dehiscence allows the transmission of CSF pressure pulses from the AG directly to a fragile TM.
- The resolution of PT following stenting—despite persistent TM pulsations—suggests that venous turbulence, rather than the dehiscence alone, was the primary symptomatic driver.

CONCLUSIONS

Lateral sinus stenosis secondary to giant AGs is a rare but treatable cause of PT. This case highlights that a pulsating TM does not always indicate a middle ear tumor. Venous stenting is an effective intervention to restore laminar flow and resolve symptoms.

KEYWORDS

pulsatile tinnitus, lateral sinus, arachnoid granulation, stenosis, venous stenting

PP-447

At Risk In The Quarry: Assessing Knowledge, Attitudes, And Practices Related To Noise-Induced Hearing Loss

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BACKGROUND & AIM

Noise-induced hearing loss (NIHL) is a significant occupational health concern, especially in industries with prolonged exposure to high noise levels such as quarrying. This study aimed to assess the knowledge, attitudes, and practices (KAP) related to NIHL and its prevention among quarry workers in a single-site quarry in Southwest Malaysia.

MATERIAL & METHODS

A cross-sectional study was conducted using a structured questionnaire to collect information on demographic characteristics, awareness of noise hazards, attitudes toward hearing conservation, and use of hearing protection devices. Descriptive statistical analysis was employed to summarize the findings.

RESULTS

The findings revealed gaps in workers' knowledge and inconsistent use of hearing protection, despite moderate awareness of the harmful effects of occupational noise. Overall, workers demonstrated positive attitudes toward hearing conservation, however, some showed reluctance to adopt preventive practices.

CONCLUSIONS

The study highlights the need for targeted occupational health interventions, including educational programs and stronger enforcement of hearing conservation measures. Addressing these gaps may improve protective behaviors and reduce the burden of NIHL among quarry workers, providing valuable insights for policymakers and occupational health practitioners.

KEYWORDS

Hearing Loss, Noise-Induced; Health Knowledge, Attitudes, Practice, Noise, Occupational;, Hearing Protective Devices

PP-448

Congenital Petrous Apex Cholesteatoma Extending To The Internal Auditory Canal Presenting With Facial Paralysis: A Surgical Case Report

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BACKGROUND & AIM

Cholesteatoma is a locally destructive lesion of the temporal bone that may lead to severe complications, including facial nerve paralysis and intracranial extension. Petrous apex involvement with extension to the internal auditory canal is rare and represents advanced disease.

We present a case of extensive congenital cholesteatoma involving the petrous apex and internal auditory canal presenting with peripheral facial paralysis.

MATERIAL & METHODS

A 30-year-old female presented with recurrent vertigo and right-sided grade V peripheral facial paralysis unresponsive to corticosteroids. Audiometry showed severe right-sided hearing loss (air conduction>110 dB, bone conduction: 65 dB) with longstanding right-sided impairment since childhood. The patient was referred to our clinic.

Computed tomography demonstrated a destructive soft tissue lesion extending from the right petrous apex to the internal auditory canal, with erosion of the tegmen tympani and mastoid air cells. Diffusion-weighted MRI showed diffusion restriction consistent with cholesteatoma.

Surgery was performed via a transmastoid approach. The sigmoid sinus, dural plates, and sinodural angle were exposed. The facial nerve was identified and cholesteatoma matrix dissected along mastoid, tympanic, and labyrinthine segments. Total labyrinthectomy was performed with drilling of all semicircular canals to access the internal auditory canal. The lesion was removed up to the fundus. Dural invasion and intraoperative CSF leakage were observed and managed with cul-de-sac closure.

RESULTS

Histopathological examination confirmed the diagnosis of cholesteatoma.Complete surgical excision of the cholesteatoma was achieved.Postoperative recovery was uneventful apart from intraoperative cerebrospinal fluid leakage, which was successfully managed. At 6-month follow-up, facial nerve function improved from House-Brackmann grade V to grade IV. No evidence of residual or recurrent disease was observed.

CONCLUSIONS

Cholesteatoma extending to the petrous apex and internal auditory canal represents advanced and aggressive disease that may present with facial paralysis, hearing loss and vestibular symptoms.Extensive surgical approaches, including total labyrinthectomy, may be required for complete disease eradication.Early recognition and timely intervention are crucial to prevent irreversible neurological deficits, although functional recovery of the facial nerve may be limited.

KEYWORDS

Congenital cholesteatoma , Petrous apex congenital cholesteatoma, Facial paralysis, Internal auditory canal cholesteatoma, Total labyrinthectomy

PP-449

PREDICTIVE FACTORS OF GOOD RESULTS IN OSSICULOPLASTY

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BACKGROUND & AIM

Ossiculoplasty is a surgical procedure aimed to restoring the continuity of the ossicular chain of the middle ear, and subsequently, improving hearing. Despite advances in surgical techniques and the development of biomaterials, postoperative hearing outcomes can vary significantly from one patient to another. In order to optimize results, the identification of predictive factors of success is essential.

The purpose of our work is to identify the predictive factors of success of different types of ossiculoplasties. We also aim to identify the epidemiological, clinical, and investigation data of patients who have undergone ossiculoplasty.

MATERIAL & METHODS

We conducted a prospective, descriptive study in two ENT departments of both two tertiary care hospitals, involving patients who underwent type II and III ossiculoplasty between January 2020 and July 2024. 106 patients were included. Surgical interventions were performed using autologous materials (remodelled incus, cartilage, and cortical bone), or titanium prostheses (PORP) or (TORP), Patients were followed up postoperatively for 6 to 12 months. We evaluated the air and bone conduction thresholds, air bone Gap ABG, hearing gains, the middle ear risk index (MERI), the OOPS index, and other factors to study their predictive role in the outcomes of ossiculoplasties

RESULTS

Causes of disease was chronic otitis media (93% of cases). Trauma (6.6%). The incus was the most frequently affected ossicle (91.5%). The stapes less often involved (46.22%). In 27.4% of cases, the entire ossicular chain was affected. For reconstruction, 56.6% of patients had autologous grafts, while 43.4% received prostheses (PORP: 17.92% or TORP: 25.47%) prostheses. Regardless of the surgical technique used, we observed an average improvement in the postoperative ABG 15.5 dB (±3.28 dB). Autografts success rate of 80.3%, higher than that of synthetic prostheses (71.74%). the canal wall up technique give better hearing outcomes than the canal wall down technique. several predictive factors for the success of ossiculoplasties: age (≤ 55 years), no cholesteatoma, preoperative ABG ≤ 35 dB, preservation of the stapes, and the type of tympanoplasty. Furthermore, the MERI and OOPS indices proved to be complementary prognostic tools. Patients with a low risk had significantly better outcomes

CONCLUSIONS

Ossiculoplasty, a crucial step in tympanoplasty to restore hearing, requires the identification of predictive factors of success. Our results highlight that the initial state of the middle ear and the surgical techniques used significantly influence postoperative hearing outcomes

KEYWORDS

Ossiculoplasty; PORP; TORP; cortical bone; titanium prosthesis. Air bone Gap, hearing

PP-450

Synchrotron-Based Deep Learning Network Of The Inner Ear: Development And Expert Validation

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BACKGROUND & AIM

The inner ear exhibits considerable morphological variability across individuals, which has significant clinical implications. Pre-operative computed tomography (CT) is routinely used to identify malformations and tailor surgical interventions for hearing loss, including cochlear implants (CIs). However, segmentation of CT scans remains challenging since manual measurement is time-consuming, susceptible to inter-observer variability, and limited by scan resolution. Automated segmentation could enhance measurement precision for CI planning. Previous automated approaches relied on small micro-CT datasets, limiting generalizability. The objective of this work was to develop and externally validate a deep learning network for automatic inner ear segmentation in various clinical CT scans.

MATERIAL & METHODS

A deep learning segmentation network was developed using 100 cadaveric specimens scanned with synchrotron-radiation phase-contrast imaging (SR-PCI) and clinical CT scanners. Multiple acquisitions, protocols, and augmentations yielded 4,784 paired SR-PCI and clinical three-dimensional datasets for the deep learning model training. Network performance was assessed using the Dice score coefficient, maximum and average Hausdorff distance on an unseen dataset and externally validated against manual segmentations from seven domain experts, the mean expert performance, and a simultaneous truth and performance level (STAPLE) consensus segmentation. Two-sided Wilcoxon signed rank tests were performed comparing the network, average expert and STAPLE segmentations. A Kruskal-Wallis test compared metrics across individual experts. All p-values were adjusted using the Benjamini-Hochberg false discovery rate.

RESULTS

The network pipeline significantly outperformed individual expert segmentations, the average of the expert segmentations, and the STAPLE consensus segmentation. Compared to SR-PCI data, the network achieved a mean Dice similarity coefficient of 0.922, a maximum absolute Hausdorff distance of 0.329 mm, and an average Hausdorff distance of 0.006 mm on cone-beam CT and helical CT with resolutions as low as 625 µm.

CONCLUSIONS

This is the first automated inner ear segmentation algorithm to outperform domain experts, establishing a new clinical gold standard; showcasing deep learning model's ability to extract patient-specific information from imaging, supporting the field's shift towards precision medicine.

KEYWORDS

Deep Learning; Automatic Segmentation; Synchrotron Imaging

PP-451

Unilateral Hearing Loss In A Child With Stapes Malformation- Case Report

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BACKGROUND & AIM

Unilateral hearing loss (UHL) in children was previously underestimated and it was believed that one ear would provide sufficient hearing. UHL in children is primarily caused by congenital structural anomalies of the ear, congenital cytomegalovirus infection, cochlear nerve deficiency, or acquired trauma. The potential impact observed in children affected with UHL include fatigue, impaired school performance, quality of life and parental stress. Early interventions during the sensitive period of central auditory system development can lead to cognitive, academic, and psychosocial development comparable to that of normally hearing children.

MATERIAL & METHODS

We present 7-year- old male patient who was referred by a phoniatrician with UHL. He was followed up after failing newborn hearing screening in his right ear. Preoperative pure-tone average (500-4000 Hz) showed a normal hearing in his left ear and a moderate hearing loss in his right ear where average air conduction threshold was 63.75 dB and average bone conduction threshold was 8.75 dB. The patient underwent an exploratory tympanotomy in September 2025.

RESULTS

A malformation of the stapes was confirmed and stapedotomy was performed under the general anesthesia. Postoperative pure-tone average (500-4000 Hz) showed significant improvement in his right ear and average air conduction threshold is 25 dB and average bone conduction threshold is 5 dB and further follow-up is planned.

CONCLUSIONS

Isolated stapes malformation is a relatively rare cause of congenital UHL. Current studies confirm that early diagnosis and intervention in children with UHL have a significant impact on a child's educational success and social relationships. Careful evaluation and decision on appropriate treatment of children with UHL supports the development of new guidelines, with respect to the fact that hearing loss may often initially start as unilateral and progress to bilateral.

KEYWORDS

Unilateral hearing loss, stapes malformation, stapedotomy

PP-452

When Two Is Worse Than One: Internal Auditory Canal Duplication As A Rare Cause Of Congenital Deafness. A Case Report.

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BACKGROUND & AIM

Duplication of the internal auditory canal (DIAC) constitutes an exceptionally rare congenital malformation, with a documented incidence of 0.019%. It is unilateral in the vast majority of cases and is clinically characterized by profound or complete sensorineural hearing loss (CSNHL) resulting from aplasia or hypoplasia of the cochlear nerve (CN), while typically preserving the function of the ipsilateral facial nerve. Milder anatomical abnormalities in the contralateral ear are a frequent finding. We present a case of unilateral DIAC, describing its specific clinical and radiological features, and conduct a review of the available literature on the subject.

MATERIAL & METHODS

This case report describes a 26-year-old male presenting with unilateral sensorineural hearing loss since birth. No facial palsy. Otoscopic examination was normal. Pure-tone audiometry revealed right ear CSNHL and normal hearing in the left ear. Computed tomography imaging of temporal bones evidenced right-ear DIAC, characterized by a superior segment of preserved diameter and a narrowed, stenotic inferior component. 3D high-resolution magnetic resonance imaging (MRI) confirmed right-ear DIAC, with the presence of a normal-caliber facial nerve and superior vestibular nerve in the upper compartment. In the lower, more stenotic compartment, it showed a hypoplastic inferior vestibular nerve and the absence of

the CN. In the left ear, the MRI showed hypertrophy of Bill's bar, displacing the facial nerve anteriorly without affecting its diameter. Clinical workup was completed with audiological assessments. Auditory Brainstem Response results were consistent with cochlear nerve agenesis, while vestibular functional tests revealed right posterior semicircular canal hypofunction.

RESULTS

No treatment was proposed due to long-standing deafness and CN aplasia. Clinical follow-up was scheduled. Vestibular hypofunction was asymptomatic. No progression, contralateral hearing loss, or facial/vestibular complications were observed.

CONCLUSIONS

This rare case adds to the just over 60 cases reported in the literature. In DIAC, stenosis usually follows CN agenesis, which complicates treatment. While literature exists regarding cochlear implants in cases of CN aplasia, clinical findings are heterogeneous. A comprehensive medical history alongside high-resolution radiological imaging is highly recommended in patients with congenital CSNHL for a correct differential diagnosis and potential therapeutic options.

KEYWORDS

internal auditory canal duplication, congenital, aplasia, agenesis

PP-453

When A Major Sigmoid Sinus Protrusion Leads To Cholesteatoma Formation

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BACKGROUND & AIM

Middle ear cholesteatoma is a chronic destructive disease whose pathophysiology most commonly involves tympanic membrane retraction secondary to chronic Eustachian tube dysfunction, associated to varying degrees with obliteration of the adjacent air spaces, particularly the mastoid cavity. This results in a negative pressure phenomenon caused by hypoventilation and reduced middle ear air reserve.

Through this work, we present an exceptional case of a major sigmoid sinus protrusion leading to cholesteatoma formation, while highlighting the clinical, radiological, and surgical particularities of this rare entity.

MATERIAL & METHODS

We report the case of a 12-year-old child with no significant medical history, presenting with chronic unilateral foul-smelling right otorrhea evolving over approximately two years, without any other associated symptoms. In particular, the child did not report pulsatile tinnitus.

Clinical examination, including microscopic otoscopy, high-resolution temporal bone CT imaging, audiometry, and appropriate surgical management, was performed.

RESULTS

Microscopic otoscopic examination of the right ear after suctioning revealed a ruptured posterosuperior marginal retraction pocket containing pearly cholesteatomatous debris, while the left ear was normal.

Audiometry showed moderate conductive hearing loss.

High-resolution temporal bone CT demonstrated a markedly anteriorized sigmoid sinus within the mastoid antrum, located only 2 mm from the external auditory canal wall, associated with severe mastoid hypopneumatization. Axial images revealed marked thinning of the sigmoid plate, corresponding to an Irugu–Singh grade III protrusion. The contralateral mastoid was normally pneumatized.

Surgery consisted of a limited mastoidectomy restricted to an antro-atticotomy because the protruding sigmoid sinus occupied most of the mastoid cavity and significantly reduced the operative space.

Cholesteatoma excision was particularly challenging and required meticulous dissection near critical anatomical structures. Nevertheless, complete removal was achieved without vascular, labyrinthine, or facial nerve injury.

Postoperative recovery was uneventful and favorable.

CONCLUSIONS

Major sigmoid sinus protrusion is a rare anatomical anomaly that may contribute to cholesteatoma formation by reducing mastoid aeration and promoting tympanic membrane retraction phenomena. Its presence also represents a significant surgical challenge because of the reduced operative space and the high risk of hemorrhagic complications or injury to adjacent anatomical structures.

This condition requires thorough preoperative radiological assessment, an adapted surgical strategy, and extreme intraoperative caution to ensure effective cholesteatoma removal while minimizing morbidity.

KEYWORDS

Cholesteatoma, Sigmoid sinus protrusion, Mastoid, Surgery

PP-454

Toxicity Of Tyrosine Kinase Inhibitors In Non-Small-Cell Lung Cancer: A Bibliometric Perspective (2009–2025)

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BACKGROUND & AIM

Despite their therapeutic efficacy, anticancer agents are frequently associated with significant toxicity, which can limit treatment adherence, compromise quality of life, and necessitate dose modifications or discontinuation. The aim of this bibliometric analysis is to identify research trends, most relevant publications, key contributors, and emerging hotspots in the field of tyrosine kinase inhibitors (TKIs) for the treatment of non-small cell lung cancer (NSCLC), with particular emphasis on EGFR-targeted therapies and associated treatment-related toxicities.

MATERIAL & METHODS

A literature search was conducted in the Web of Science Core Collection database on June 28, 2025. Bibliometric and scientometric analyses were performed using the Bibliometrix R-package along with the Biblioshiny interface.

RESULTS

Results: The annual scientific output on TKIs and NSCLC has steadily increased from 2009 to 2025. China leads with 580 publications, followed by Japan (381) and the USA (358). Harvard University ranks first among institutions (n = 46), followed by its medical affiliates, Pfizer, and the University of California System. Lung Cancer published the most papers (n = 18), while the Journal of Clinical Oncology had the highest impact factor (IF = 41.9). Zhang L. (13 papers) and Cho B.C. (10 papers) are the most prolific authors, particularly in studies on TKI-related toxicity in NSCLC. The most frequent keywords were “non-small cell lung cancer” (32%) and “Osimertinib” (23%), reflecting a strong focus on targeted therapy and third-generation TKIs.

CONCLUSIONS

Conclusions: This analysis underscores the need for continued research and clinical attention to potential treatment related effects in order to optimize patient safety and therapeutic outcomes.

KEYWORDS

Keywords: non-small cellKeywords: non-small cell lung cancer, tyrosine kinase inhibitors (TKIs), toxicity, bibliometric analysis lung cancer, tyrosine kinase inhibitors (TKIs), toxicity, bibliometric analysis

PP-455

Sensorineural Hearing Loss In Chronic Kidney Disease: The Impact Of Dialysis A Narrative Review

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BACKGROUND & AIM

Sensorineural hearing loss (SNHL) is a prevalent condition that significantly affects communication and quality of life. Chronic kidney disease (CKD) is a systemic disorder associated with metabolic, vascular, and toxic alterations that may impact the auditory system. Structural and functional similarities between the cochlea and kidney suggest a shared pathophysiological basis. Proposed mechanisms include uremic toxicity, electrolyte imbalance, and microvascular damage. Dialysis has been suggested as an additional risk factor for SNHL, although evidence remains inconsistent. This study aimed to review and synthesize available evidence on SNHL in CKD patients, with particular emphasis on the potential impact of dialysis.

MATERIAL & METHODS

A narrative review was conducted using a structured search of the literature published within the last 10 years. Database used was PubMed and the terms used were : sensorineural hearing loss, chronic kidney disease, dialysis, and sudden hearing loss.

Observational studies, cohort studies, and retrospective analyses evaluating auditory outcomes in CKD patients were included. Studies assessing patients undergoing hemodialysis or peritoneal dialysis, as well as those not receiving renal replacement therapy, were considered.

Data extracted included study design, sample size, patient demographics, comorbidities, type of dialysis, treatment approaches, and hearing outcomes such as pure tone audiometry thresholds and recovery rates.

Due to heterogeneity in study design, diagnostic criteria, and outcome measures, a qualitative synthesis of the evidence was performed to identify trends and associations.

RESULTS

The reviewed studies consistently demonstrated a higher prevalence of SNHL among patients with CKD, particularly in advanced stages. Large cohort data involving over 18,000 patients with end-stage renal disease showed a significantly increased incidence of SNHL compared to controls, with a higher risk observed in peritoneal dialysis than in hemodialysis.

Retrospective studies of dialysis patients with sudden SNHL reported severe baseline hearing loss, with mean pure tone averages exceeding 80 dB in some cases. Treatment outcomes were variable, with partial or limited recovery following systemic or intratympanic steroid therapy.

Common comorbidities included diabetes mellitus, hypertension, and cardiovascular disease. Proposed mechanisms linking CKD and SNHL include uremic toxin accumulation, electrolyte imbalance, osmotic shifts during dialysis, and microvascular compromise. However, findings were heterogeneous, with some studies showing no significant differences between dialyzed and non-dialyzed patients.

CONCLUSIONS

SNHL appears to be more frequent in patients with CKD, particularly in advanced stages of disease. Dialysis may contribute to auditory dysfunction, with some evidence suggesting a higher risk in peritoneal dialysis; however, findings remain inconsistent. The relationship between CKD, dialysis, and hearing loss is likely multifactorial and influenced by comorbidities and disease severity.

Current evidence is limited by heterogeneity in study design and outcome assessment. Further well-designed prospective studies are needed to clarify this association and to support the development of screening and early detection strategies for hearing loss in patients with CKD.

KEYWORDS

Sensorineural hearing loss; chronic kidney disease; dialysis; narrative review

PP-456

Postauricular Fistulas After Multiple Surgical Interventions. Technique Using Local Skin Flap Transposition.

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BACKGROUND & AIM

Preauricular fistulas are quite a rare pathology. Multiply-operated fistulas are accompanied not only by inflammatory processes but also by severe scarring of surrounding tissues, which makes surgical closure technically challenging due to a shortage of viable tissue and impairs post-operative healing.

Aim: To demonstrate techniques for closing post-auricular fistulas using transposition flaps.

MATERIAL & METHODS

Approach and Excision: A postauricular incision was performed, passing through the midpoint of the fistulous tract. The edges are excised down to healthy tissue. A circular incision was then made 5 mm from the level of the annulus fibrous.

Flap Formation and Dissection: Meatal flaps are created depending on the location of the tympanic part of the fistula tract. The walls of the fistula tract are dissected. The edges of the postauricular incision are undermined and mobilized.

Reconstruction: The meatal skin and preserved parts of the fistula tract are repositioned into a single plane. The edges are sutured (if possible); autologous fascial chondro-perichondral grafts are used for a diastasis larger than 1 mm.

Closure: Layer-by-layer closure of the postauricular incision.

RESULTS

The technique demonstrated stable closure and resolution of chronic inflammation in recurrent postauricular fistulas.

CONCLUSIONS

There is no universal technique. It requires good mobilization of skin flaps and the use of vascularized transposed skin flaps only. In cases of insufficient tissue supply, the edges are sutured. If diastasis is present, it is supplemented with an autofascial or perichondrial flap. Sutures should remain for at least 2 weeks

KEYWORDS

Postauricular fistula, Otologic surgery, Reconstructive surgery, Skin flap reconstruction

PP-457

Case Report: Delayed-Onset Peripheral Facial Paralysis Following Tooth Extraction

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BACKGROUND & AIM

Peripheral facial paralysis (PFP) is a loss of movement in the facial muscles resulting from dysfunction of the seventh cranial nerve. It is a rare but serious complication following dental procedures.

This report presents a 30-year-old female patient who developed House-Brackmann stage 6 PFP on the right side, 48 hours after extraction of the right mandibular third molar.

MATERIAL & METHODS

Early treatment included high-dose corticosteroids, a vitamin B complex, and intensive facial physiotherapy.

RESULTS

With the applied treatment, complete clinical recovery (stage 1) was achieved within 3 months.

CONCLUSIONS

This case highlights the importance of a multidisciplinary approach in the management of delayed-onset PFP.

KEYWORDS

Peripheral facial paralysis, Dental extraction, Post-dental procedure complication, Electromyography,

PP-458

Dehiscent High-Riding Jugular Bulb In Contact With The Stapes: A Very Rare Otological Variation

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BACKGROUND & AIM

A high-riding jugular bulb (HJB) is a common vascular anatomical variant, usually asymptomatic and incidentally detected on imaging, with a predominance on the right side. Dehiscent high riding jugular bulb (DHJB), extending into the middle ear cavity is relatively uncommon. Direct contact of the DHJB with the stapes as in our patient, represents an exceptionally unique case which may lead to numerous otological and vestibular symptoms and findings. This report presents a rare case of a left-sided DHJB extending into the antral cavity and in contact with stapes in a young female adult.

MATERIAL & METHODS

A 36 years old female patient presented with long-standing pulsatile tinnitus, predominantly on the left side, accompanied by temporary ear fullness and vertigo/dizziness. She had no history of trauma, facial paralysis, hearing loss, previous otological surgery, allergy, pregnancy, obesity, drug use or any comorbid diseases. Otoscopic examination was within normal limits except a bluish-purple retrotympanic mass behind the left tympanic membrane (Photo 1). Audiovestibular tests, temporal bone computed tomography (CT), magnetic resonance imaging (MRI) were performed.

RESULTS

The Dix–Hallpike maneuver was positive on the contralateral (right) side. Epley maneuver was performed subsequently for the right posterior semicircular canal. During the follow-up she reported significant improvement in vertigo/dizziness. Tympanometry showed bilateral middle ear pressure values within normal limits; however, reduced compliance was observed in the left ear (Photo 2). CT revealed an enlarged DHJB in the left side which was extending in to the antral cavity, abuting the stapes superiorly, and with close proximity to the cochlear basal turn (Photo 3-4). MRI ruled out vascular tumors such as glomus jugulare, and audiological test could not yet been performed since the device was sent for calibration.

CONCLUSIONS

Pulsatile tinnitus may originate both from otological and neurological pathologies. It may be associated with vertigo, ear fullness, and hearing loss. In this case, a DHJB was located adjacent to the cochlear basal turn and in contact with the stapes, explaining most of the patient's symptoms. We presented a patient with bluish-purple retrotympanic discoloration on otoscopy. Further investigation in such a patient is required for diagnosis, treatment and precautions for long term quality of life. The patient was advised to avoid hard streessfull activities that may increase intracranial pressure and worsen the symptoms.

KEYWORDS

High-riding jugular bulb, dehiscent jugular bulb, stapes, pulsatile tinnitus, retrotympanic mass

PP-459

Bilateral Hemotympanum And Unilateral Traumatic Tympanic Membrane Perforation Induced By Sneezing Following Nasal Packing: A Case Report

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BACKGROUND & AIM

Epistaxis is a common otolaryngologic emergency, and nasal packing remains a frequently used treatment modality when conservative measures fail. Although generally considered safe, nasal packing may rarely result in otologic complications secondary to pressure transmission through the nasopharynx and Eustachian tube. Simultaneous bilateral hemotympanum and unilateral traumatic tympanic membrane perforation following sneezing after nasal packing is exceptionally rare.

This report aims to present a rare case of middle ear barotrauma occurring after forceful sneezing in the presence of bilateral nasal packing and to discuss the possible pathophysiological mechanisms and clinical outcomes.

MATERIAL & METHODS

A 51-year-old female patient who developed acute otologic symptoms following bilateral nasal packing for epistaxis was evaluated. Clinical assessment included otoscopic examination, nasal endoscopy, and pure-tone audiometric evaluation performed approximately 24 hours after symptom onset. Follow-up examinations were conducted to evaluate tympanic membrane healing and resolution of middle ear findings.

RESULTS

Approximately three hours after bilateral nasal packing, the patient developed sudden bilateral aural fullness, left-sided otorrhagia, and recurrent epistaxis following forceful sneezing.

Otoscopic examination demonstrated marked right-sided hemotympanum with an intact tympanic membrane and a left-sided anterior-inferior tympanic membrane perforation measuring approximately 2 mm with associated hemotympanum.

Nasal endoscopy revealed active bleeding originating from the left inferior turbinate and blood accumulation around the Eustachian tube orifice.

Audiometric evaluation performed approximately 24 hours after injury demonstrated preserved hearing thresholds with mild conductive and high-frequency variations.

Conservative treatment was adopted. At one-week follow-up, spontaneous closure of the tympanic membrane perforation was observed. Complete resolution of bilateral hemotympanum was documented at three weeks.

CONCLUSIONS

Forceful sneezing in the presence of nasal packing may generate substantial intranasal and nasopharyngeal pressure, leading to middle ear barotrauma through the Eustachian tube.

This case highlights that bilateral hemotympanum and tympanic membrane perforation may occur even after routine nasal packing procedures. Patients undergoing nasal packing should be informed to avoid pressure-generating maneuvers and should undergo prompt otolaryngologic evaluation if acute otologic symptoms develop.

KEYWORDS

Tympanic Membrane Perforation; Epistaxis; Nasal Packing; Hemotympanum

PP-460

Delayed Presentation Of An Iatrogenic Postauricular Epidermal Inclusion Cyst After Ear Surgery: A Case Report

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BACKGROUND & AIM

“Postauricular epidermal inclusion cysts are uncommon delayed complications following otologic surgery. This report aims to describe a rare case of iatrogenic postauricular epidermal inclusion cyst developing years after tympanoplasty and highlight the importance of considering this entity in the differential diagnosis of postauricular swelling.”

MATERIAL & METHODS

A 26-year-old male presented with progressive left postauricular swelling two years after tympanoplasty complicated by transient facial palsy. Clinical examination, radiological imaging, intraoperative findings, and histopathological analysis were reviewed. The lesion was surgically excised and the postoperative outcome was assessed.”

RESULTS

“Examination revealed a firm postauricular swelling without inflammatory changes. CT imaging demonstrated retroauricular soft tissue thickening with mastoid sclerosis. Surgical exploration identified a cystic lesion containing keratinous material. Histopathological examination confirmed an epidermal inclusion cyst without malignant transformation. Complete excision was achieved with favorable postoperative recovery and no immediate complications.”

CONCLUSIONS

“Iatrogenic epidermal inclusion cysts should be considered in patients presenting with delayed postauricular swelling after ear surgery. Careful surgical technique and awareness of this rare complication are important for prevention and early diagnosis. Complete surgical excision remains the definitive treatment.”

KEYWORDS

Epidermal inclusion cyst, postauricular swelling, otologic surgery, iatrogenic complication, tympanoplasty, case report

PP-461

Endoscopic And Microscopic Tympanoplasty Outcomes: A 10-Year Single-Center Experience

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BACKGROUND & AIM

Microscopic tympanoplasty has long been regarded as the standard technique for tympanic membrane repair. However, endoscopic ear surgery has gained increasing popularity due to its wide-angle visualization and minimally invasive nature. This study aimed to compare the audiological and surgical outcomes of endoscopic and microscopic type I tympanoplasty in a single-center retrospective series.

MATERIAL & METHODS

Patients who underwent type I tympanoplasty for chronic otitis media between January 2015 and January 2025 were retrospectively reviewed. Patients were divided into two groups according to surgical technique: microscopic and endoscopic tympanoplasty. In all cases, cartilage graft was used and placed with the over-underlay technique. Demographic characteristics, operated side, graft success, operative time, and audiological outcomes were analyzed. Pure tone audiometry at 500, 1000, 2000, and 4000 Hz was performed preoperatively and at postoperative 6 months. Hearing gain was defined as the difference between preoperative and postoperative air-bone gap (ABG) values.

RESULTS

A total of 331 patients were included: 150 in the microscopic group and 181 in the endoscopic group. Mean age was 33.3±13.2 years in the microscopic group and 36.2±13.9 years in the endoscopic group (p=0.061). Preoperative ABG was significantly higher in the microscopic group (22.0±10.7 dB vs 19.2±8.9 dB, p=0.012), whereas postoperative ABG was significantly lower in the endoscopic group (12.6±10.5 dB vs 9.4±8.4 dB, p=0.003). ABG gain was similar between groups (9.43±10.11 dB vs 9.83±9.18 dB, p=0.712). Graft success rates were comparable (93.3% vs 94.5%, p=0.817). Operative time was significantly shorter in the endoscopic group (52.3±11.4 min vs 67.2±10.8 min, p<0.001).

CONCLUSIONS

Endoscopic type I tympanoplasty achieved anatomical and functional outcomes comparable to microscopic tympanoplasty, while providing a significantly shorter operative time. These findings support the endoscopic approach as an effective and practical alternative in the surgical management of chronic otitis media.

KEYWORDS

Type I tympanoplasty; Endoscopic tympanoplasty; Microscopic tympanoplasty; Chronic otitis media; Graft success; Hearing gain

PP-462

Acute Suppurative Labyrinthitis: Clinical And Radiological Findings – A Case Series

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BACKGROUND & AIM

Acute suppurative labyrinthitis is a rare but serious bacterial infection of the inner ear, most often spreading from a middle-ear or meningeal focus. It can cause permanent sensorineural hearing loss (SNHL) and may progress to dangerous intracranial complications, yet published experience remains limited. In this series we present the clinical picture, radiological findings, treatment, and outcomes of patients diagnosed with acute suppurative labyrinthitis. We expected otogenic disease to cause profound hearing loss and to carry a high complication risk even when treated.

MATERIAL & METHODS

The records of four patients treated for acute suppurative labyrinthitis at our tertiary center were reviewed retrospectively. For each patient we noted age, sex, symptom duration, pure-tone audiometry, temporal bone computed tomography (CT) and magnetic resonance imaging (MRI) findings, complications, treatment, length of stay, and final outcome. Findings were summarized descriptively.

RESULTS

Patients were 9-35 years old (mean 23.5); three were women. Disease was bilateral in three and left-sided in one. All cases were otogenic and presented with hearing loss; vertigo occurred in three, and nausea-vomiting and tinnitus in two each. All had profound to total SNHL. CT and MRI showed middle-ear and mastoid opacification, a reduced labyrinthine cerebrospinal fluid (CSF) signal, and pathological contrast enhancement. One patient had meningitis and two had mastoiditis; none developed facial paralysis, cerebellar abscess, or labyrinthine fistula. All received intravenous antibiotics and corticosteroids; three underwent surgery (ventilation tube insertion in two, mastoidectomy in two, one both). Mean hospital stay was 15.8 days (10-23). Two patients later received a cochlear implant; in one, cochlear ossification prevented implantation, and one died of meningitis 11 days after discharge.

CONCLUSIONS

Acute suppurative labyrinthitis in our patients was always otogenic and consistently produced profound hearing loss, with serious complications and one death. CT and MRI were valuable for confirming labyrinthine involvement and detecting

complications. These cases underline the need for early diagnosis, aggressive medical and surgical treatment, and cochlear implantation before ossification develops, as the prognosis may still be poor.

KEYWORDS

Suppurative labyrinthitis; Sensorineural hearing loss; Otitis media; Cochlear implantation; Temporal bone imaging; Meningitis

PP-463

Lasers In Middle Ear Surgery: A Systematic Review

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BACKGROUND & AIM

Laser technology has increasingly been integrated into middle ear surgery due to its precision, minimal tissue trauma, and improved hemostasis. Different laser systems, including CO_2, KTP, diode, and erbium lasers, have been utilized in procedures such as stapedotomy, cholesteatoma excision, tympanoplasty, and ossiculoplasty. Despite their widespread use, controversy remains regarding their comparative effectiveness, safety profile, and long-term auditory outcomes. The present systematic review aims to evaluate the clinical applications, benefits, and limitations of laser-assisted middle ear surgery in contemporary otologic practice.

MATERIAL & METHODS

A systematic literature review was conducted according to PRISMA guidelines. Electronic databases including PubMed, Scopus, and Cochrane Library were searched for studies published between 2000 and 2025 using the keywords “laser,” “middle ear surgery,” “stapedotomy,” “cholesteatoma,” “tympanoplasty,” and “ossiculoplasty.” Randomized controlled trials, prospective studies, retrospective analyses, and meta-analyses written in English were included. Studies evaluating surgical outcomes, hearing improvement, intraoperative complications, postoperative recovery, and recurrence rates were analyzed. Data extraction and quality assessment were independently performed by two reviewers.

RESULTS

A total of 42 studies involving more than 3,500 patients met the inclusion criteria. CO_2 and KTP lasers were the most commonly utilized systems, particularly in stapes surgery. Laser-assisted procedures demonstrated superior surgical precision and reduced intraoperative bleeding compared with conventional techniques. In stapedotomy, postoperative air–bone gap closure of ≤10 dB was achieved in the majority of cases. Cholesteatoma surgery showed lower residual disease rates when lasers were used for difficult anatomical areas. Thermal injury and sensorineural hearing loss were reported rarely and were mainly associated with inappropriate energy settings. Overall, laser-assisted surgery resulted in shorter operative times and improved visualization of delicate middle ear structures.

CONCLUSIONS

Laser technology represents a valuable adjunct in middle ear surgery, offering enhanced precision, reduced trauma, and favorable auditory outcomes. CO_2 and KTP lasers appear particularly effective in stapes and cholesteatoma surgery. However, standardized protocols and long-term comparative studies are still needed to establish definitive recommendations regarding optimal laser selection and safety parameters.

KEYWORDS

“laser,” “middle ear surgery,” “stapedotomy,” “cholesteatoma,” “tympanoplasty,” “ossiculoplasty.”

PP-464

Risk For Depression And Anxiety In Patients With Facial Palsy Based On Population Data Of Korea

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BACKGROUND & AIM

Several studies point out the association of facial palsy with psychiatric distress such as depression and anxiety. However, there have been few studies on this association based on population-based data. We investigated the risk for depression and anxiety disorders in patients with Bell’s palsy and in those with Ramsay Hunt syndrome.

MATERIAL & METHODS

This retrospective study included data from the Korean National Health Insurance Service National Sample Cohort. From 2006 to 2015, patients with Bell’s palsy and those with Ramsay Hunt syndrome were defined using diagnostic and medication claim codes. Patients with depression or anxiety were defined using diagnostic and medication claim codes. Occurrences of depression and anxiety were included in analyses.

RESULTS

There were significantly higher risks for depressive and anxiety disorders in the group of patients with Bell's palsy than in the control group (hazard ratio [HR] = 1.570, 95% confidence interval [CI] = 1.450 – 1.699), as well as in the group of patients with Ramsay Hunt syndrome than in the control group (HR = 1.617, 95% CI 1.389 – 1.882).

CONCLUSIONS

There were significantly higher risks for depression and anxiety in patients with facial palsy including Bell's palsy and Ramsay Hunt syndrome based on population-based data from Korea.

KEYWORDS

Facial palsy, Bell's palsy, Ramsay Hunt syndrome, depression, anxiety, population-based study

PP-465

Our Experience In Closing Subtotal And Total Eardrum Perforations

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BACKGROUND & AIM

Surgical repair of large eardrum perforations with hearing loss is challenging due to tissue loss and ossicle damage. Securing the graft without support to prevent reperforation, retraction, and dislocation remains a key issue, as shown by the variety of techniques.

To analyze the early and late results of surgical closure of total and subtotal perforations and evaluate the effectiveness of the surgical techniques used.

MATERIAL & METHODS

64 patients with total and subtotal perforations of the eardrum were treated in 2020- 2025. Inclusion criteria: dry perforation of more than 75% of the eardrum area. Patients with exacerbation of chronic middle ear purulent otitis, cholesteatoma, and severe sensorineural hearing loss were excluded. All patients underwent otoscopy, audiometry, and CT of the temporal bones. Timpanoplasty was performed under endotracheal anesthesia using the supra- aural (n=57) or endau-ral (n=7) approach. The grafts used were the temporal fascia (n=47), the tragus cartilage (n=10), and the combined cartilage-fascia graft (n=7). In cases of ossicular

chain disorders, ossiculoplasty was performed. The results were evaluated at 3 and 12 months.

RESULTS

The graft was accepted and complete closure of the perforation was achieved in 56 of 64 operated ears (87.5%) 3 months after surgery. Failure of the neotympanum flap with the formation of reperforation was noted in 5 cases (7.8%). In 3 patients (4.6%) there was a lateralization of the graft without the formation of a defect, but with the formation of a fixed position of the membrane. The best anatomical results (90% приживления) were obtained in the group of patients who used a cartilage graft, compared to the group of patients who used only the temporal fascia (85.1%). The analysis of postoperative audiometry showed an improvement in hearing function in patients with a successfully integrated graft. There was a decrease in the bone-air interval by an average of 15 dB and a decrease in the air conduction

threshold by an average of 20 dB.

CONCLUSIONS

The data obtained indicate that the use of cartilage grafts in large tympanic membrane perforations allows for stable anatomical and functional results and can be considered as a method of choice in these clinical situations. Functional results depend on the integrity of the neotympanic membrane and the ossicular system.

KEYWORDS

Перфорация барабанной перепонки, отохирургия, тимпанопластика, неоампаническая мембрана

PP-466

Trends In Surgical Techniques And Graft Selection For Pediatric Tympanic Membrane Perforations Following Tube Extrusion: An 11-Year Review

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BACKGROUND & AIM

The options for closing tympanic membrane perforations have expanded with the evolotion of transcanal endoscopic ear surgery and eardrum regeneration therapy using Retympa@ in Japan. In pediatric tube related cases, surgery primarily aims to improve hearing after tube extrusion and to stop otorrhea caused by prolonged infections. This reserch aimed to investigate the surgical techniques, and operative times and hearing level in pediatric patients with chronic perforated otitis media over an 11-year period at our hospital, with a particular focus on the graft materials used for reconstruction.

MATERIAL & METHODS

The study included 57 fresh cases who underwent surgery at our hospital between April 2014 and December 2025. We examined the surgical techniques, hospital stay lengths, and other factors categorized by the graft materials used.

RESULTS

When dividing the cases into two periods (before and after March 2018), periosteum grafts accounted for the majority in the earlier period. However, a trend toward using Re-Tympa and fascia grafts was observed in the later period. The pre- and post-operative hearing improvement was 3.1 dB for periosteum, 7.91 dB for fascia, 4.96 dB for connective tissue, and 10.02 dB for Re-Tympa. These results demonstrated improvements exceeding those of conventional autologous tissues, alongside reductions in actual operative times and hospital stays.

CONCLUSIONS

A trend toward adopting more minimally invasive closure techniques over the years was observed at our hospital.

KEYWORDS

Otitis media with perforation, Graft material, transcanal endoscopic ear surgery, hearing level, regeneration therapy, Retympa,

PP-467

The Effects Of Menopause On Tinnitus: A Comparison Of Tinnitus Between Menopausal And Premanopausal Women

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BACKGROUND & AIM

The aim of this study is evaluating the impact of menopause on the presence, severity, and quality of life burden of tinnitus using the Tinnitus Handicap Inventory (THI), and to investigate the potential role of menopause in tinnitus by comparing women in menopausal period with those in premenopausal period.

The primary research question of the study is as follows: Does the level of tinnitus-related distress differ between women in the menopausal period and those in the premenopausal period?

MATERIAL & METHODS

The study is designed as a prospective, observational, analytical, cross-sectional, and controlled investigation to be conducted at the Otorhinolaryngology (ENT) outpatient clinics of Sancaktepe Şehit Prof. Dr. İlhan Varank Training and Research Hospital in 2026. In this study, women in the menopausal period will be compared with those in the premenopausal period using the Tinnitus Handicap Inventory (THI). No interventional procedures or treatments will be administered to the participants, and neither randomization nor blinding will be performed.

RESULTS

The mean age of the menopausal group was significantly higher than that of the premenopausal group. Tinnitus prevalence was found to be higher in the menopausal group compared to the premenopausal group.

The mean Tinnitus Handicap Inventory score was significantly greater in menopausal women than in premenopausal women, indicating a higher level of tinnitus-related distress in the menopausal group. In addition, moderate-to-severe THI categories were more frequently observed among menopausal participants.

CONCLUSIONS

In conclusion, the findings of this study suggest that menopausal women experience greater tinnitus-related distress and reduced quality of life compared to premenopausal women, as demonstrated by higher Tinnitus Handicap Inventory scores. These results support the hypothesis that hormonal alterations occurring during menopause may contribute to the severity and perception of tinnitus.

Further prospective studies with larger sample sizes and hormonal assessments are needed to better elucidate the biological mechanisms linking menopause and tinnitus and to determine whether targeted therapeutic interventions may reduce tinnitus-related impairment in this population.

KEYWORDS

Tinnitus, Menopause, Premenopause, THI

PP-468

Tuberculosis Otitis Media Presenting With Simultaneous Sensorineural Hearing Loss And Peripheral Facial Palsy: A Diagnostic Challenge

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BACKGROUND & AIM

Tuberculosis otitis media (TOM) accounts for only 0.05–0.9% of chronic otitis media infections. The occurrence of sensorineural hearing loss (SNHL) and peripheral facial palsy (PFP) as initial symptoms in the absence of systemic findings is extremely rare and constitutes a significant diagnostic challenge, frequently leading to delayed diagnosis.

MATERIAL & METHODS

A 55-year-old woman presented with sudden-onset left-sided SNHL; this was followed by progressive left-sided PFP (Grade 3; progressing to Grade 5 despite appropriate therapy). On detailed questioning, revealed that the patient had no systemic symptoms, no prior history of ear disease, and no history of tuberculosis. Temporal bone CT demonstrated left mastoid opacification; MRI revealed bilateral mastoid fluid and soft tissue thickening. Severe acute-to-subacute axonal facial nerve injury confirmed by electromyography. The patient was referred to our clinic for facial nerve decompression. Intraoperatively, sequestrated necrotic bone was identified within the mastoid. Histopathological examination demonstrated the presence of necrotizing granulomatous inflammation, and microbiological studies confirmed the growth of M.tuberculosis in culture. Systemic evaluation revealed no evidence of active pulmonary tuberculosis. The patient was referred to the department of infectious diseases, and four-drug anti-tuberculous therapy was initiated. Facial function improved to Grade 2, and electromyography confirmed significant axonal regeneration at six-month follow-up.

RESULTS

The simultaneous occurrence of SNHL and PFP as initial symptoms of TOM in the absence of systemic findings represents one of the rare presentations reported in the literature. This atypical pattern led to an initial diagnosis of idiopathic sudden SNHL and Bell's palsy at first presentation, resulting in the administration of empirical corticosteroid therapy and delayed diagnosis of the underlying organic pathology. In cases unresponsive to standard therapy, early surgical exploration with systematic histopathological and microbiological sampling should be considered.

CONCLUSIONS

In patients in whom SNHL and facial palsy coexist and who are unresponsive to corticosteroid therapy, organic etiologies including TOM must first be excluded before establishing an idiopathic diagnosis. Early sampling is critical for diagnosis and anti-tuberculous chemotherapy can provide visible functional recovery even in cases with severe axonal injury.

KEYWORDS

tuberculosis otitis media; sensorineural hearing loss; peripheral facial palsy; facial nerve decompression; Mycobacterium tuberculosis; diagnostic delay

PP-469

Systemic Risk Factors Influencing Microvascular And Structural Health In Otolith Degeneration

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BACKGROUND & AIM

While the age-related degeneration of the otolith organs (saccule and utricle) is a recognized phenomenon, the specific systemic conditions that accelerate this structural and microvascular deterioration remain poorly defined. This study aimed to elucidate the metabolic, vascular, and demographic risk factors associated with otolith dysfunction in a large clinical cohort of patients suffering from dizziness and vertigo.

MATERIAL & METHODS

We conducted a cross-sectional analysis of 624 patients diagnosed with benign paroxysmal positional vertigo, benign recurrent vertigo, or persistent postural-perceptual dizziness at a tertiary referral center between March 2017 and July 2021. To quantitatively assess otolith functionality, we measured the summated amplitudes of cervical and ocular vestibular evoked myogenic potentials (SA-cVEMPs for saccular function and SA-oVEMPs for utricular function). Comprehensive serological data, including lipid profiles, thyroid hormones, and bone turnover markers, were collected. The relationships between otolith function parameters and potential systemic risk factors were evaluated using generalized linear models: a zero-adjusted gamma regression for SA-cVEMPs (to effectively handle zero-inflated data) and a standard gamma regression for SA-oVEMPs.

RESULTS

Multivariable regression analysis revealed distinct risk profiles for the two otolith organs. Saccular function (SA-cVEMP) was significantly diminished in correlation with advancing age, female sex, and elevated free thyroxine levels. Conversely, higher levels of high-density lipoprotein (HDL) cholesterol were positively associated with saccular function, suggesting a microvascular protective effect. Utricular function (SA-oVEMP) similarly declined with age but, intriguingly, demonstrated a positive association with female sex. Subgroup analyses further indicated that the detrimental impact of elevated free thyroxine on the saccule was particularly pronounced in older individuals and females.

CONCLUSIONS

This study provides novel clinical evidence that systemic metabolic and vascular factors significantly impact otolith integrity, extending beyond the natural aging process. Elevated free thyroxine may disrupt otoconial calcium homeostasis by

accelerating bone turnover, whereas HDL cholesterol likely preserves the microvascular networks supporting the macula. Recognizing and managing these systemic variables may offer new therapeutic strategies for preventing or mitigating otolith-related vestibular disorders.

KEYWORDS

otolith, o-vemp, c-vemp, saccule, utricle, PPPD

PP-470

Development Of An Audiology-Led Pulsatile Tinnitus Investigation Pathway Across A Tertiary ENT Network

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BACKGROUND & AIM

Pulsatile tinnitus may indicate underlying vascular, skull base, or middle ear pathology and frequently requires complex multidisciplinary investigation. Prior to implementation of a revised pathway, most patients presenting with pulsatile tinnitus across Manchester University NHS Foundation Trust (MFT) were routinely referred to ENT services, with variation in imaging requests and escalation pathways between clinicians and sites. In September 2025, a standardised trust-wide pulsatile tinnitus investigation protocol was introduced collaboratively between Audiology, Otology, Skull Base and Head & Neck Radiology services. The pathway aimed to standardise imaging investigations, improve patient safety, reduce unnecessary ENT appointments, and establish an Audiology-led diagnostic pathway.

MATERIAL & METHODS

A retrospective audit was performed of patients referred with pulsatile tinnitus following implementation of the revised pathway between September 2025 and January 2026 across participating MFT sites.

The agreed investigation protocol for patients with unilateral or bilateral constant pulse-synchronous tinnitus included MRI internal auditory canal imaging without contrast and CT head and neck imaging with contrast. In patients with contraindication to contrast-enhanced CT or severe renal impairment, alternative vascular imaging with MRA head, MRV head, and MRA neck was recommended.

Patients underwent initial assessment within Audiology services, including confirmation of pulse-synchronous tinnitus and comprehensive audiological assessment. Audiology teams arranged MRI imaging and escalated patients to designated ENT consultants for CT imaging requests where appropriate. Data collected included demographics, symptom laterality, imaging requests, pathway adherence, renal function assessment prior to contrast imaging, imaging findings, and requirement for subsequent ENT review.

RESULTS

Forty-four patients were included following exclusion of incomplete cases (77.3% female; mean age 51.8 years). Unilateral pulsatile tinnitus was reported in 59.1% of patients and bilateral symptoms in 40.9%. Initial referral occurred through Audiology in 77.3% of cases and directly to ENT in 22.7%.

Pure tone audiometry was completed in 95.5% of patients. MRI internal auditory canal imaging was arranged in 81.8% of cases. Renal function assessment prior to contrast-enhanced CT was documented in 86.4% of patients, with no patients demonstrating significant renal impairment requiring alternative vascular imaging pathways.

Most patients (84.1%) demonstrated no significant pathological cause for pulsatile tinnitus. Identified abnormalities included middle ear pathology, venous sinus stenosis, arachnoid granulation, and dehiscent sigmoid sinus findings.

Among patients with available outcome documentation, 89.5% were managed without requiring routine consultant ENT review.

CONCLUSIONS

Implementation of a standardised multidisciplinary pulsatile tinnitus investigation pathway across a tertiary ENT network was feasible and enabled safe expansion of an Audiology-led diagnostic model. The pathway improved standardisation of imaging investigations and substantially reduced the need for routine consultant ENT review in selected patients while maintaining agreed radiological safety measures.

This audit identified areas for further pathway refinement, particularly regarding consistency of renal function documentation prior to contrast imaging. The next phase of pathway development aims to establish fully Audiology-led imaging requesting through Non-Medical Referrers, with ENT involvement reserved for abnormal findings, red flag symptoms, or complex cases.

KEYWORDS

Pulsatile tinnitus; otology; quality improvement; imaging pathway; audiology; skull base; patient safety; audit

PP-471

Bilateral Congenital Cholesteatoma: A Case Report

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BACKGROUND & AIM

To present the clinical presentation, radiological findings, surgical management, and early audiological outcomes of a rare case of bilateral congenital cholesteatoma, and to demonstrate the feasibility of single-stage bilateral transcanal endoscopic surgery.

MATERIAL & METHODS

This study was designed as a descriptive case report. Clinical records, otoscopic photographs, preoperative and postoperative audiometric evaluations, tympanometric findings, high-resolution temporal bone computed tomography images, intraoperative endoscopic photographs, operative notes, histopathological findings, and follow-up data were retrospectively reviewed. Disease extent was classified according to the Potsic staging system. Surgical outcomes were assessed based on complete disease removal, integrity of the reconstructed tympanic membrane, early recurrence status, and postoperative hearing results.

RESULTS

A 6-year-old girl presented with otalgia and was initially treated for otitis media with effusion. Follow-up otoscopy revealed bilateral white retrotympanic masses behind intact tympanic membranes. Preoperative pure-tone audiometry showed mild conductive hearing loss (27/18 dB in the right ear and 30/15 dB in the left ear; air conduction threshold/air–bone gap), with bilateral type A tympanograms. High-resolution temporal bone computed tomography demonstrated bilateral mesotympanic soft tissue lesions, more prominent on the right side. Single-stage bilateral transcanal endoscopic surgery was performed. The left ear harbored a Potsic stage I congenital cholesteatoma with an intact ossicular chain, whereas the right ear demonstrated Potsic stage III disease with ossicular erosion requiring reconstruction with Total Ossicular Replacement Prosthesis. At postoperative month 3, no residual or recurrent disease was detected, and hearing improved to 22/10 dB in the right ear and 18/15 dB in the left ear.

CONCLUSIONS

Bilateral congenital cholesteatoma should be considered when bilateral retrotympanic white lesions are observed behind intact tympanic membranes. Single-stage bilateral transcanal endoscopic surgery is a safe and effective treatment option that can provide excellent early anatomical and functional outcomes, even in cases requiring extensive ossicular reconstruction.

KEYWORDS

Congenital cholesteatoma, Bilateral cholesteatoma, Transcanal endoscopic ear surgery, Pediatric otology

PP-472

When The Tumor Shrinks But Symptoms Persist: Advanced Jugular Paraganglioma After Radiosurgery

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BACKGROUND & AIM

Jugular paragangliomas are rare, highly vascular skull base tumors that may produce progressive lower cranial nerve dysfunction. In advanced stages with intracranial and carotid involvement, surgical management may be contraindicated. We hypothesized that stereotactic radiosurgery can achieve meaningful radiologic tumor regression in inoperable advanced jugular paragangliomas but may not reverse long-standing neurological deficits.

MATERIAL & METHODS

A female patient presented in 2024 with progressive dysphonia. Medical history revealed left-sided hypoacusis and dysphagia evolving since 2018. Otoscopic examination demonstrated a pulsatile retrotympanic reddish mass with a rising sun appearance. Flexible laryngoscopy confirmed left vocal cord paresis. Contrast-enhanced computed tomography (CT) identified an iodophilic, hourglass-shaped mass centered at the left jugular foramen with intracranial extension toward the cerebellopontine angle. Magnetic resonance imaging (MRI) demonstrated a 35 × 27 × 37 mm lesion, hypointense on T1-weighted and hyperintense on T2-weighted sequences, with intense gadolinium enhancement. The tumor extended into the carotid space, showing a 10.8 mm segment of contact with the internal carotid artery and exerting mass effect on the left middle cerebellar peduncle. Imaging findings were consistent with a Fisch C2D2 jugular paraganglioma. Angio-CT confirmed marked vascularity. Surgical resection and embolization were considered unsafe, and the patient underwent Gamma Knife stereotactic radiosurgery.

RESULTS

At one-year follow-up, MRI demonstrated reduction of tumor dimensions to 22 × 13 × 33 mm, with complete resolution of mass effect on the middle cerebellar peduncle. The lesion remained in contact with cranial nerves VII and VIII. Persistent fluid was noted in the ipsilateral mastoid and middle ear on both pre- and post-treatment imaging. Despite significant radiologic regression, dysphonia, dysphagia, and hearing impairment showed no meaningful clinical improvement.

CONCLUSIONS

Stereotactic radiosurgery can achieve substantial tumor regression and brainstem decompression in advanced jugular paragangliomas. However, prolonged cranial nerve dysfunction appears largely irreversible once established, particularly after

delayed diagnosis. Early recognition of progressive otologic and vagal symptoms is essential to prevent permanent neurological sequelae.

KEYWORDS

Jugular paraganglioma; Glomus jugulare; Gamma Knife radiosurgery; Cranial nerve palsy

PP-473

Reconstructed Wall Thickness As A Predictor Of Postoperative Aural Fullness In Sigmoid Sinus Wall Resurfacing: Utility Of Intraoperative Doppler Ultrasound

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BACKGROUND & AIM

Sigmoid sinus wall resurfacing (SSWR) is a well-established surgical intervention for venous pulsatile tinnitus attributable to sigmoid sinus wall anomalies. Nevertheless, over-reconstruction of the sinus wall may predispose patients to postoperative complications, particularly aural fullness. This study sought to compare clinical outcomes of SSWR performed with versus without intraoperative Doppler ultrasound (IDU), and to examine the association between reconstructed wall thickness and the occurrence of postoperative aural fullness.

MATERIAL & METHODS

A retrospective cohort study was performed involving patients who underwent SSWR for venous pulsatile tinnitus from 2018 through 2025, with a minimum postoperative follow-up duration of 2 months. Surgical outcomes were evaluated using the Tinnitus Handicap Inventory (THI) and visual analog scale (VAS). Postoperative complications, defined as persistent aural fullness exceeding 2 weeks or symptom aggravation, were documented. Subjects were stratified into an IDU-guided group and a non-IDU group. In a subset of patients with available postoperative computed tomography (CT) imaging, bone cement thickness of the reconstructed wall and residual sigmoid sinus dehiscence were quantified. Receiver operating characteristic (ROC) curve analysis was applied to identify an optimal thickness threshold predictive of postoperative aural fullness.

RESULTS

Fifty-four patients were enrolled, comprising 20 in the IDU group and 34 in the non-IDU group. Both cohorts demonstrated statistically significant postoperative improvements in THI and VAS scores; however, no significant intergroup differences were observed in cure rates, symptomatic improvement, symptom aggravation, or short-term aural fullness. Among the CT-available subgroup (n = 35), the IDU-guided group exhibited a significantly reduced reconstructed bone cement thickness relative to the non-IDU group ($P < 0.001$). ROC analysis identified a reconstructed wall thickness exceeding 5 mm as a moderately accurate predictor of postoperative aural fullness (AUC = 0.72). Patients whose reconstructed wall thickness surpassed this threshold demonstrated an approximately 14-fold elevated risk of developing postoperative aural fullness ($P = 0.007$).

CONCLUSIONS

SSWR confers significant symptomatic relief for venous pulsatile tinnitus irrespective of IDU guidance. However, excessive reconstructed wall thickness is strongly associated with postoperative aural fullness. Intraoperative Doppler ultrasound may serve as a valuable adjunct to optimize reconstruction by limiting excessive bone cement deposition, thereby preserving therapeutic efficacy while mitigating postoperative morbidity.

KEYWORDS

Venous pulsatile tinnitus, Sigmoid sinus wall resurfacing, , Intraoperative Doppler ultrasound, Aural fullness

PP-474

Association Between Hearing Disability And Injury Risk In Older Adults: Quasi-Experimental Study Using Propensity Score Matching

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BACKGROUND & AIM

With rapid population aging, both traumatic injuries and hearing disability have become increasingly prevalent among older adults. Hearing disability may increase vulnerability to injury through impaired balance, reduced environmental awareness, and functional limitations; however, longitudinal evidence examining the association between hearing disability and injury risk remains limited.

This study aimed to examine the association between hearing disability and the risk of injury among older adults using a quasi-experimental design with propensity score matching (PSM).

MATERIAL & METHODS

This population-based cohort study included individuals aged 60 years and older with hearing disabilities and a matched control group without disabilities using data from the National Health Insurance Service–Senior cohort from 2008 to 2019. Injury admission, defined using International Classification of Diseases codes S00 to S99, was the primary outcome. A quasi-experimental design was applied using PSM at a 1:3 ratio to balance baseline characteristics between the hearing-disabled and nondisabled groups. Cox proportional hazard regression models adjusted for all covariates were used to estimate hazard ratios. Sensitivity analyses were conducted according to disability severity and injury site.

RESULTS

The total number of participants was 43,944, with 10,986 (25%) in the hearing-disabled group and 32,958 (75%) in the nondisabled group, thus confirming a 1:3 matching ratio. The PSM results showed that the standardized mean difference values for all covariates were below the absolute value of 0.1, thus indicating that PSM was successfully performed. The incidence of injury at admission was higher in the hearing-disabled group (1567/10,986, 14.3% of patients) than in the nondisabled group (3966/32,958, 12.0%), and this difference was statistically significant (P<.01). During the follow-up period, older adults with hearing disability had a significantly higher risk of injury admission compared with those without hearing disability (hazard ratio=1.21, 95% CI 1.14-1.28). The association was stronger among individuals with more severe hearing disability and varied by injury site.

CONCLUSIONS

Hearing disability in older adults is independently associated with increased injury admission risk, with greater severity conferring a higher risk and variation by injury site. Interventions such as hearing aid provision, targeted traffic safety measures, and enhanced community and family support are warranted to mitigate this burden.

KEYWORDS

hearing disability; injury; fall; older patients; propensity score matching

PP-475

HOW CAN WE DETERMINE THE PROGNOSIS MORE ACCURATELY IN PATIENTS WITH RECURRENT BELL'S PALSY

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BACKGROUND & AIM

lectroneurography (ENoG) is the most accurate test for determining the prognosis of Bell's palsy (BP). However, in patients with recurrent BP, the prognostic accuracy of ENoG may be lowered because of owing to previous facial-nerve degeneration. This study investigated an interpretation method for ENoG values to accurately determine the prognosis of facial-nerve palsy in patients with recurrent BP.

MATERIAL & METHODS

The medical records of 38 patients with recurrent contralateral BP between 2011 and 2022 were retrospectively reviewed. Because the ENoG CMAP(Complex muscle action potential) of the healthy side in the second episode may have been underestimated owing to the previous palsy, we attempted to estimate the correct CMAP by comparing CMAP of the healthy sides in the second and first episodes according to the recurrence interval.

RESULTS

The paired t-test showed that the ENoG CMAP(orbicularis oculi muscle) of the healthy side in the first and second BP was significantly different in patients with a recurrence interval <2 years a the the (p=0.004)the showed. Linear regression analysis was performed on the healthy side at the first and second period, and the results were as follows : [2nd healthy side CMAP] = [1st heathy side CMAP] * 0.704 – 0.121

CONCLUSIONS

In patients with recurrent contralateral BP, if the recurrence interval is less than 2 years, correction of the ENoG CMAP is necessary when determining the prognosis because the previous palsy did not recover. Significance: In patients with a BP recurrence interval <2 years, correction of the ENoG ratio should be considered

KEYWORDS

Bell's palsy, Electroneurography, Prognosis

PP-476

Eustachian Tube Dysfunction As A Risk Factor For Tinnitus: A Meta-Analysis And Systematic Review

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BACKGROUND & AIM

Tinnitus is a prevalent and debilitating condition affecting approximately 12%–16% of adults, with 3%–5% experiencing significant impairment in sleep, mood, and daily functioning. Eustachian tube dysfunction (ETD), a disorder of middle ear ventilation and pressure regulation, has been proposed as a contributing factor; however, the association remains unclear. This study aimed to evaluate the association between ETD and tinnitus and quantify this relationship using a systematic review and meta-analysis.

MATERIAL & METHODS

A comprehensive search was conducted in PubMed, Embase, Cochrane Library, Scopus, and Web of Science from inception through March 2026, with additional studies identified through manual searches. Eligible studies included randomized and observational designs (cohort, case-control, cross-sectional, quasi-experimental) involving patients aged ≥15 years with ETD reporting tinnitus outcomes. Studies with major otologic comorbidities or insufficient data were excluded. Data were extracted based on predefined Population, Intervention/Exposure, Comparison, Outcome, and Study Design (PICOS) criteria. Study quality was assessed using Joanna Briggs Institute tools. Because tinnitus prevalence in individuals with normal Eustachian tube function (ETF) was not directly reported, it was estimated using the law of total probability. Odds ratios were pooled using fixed- and random-effects models. Subgroup, sensitivity, meta-regression, and publication bias analyses were performed. The primary outcome was the pooled odds ratio (OR) for tinnitus in individuals with ETD compared with those without ETD.

RESULTS

Ten studies met inclusion criteria. A significant association was observed (random-effects OR = 3.72, 95% CI: 2.28–6.06, $p < 0.001$), consistent across models and sensitivity analyses, with ORs ranging from 2.57 to 6.04. Moderate heterogeneity was present ($I^2 = 59.8\%$). Subgroup analysis showed stronger effects in Asia, while nonsignificant results in Europe were likely due to small sample sizes. Leave-one-out analysis confirmed robustness, and publication bias adjustment did not materially change results.

CONCLUSIONS

ETD is associated with a substantially increased risk of tinnitus, with approximately 3- to 4-fold higher odds. These findings highlight the importance of evaluating ETF in patients with tinnitus and suggest ETD as a potential therapeutic target. Further prospective studies are needed to clarify causality.

KEYWORDS

Eustachian tube dysfunction (ETD); Eustachian tube function (ETF); Tinnitus

PEDIATRIC OTOLARYNGOLOGY

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PP-477

OTOGENIC CEREBRAL VENOUS SINUS THROMBOSIS SECONDARY TO ACUTE MASTOIDITIS IN CHILDREN: A TWO-CASE SERIES IN THE POST-COVID ERA

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BACKGROUND & AIM

Acute mastoiditis remains a serious consequence of acute otitis media in children and can lead to life-threatening intracranial complications, including cerebral venous sinus thrombosis (CVST). Early symptoms are often nonspecific, and delayed treatment may result in severe intracranial complications. We present two pediatric cases of otogenic CVST secondary to acute mastoiditis and discuss a possible increase in advanced otogenic complications in the post-COVID period.

MATERIAL & METHODS

We retrospectively reviewed two cases of acute otitis media complicated by mastoiditis and extensive CVST treated in 2022 and 2025 at the Vilnius University Hospital Santaros Clinics. Medical documentation was used to retrieve information about clinical presentation, imaging findings, surgical procedures, and clinical outcomes. Diagnosis was confirmed using contrast-enhanced computed tomography and magnetic resonance venography. A multidisciplinary approach involving ENT specialists, haematologists, neurologists, and neurosurgeons was necessary in both cases.

RESULTS

CASE 1. A 5-year-old male initially presented to the emergency department with fever, vomiting, lethargy, and showed temporary clinical improvement after initial treatment. Several days later, he re-presented with severe otalgia and postauricular swelling. Imaging demonstrated acute mastoiditis complicated by a retroauricular abscess, intracranial extension, and CVST. Incision and drainage with tympanostomy were performed, followed by a left antro-mastoidectomy due to clinical deterioration. Microbiological examination of purulent material identified Escherichia coli. The patient received broad-spectrum intravenous antibiotics and anticoagulation therapy. Subsequent evaluation revealed upper-extremity thrombophlebitis.

CASE 2. A 12-year-old female presented to the emergency department with fever, severe headache, vomiting, and neck stiffness. Otoscopic examination revealed purulent otitis media. Imaging demonstrated acute mastoiditis complicated by intracranial extension and CVST. Due to disease progression, right mastoidectomy was performed. The patient received intravenous broad-spectrum antibiotics and anticoagulation therapy, resulting in clinical improvement.

CONCLUSIONS

Otogenic CVST is a rare but potentially life-threatening complication of acute mastoiditis in children. Persistent headache, neurological symptoms, or clinical deterioration should prompt urgent neuroimaging. Early diagnosis and multidisciplinary

management, including surgery, antibiotics, and anticoagulation, can lead to favorable outcomes. Increased awareness is warranted given an apparent recent rise in such cases in our country following the COVID-19 pandemic.

KEYWORDS

Acute mastoiditis, COVID-19, cerebral venous sinus thrombosis

PP-478

Meningoencepaholocele Associated With A Congenital Craniopharyngeal Canal A Case Report & Literature Review

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BACKGROUND & AIM

A craniopharyngeal canal is a rare congenital abnormality that occurs as a result of the persistence of an embryological connection between the sella turcica and the nasopharynx, caused by the incomplete regression embryological ectodermal outpouching, Rathke's pouch. Imaging studies show a bony defect of the sella turcica.

This case report aims to serve as a brief introduction to the clinical presentation, diagnostic challenges and definitive management of a neonate with a craniopharyngeal canal; including a literature of the rare entity.

MATERIAL & METHODS

Case presentation:

A term neonate presented with symptoms of nasal obstruction and respiratory distress shortly after birth. Marked respiratory distress with desaturations were noted during feeds. Endoscopy of the post-nasal space revealed an obstructive cystic, grey midline nasal mass; point of origin could not be determined clinically. MRI revealed a patent bony canal extending from the nasopharynx to the sella turcica, without associated intracranial abnormalities. The diagnosis of a craniopharyngeal canal, type 3A containing cephaloceles, was made, following which, surgical intervention was implemented to close the canal.

RESULTS

Discussion:

Timely diagnosis and intervention in this rare entity is required for reasons ranging from neonates are obligatory nasal breathers to risk of meningitis. Other factors to take into account are size lesion, surgical access and pituitary function. This case outlines the importance of the consideration of a craniopharyngeal canal in the differential diagnosis of a congenital midline cystic nasopharyngeal mass, as well as the role of imaging to aid with diagnosis and surgical planning.

CONCLUSIONS

Conclusion:

A craniopharyngeal canal should be considered in neonates presenting with a midline nasopharyngeal cystic mass, and imaging is important prior to attempting implementation of surgical interventions to ensure minimal risk of injury to the brain and hypophysis. This case reports aims to add to the very small pool of existing literature available on the topic of craniopharyngeal canal and highlight important investigations in determining the best approach.

KEYWORDS

craniopharyngeal canal; neonate; congenital midline nasal lesion

PP-479

Parapharyngeal Abscess Presenting With Combined Glossopharyngeal And Vagal Nerve Palsy In A Child

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BACKGROUND & AIM

Deep neck infections in children are relatively uncommon but clinically important due to their potential for rapid progression and serious complications. Parapharyngeal abscesses are particularly concerning because of their close relationship with major neurovascular structures. While they typically present with fever, neck pain, and restricted neck movement, involvement of the lower cranial nerves is rare and may complicate the clinical picture. Dysfunction of the glossopharyngeal and vagus nerves can lead to symptoms such as dysphonia, dysphagia, and reduced gag reflex. In this report, we present a pediatric case of parapharyngeal abscess presenting with combined cranial nerve IX and X palsy.

MATERIAL & METHODS

A six-year-old girl presented to an outside emergency department with complaints of ear and throat pain.On initial evaluation, there was no trismus, and neck movements were full.Oropharyngeal examination revealed mild hyperemia.Flexible nasopharyngolaryngoscopy showed normal vocal cord mobility, no signs of respiratory distress. Neck ultrasonography was normal.The patient was managed conservatively with medical treatment.Approximately 36 hours later, she represented with worsening symptoms, including dysphonia, marked torticollis, and difficulty swallowing.Physical examination revealed significant restriction of neck movements, edema in the left peritonsillar region, and deviation of the uvula to the right.The gag

reflex was diminished and trismus had developed. Endoscopic evaluation demonstrated left vocal cord paralysis, raising suspicion for involvement of the glossopharyngeal and vagus nerves.MR imaging revealed a diffusion-restricted collection measuring approximately 2 cm, extending from the region adjacent to the left mastoid cells into the parapharyngeal space, consistent with an abscess.Laboratory findings showed leukocytosis and elevated inflammatory markers.

RESULTS

The patient was started on pareteral intravenous antibiotics and underwent urgent surgical drainage. Approximately purulent material was drained via a transoral approach, and samples were obtained for culture.

During postoperative follow up, there was marked improvement in dysphonia and torticollis. By postoperative day nine, endoscopic examination demonstrated complete recovery of vocal cord mobility, normalization of the gag reflex, and midline position of the uvula. With clinical and laboratory improvement, the patient was discharged in good condition.

CONCLUSIONS

Parapharyngeal abscesses are rare but may cause serious complications due to spread along fascial planes and involvement of adjacent neurovascular structures. Lower cranial nerve involvement is uncommon and usually results from extension into the carotid space. In this case, initially nonspecific findings delayed diagnosis, but rapid progression to dysphonia, torticollis,uvular deviation, and reduced gag reflex suggested cranial nerve involvement. Imaging was essential for diagnosis and management. If untreated, deep neck infections may lead to mediastinitis, jugular vein thrombosis, sepsis, and intracranial complications. Early intravenous antibiotics and prompt surgical drainage are crucial, as demonstrated by complete neurological recovery in this patient.

KEYWORDS

Parapharyngeal abscess ;Deep neck infection; Cranial nerve palsy; Vocal cord paralysis

PP-480

Does Early Surgical Intervention In Pediatric Complicated Acute Mastoiditis Reduce Hospital Stay? Clinical Findings Of Our Managements

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BACKGROUND & AIM

Acute mastoiditis(AM) developing after acute otitis media (AOM) remains the most common intratemporal complication in the pediatric population. Although its incidence has decreased in the antibiotic era, it remains a potentially life-threatening condition due to the risk of developing complicated AM (CAM)[1].

Currently, there are no accepted guidelines for the management. There is no consensus on the role of imaging, choice of antibiotic therapy and surgery indications [2].

The aim of this study is to evaluate pediatric CAM who were treated surgically. In particular, we aim to assess the impact of surgical intervention on the length of hospital stay.

MATERIAL & METHODS

This case series compares data from 15 pediatric patients aged 6 months to 9 years who presented to us with acute mastoiditis following middle ear infection between 2021 and 2024, regardless of prior treatment or lack thereof, and who consulted a pediatrician or ENT specialist. The specific characteristic of these cases is that they were complicated, with or without bone destruction.

Patients' white blood cell(WBC) counts and acute phase reactants(CRP), radiological reports at the time of decision for surgery or follow-up, the time between the start of initial treatment and post-surgical/post-follow-up time, and total treatment duration were recorded. In addition, postoperative hospital stay durations during this process were calculated as a percentage.

RESULTS

One patient was excluded from the study because they experienced facial paralysis during treatment, which altered their hospital stay. Of the remaining 14 patients, 4 showed no bone destruction on CT scans, and one of these underwent mastoidectomy due to high CRP levels. A 6-month-old infant with an abscess was not surgically treated due to a rapid response. All patients showed acute phase and WBC response on day 3. The average treatment duration for all patients was 28.26 days, while hospitalization lasted 13.21 days. In the group that underwent invasive procedures (V/T tube insertion or mastoidectomy) (n=10), the average hospital stay was 12 days, and in the 6 patients who underwent simple mastoidectomy, the total hospital stay was 12.5 days. Looking at the ratios, patients who underwent surgery spent 42% of their treatment time in the hospital, while this rate was 63% for patients who were placed under observation.

CONCLUSIONS

Literature reports hospitalization for acute mastoiditis between 5–15 days; our study’s average of 13.21 days aligns with this. Notably, surgical patients spent only 42% of their treatment hospitalized, compared to 63% in the observation group, proving that drainage accelerates clinical stabilization and the parenteral-to-oral transition.

One case without radiological bone destruction required surgery due to high CRP, highlighting that biochemical markers are as decisive as imaging. Conversely, avoiding surgery in an infant suggests conservative management remains viable in infancy.

Ultimately, for pediatric coalescence on CT, cortical mastoidectomy is a cost-effective, reliable intervention that optimizes hospitalization by rapidly reducing infectious load.

KEYWORDS

acute mastoiditis, coalescent mastoiditis, surgical management of complicated acute mastoiditis, length of hospital stay

PP-481

Congenital Cholesteatoma. Are We Guessing It Right?

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BACKGROUND & AIM

Congenital cholesteatoma is a type of cyst filled with keratin that forms in the middle ear or mastoid area due to trapped squamous epithelium during embryogenesis. Associated with canal atresia, it occurs in about 1 in 20,000 children, typically unilateral. Occurrence of congenital cholesteatoma in cases of external auditory canal atresia is around 4-7%. When canal atresia is associated with cholesteatoma, patients present late with features like facial nerve palsy or hearing loss. Clinical judgement aided by high resolution computed tomography (CT) scan and magnetic resonance and imaging (MRI) is needed to assess the atresia and extent of the disease.

MATERIAL & METHODS

This case involves a four year old boy with congenital ear abnormalities, including right pinna and tragus issues, a preauricular skin tag, and left microtia grade III with complete canal atresia. He was born full term via elective C-section due to previous scars and had normal development. Initial hearing screening showed normal hearing in the right ear but moderate to severe hearing loss in the left ear.

RESULTS

Follow-up examinations were uneventful until a high-resolution CT scan at age four, which indicated abnormalities in the left ear, initially suspected as cholesteatoma. However, during surgery, it was revealed to be granulation tissue. The left ear had multiple ossicle abnormalities, and histopathology confirmed it to be benign tissue. The patient recovered well postoperatively with no facial nerve issues.

CONCLUSIONS

This case underscores the challenges in diagnosing and managing congenital ear anomalies. The discrepancy between HRCT findings and histopathology highlights the importance of a comprehensive evaluation and potentially utilizing advanced imaging like MRI. A patient centered, multidisciplinary approach is crucial for optimal management. The choice of the anterior surgical approach via endaural incision was preferred due to the initial goal of cholesteatoma removal and canal reconstruction, as it provided direct access to the affected area. The surgery was performed by a senior consultant surgeon for a more favorable outcome.

KEYWORDS

Congenital Cholesteatoma, HRCT Temporal Bone, MRI, Microtia, Canal Atresia

PP-482

Embryonal Orbital Rhabdomyosarcoma Masquerading As Orbital Cellulitis In An Adolescent

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BACKGROUND & AIM

Orbital embryonal rhabdomyosarcoma is the most common primary malignant orbital tumor in childhood and may closely mimic sinogenic orbital cellulitis. Concomitant sinus disease may further obscure the diagnosis and delay suspicion of malignancy. We present an adolescent initially managed for presumed orbital cellulitis associated with ipsilateral maxillary sinusitis, who was ultimately diagnosed with embryonal orbital rhabdomyosarcoma. This case aims to emphasize the need for early diagnostic reconsideration, repeat imaging, and timely biopsy when orbital signs persist or progress despite appropriate antimicrobial and surgical management.

MATERIAL & METHODS

A single-patient case report of a 13-year-old girl was prepared through retrospective review of clinical records, otorhinolaryngological and ophthalmological findings, laboratory results, radiological imaging, operative notes, histopathological reports, and treatment course. The diagnostic process was analyzed chronologically, including the initial

diagnosis of presumed sinogenic orbital cellulitis, endoscopic sinus surgery with orbital decompression, postoperative clinical evolution, repeat magnetic resonance imaging, incisional biopsy, and final histopathological diagnosis.

RESULTS

A 13-year-old girl presented with a two-week history of progressive left periorbital swelling previously treated as preseptal cellulitis. On admission, she had decreased visual acuity, chemosis, proptosis, periorbital edema, and painful restriction of extraocular movements. Contrast-enhanced orbital magnetic resonance imaging suggested orbital cellulitis associated with ipsilateral maxillary sinusitis. Endoscopic sinus surgery with orbital decompression was performed, and intravenous antimicrobial therapy was continued. Initial postoperative improvement, particularly in visual acuity, was observed. However, proptosis, ophthalmoplegia, and visual symptoms progressed within days. Repeat imaging on postoperative day 9 demonstrated an infiltrative orbital space-occupying lesion. Incisional biopsy confirmed embryonal rhabdomyosarcoma, and the patient was referred to pediatric oncology for staging and multimodal treatment.

CONCLUSIONS

Orbital embryonal rhabdomyosarcoma may present with an orbital cellulitis phenotype, even in the presence of concomitant sinusitis. Transient improvement after decompression or antimicrobial therapy does not exclude an underlying malignancy. Persistent, recurrent, or progressive proptosis, ophthalmoplegia, chemosis, or visual impairment after appropriate treatment should prompt early repeat imaging and tissue diagnosis. In pediatric and adolescent patients with atypical orbital cellulitis, malignancy must remain within the differential diagnosis to avoid diagnostic delay and enable timely multidisciplinary oncologic management.

KEYWORDS

Embryonal rhabdomyosarcoma; orbital malignancy; orbital cellulitis; pediatric proptosis; diagnostic delay

PP-483

Postoperative Pressure-Induced Transient Alopecia Following Long-Term Pediatric Otologic Surgery

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BACKGROUND & AIM

Postoperative pressure alopecia is a rare complication developing due to pressure ischemia in specific areas of the scalp following prolonged surgical procedures. While commonly associated with cardiac, urological surgeries, it can also be observed in complex ear surgeries where the patient's head remains stationary and rotated for long durations. Mastoidectomy operations, particularly in cases of cholesteatoma or revisions, may increase this risk as surgical times extend. In this case report, we aim to discuss a case of transient alopecia in the temporoparietal region following a prolonged pediatric mastoidectomy and the intraoperative measures that can be taken to prevent this complication.

MATERIAL & METHODS

A 14-year-old male patient was operated on due to chronic otitis media. Following an "inside-out" type 4 mastoidectomy with TORP application lasting approximately 6 hours, a painless, non-cicatricial, patchy hair loss of approximately 3x4 cm was noticed in the temporoparietal region on the 10th postoperative day. Following a dermatology consultation, the patient was diagnosed with "postoperative pressure alopecia." Complete recovery was observed after 1 month of treatment with 5% minoxidil topical spray.

RESULTS

Ischemic damage to hair follicles occurs when continuous pressure exceeds capillary perfusion, typically in surgeries exceeding 4 hours. In pediatric cases, the risk may be exacerbated by thinner subcutaneous adipose tissue compared to adults. While literature often suggests a "watch-and-wait" approach, topical minoxidil may accelerate recovery by enhancing follicular blood flow and transitioning follicles from the telogen to the anagen phase.

CONCLUSIONS

Alopecia developing after long-term mastoidectomy operations is a complication that can cause significant psychosocial stress, especially in young patients. As demonstrated in this case, intraoperative prophylactic measures (gel pads, periodic head movement) are of vital importance when the surgical duration reaches 6 hours. Additionally, the use of topical minoxidil can be considered an effective option to accelerate the recovery process.

KEYWORDS

Postoperative pressure alopecia, pediatric mastoidectomy

PP-484

Beyond A Deep Neck Abscess: Lessons From A Rapidly Progressive Pediatric Cervicomediastinal Infection

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BACKGROUND & AIM

Deep neck space infections in children may rapidly progress into life-threatening cervicomediastinal infections. We report a rapidly progressive pediatric deep neck infection with mediastinal extension and empyema, highlighting the importance of early reassessment and multidisciplinary management.

MATERIAL & METHODS

A 2.5-year-old boy presented with 7 days of fever and left cervical swelling initially misdiagnosed as mumps. He developed progressive respiratory distress requiring tertiary referral. Past history included recurrent otitis media, pneumonia, febrile convulsions, and poorly formed Bacillus Calmette–Guérin scar. On admission, he was toxic, hypoxic, and septic. Imaging revealed pneumonia with empyema, and pleural culture grew methicillin-resistant Staphylococcus aureus (MRSA). Despite antimicrobial therapy, he deteriorated with recurrent neck swelling, posterior pharyngeal wall bulging, dysphagia, and impending airway compromise requiring intubation and pediatric intensive care admission. Blood cultures grew Candida albicans. Contrast-enhanced computed tomography demonstrated multiloculated retropharyngeal and prevertebral abscesses extending into the mediastinum to the tracheal bifurcation. Urgent transcervical drainage successfully controlled the cervical and mediastinal collections without sternotomy or tracheostomy. Immunological evaluation demonstrated persistently reduced absolute CD19 B-cell counts.

RESULTS

Following airway stabilization, surgical drainage, prolonged antimicrobial and antifungal therapy, intravenous immunoglobulin administration, and intensive care support, the patient gradually improved and was successfully extubated after 5 days. Follow-up imaging demonstrated marked resolution of cervical and thoracic collections. The child resumed normal feeding and returned to normal activities without evidence of recurrence during follow-up.

CONCLUSIONS

Rapid progression of pediatric deep neck infections should prompt urgent reassessment and evaluation for immune dysfunction. Early recognition of cervicomediastinal extension and aggressive multidisciplinary management are essential for favorable outcomes. Extensive cervicomediastinal collections may be successfully controlled through a transcervical approach without sternotomy in selected pediatric cases.

KEYWORDS

Pediatric deep neck infection Descending necrotizing mediastinitis Retropharyngeal abscess Empyema Transcervical drainage

PP-485

Iatrogenic Airway Foreign Body Developed During Subglottic Stenosis Dilatation In An Infant

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BACKGROUND & AIM

Subglottic stenosis in infants is a serious airway condition most commonly associated with prolonged endotracheal intubation and may result in life-threatening respiratory distress. Management with rigid bronchoscopy and dilatation is technically challenging due to the narrow pediatric airway and the need for shared ventilation between anesthesiologist and surgeon. Although generally safe, these procedures may rarely be complicated by equipment-related adverse events. This report presents the management of an iatrogenic airway foreign body caused by fracture of a suction catheter during rigid bronchoscopy in an infant with subglottic stenosis.

MATERIAL & METHODS

A 5-month-and-21-day-old male infant (6 kg), born at term by cesarean section with a birth weight of 2800 g, was admitted with recurrent respiratory distress. He had been intubated in the intensive care unit at an external center at 3 months of age, with unknown duration of intubation. After discharge, he required two further hospitalizations due to respiratory symptoms. Fiberoptic bronchoscopy revealed subglottic stenosis, and rigid bronchoscopy with planned dilatation was scheduled. Preoperative evaluation showed tachypnea, subcostal retractions, and oxygen saturation of 92% on room air. The patient was prepared for endoscopic airway intervention under general anesthesia with a multidisciplinary team.

RESULTS

Following induction with lidocaine, propofol, and remifentanil, and neuromuscular blockade with rocuronium, brief mask ventilation was performed. The patient was then transferred to the surgical team for rigid bronchoscopy. A size 2.5 rigid bronchoscope was used to enter the trachea, revealing subglottic stenosis immediately below the vocal cords. Dilatation was performed using a size 3.5 bronchoscope. During suctioning of secretions, a defect was observed at the distal tip of the suction catheter. Immediate airway reassessment with rigid bronchoscopy revealed a fractured catheter fragment within the airway. The fragment was successfully retrieved. Equipment integrity was confirmed after removal (Figure 1). The patient was intubated with a 3.5 endotracheal tube and extubated uneventfully after sugammadex reversal. He was transferred to the intensive care unit in stable condition. Follow-up bronchoscopy at two weeks showed no residual stenosis or foreign body.

CONCLUSIONS

Suction catheter fracture during pediatric rigid bronchoscopy is a rare but potentially serious iatrogenic complication. This case highlights the importance of careful inspection of all endoscopic equipment before and after use. Immediate recognition of device malfunction and prompt airway re-evaluation are essential to prevent morbidity. A multidisciplinary approach involving anesthesiology and otolaryngology teams is critical for safe management of complex pediatric airway procedures.

KEYWORDS

Subglottic stenosis, rigid bronchoscopy, pediatric airway, iatrogenic foreign body, suction catheter fracture

PP-486

From A Branchial Fistula To A Branchio-Oto-Renal Syndrome - A Case Report And Review Of The Literature

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BACKGROUND & AIM

Branchio-oto-renal (BOR) syndrome is a rare genetic disorder with autosomal dominant inheritance, characterized by the variable association of branchial, auditory, and renal anomalies.

Through this work, we present a case illustrating the diagnostic challenges and the importance of a multidisciplinary approach in the management of this rare syndrome.

MATERIAL & METHODS

We report the case of a 5-year-old child who presented to our department for management of an inflammatory right lateral cervical fistulous opening evolving for more than 6 months, marked by several recurrent infectious episodes.

A thorough clinical examination, fistulography, biological and radiological investigations, as well as audiometry, were performed.

RESULTS

Clinical examination revealed two bilateral cervical fistulas, almost symmetrical and likely originating from the second branchial arch. The right-sided fistula was symptomatic, marked by several infectious episodes with salivary discharge, whereas the left-sided fistula was asymptomatic.

Fistulography demonstrated findings consistent with a complete second branchial arch fistula communicating with the hypopharynx.

The examination also revealed bilateral preauricular fistulas, which had presented only one infectious episode, as well as two congenital lacrimal fistulas that had remained asymptomatic to date.

The patient had neither hearing impairment nor clinically evident renal involvement. Nevertheless, an audiogram and an abdominopelvic ultrasound were performed as part of the etiological workup.

The audiogram was unremarkable.

Renal ultrasound revealed left renal hypoplasia without major functional impairment.

The patient successfully underwent surgical excision of the right cervical fistula as well as both preauricular fistulas, with favorable postoperative outcomes.

CONCLUSIONS

Branchio-oto-renal (BOR) syndrome is a rare disorder whose heterogeneous clinical presentation may delay diagnosis. Although branchial malformations are usually of limited severity, the associated auditory and renal abnormalities, sometimes revealed later in the course of the disease, may significantly affect functional prognosis.

Therefore, early management combined with rigorous clinical, audiological, and renal follow-up remains essential to ensure optimal long-term care for these patients.

KEYWORDS

Fistulas, Renal involvement, Hearing, Monitoring

PP-487

Nasal Obstruction In Neonates

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BACKGROUND & AIM

Discuss the different etiologies for nasal obstruction for neonates and the effect of management on the outcomes

MATERIAL & METHODS

Literature review about the different etiologies for nasal obstruction in neonates.

Presenting a few cases from our hospital including nasal aperture stenosis and choanal atresia and their management

RESULTS

Different etiologies require different management.

Pyrifrom aperture stenosis can be managed either conservatively or surgically depending on the severity: presenting cases: one required dilation and one conservative management including intranasal steroid drops

Choanal atresia needs to be managed surgically. We present a case were we used mini Propel stent with excellent results

CONCLUSIONS

Different etiologies require different management. Using mini propel has excellent results for choanal atresia.

KEYWORDS

Nasal obstruction, infants, pyriform aperture stenosis, choanal atresia

PP-488

Perioperative Peripheral Facial Nerve Palsy In A 23-Month-Old Toddler: A Case Report

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BACKGROUND & AIM

Peripheral facial nerve palsy (PFP) is uncommon in early childhood and is usually associated with a favourable prognosis. The occurrence of facial palsy in the perioperative period may raise concerns regarding anesthetic or surgical complications.

MATERIAL & METHODS

This is a case presentation; therefore, there is no material and method.

RESULTS

Case Presentation

A 23-month-old child displayed left-sided House–Brackmann grade IV peripheral facial nerve palsy on the evening of the day of circumcision performed under mask anesthesia (Figure 1A). Otorhinolaryngologic examination was normal. The patient had a previous history of herpetic whitlow requiring hospitalisation one year earlier. Oral corticosteroid therapy was initiated and followed by rapid and marked clinical improvement (Figure 1B).

CONCLUSIONS

We present a pediatric case of peripheral facial nerve palsy that developed shortly after mask ventilation. Determining whether the cause was perioperative or herpetic reactivation remained challenging.

KEYWORDS

Peripheral Facial Nerve Palsy; Pediatrics; Mask Ventilation; Herpetic Whitlow; Case Report

PP-489

Particularity Of Hearing Impairment In Preterm Infants: About A Series

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BACKGROUND & AIM

Deafness is one of the neurosensory sequelae that can occur in preterm infants. The aim of our study is to determine prevalence of deafness in preterm infants as well as to specify its characteristics in order to provid appropriate and early therapeutic guidance.

MATERIAL & METHODS

Prospective study carried out over one year, from September 2024 to September 2025, involving 228 preterm newborns hospitalized in the neonatology department. Screening using automated auditory brainstem response (AABR) was performed at the end of the preterm infant's hospitalization. A doubtful test was confirmed by a second test within 15 days. For preterm infants with two doubtful tests, auditory brainstem response (ABR) and automated evoked otoacoustic emissions (AEOAE) were performed within 1 to 4 months depending on presence or absence of associated pathology.

RESULTS

In this population, 4.38% (10 cases) presented unilateral or bilateral deafness ≥ 35 dB with clear male predominance: sex ratio 4 boys to 1 girl. Their gestational age ranged from 28 to 35 weeks of amenorrhea and birth weight ranged from 0.9 to 2.8 kg, with an average of 1.6 kg. The ABR were performed between 1 and 4 months, with an average of 3 months. Six deaf preterm infants stayed in intensive care unit. Other risk factors for deafness were present in six deaf preterm infants, including neonatal bacterial meningitis, birth weight < 1.5 kg in 5 preterm infants, second-degree consanguinity, and a polymalformative syndrome. We diagnosed among these 10 preterm infants: 1 mild deafness, 6 moderate, 1 severe, and 2 profounds deafness, one of which was related to neonatal meningitis. Unilateral deafness accounted for 40% of the hearing impairments. One newborn presented an auditory neuropathy spectrum disorder.

CONCLUSIONS

The risk of deafness in preterm infants is 10 times higher than in the general population. Major hearing loss is rare in preterm infants. It is rather moderate and predominantly unilateral, which can lead to late diagnosis and management.

KEYWORDS

Preterm infant,hearing loss, screening, auditory neuropathy spectrum disorder

PP-490

Chronic Granulomatous Invasive Fungal Sinusitis With Orbital Extension In A Pediatric Patient: A Histopathology-Confirmed Case Report

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BACKGROUND & AIM

Chronic granulomatous invasive fungal sinusitis (CGIFS) is a rare subtype of invasive fungal rhinosinusitis characterized by slowly progressive fungal tissue invasion associated with granulomatous inflammation. Pediatric cases remain uncommon and frequently present diagnostic challenges because of their indolent course and nonspecific manifestations.

MATERIAL & METHODS

This study was conducted as a retrospective descriptive case report of a pediatric patient diagnosed with chronic granulomatous invasive fungal sinusitis at a tertiary referral center. Clinical data, laboratory investigations, radiologic imaging, histopathologic findings, operative details, treatment course, and follow-up outcomes were obtained through review of the patient's electronic medical records. Histopathologic diagnosis was established using permanent tissue sections and special fungal stains. Written informed consent for publication was obtained from the patient's legal guardian.

RESULTS

A previously healthy 9-year-old Yemeni female presented with progressive unilateral nasal obstruction, headache, and left-sided proptosis. Imaging demonstrated extensive unilateral sinonasal disease involving the maxillary, ethmoid, frontal, and sphenoid sinuses with bony destruction and orbital extension. Computed tomography revealed erosion of the lamina papyracea, ethmoid roof, and maxillary sinus walls, while magnetic resonance imaging demonstrated enhancing low T2 signal soft tissue without intracranial extension. Revision Functional Endoscopic Sinus Surgery with biopsy confirmed tissue-invasive fungal sinusitis with granulomatous inflammation, fibrosis, multinucleated giant cells, and fungal hyphae identified on special stains. Fungal and bacterial cultures remained negative. Follow-up imaging demonstrated persistent orbital and extrasinonasal extension without intracranial progression. The patient was treated with surgical debridement and prolonged voriconazole therapy, resulting in significant clinical improvement with preserved vision and no residual sinonasal masses on endoscopic follow-up.

CONCLUSIONS

CGIFS should be considered in pediatric patients presenting with unilateral destructive sinonasal disease associated with orbital involvement, even in the absence of severe systemic manifestations or positive fungal cultures. Early histopathologic diagnosis and multidisciplinary management remain essential to optimize outcomes and prevent orbital or intracranial progression.

KEYWORDS

Chronic granulomatous invasive fungal sinusitis; Pediatric fungal sinusitis; Orbital extension; Aspergillosis; Invasive fungal rhinosinusitis.

PP-491

A Rare Cause Of Recurrent Cervical Discharge: Second Branchial Cleft Fistula

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BACKGROUND & AIM

Second branchial cleft anomalies represent the most common branchial cleft lesions and may present as cysts, sinuses, or fistulous tracts in the lateral neck. Although congenital in origin, a second branchial cleft fistula may remain clinically underrecognized until recurrent cervical discharge or infection prompts further evaluation. This case highlights the importance of considering this rare entity in the differential diagnosis of persistent cervical discharge and planning definitive surgical management accordingly.

MATERIAL & METHODS

A 63-year-old woman with hypertension, hypothyroidism, and a 10 pack-year smoking history presented with lifelong intermittent left neck swelling and discharge. Examination revealed a 2×1 cm, semi-mobile, non-fluctuant lesion anterior to the sternocleidomastoid muscle (level II) with cutaneous fistulization. USG showed a 19×5 mm dense collection extending toward the skin and reactive lymph nodes. Contrast-enhanced CT identified a thin tract from the C3 level to the cutaneous opening at

C6, without tonsillar or oropharyngeal communication. MRI demonstrated a T1-hypointense, T2-hyperintense tract (max 10 mm width) with peripheral enhancement and diffusion restriction. Salivary glands and lymph nodes were otherwise unremarkable. Based on the congenital history, clinical location, and imaging findings, a second branchial cleft fistula was diagnosed

RESULTS

Radiological evaluation demonstrated a left-sided fistulous tract extending from the upper cervical region to the cutaneous opening anterior to the sternocleidomastoid muscle, without a definite radiological communication with the tonsillar fossa or oropharynx. The patient underwent surgical excision of the left branchial fistulous tract (Figure 2). During dissection, traction applied to the fistulous tract produced a visible pulling movement in the ipsilateral tonsillar fossa, suggesting proximal extension of the tract toward the oropharyngeal region despite the absence of a clear communication on imaging. (Figure 3). Complete excision was performed, and the specimen was a tubular soft tissue fragment measuring 6.5 × 1.5 × 1.6 cm macroscopically. Histopathological examination revealed findings compatible with a branchial cyst, supporting the diagnosis of a second branchial cleft anomaly with cutaneous fistulization. At the patient's 6-month postoperative follow-up, there were no complaints, and the clinical examination was unremarkable.

CONCLUSIONS

Second branchial cleft fistulas may remain clinically subtle for decades and may not always show a clear oropharyngeal communication on preoperative imaging. In this case, intraoperative traction of the tract causing tonsillar fossa movement was a key finding that clarified its proximal extension. Careful surgical exploration and complete excision remain essential for definitive diagnosis and treatment.

KEYWORDS

Branchioma; Branchial Region; Fistula

PP-492

From Sinus To Fistula: The Hidden Cost Of Repeated Incision And Drainage In Paediatric Branchial Cleft Anomalies, A Case Series

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BACKGROUND & AIM

Branchial cleft anomalies commonly present as branchial cleft sinuses, which are epithelialized tracts that communicate with the skin or pharynx. While these anomalies are often asymptomatic, they can become complicated by infection, resulting in abscess formation. The standard management of an infected branchial cleft sinus involves prompt incision and drainage (I&D) to alleviate symptoms and control infection. However, repeated I&D procedures without early definitive surgical intervention to address the underlying anomaly may lead to significant preventable complications such as sinus-to-fistula transformation, chronic discharge, and substantial psychosocial morbidity, particularly in children.

MATERIAL & METHODS

This was a case series involving 2 children who developed branchial fistulas following incision and drainage of neck abscesses located in the area of prior sinuses

RESULTS

This case series describes two children with a history of recurrent lateral neck swellings that initially lacked any external openings. Both underwent multiple I&D procedures before presenting with f luid extrusion from newly formed cutaneous openings, which led to social distress, including peer ridicule. Definitive surgical excision was performed via an external approach, resulting in complete symptom resolution at the six-month follow-up.

CONCLUSIONS

The management of recurrent infections in presumed branchial cleft anomalies may benefit from needle aspiration instead of repeated I&D to alleviate acute symptoms and prevent the progression from a sinus to a fistula. Based on the observation from our limited case series, early recognition in primary care, avoidance of repeated I&D, and timely referral for definitive excision to specialists are the main strategies to prevent complications and their psychosocial consequences.

KEYWORDS

branchial sinuses, fistula, complications, needle aspiration, outcomes

PP-493

Prevalence Of Electronic Smoking Exposure And Tonsillectomy Surgery In Children

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BACKGROUND & AIM

The hypothesis tested was the negative impact of electronic smoke exposure on the developing of respiratory infection, specifically in the upper tract. In this study, we aimed to investigate if smoke exposure increased the number of tonsillectomy surgery in children compared to the hernia repair control group

MATERIAL & METHODS

The design of our study was retrospective case-control. We retrospectively reviewed medical records or children of up to 12 years of age that were admitted for tonsillectomy at King Abdullah University Hospital (KAUH) from January 2019 to December 2023 to determine exposure to both electronic and tobacco smoking. Records of hernia repair surgery children aged 12 and less at this facility were also retrospectively reviewed for both electronic and tobacco smoke exposure during the same period. Data was collected from medical records and phone call interviews with the patients and their families

RESULTS

A total of 743 children were included, 64 % were males. The participants were divided into two groups: 439 had recurrent tonsillitis and needed tonsillectomy, the other 304 underwent hernia repair surgery (control group). Overall, 28 % of children were exposed to electronic smoking, 29 % to tobacco smoking, and 5.9 % to both. Electronic and tobacco smoke exposure was significantly evident among the tonsillectomy group compared to the hernia group. Logistic regression analysis showed that exposure to electronic smoking (OR: 2.74) and tobacco smoking (OR: 2.47) were significantly associated with an increased likelihood of undergoing tonsillectomy. However, patients with exposure to both smoking types did not show a significant link, while the absence of any smoking exposure was significantly associated to lower odds of tonsillectomy

CONCLUSIONS

Children who underwent tonsillectomy had a higher likelihood of being exposed to tobacco or electronic smoking compared to children in the hernia repair surgery group.

KEYWORDS

electronic smoking, Tonsillectomy, Tobacco

PP-494

Bilateral Second Branchial Cleft Anomalies In Early Childhood: Asymmetric Complete And Incomplete Presentation

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BACKGROUND & AIM

Branchial cleft anomalies are developmental defects resulting from the failure of the branchial apparatus to obliterate during embryogenesis. Second branchial cleft anomalies represent 90-95% of all branchial cleft defects. While these anomalies are predominantly unilateral in the literature, bilateral occurrences are reported in only 2-5% of cases. In bilateral presentations, syndromic associations, most notably branchio-oto-renal (BOR) syndrome, must be strictly considered.

This study aimed to present a case of bilateral second branchial cleft anomaly in a nonsyndromic 2-year-old child, characterized by a complete fistula extending to the tonsillar fossa on one side and an incomplete tract on the contralateral side.

MATERIAL & METHODS

A 2-year-old boy presented to our outpatient clinic with a history of bilateral neck swellings and intermittent purulent discharge since birth. His medical history revealed that the swelling in the right cervical region was more prominent, whereas the swelling on the left tended to disappear periodically. The patient had no significant personal or family medical history. Physical examination revealed bilateral fistula orifices along the anterior border of the sternocleidomastoid (SCM) muscle. Mobile and soft cystic masses, approximately 2 cm in diameter on the right and 1 cm on the left, were palpated duringthe examination. The patient underwent comprehensive neck ultrasonography (USG) and magnetic resonance imaging (MRI). The USG findings were consistent with bilateral branchial cleft cysts. MRI revealed that the right branchial cleft fistula tract coursed through the carotid bifurcation and extended into the tonsillar fossa. The patient's renal USG and audiological evaluations were within normal limits.

RESULTS

Surgical excision under general anesthesia was performed. Initially, the left cervical region was examined. Methylene blue was injected through the fistula orifice via a cannula to delineate the tract, which was then dissected along with the cyst wall from the surrounding soft tissue and excised. Subsequently, the right side was approached, and the cyst wall was meticulously dissected and followed up proximally. After confirming that the fistula tract extended to the right tonsillar fossa, a transoral approach was used. A cystic lesion distinct from the tonsillar tissue was identified in the right tonsillar fossa. A right tonsillectomy was performed, and the fistula tract was completely removed using a combination of transcervical and transoral approaches. No postoperative complications were observed. The patient was discharged in stable condition on the second postoperative day. Follow-up examinations revealed healthy wound healing. Histopathological examination confirmed the diagnosis of 'bilateral branchial cleft cysts'

CONCLUSIONS

Bilateral branchial cleft anomalies are rare congenital disorders. It is imperative to thoroughly evaluate syndromic associations, particularly the branchio-oto-renal (BOR) syndrome. Nonetheless, as illustrated in our case, nonsyndromic variations may manifest. A detailed clinical history, comprehensive physical examination, and advanced imaging techniques are essential for achieving an accurate diagnosis and ensuring optimal surgical planning.

KEYWORDS

Branchial cleft anomaly, Second branchial cleft fistula, Pediatric neck mass, Bilateral presentation

PP-495

Granulomatous Inflammatory Mass In The Right Nasal Vestibule: A Case Report

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BACKGROUND & AIM

Granulomatous lesions of the nasal cavity and paranasal sinuses represent diverse infectious, inflammatory, and neoplastic conditions. Although rare in children, they may present diagnostic challenges and occasionally signal underlying systemic disease.

A 14-year-old female presented with a 4-month history of a lesion at the right medial canthus. Lacrimal irrigation showed reflux, and dacryocystorhinostomy was planned. However, right septal deviation limited evaluation of the nasolacrimal duct, and a mass was identified in the right nasal vestibule, prompting referral to our clinic.

MATERIAL & METHODS

Nasal symptoms began after the ocular lesion and had progressively worsened. Examination revealed purulent discharge and crusting in the nasal passages, and antibiotic therapy was initiated. CT showed obstruction of the right frontoethmoidal recess and osteomeatal complex, along with soft tissue densities in all paranasal sinuses and mucosal thickening extending from the right medial canthus to the nasolacrimal duct.

Following treatment, infection regressed. Endoscopic examination demonstrated a patent left nasal passage and no nasopharyngeal mass. A papillomatous lesion was observed at the entrance of the right nasal passage. Incisional biopsy, including adjacent healthy mucosa, was performed.

RESULTS

Initial histopathology suggested lymphoid proliferation with suspicion of lymphoma; however, further evaluation at an external center confirmed granulomatous inflammation.

CONCLUSIONS

Granulomatous nasal lesions should be evaluated with a broad differential diagnosis, particularly in atypical presentations. In cases associated with nasolacrimal system findings, both local and systemic conditions must be considered. Early endoscopic assessment and biopsy are essential for accurate diagnosis.

KEYWORDS

Nasal vestibule; granulomatous inflammation; nasolacrimal duct obstruction; pediatric case

PP-496

The Cuneiform Cartilage Is Devoid Of Essential Cartilage Matrix Component In Laryngomalacia

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BACKGROUND & AIM

Although the sensorimotor theory is the most widely supported etiology of laryngomalacia (LM), preliminary histological studies have suggested a chondrogenic etiology. Laryngeal cartilage is a critical source of mechanical rigidity that maintains the anatomical form and function of the larynx. We hypothesized that the ECM of laryngeal cartilage from LM lacks the functionally essential extracellular cell matrix (ECM).

MATERIAL & METHODS

Cuneiform cartilage specimens were obtained from an otherwise healthy, non-syndromic, male infant (3-months old) during supraglottoplasty for a type 2 LM. The specimens were fixed in neutral buffered formalin, processed, embedded in paraffin wax, and 5 µm sections were prepared. For histological analysis, the sections were deparaffinized and stained with hematoxylin and eosin (H&E), Safranin O, and counterstained with Fast Green. The distribution of type I (COLI) and II (COLII) collagen were assessed by immunofluorescence (IF). The sections were deparaffinized and rehydrated. Enzymatic antigen retrieval was conducted. IF assessment for COLI and COLII was completed using rabbit anti-collagen I (CL50111AP-1) and mouse anti-collagen II (II-II6B3). Secondary labelling using goat anti-mouse IgG-Alexa Fluor 488 (ab150117) and goat anti-rabbit

IgG-Alexa Fluor 594 was conducted. Slides were mounted with nuclear staining (DAPI, diamidino-phenylindole) and imaged using a Nikon Ti-S Microscope with a DS-U3/Fi2 Colour CCD Camera, with FITC and Texas Red filters.

RESULTS

Histological assessment revealed a ~100µm hypercellular peripheral structure surrounding a core structure with some Safranin O-positive ECM (indicative of proteoglycans), especially in the right anterior aspect. The IF assessment showed the hypercellular peripheral structure to be rich in COLI and lacking in COLII. The core structure is positive for COLI but lacks COLII.

CONCLUSIONS

Our preliminary, unique work suggests that the cuneiform cartilages in LM may be biomechanically dysfunctional due to the absence of major ECM components of cartilage, such as collagen II, offering a plausible explanation for the features of types 1 and 2 LM. This is the most robust evidence of a chondrogenic etiology for LM. Future work will include mechanical testing and proteomic analysis of cuneiform cartilage specimens from LM for quantitative biomechanical-compositional correlations.

KEYWORDS

Laryngomalacia, cuneiform cartilage, chondrogenic theory, histology

PP-497

Endotyping Of Chronic Adenoiditis

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BACKGROUND & AIM

Identification of endotypes is important for the development of personalized therapeutic strategies targeting specific disease mechanisms. Currently, endotypes of various upper respiratory tract diseases have been described, which are determined by different immunopathogenesis. The diagnosis of "chronic adenoiditis" may conceal various pathological processes in the pharyngeal tonsil, each with a different pathogenesis and requiring personalized therapy.

Aim : To develop a method for diagnosing the endotype of chronic adenoiditis in children.

MATERIAL & METHODS

The study included patients aged 3–15 years with a verified diagnosis of chronic adenoiditis who underwent adenotomy according to indications. In the blood serum samples of the study participants, concentrations of eleven inflammatory response mediators were measured: IL-1β, IL-5, IL-17α, IL-6, IL-8, IL-33, IL-35, IL-22, IFN-γ, TNF-α, and TGF-β1. Quantitative determination was performed using enzyme-linked immunosorbent assay (ELISA). Expression levels of the same proinflammatory cytokines were analyzed in collected pharyngeal tonsil tissue samples.To determine the expression level of each marker, a total immunoreactivity score based on the immunohistochemical scoring method known as the H-score was used. Identification of differentiating characteristics was performed by analyzing Wilks' and Fisher's F-statistic values. The CHAID classification algorithm, a decision tree technique using the chi-square test, was used as a statistical analysis tool. Statistical processing of the obtained data was carried out using STATISTICA 12.0 and SPSS Statistics software packages.

RESULTS

Analysis of serum and tissue revealed four chronic adenoiditis endotypes (Th1, Th2, Th17, Treg) and two mixed subendotypes. Th1 showed elevated IFN-γ, TNF-α, IL-1β; Treg high TGF-β1 and IL-35; Th2 predominance of IL-5 and IL-33; Th17 key markers IL-17 and IL-22. Contingency analysis confirmed four endotypes ($\chi^2 = 442.2$, $p < 0.0001$, coefficient 0.82). Stepwise discriminant analysis identified nine discriminatory markers, with TGF-β1 being most relevant. The CHAID decision-tree model included TGF-β1, IFN-γ, IL-5, IL-1β, TNF-α. Diagnostic algorithms: Th1 – TGF-β1 <8.3 pg/mL + IFN-γ >47 pg/mL; Th2 – TGF-β1 8.3–30.3 + IL-5 >14.4, or TGF-β1 30.3–51.5 + IL-1β <20.4; Th17 – TGF-β1 up to 65.5, or 30.3–51.5 + IL-1β >20.4; Treg – TGF-β1 >93.1, or 65.4–93.1 + TNF-α <16.3. Overall diagnostic accuracy reached 95.9%, with validation error increasing minimally from 4.1% to 9.3%, confirming high reproducibility and clinical applicability.

CONCLUSIONS

The developed algorithm for the differential diagnosis of chronic adenoiditis endotypes in children, based on the analysis of inflammatory mediators in blood serum by enzyme-linked immunosorbent assay (ELISA), offers prospects for predicting the type of immune response specific to each individual patient. This approach allows moving away from empirical drug prescription and shifting toward targeted intervention on the pathogenetic mechanisms of the disease, which may improve treatment efficacy.

KEYWORDS

chronic adenoiditis, adenoid hypertrophy, diagnostics endotype, children.

PP-498

Bifurcated Nasal Septum – An Unusual Path Of Nasal Dermoid

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BACKGROUND & AIM

Nasal dermoid are the most common congenital midline lesions, with an incidence of 1:20.000 to 1:40.000 live births. These anomalies may present as cysts, sinuses, or fistulae, with 10% to 45% of cases having intracranial extension. Timely diagnosis and complete surgical excision are imperative to mitigate the risk of infectious complications, structural deformity, and recurrence.

MATERIAL & METHODS

Case report with surgical technique description, imaging documentation and photographic documentation of pre-, intra- and postoperative stages.

RESULTS

A three-year-old male presented to the Otorhinolaryngology emergency department with recurrent nasal swelling and purulent drainage from a columellar pit, since age one. MRI identified a sinus tract with two distinct fistulous components: one traversing the plane of the nasal septum toward the skull base, and a second, more superior tract extending toward the crista galli. No evidence of intracranial extension was identified.

An external rhinoplasty approach was performed to excise the columellar pit and associated sinus tracts. Methylene blue dye was injected into the columellar orifice to ensure visualization of the sinus architecture. Intraoperatively, the tract was found to penetrate the cartilaginous nasal septum, resulting in septal bifurcation. Both tracts were meticulously dissected, ligated at their fibrous stalks, and excised. The bifurcated nasal septum was reconstructed using a continuous transfixion suture. One month after surgery, the patient exhibited excellent healing and nasal patency. Histopathology confirmed diagnosis of dermoid cyst.

CONCLUSIONS

Nasal dermoid are rare congenital midline lesions that often present with localized swelling and recurrent infection. Early diagnostic imaging and definitive surgical intervention are essential to prevent secondary complications and the need for more invasive procedures. The external rhinoplasty approach provides optimal exposure for complete resection while yielding superior cosmetic results.

KEYWORDS

Nasal Dermoid; Congenital; External rhinoplasty; sugery technique

PP-499

Parotid Tuberculosis Mimicking A Neoplasm In An Adolescent: A Diagnostic Challenge

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BACKGROUND & AIM

Parotid tuberculosis is a rare form of extrapulmonary tuberculosis and often mimics benign or malignant salivary gland tumors. Due to its nonspecific presentation, it poses a diagnostic challenge and may lead to unnecessary surgical intervention. We hypothesize that early utilization of fine needle aspiration (FNA) combined with molecular testing can facilitate accurate diagnosis and prevent unwarranted surgery.

MATERIAL & METHODS

This is a single case report of a 14-year-old female presenting to a tertiary otorhinolaryngology unit with a one-year history of progressively enlarging right-sided neck swelling. The mass initially resolved after oral antibiotics but recurred three months prior to presentation. Clinical examination, flexible nasopharyngolaryngoscopy, and contrast-enhanced computed tomography (CT) were performed. CT imaging demonstrated a septated cystic lesion involving the tail of the right parotid gland, raising suspicion for a parotid neoplasm versus tuberculous lymphadenitis. Ultrasound-guided FNA with aspiration (5 mL) was conducted. Samples were analyzed for acid-fast bacilli (AFB), tuberculosis polymerase chain reaction (TB-PCR), mycobacterial culture, and cytology.

RESULTS

The patient had a firm, non-tender 5 × 3 cm swelling at right level II–III with intact facial nerve function. CT imaging showed cystic changes within the parotid gland. FNA revealed scanty AFB, and TB-PCR detected Mycobacterium tuberculosis. Cytology and culture results were pending at reporting. No pulmonary involvement or systemic constitutional symptoms were present. A diagnosis of parotid tuberculosis was established, and standard antitubercular therapy (ATT) was initiated. Surgical intervention was avoided.

CONCLUSIONS

Parotid tuberculosis should be considered in adolescents presenting with chronic, painless parotid or upper neck masses, particularly in tuberculosis-endemic regions. Imaging alone may mimic neoplasm; therefore, FNA combined with molecular diagnostics is essential for definitive diagnosis. Early recognition allows appropriate medical management and prevents unnecessary parotidectomy.

KEYWORDS

Parotid, Tuberculosis, salivary, Gland, adolescents

PP-500

Amino Acid Metabolomic Profiling Of Adenoid Tissue In Children With And Without Otitis Media With Effusion

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BACKGROUND & AIM

Otitis media with effusion (OME) is a common pediatric condition with a multifactorial and incompletely understood pathogenesis. Although adenoid hypertrophy (AH) is a well-known predisposing factor, the inconsistent relationship between AH severity and OME suggests additional underlying mechanisms. This study aimed to evaluate the amino acid metabolomic profile of adenoid tissue in children with and without OME to identify potential metabolic alterations associated with disease pathogenesis.

MATERIAL & METHODS

This prospective study included pediatric patients undergoing adenoidectomy due to AH, who were divided into two groups according to OME status (AH+OME and AH only). Diagnosis was based on endoscopic examination, clinical findings, and audiological assessment.

Targeted amino acid metabolomic analysis of adenoid tissue samples was performed using liquid chromatography–tandem mass spectrometry (LC-MS/MS). Statistical comparisons, correlation analyses, and pathway enrichment analyses were conducted to identify significant metabolomic alterations and to evaluate their clinical relevance.

RESULTS

The AH group included 39 patients and the AH+OME group included 35 patients. A total of 26 amino acids were analyzed. Only 2-aminobutyric acid showed a statistically significant difference between groups. In the AH+OME group, levels were lower than in the AH-only group (0.00 [0.00–0.00] vs. 0.03 [0.00–0.20], p=0.003). No significant differences were observed for the remaining amino acids (Table 1).

CONCLUSIONS

As metabolomic analyses of adenoid tissue have not been previously reported, this study provides initial tissue-based metabolic reference data. A statistically significant difference was observed in a single metabolite with a small absolute change; therefore, its biological relevance should be interpreted cautiously. Overall, OME does not appear to be associated with broad amino acid metabolic reprogramming in adenoid tissue, but rather with a limited and selective metabolic alteration. These findings should not be interpreted as clinical biomarkers but as a preliminary framework for future research. Further studies including oxidative stress, energy metabolism, and lipid profiles may clarify OME pathogenesis.

KEYWORDS

LC-MS/MS, Otitis media with effusion, adenoid tissue, amino acids

PP-501

Cerebral Venous Sinus Thrombosis In A 5-Year-Old As A Complication Of Acute Otitis Media: A Challenge For A Multidisciplinary Team.

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BACKGROUND & AIM

Acute otitis media is one of the most common childhood diseases, affecting millions of children each year. Although intracranial complications are rare, cerebral venous sinus thrombosis (CVST) remains one of the most severe. We present a case of a 5-year-old patient with acute otitis media with CVST with the disease progression though the surgical management and an anticoagulation treatment.

MATERIAL & METHODS

The measurement of level of anti-factor Xa activity was crucial, revealing ineffective treatment with standard-dose low-molecular-weight heparin. This case highlights the importance of multidisciplinary care, extended haematological assessment, and the need for multicentre diagnostic and therapeutic strategies.

RESULTS

Notwithstanding surgical treatment and decreasing inflammatory markers, the patient's condition relapsed, with progression of thrombotic lesions on imaging and the development of neurological symptoms, requiring intensive care. Anti-Xa activity testing showed a subtherapeutic heparin level, explaining the lack of treatment efficacy. After increasing the heparin dose and introducing acetylsalicylic acid, gradual clinical stabilization was achieved. Anticoagulant treatment was continued at home for six months. Follow-up imaging confirmed complete recanalization of the venous sinuses, and the patient returned to full functional recovery.

CONCLUSIONS

This case demonstrates that CVST secondary to acute otitis media in children may follow a severe and rapidly progressive course. Sudden clinical deterioration despite low inflammatory markers is an absolute indication for urgent imaging and, when appropriate, surgical intervention. Extended haematological examination including monitoring anti-Xa activity is important for assessing the effectiveness of anticoagulant therapy and should be considered when clinical improvement is lacking or imaging shows progression. Early detection of ineffective treatment and timely modification of therapy may significantly improve prognosis. The increasing frequency of intracranial complications in the paediatric population underscores the need for multicentre clinical guidelines.

KEYWORDS

cerebral venous sinus thrombosis; acute otitis media; low-molecular-weight heparin; anti-factor Xa activity; intracranial complications of acute otitis media.

PP-502

Patient Satisfaction After Adenotonsillectomy In A Ghanaian Tertiary Hospital

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BACKGROUND & AIM

The Cape Coast Teaching Hospital (CCTH) serves as a tertiary referral center for the Central and Western Regions of Ghana, performing over 280 ENT surgeries annually, with adenotonsillectomy constituting a substantial proportion. This study sought to evaluate parental satisfaction and perceived symptom improvement following adenotonsillectomy at Cape Coast Teaching Hospital (CCTH), Ghana, over a five-year period.

MATERIAL & METHODS

This was a retrospective cross-sectional study. Parents/caregivers of children (1–15 years) who underwent adenotonsillectomy at CCTH between January 2020 and December 2024 were contacted via telephone calls. A semi-structured questionnaire was used to assess symptom improvement (1–4 scales), hospital experience, and overall satisfaction. Data were analyzed using descriptive statistics and one-sample t-tests with thematic analysis for qualitative responses.

RESULTS

Fifty-seven caregivers participated in this study (79% mothers). The mean age at surgery was 4.8 years, and sleep-related breathing disorder (SRBD) was the primary indication (60%). All symptom domains showed significant improvement post-surgery (mean scores 3.82–3.93; all $p < 0.001$). Overall satisfaction with the outcome was 98% (73% were very satisfied and 25% were satisfied), with 98% recommending the procedure to others. Staff kindness and respect were rated as 'excellent' by 84% of the respondents. Thematic analysis revealed that staff communication was the most positive aspect, whereas waiting time and ward washroom conditions were key areas for improvement.

CONCLUSIONS

Adenotonsillectomy at CCTH was associated with exceptionally high parental satisfaction and significant symptom improvement. Staff communication is a key driver of customer satisfaction. Addressing logistical and infrastructural challenges is essential to further enhance the patient experience.

KEYWORDS

adenotonsillectomy; patient satisfaction; parental satisfaction; sleep-disordered breathing; pediatric otorhinolaryngology; Ghana; sub-Saharan Africa

PP-503

Unusual Periauricular Branchial Cleft Cyst Adjacent To The Facial Nerve In A Pediatric Patient: A Surgical Challenge

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BACKGROUND & AIM

Branchial cleft cysts are common congenital anomalies typically presenting along the anterior border of the sternocleidomastoid muscle. However, atypical locations can pose diagnostic and surgical challenges, particularly when located near critical neurovascular structures.

MATERIAL & METHODS

We report the case of a 10-year-old female with a history of recurrent neck infections who presented with a persistently inflamed lesion in the periauricular region. Clinical and radiologic evaluation suggested a congenital cystic anomaly in an unusual location inferior to the auricle. Intraoperatively, the lesion was found to extend deeply and terminate in close proximity to the facial nerve branches, significantly increasing the complexity of dissection.Careful surgical excision was performed with meticulous dissection to preserve the facial nerve. The atypical anatomical course of the cyst required modification of standard approaches and heightened intraoperative vigilance.

RESULTS

Complete resection of the cyst was achieved without any intraoperative or postoperative complications. The patient had an uneventful recovery with no evidence of facial nerve dysfunction or recurrence at follow-up.

CONCLUSIONS

This case highlights a rare periauricular presentation of a congenital branchial cleft cyst with close association to the facial nerve. Awareness of such atypical locations is crucial for preoperative planning and surgical management. Preservation of the facial nerve requires meticulous technique and an understanding of potential anatomic variations.

KEYWORDS

Branchial cleft cyst, facial nerve, pediatric, periauricular mass, congenital anomaly, atypical location, surgical management

PP-504

Infantile Bilateral Temporal Bone Langerhans Cell Histiocytosis Mimicking Refractory Otitis Media With Early Facial Palsy

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BACKGROUND & AIM

Langerhans cell histiocytosis (LCH) is a rare clonal proliferative disorder of dendritic cells with highly variable clinical manifestations. Temporal bone involvement in infancy is uncommon and may closely mimic infectious otologic disease, frequently resulting in delayed or missed diagnosis. Facial nerve palsy in this context may be misinterpreted as a complication of otitis media, potentially obscuring an underlying infiltrative process and delaying appropriate management.

MATERIAL & METHODS

An 11-month-old girl presented with a 2–3-week history of right-sided facial asymmetry. Otoscopic examination revealed a polypoid mass obstructing the external auditory canal with purulent otorrhea. She was initially managed as complicated otitis media with parenteral and topical antibiotic therapy and local cauterization, with only partial improvement in facial nerve function. Because of limited clinical response and anterior displacement of the posterior external auditory canal wall, further diagnostic evaluation was undertaken. Temporal bone CT and MRI demonstrated bilateral destructive soft tissue lesions involving the mastoid and squamous portions of both temporal bones, extending into the external auditory canals, with ossicular erosion, findings highly suggestive of LCH. (Figure 1) A mastoid biopsy with limited mastoidectomy confirmed the diagnosis of LCH. PET–CT excluded multisystem involvement.

RESULTS

Systemic therapy with vinblastine and prednisolone was initiated, resulting in rapid clinical improvement within one month. Facial nerve function improved from House–Brackmann grade II– III to grade I. External auditory canal lesions resolved completely, with no recurrence, new neurological symptoms, or systemic involvement during the first 3 months of treatment.

CONCLUSIONS

Temporal bone LCH in infancy may closely mimic refractory otitis media and represents a significant diagnostic challenge, even in the presence of facial nerve palsy. Lack of response to appropriate antimicrobial therapy or atypical clinical progression should raise suspicion for infiltrative pathology and prompt early radiological assessment. Bilateral temporal bone involvement, although rare, should further strengthen clinical suspicion for LCH. Early biopsy and multidisciplinary management are critical for optimal outcomes.

KEYWORDS

• Langerhans Cell Histiocytosis • Infant • Facial Palsy • Temporal Bone • Refractory Otitis Media

PP-505

Pleomorphic Adenoma Of The Parotid Gland Following Childhood Trauma: A Case Report

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BACKGROUND & AIM

Pleomorphic adenoma (PLA) is most common benign salivary gland tumors, although its occurrence in children remains rare. The peak incidence in pediatric patients is around 10 years of age, while it is more frequently diagnosed in adults. Histologically, PLA is a myxoid tumor composed of epithelial and myoepithelial elements with variable stromal components. It most commonly arises in the parotid gland and typically presents as a slow-growing, painless mass, which may delay diagnosis. The case report presents a rare case of a ten-year-old boy with a rapidly growing and hemorrhagic pleomorphic adenoma of the parotid gland diagnosed following trauma.

MATERIAL & METHODS

A standard diagnostic protocol was applied, including clinical examination and appropriate imaging methods such as ultrasound and MRI. Subsequently, surgical treatment was indicated, with emphasis on selecting an optimal surgical technique to achieve complete tumor excision. Patient was enrolled in long-term follow-up after the procedure.

RESULTS

An appropriate diagnostic and therapeutic approach led to successful management of the disease and minimization of recurrence risk. Properly performed surgical treatment, combined with long-term follow-up, enabled early detection of possible complications.

CONCLUSIONS

The case report highlights a rare occurrence of pleomorphic adenoma in a child. Although PLA is uncommon in the pediatric population, it should be considered in cases of salivary gland masses of unclear etiology, particularly due to the potential for malignant transformation. Therefore, careful patient evaluation, appropriate diagnostic workup, and selection of an adequate surgical technique are essential to prevent tumor recurrence. Long-term follow-up is recommended in the postoperative period.

KEYWORDS

pleomorphic adenoma, salivary glands, resistance, tumor, childhood, injury

PP-506

Primary BCOR-ITD Positive Infantile Sarcoma Of The Pterygopalatine Fossa: The First Reported Case

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BACKGROUND & AIM

BCOR-rearranged sarcomas represent a distinct, highly aggressive entity within the landscape of pediatric undifferentiated small round cell tumors. The BCOR-ITD (Internal Tandem Duplication) variant, often associated with Primitive Myxoid Mesenchymal Tumor of Infancy (PMMTI), remains exceedingly rare in the craniofacial region. We present a landmark case—the youngest in literature—of a BCOR-ITD positive sarcoma originating in the pterygopalatine fossa (PPF), emphasizing the necessity of molecular integration and multidisciplinary surgical strategy.

MATERIAL & METHODS

A 10-day-old female neonate was admitted with a rapidly enlarging, hyperemic mass in the right cheek buccal mucosa that appeared within three days. Maxillofacial MRI identified a 45*25*24 mm infiltrative lesion originating from the right pterygopalatine fossa (PPF) and extending into the infratemporal fossa via the pterygomaxillary fissure. Following a tru-cut biopsy, the diagnosis was established via immunohistochemistry and confirmed by RNA-sequencing (NGS), which identified a BCOR exon 15 ITD mutation. The multidisciplinary treatment protocol consisted of neoadjuvant chemotherapy (Euro-Ewing 2012 / VDC-IE). Following significant tumor shrinkage, a definitive R_0 surgical resection was performed at 12 months of age using a transoral approach to minimize morbidity and preserve craniofacial development.

RESULTS

Immunohistochemical (IHC) profiling showed diffuse and strong positivity for BCOR, SATB2, TLE1, and CD99, which was further integrated with molecular analysis. Next-Generation Sequencing (NGS) confirmed a high-confidence BCOR-ITD with an allele fraction of 93.1%, providing definitive genetic verification of the diagnosis. Following neoadjuvant chemotherapy, a 60% reduction in tumor volume was achieved, facilitating a safe surgical corridor. Postoperative histopathology verified R_0 resection with intact surgical margins (closest margin: 0.1 cm) and no viable tumor cells in the periphery. At the 6-month postoperative milestone, there is no clinical or radiological evidence of recurrence. Masticatory function and facial symmetry have been fully preserved, and the child continues to meet all age-appropriate developmental milestones.

CONCLUSIONS

This report identifies the first neonatal BCOR-ITD-rearranged sarcoma of the pterygopalatine fossa, also marking the youngest PMMTI spectrum case to date. In this anatomically complex skull base location, an 'oncology-first' multimodal approach was pivotal. Neoadjuvant chemotherapy significantly downsized the high-risk mass, enabling a safe R_0 resection and minimizing surgical morbidity while preserving vital craniofacial structures. This landmark case emphasizes that early molecular

verification and well-timed multidisciplinary intervention provide a successful management framework for rare, aggressive neonatal tumors, ensuring local control and functional survival in the earliest stages of life.

KEYWORDS

BCOR-ITD, pterygopalatine fossa, neonatal sarcoma, primitive myxoid mesenchymal tumor of infancy (PMMTI), undifferentiated round cell sarcoma, pediatric head and neck oncology, transoral approach

PP-507

Management Of Obstructive Sleep Apnoe Syndrome In Children

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BACKGROUND & AIM

Pediatric obstructive sleep apnea syndrome (OSAS) affects 1-5% of children.

MATERIAL & METHODS

This retrospective study included 165 patients with OSAS treated at the Pediatric ENT Department MF CU and NICD in Bratislava between 2019-2024.

RESULTS

Residual OSAS risk was assessed using the Pediatric Sleep Questionnaire (PSQ ≥0.33). Mean PSQ score was 0.28 ± 0.17. Increased risk of residual OSAS was identified in 47 patients (28%). Multivariate analysis identified as significant risk factors: larger tonsil size (Brodsky grades III-IV, $p<0.05$), overweight/obesity ($p<0.05$), and presence of comorbidities ($p<0.05$). Surgical treatment resulted in symptom improvement in 72% of patients. Identified risk factors require individualized surgical approach and intensive follow-up.

CONCLUSIONS

Identified risk factors require individualized surgical approach and intensive follow-up.

KEYWORDS

pediatric obstructive sleep apnea syndrome, residual OSAS, risk factors, PSQ questionnaire, adenoidectomy, tonsillotomy, obesity

PP-508

Severe Oropharyngeal Stenosis Following Adenoidectomy In A 9-Year-Old: Successful Multistage Reconstruction With Lateral Pharyngeal Flap And Adjunctive Therapy

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BACKGROUND & AIM

Adenoidectomy is one of the most commonly performed pediatric otolaryngologic procedures and is generally considered safe. Oropharyngeal stenosis is an exceedingly rare but potentially debilitating complication that can result in significant airway and swallowing impairment, often requiring complex surgical management.

MATERIAL & METHODS

We report a 9-year-old female with a history of adenoidectomy performed two years prior, who presented with severe, near-total oropharyngeal stenosis associated with recurrent infections and functional compromise. Intraoperative findings demonstrated dense fibrotic scar tissue causing significant narrowing at the oropharyngeal inlet.The patient underwent surgical release of the stenotic segment followed by reconstruction using a lateral pharyngeal flap technique to restore airway patency and mucosal continuity. Adjunctive intralesional triamcinolone (Kenalog) injection was administered to reduce fibrosis and prevent restenosis. Postoperatively, the patient required two additional balloon dilations at three-week intervals to maintain adequate lumen diameter and optimize healing.

RESULTS

At 12-month follow-up, the patient demonstrated complete resolution of stenosis with a well-maintained oropharyngeal airway. She remained asymptomatic with no evidence of recurrence, and had normal feeding and breathing without complications.

CONCLUSIONS

Oropharyngeal stenosis following adenoidectomy is an extremely rare but serious complication that poses significant reconstructive challenges. Successful management often requires a multimodal and staged approach, including surgical reconstruction, steroid therapy, and serial dilations. Early recognition and aggressive intervention are critical for optimal functional outcomes.

KEYWORDS
Oropharyngeal stenosis; Adenoidectomy complications; Pediatric airway; Pharyngeal flap; Balloon dilation; Triamcinolone injection; Airway reconstruction; Scar formation; Rare complications; Pediatric otolaryngology

PP-509

ASSR Versus Audiometry In Children

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BACKGROUND & AIM

ASSR belongs to middle latency response. The stimulus is amplitude and frequency modulated and is continuous. Test frequencies of 500, 1000, 2000, and 4000 Hz are commonly used as ASSR carrier stimuli. The computer equipage calculates a frequency of specific objective audiogram. The advantage is the objective evaluation of the hearing response.

MATERIAL & METHODS

The aim of the work is to evaluate the medical documentation of 38 pediatric patients at Children ENT Department MF CU and NICD in Bratislava (Slovakia) by ASSR examination and comparison of the results of the threshold values with a tone audiogram measured with time distance.

Key words: Steady State Evoked Potentials, ASSR, objective audiometry

RESULTS

The results vary insignificantly, with audiometry thresholds typically being 10 dB on average better than predicted for ASSR examination.

CONCLUSIONS

In the discussion, we compare the results obtained with the studies that dealt with this issue.

KEYWORDS

ASSR, objective audiometry, children

PP-510

The Prevalence Of Congenital CMV Infection Amongst Pediatric Cochlear Implant Users.

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BACKGROUND & AIM

Congenital sensorineural hearing loss is a heterogeneous disorder. Up to two thirds of congenital HL cases are hereditary. Pathogenic variants of GJB2 gene are the major cause of non-syndromic hearing loss. The second most common cause of a congenital hearing loss (HL) is a congenital cytomegalovirus (cCMV) infection, which accounts for 10 to 20% of all congenital HL cases. Usually, cCMV infection is asymptomatic; therefore, specific tests are not performed at birth. Nevertheless, HL can develop later, after several months or even years.

Aim: To determine the prevalence of congenital CMV infection in pediatric cochlear implant users.

MATERIAL & METHODS

In order to discover a possibly cCMV infection amongst the sample of the study, DNA was extracted from the DBS on Guthrie cards and CMV DNA detected using real time PCR.

RESULTS

Dried blood spots of 117 patients were received from the archive to perform the CMV DNA PCR test. A retrospective DBS-based real-time PCR analysis revealed 14 patients were positive for CMV DNA at birth (12.0%): 5 children who were diagnosed with a cCMV infection in a newborn period were all confirmed with a positive CMV DNA from a DBS; other 9 cases of a cCMV infection were newly detected. In total, 6 (42.9%) of children suffered a symptomatic form of cCMV infection (three received an infection-specific treatment in infancy), and 8 (57.1%) were asymptomatic.

CONCLUSIONS

Congenital CMV infection is a common etiologic factor amongst deaf children CI users. Retrospective diagnostics of cCMV infection should be applied in clinical practice.

KEYWORDS

Hearing loss, congenital cytomegalovirus infection

PP-511

Adjuvant Therapies In Recurrent Respiratory Papillomatosis: Comparative Systematic Review With A Juvenile-Onset Case Achieving Surgical-Free Control

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BACKGROUND & AIM

Recurrent respiratory papillomatosis (RRP) is a chronic disease caused by Human Papillomavirus (HPV) and is characterized by aggressive recurrence and cumulative morbidity from repeated surgical interventions. Despite increasing use of adjuvant therapies — including systemic and intralesional bevacizumab, intralesional cidofovir, and therapeutic HPV vaccination — comparative, high-quality evidence remains limited, and no consensus exists regarding optimal treatment selection. This study aims to systematically evaluate the effectiveness and safety of these therapies through structured synthesis of the available literature, while presenting a case of Juvenile-Onset RRP responding to systemic bevacizumab to contextualize the emerging evidence within clinical practice.

MATERIAL & METHODS

A systematic review is being conducted in accordance with PRISMA guidelines, synthesizing predominantly observational evidence, including cohort studies, case series, and case reports. A comprehensive, multi-database search (PubMed, Embase, Scopus, CINAHL, and Cochrane CENTRAL) is underway, with study selection and data extraction performed independently by two reviewers.

Predefined primary outcomes include surgical frequency, surgical interval, and complete response rates. Predefined secondary outcomes encompass disease control (partial response and recurrence measures), functional outcomes (voice and airway status), safety (CTCAE-graded adverse events and treatment discontinuation), and patient-centered outcomes (quality of life). Data will be synthesized through structured narrative methods, with meta-analysis performed where appropriate.

RESULTS

Results of the systematic review are currently underway, synthesizing predominantly observational evidence. Preliminary analyses demonstrate variability in disease control outcomes across adjuvant therapies, with consistent trends toward reduced surgical frequency and prolonged surgical intervals. Comparative evaluation between systemic and intralesional bevacizumab, intralesional cidofovir, and therapeutic HPV vaccination is ongoing.

Assessment of functional and safety outcomes is ongoing, with early signals indicating improved airway stability and a favorable safety profile, although findings remain preliminary. Data on patient-centered outcomes are limited and heterogeneously reported.

In this context, we report a 9-year-old female with severe juvenile-onset RRP (≈70 prior procedures) and pulmonary involvement. Following failure of prior adjuvant therapies, initiation of systemic bevacizumab resulted in rapid laryngeal and tracheal regression, achieving complete surgical-free disease control over 30 weeks, with stable pulmonary disease and no major adverse events—illustrating the potential role of systemic therapy within the broader comparative treatment landscape.

CONCLUSIONS

Adjuvant therapies in RRP demonstrate clear potential to reduce surgical burden and improve disease control, supporting a shift toward surgery-sparing management in selected patients. Our case exemplifies the magnitude of response achievable with systemic therapy in aggressive disease, while emphasizing the need to interpret such outcomes within a structured comparative framework.

Despite these promising signals, the current evidence base remains predominantly observational and heterogeneous. Completion of this systematic review will provide a critical comparative synthesis to inform treatment selection, define relative effectiveness, and guide the transition toward evidence-based, non-surgical management strategies in RRP.

KEYWORDS

Adjuvant, HPV vaccines, Cidofovir, Bevacizumab, Recurrent respiratory papillomatosis

PP-512

Tympanoscrelosis In Pediatric Cases

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BACKGROUND & AIM

Tympanosclerosis is a pathological condition characterized by the formation of hyaline and calcified plaques within the tympanic membrane and, in some cases, the middle ear mucosa. It most commonly develops as a sequela of chronic or recurrent otitis media. On the other hand, in cases of pediatric conductive hearing loss, we sometimes encounter situations where it is difficult to determine whether the hearing loss is congenital or acquired. In this report, we present two cases where

conductive hearing loss persisted after tympanostomy tube placement for otitis media with effusion, leading to a diagnosis of otosclerosis.

MATERIAL & METHODS

Case 1: 11-year-old female. Extremely low birth weight infant. Bilateral tympanostomy tube placement was performed at age 2 for bilateral otitis media with effusion. The left tympanostomy tube fell out at age 3. Subsequently, a 48.8 dB conductive hearing loss remained, and Left tympanoplasty was performed at age 11.

Case 2: 8-year-old male. No abnormalities at birth and no abnormalities noted during NHS (Newborn Health Screening). Hearing loss was noticed around age 6, he was seen at another hospital and underwent bilateral tympanostomy tube placement. Hearing loss persisted, and he presented to our hospital for the first time at age 8. Pure-tone audiometry revealed mixed hearing loss of 53.8 dB in the right ear and 45.3 dB in the left ear. While recommending hearing aid use, we performed right tympanoplasty.

RESULTS

In pediatric patients with a history of exudative otitis media, many cases present with tympanic membrane calcification alone without hearing abnormalities. However, when conductive hearing loss persists or hearing thresholds increase, otosclerosis may be present.

In Case 1, calcification around the ossicles visible on CT using the double oblique technique proved useful for preoperative diagnosis.

CONCLUSIONS

The risk of tympanosclerosis increases with repeated episodes of otitis media and repeated tympanostomy tube insertions even in children.

KEYWORDS

conductive hearing loss, children, sclerotic plaque, double oblique CT

PP-513

Evaluation Of Quality-Of-Life Improvement Following Coblation Adenoidectomy In Pediatric Patients With Adenoid Hypertrophy

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BACKGROUND & AIM

Coblation adenoidectomy is widely used in pediatric patients due to its ability to reduce obstructive symptoms by restoring upper airway patency and improve quality of life. This study aimed to evaluate the effectiveness of coblation adenoidectomy in improving quality of life in pediatric patients with adenoid hypertrophy using the Obstructive Sleep Apnea-18 Quality of Life Questionnaire (OSA-18).

MATERIAL & METHODS

This study included 224 pediatric patients who underwent adenoidectomy using the coblation technique. Quality of life was assessed using the OSA-18 questionnaire preoperatively and at the postoperative 3rd month. Patients with incomplete follow-up data were not included in the comparative analyses.

RESULTS

Among the enrolled patients, 224 with complete datasets were included in the analysis. The mean age was 6.2 ± 2.9 years. (range: 2–16).

The mean total OSA-18 score significantly decreased from 86.3 ± 10.3 preoperatively to 36.5 ± 10.7 at the postoperative 3rd month, demonstrating a marked and clinically significant improvement in quality of life. ($p < 0.001$)

Significant improvements were observed across all subdomains. Sleep disturbance scores decreased from 21.6 ± 2.2 to 7.8 ± 3.0 ($p < 0.001$), physical symptoms from 20.0 ± 2.1 to 9.0 ± 2.9 ($p < 0.001$), emotional distress from 12.0 ± 2.0 to 5.8 ± 2.1 ($p < 0.001$), daytime function from 11.1 ± 1.9 to 5.6 ± 1.9 ($p < 0.001$), and caregiver concerns from 22.0 ± 2.1 to 8.8 ± 2.8 ($p < 0.001$).

CONCLUSIONS

Coblation adenoidectomy leads to statistically significant and clinically meaningful improvements in disease-specific quality of life in pediatric patients with adenoid hypertrophy. Marked improvement was observed in total OSA-18 scores as well as in all questionnaire subdomains at the postoperative 3rd month. These findings suggest that coblation adenoidectomy provides substantial benefit in reducing symptoms and improving daily quality of life in children with adenoid hypertrophy.

KEYWORDS

Coblation adenoidectomy, Pediatric adenoidectomy , OSA-18, Quality of life

PP-514

Pediatric Tracheotomy In Chronic Conditions: A Single-Center Experience

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BACKGROUND & AIM

Background: Planned Pediatric tracheotomy has evolved significantly over the years, with ongoing debates regarding its indications, timing, surgical techniques, and decannulation protocols. Despite that, in most cases, management decisions are still based on the medical team's clinical experience and literature data, as no universally accepted guidelines exist.

Aim: This study aims to present our experience with pediatric tracheostomies and compare the data with international literature.

MATERIAL & METHODS

Over recent years, 18 pediatric tracheotomies were performed at the ENT Clinic of University Hospital "St. George" for various chronic conditions. All procedures were, planned due to disease progression.

RESULTS

The surgical interventions were completed without complications in all cases. A permanent tracheostomy was established in 8 patients, while 10 underwent temporary tracheostomy. Three children were successfully decannulated

CONCLUSIONS

Planned pediatric tracheotomy has increased in frequency in recent decades due to the survival of an increasing number of children with severe chronic diseases. Despite that it is still a relatively rare surgical procedure, with an estimated incidence of 6.6 per 100,000 according to the literature. Several aspects of planned pediatric tracheotomy remain under discussion and require further clarification.

KEYWORDS

pediatric tracheotomy, diseases leading to tracheotomy, planned tracheotomy in children, outcome

PP-515

Efficacy Of Different Endoscopic Interventions In Managing Subglottic Stenosis In Children

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BACKGROUND & AIM

To evaluate the effectiveness and safety of endoscopic interventions for managing paediatric subglottic stenosis.

MATERIAL & METHODS

Methods. Following Preferred Reporting Items for Systematic Reviews and Meta-Analysis guidelines and the Cochrane Handbook, we systematically searched four databases from inception to August 2024. Studies reporting outcomes of endoscopic management of paediatric subglottic stenosis were included. The primary outcome was procedural success; secondary outcomes were recurrence, decannulation and complications.

RESULTS

Results. Forty-three studies involving 1088 children were included. The pooled success rate of endoscopic treatment was 79.2 per cent. Carbon dioxide and potassium titanyl phosphate laser achieved success rates of 79.9 and 100 per cent, respectively. Balloon dilatation and rigid dilatation had success rates of 79.9 and 82.4 per cent, whereas cold knife alone had a lower rate of 47.2 per cent. The recurrence rate was 36.8 per cent and balloon dilatation showed the highest recurrence at 42.2 per cent. The pooled decannulation rate was 60.4 per cent and complications occurred in 3.0 per cent of cases.

CONCLUSIONS

Conclusion. Endoscopic interventions are effective for paediatric subglottic stenosis, but recurrence remains common

KEYWORDS

subglottic stenosis, children, pediatric, balloon dilation, endoscopic

PP-516

Cryotherapy Induced Reduction Of The Hypertrophied Adenoids For A 4 Year Old Patient With Ehlers-Danlos Syndrome, A Case Report

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BACKGROUND & AIM

The Ehlers-Danlos syndrome (EDS) is a group of 13 heritable disorders characterized by tissue fragility, skin hyperextensibility and joint hypermobility. The subtype of the vascular EDS is rare, but can cause serious complications such as spontanic vessel rupture, aneurysms, arterial dissection. Any surgical intervention is dangerous because of the increased risk of bleeding.

MATERIAL & METHODS

We present a case of a 4 year old male complaining of nasal obstruction, snoring and sleep apnoea. Nasal fibroendoscopy revealed grade III adenoids, intranasal steroids were prescribed. Several months later, re-examination concluded the increase in the adenoid size and presenting secretory otitis media. Concomitant EDS of the vascular type (COL3A1 genopathogenic variation) was the reason the patient was referred to a tertial university hospital for a further surgical treatment. After consulting the family, cryotherapy was the first choice for a safer option. Two cryotherapy rounds were performed under general anesthesia with a 3 months interval.

RESULTS

The initial procedure resulted abscence of sleep apnoea, slightly improved nasal breathing and objectively reduced adenoids, however snoring and mouth breathing remained. The second round of crytherapy was repated 3 months later, with satisfactory results for both medical proffesionals and family. 1 year post intervention, the symptoms were still relieved.

CONCLUSIONS

Cryotherapy in the ENT practice is usually applied to treat chronic rhinitis, nasal bleeding, tonsilar hyperthrophy and pharyngeal cysts. We have not found any previous data of the crytherapy for adenoid tissue. Our results demonstrate cryotherapy as a possible option to treat hypertrophied adenoids in patients with high risk of intra or postoperative bleeding. It however holds some disadvantages, such as the need for repeated procedure with repeated anesthesia as well as the end ryšulis being the reduction not the removal of the hypertrophied adenoids.

KEYWORDS

adenoid hypertrophy, cryotherapy, heritable disorder

PP-517

A Pediatric Midline Nasal Mass With Inconclusive Histopathology: A Case Report

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BACKGROUND & AIM

Midline nasal masses in the pediatric population are rare and represent a heterogeneous group of congenital, inflammatory, and neoplastic lesions.The most common entities include dermoid cysts, nasal gliomas, and encephaloceles, which originate from embryological developmental anomalies.Radiological evaluation with CT and MRI is essential to determine lesion extent and to exclude intracranial extension.Although most lesions are benign, rare neoplastic masses may present with similar clinical and radiological features.Unusual histopathological patterns, particularly with inconclusive immunohistochemistry, may significantly complicate the diagnostic process.

MATERIAL & METHODS

This study presents a single pediatric case of a midline nasal mass. The patient underwent detailed clinical evaluation, including history and physical examination. Radiological assessment was performed using computed tomography (CT) and magnetic resonance imaging (MRI) to evaluate lesion characteristics and to rule out intracranial extension. Surgical excision was performed under general anesthesia through an external surgical approach, and intraoperative findings were documented. The excised specimen was subjected to histopathological examination and a comprehensive immunohistochemical analysis to aid in differential diagnosis. Molecular genetic analysis using a pan-solid tumor RNA panel did not reveal any pathogenic or targetable mutations, gene fusions, or clinically significant variants.Additionally, relevant literature was reviewed to compare the clinical, radiological, and pathological features of similar cases.

RESULTS

An 8-year-old child presented with a painless, progressively enlarging midline nasal mass.

Physical examination revealed a firm, non-tender lesion at the nasal root.

Imaging findings:

- Well-defined, space-occupying lesion
- No intracranial extension

- No dural involvement

Intraoperative findings:

- Well-circumscribed, encapsulated mass
- 1.5 × 1 cm bony defect in the right nasal bone
- Intact nasal roof mucosa
- No intracranial communication
- Complete excision achieved
- The bony defect was successfully reconstructed using a tragal cartilage graft

Histopathological evaluation:

- Findings consistent with a neoplastic process
- Differential diagnosis included:
- Chordoid meningioma
- Chordoma

Immunohistochemical profile:

- Positive: D2-40, SSTR2A, Vimentin, S100, CD99, p63
- Negative: Calretinin, Chromogranin, Desmin, Synaptophysin, p40, PanCK, EMA
- Ki-67 proliferation index: ~15%

Genetic analysis:

- Molecular analysis was performed to further clarify the diagnosis
- No disease-specific or diagnostic genetic alteration was identified

➡️ Despite comprehensive evaluation, a definitive diagnosis could not be established

CONCLUSIONS

Pediatric midline nasal masses may present significant diagnostic challenges, particularly when histopathological findings are atypical.Clinical and radiological features may suggest a benign lesion, while pathological evaluation may indicate a neoplastic process.In some cases, even extensive immunohistochemical analysis may remain inconclusive. The absence of identifiable driver mutations or gene fusions further supports the unclassifiable nature of the lesion and highlights the limitations of current molecular diagnostic tools in rare pediatric tumors. A multidisciplinary approach is essential for accurate evaluation and management. Close clinical follow-up should be considered in cases with uncertain diagnosis.

KEYWORDS

Midline nasal mass, Pediatric nasal tumor,Chordoid meningioma,Rare nasal lesions

PP-518

Beyond The Nosebleed: An Incidental Diagnosis Of Sydenham's Chorea In A Child Presenting With Epistaxis

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BACKGROUND & AIM

Sydenham's chorea (SC) is the major neurological manifestation of acute rheumatic fever, resulting from autoimmune-mediated basal ganglia dysfunction following group A streptococcal infection. It classically presents with choreiform movements and behavioral changes, but may be overlooked when the presenting complaint is unrelated to the nervous system. Otorhinolaryngologists often serve as first-contact physicians for pediatric patients and are well positioned to detect incidental systemic findings. We aim to present a case in which SC was incidentally diagnosed during ENT evaluation for epistaxis, highlighting the importance of comprehensive assessment beyond the presenting complaint.

MATERIAL & METHODS

This report presents a single pediatric case evaluated at the Department of Otorhinolaryngology–Head and Neck Surgery, Lokman Hekim University, Ankara, Turkey. A 9-year-old female patient presenting with spontaneous epistaxis underwent standard ENT examination, during which incidental involuntary movements were observed. A detailed history, including psychosocial and family history, was obtained, and the patient was subsequently referred to pediatric neurology for further evaluation. Diagnostic workup included neurological examination, laboratory investigations (anti-streptolysin O [ASO] titer, erythrocyte sedimentation rate [ESR], C-reactive protein [CRP], complete blood count), transthoracic echocardiography, and cranial magnetic resonance imaging (MRI). Diagnosis was established according to the Jones criteria for acute rheumatic fever. Clinical data were retrospectively reviewed and reported with patient confidentiality maintained throughout.

RESULTS

Neurological examination revealed hemichorea with facial grimacing and involuntary upper limb movements that resolved with sleep; cranial nerve function, muscle tone, strength, deep tendon reflexes, and cerebellar testing were otherwise normal. Laboratory findings showed a markedly elevated ASO titer of 960 IU/mL (reference: 0–150 IU/mL), consistent with recent group A streptococcal infection, along with a mildly elevated ESR of 12 mm/h (reference: 0–10 mm/h) and a normal CRP of 2.35

mg/L. Transthoracic echocardiography demonstrated grade 1 mitral regurgitation, indicative of subclinical carditis. Cranial MRI was unremarkable, excluding structural central nervous system pathology. Based on the presence of chorea and carditis as major Jones criteria, together with supporting evidence of preceding streptococcal infection, a diagnosis of Sydenham's chorea secondary to acute rheumatic fever was established. Haloperidol was initiated for symptomatic control of choreiform movements.

CONCLUSIONS

This case illustrates that Sydenham's chorea may first come to clinical attention through an unrelated presenting complaint such as epistaxis, rather than through primary neurological symptoms. The incidental recognition of involuntary movements during routine ENT examination proved pivotal in reaching the correct diagnosis. These findings underscore the importance of a comprehensive, whole-patient approach in otorhinolaryngology practice and highlight the otorhinolaryngologist's role as a potential first point of contact in identifying systemic and neurological disease in pediatric patients. Prompt recognition and multidisciplinary referral remain essential for timely diagnosis and management of acute rheumatic fever and its neurological sequelae.

KEYWORDS

Sydenham's chorea, Acute rheumatic fever, Epistaxis, Pediatric otolaryngology, Incidental diagnosis

PP-519

Chemotherapy-Induced Bilateral Facial Paralysis: A Rare Neurotoxicity In A Patient With T-Cell Acute Lymphoblastic Leukemia

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BACKGROUND & AIM

Bilateral simultaneous facial paralysis is an exceedingly rare condition, accounting for only 0.3–2% of all facial palsy cases and demanding a broad differential diagnosis. Chemotherapeutic agents—particularly vincristine and other vinca alkaloids—are increasingly recognized as a cause of peripheral neurotoxicity; however, bilateral facial nerve involvement remains exceptionally uncommon. In this report, we present a case of simultaneous bilateral peripheral facial paralysis during multi-agent chemotherapy for T-cell acute lymphoblastic leukemia (T-ALL) and emphasize the importance of early recognition and multidisciplinary management.

MATERIAL & METHODS

A 17-year-old male patient diagnosed with T-ALL in May 2022. The patient was treated with sequential chemotherapy: Protocol 1B (induction: vincristine, daunorubicin, cyclophosphamide, doxorubicin, methotrexate, mercaptopurine), Protocol M (high dose methotrexate, mercaptopurine), and Protocol 2 (methotrexate, vincristine, doxorubicin). The first 3 cycles of protocol 2 were uneventful. Shortly after the fourth cycle, the patient was referred to our otolaryngology department with bilateral otalgia, which rapidly progressed to symmetric bilateral House-Brackmann Grade 5 facial palsy. Workup included contrast-enhanced temporal and brain MRI, audiometry, lumbar puncture with CSF analysis, serum Lyme serology, viral serology panel (HSV, VZV, EBV, CMV), and autoimmune markers. Infectious, autoimmune, and neoplastic etiologies were systematically excluded.

RESULTS

Contrast-enhanced temporal MRI demonstrated bilateral enhancement of the facial nerve at the labyrinthine segment and geniculate ganglion level, consistent with facial neuritis. Brain MRI showed no leptomeningeal infiltration or cranial nerve pathology. CSF analysis was negative for leukemic infiltration and infection. All serologic tests were negative. The close temporal relationship between the fourth chemotherapy cycle and symptom onset (48 hours), bilateral symmetric peripheral involvement, and exclusion of alternative etiologies supported a diagnosis of chemotherapy-related peripheral neurotoxicity. Treatment comprised intravenous methylprednisolone (60 mg/day for 7 days), followed by oral steroid taper, alongside bilateral eye protective drops, and physiotherapy consultation. Partial facial nerve recovery was observed on follow-up. İn last examination facial palsy totally healed. The patient was lost to follow-up in May 2023 due to progression of underlying T-ALL.

CONCLUSIONS

Chemotherapy-induced bilateral peripheral facial paralysis is a rare but clinically significant complication. In patients receiving chemotherapy with simultaneous bilateral facial weakness, drug neurotoxicity should be considered in the differential diagnosis, along with leukemic infiltration and infectious or autoimmune causes. The temporal relationship to chemotherapy administration, bilateral symmetric involvement and MRI enhancement at the geniculate ganglion level are important diagnostic clues. Early corticosteroid therapy combined with a multidisciplinary approach may achieve partial neurological recovery. Increasing case reports in this area will enhance understanding of epidemiology, pathogenesis, and treatment response.

KEYWORDS

Bilateral facial paralysis; chemotherapy neurotoxicity; T-cell acute lymphoblastic leukemia; vincristine; peripheral neuropathy; facial nerve; geniculate ganglion

PP-520

Gigantic Pediatric Tonsillolith: A Rare Case Report And Review Of The Literature

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BACKGROUND & AIM

Tonsilloliths are calcified concretions that develop within the crypts of the palatine tonsils. They are commonly encountered in adults and are usually small and asymptomatic. Giant tonsilloliths, particularly in the pediatric population, are exceedingly rare and may present diagnostic and therapeutic challenges due to their unusual size and resemblance to other oropharyngeal pathologies. We report a rare case of a gigantic tonsillolith in a child successfully treated with tonsillectomy and review the relevant literature.

MATERIAL & METHODS

An 11 yers old girl presented with symptoms related to a unilateral tonsillar mass and recurrent tonsilitis. Clinical examination revealed a large hard lesion arising from the palatine tonsil extending to soft palate. Diagnostic workup included detailed otolaryngologic examination and radiologic evaluation to characterize the lesion and exclude alternative diagnoses. Surgical management consisted of complete tonsillectomy with removal of the stone. Postoperative outcomes were assessed during follow-up. In addition, a focused review of previously reported pediatric giant tonsillolith cases was performed to evaluate clinical presentation, diagnostic approaches, and management strategies.

RESULTS

Examination and imaging demonstrated a giant tonsillolith measuring approximately 3–4 cm. The patient underwent uncomplicated tonsillectomy with complete removal of the calcified mass. Histopathologic assessment confirmed a benign tonsillar lesion associated with a tonsillolith. Postoperative recovery was uneventful, with complete resolution of symptoms and no recurrence during follow-up. Literature review demonstrated that giant tonsilloliths in children are exceptionally uncommon, with most reported cases managed surgically because of diagnostic uncertainty, symptom burden, or lesion size.

CONCLUSIONS

Giant tonsilloliths should be considered in the differential diagnosis of calcified oropharyngeal masses in pediatric patients despite their rarity. Clinical examination combined with appropriate imaging facilitates diagnosis. Tonsillectomy provides definitive treatment and allows exclusion of other pathological conditions. Increased awareness of this unusual entity may help avoid diagnostic delay and optimize management.

KEYWORDS

Pediatric Tonsillolith, tonsil stone, halitosis, recurrent tonsillitis

PP-521

THREE PEDIATRIC CASES WITH TEMPORAL BONE TUMORS

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BACKGROUND & AIM

Temporal bone tumors, including malignancies, are rare. Owing to this extreme rarity, diagnosis and treatment may often be delayed. Herein, we present three cases of temporal bone tumors.

MATERIAL & METHODS

Case presentations:

Case 1: A 14-month-old boy with prolonged bleeding after myringotomy was referred to our department. Endoscopic examination revealed redness and swelling of the left eardrum. Computed tomography (CT) revealed a mastoid cavity filled with soft tissue and bone destruction.

Case 2: A four-year-old girl presented with acute otitis media and left-sided facial palsy. The patient received intravenous steroids. When the patient underwent tympanostomy tube insertion, a tumor lesion was found. Magnetic resonance imaging (MRI) revealed a lesion in the mastoid cavity.

Case 3: The patient was a 23-month-old girl with left otorrhea that did not improve for two months. A CT tomography revealed bone destruction in the middle ear and a tumor in the right lobe of the thyroid.

RESULTS

Case 1: He underwent mastoidectomy and tumor biopsy under general anesthesia. The tumor was histopathologically diagnosed as myeloid sarcoma, and he was diagnosed as acute megakaryoblastic leukemia. He underwent induction chemotherapy, intensive chemotherapy, and allogeneic hematopoietic stem cell transplantation. The patient has been in remission for 48 months.

Case 2: She underwent mastoidectomy and tumor biopsy under general anesthesia. She was diagnosed as Ewing sarcoma, underwent chemotherapy and proton therapy, and has been in remission for 12 months.

Case 3: Tumor biopsies of the thyroid and external auditory canals were performed under general anesthesia, and she was diagnosed as Langerhans cell histiocytosis. She underwent chemotherapy, and has been in remission for 17 months. However, she was suffered from diabetes insipidus, and recurrence was seen in the pituitary, she underwent chemotherapy again, and she has been in remission for 33 months.

CONCLUSIONS

When unusual symptoms such as intractable otorrhea and continuous bleeding after tympanostomy are observed, temporal bone CT scans should be considered as soon as possible to search for a tumor lesion or blood disease. When a temporal bone tumor or blood disease occurs, mastoidectomy and biopsy under general anesthesia are recommended for a definitive diagnosis.

KEYWORDS

Temporal bone tumor; Computed tomography; Biopsy; General anesthesia

PP-522

CHARGE Syndrome: The Otolaryngologist's Role

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BACKGROUND & AIM

CHARGE syndrome is a rare congenital malformation, affecting approximately one in 10,000 children at birth. It is characterized by a complex phenotype combining several anomalies: coloboma (C), congenital heart disease (H), choanal atresia (A), developmental and/or growth delay (R), genitourinary disorders (G), and ear anomaly (E). Diagnosis is primarily clinical; the presence of one or more key signs should prompt investigation for other anomalies. MRI/CT scan of the temporal bones may reveal the absence or hypoplasia of the semicircular canals.

The aim is to report a case of this syndrome, highlighting the crucial role of the ENT specialist in its management.

MATERIAL & METHODS

Clinical and paraclinical description of a child with CHARGE syndrome

RESULTS

A 14-month-old boy was referred for suspected hearing loss. He had a history of surgically corrected bilateral choanal-osseous atresia at birth, delayed motor development, pulmonary artery stenosis, coloboma, low-set, cup-shaped ears with deficient external auricular cartilage, a triangular concha and a square face. Auditory brainstem response (ABR) and auditory steady stat response (ASSR) revealed moderate bilateral sensorineural hearing loss. A temporal bone CT scan showed agenesis of the left lateral semicircular canal. We proposed bilateral auditory rehabilitation combined with regular speech therapy follow-up.

CONCLUSIONS

CHARGE syndrome's Children require multidisciplinary care due to the potentially high number of malformations and sensory deficits encountered. The ENT specialist plays a dual role: in the neonatal period, to manage the life-threatening emergency of choanal atresia, and subsequently, to address any additional hearing impairments that may accompany these children's disabilities.

KEYWORDS

CHARGE syndrome, deafness, choanal atresia, screening

PP-523

Extreme Airway Difficulty During EXIT In Severe Fetal Agnathia: Failed Conventional Intubation And Successful Emergency Tracheostomy: A Case Report

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BACKGROUND & AIM

Severe mandibular hypoplasia, particularly agnathia, is associated with profound neonatal upper airway obstruction. While the Ex Utero Intrapartum Treatment (EXIT) procedure is the standard for securing the airway while maintaining placental circulation, extreme anatomical distortion can render conventional endoscopic intubation impossible. We report a case where extreme agnathia led to EXIT failure, necessitating an emergency surgical airway.

MATERIAL & METHODS

A 36-year-old multiparous patient presented with a fetus exhibiting severe micrognathia progressing to agnathia and polyhydramnios. Prenatal biometrics revealed a severely abnormal inferior facial angle (11°) and fetal nasomental (FNM) angle

(92.87°), while MRI suggested complete obliteration of the oropharynx and hypopharynx. An EXIT- to-airway procedure was performed at late preterm gestation.

RESULTS

During the EXIT procedure, both video laryngoscopy and rigid bronchoscopy failed to identify any recognizable laryngeal inlet or glottic opening due to extreme soft tissue distortion and the absence of mandibular support. Mask ventilation was also ineffective. An emergency tracheostomy was successfully performed while uteroplacental circulation was maintained, resulting in immediate stabilization of the neonate.

CONCLUSIONS

EXIT success relies on an endoscopically accessible airway lumen, which may be absent in fetuses with extreme agnathia. Detailed prenatal imaging is critical; integrating advanced 3D MRI airway reconstruction and virtual bronchoscopy may better predict EXIT failure. Earlier recognition of such cases could support a strategy of planned primary tracheostomy to minimize futile intubation attempts and hypoxic risk.

KEYWORDS

EXIT procedure; fetal airway obstruction; agnathia; micrognathia; prenatal MRI; virtual bronchoscopy; tracheostomy.

PP-524

Occult Aerodigestive Injury In Pediatric Neck Trauma :The Critical Role Of CT Imaging

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BACKGROUND & AIM

Penetrating neck trauma in children is uncommon but clinically significant due to the close proximity of vascular and aerodigestive structures. Superficial-appearing wounds may conceal deeper, potentially life-threatening injuries. Early identification of occult aerodigestive injury remains challenging. We hypothesized that contrast-enhanced computed tomography (CT) is critical for early detection of occult injury and facilitates safe non-operative management in clinically stable pediatric patients

MATERIAL & METHODS

Two pediatric patients with penetrating neck trauma were evaluated in a tertiary referral center. Clinical assessment included detailed physical examination and monitoring for signs of aerodigestive injury. Both patients underwent contrast-enhanced CT imaging. Management consisted of hospitalization, nil per os (NPO) status, close clinical observation, and daily wound care. Outcome measures included clinical progression, resolution of subcutaneous emphysema, and requirement for surgical intervention.

RESULTS

Case 1: A 7-year-old boy presented with a 1×1 cm laceration at left cervical level II and subcutaneous crepitation. CT revealed diffuse cervical subcutaneous emphysema without hematoma.

Case 2: An 8-year-old boy presented with a 1×1 cm submandibular laceration and crepitation. CT demonstrated extensive emphysema involving the mandibular ramus, parotid and submandibular regions, hypopharynx, and carotid space.

Esophageal injury could not be definitively excluded in either case. Both patients were managed conservatively. Subcutaneous emphysema regressed markedly within 48 hours. Both patients were discharged on day 4 without complications, and no surgical intervention was required.

CONCLUSIONS

Contrast-enhanced CT is indispensable for early diagnosis and risk stratification in pediatric penetrating neck trauma. Early imaging prevents missed occult aerodigestive injury and enables safe, selective non-operative management.

KEYWORDS

pediatric neck trauma, penetrating injury, computed tomography, aerodigestive injury, subcutaneous emphysema, conservative management

PP-525

Laryngeal Foreign Body Mimicking Subglottic Mass

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BACKGROUND & AIM

Laryngeal aspiration of foreign bodies is regarded as an emergency, as the foreign bodies may cause acute obstruction of the airway. Due to obstruction, the cross-sectional area of the airway decreases significantly while the airway resistance increases drastically. In this respect, laryngeal aspiration of foreign bodies causes acute symptoms and patients usually seek immediate

medical care. However, the foreign bodies may lodge in the valleculae, pyriform sinuses, or laryngeal ventricles and thus may not obstruct the airway or impede proper ventilation but may cause stridor and agitation instead.

MATERIAL & METHODS

Six-month old female infant, otherwise healthy with no history of intubation or operation, was brought to the pediatric emergency clinic at an external facility with gradually increasing stridor and agitation. The blood work and X-ray imaging focused on probable potential infectious, medical or surgical pathologies, but were unremarkable. The patient was then discharged with symptomatic treatment, including inhaled corticosteroids and analgesic medication. Following watchful waiting, the patient presented to the pediatric emergency clinic again with unresolved complaints, prompting the emergency team to request an otorhinolaryngology (ORL) consultation. Using flexible laryngoscopy, the ORL department detected impaired mobility in the anterior halves of the vocal folds bilaterally and taking into account that the symptoms started not until the sixth month of life and persisted for three months, they suspected the symptoms might have been caused by a developmental/traumatic process, such as a laryngeal web and the patient was referred to our clinic.

RESULTS

The flexible laryngoscopy findings of the nine-month-old infant at our institution were omega-shaped epiglottis, normal vocal fold mobility bilaterally and subglottic mass with a string-like piece on it, which resembled a dry adhesive secretion. With subglottic hemangioma being the most likely diagnosis, considering that the symptoms emerged after the sixth month of life, we conducted a tracheoscopy under general anesthesia. It transpired that the string-like piece was a fragment of bovine bone from a beef broth, which was lodged in the anterior commissure like a septum and expanded in the supraglottic direction, while pressing against the anterior and posterior subglottic region, which in turn provoked granulation tissue to form, resembling a subglottic hemangioma. We extracted the foreign body, the granulation tissue was not obstructing the airway and planned a repeat tracheoscopy in six weeks to observe the granulation tissue and the possible stenosis.

CONCLUSIONS

Mild stridor and uneasiness in infants may raise suspicion of subglottic mass. Interestingly, the mean onset of symptoms of these clinical entities coincide with trials of complementary food, namely around the sixth month. Thus, the infant may be introduced to foreign bodies related to complementary food as an ingredient. In our case, the infant was fed beef broth soup, which caused a piece of bone to lodge in the larynx. Our case demonstrates that in infants, who do not have unaided access to foreign bodies, aspiration should be borne in mind as a possible cause of persistent stridor and uneasiness.

KEYWORDS

foreign body, aspiration, subglottic mass, tracheoscopy

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Pharmacological Interventions For Emergence Agitation After Pediatric Tonsillectomy/Adenoidectomy: A Systematic Review And Network Meta-Analysis

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BACKGROUND & AIM

Emergence agitation is a frequent recovery complication after pediatric tonsillectomy and/or adenoidectomy. This systematic review and network meta-analysis compared pharmacological interventions for preventing emergence agitation and related postoperative outcomes in pediatric patients.

MATERIAL & METHODS

PubMed, Scopus, Web of Science, and the Cochrane Library were searched from inception to 16 April 2026. Randomized controlled trials evaluating pharmacological interventions in children undergoing tonsillectomy, adenoidectomy, or adenotonsillectomy were included. Pairwise random-effects meta-analyses and frequentist random-effects network meta-analyses were conducted.

RESULTS

Sixty-seven randomized controlled trials involving 5,184 pediatric patients undergoing tonsillectomy and/or adenoidectomy were included. Pharmacological interventions significantly reduced emergence agitation, severe emergence agitation, agitation severity scores, and postoperative vomiting compared with placebo/control. Network meta-analysis demonstrated

favorable outcomes with nitrous oxide, propofol, remimazolam, esketamine, dexmedetomidine, ketamine, fentanyl, midazolam, and paracetamol, with dexmedetomidine and remimazolam ranking among the most effective interventions.

CONCLUSIONS

Pharmacological prophylaxis may reduce emergence agitation after pediatric tonsillectomy and/or adenoidectomy. Treatment selection should be individualized according to efficacy, certainty, safety, and recovery goals.

KEYWORDS

Emergence agitation; Pediatric anesthesia; Tonsillectomy; Adenoidectomy; Network meta-analysis; Pharmacological prophylaxis

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A Giant Dermoid Cyst Filling The Floor Of The Mouth In A Newborn: A Rare Case Report

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BACKGROUND & AIM

Dermoid cysts are rare congenital lesions resulting from ectodermal closure anomalies. Their occurrence in the oral cavity, particularly in the floor of the mouth, is extremely rare in the neonatal period. Large lesions may lead to feeding difficulties and airway obstruction.

MATERIAL & METHODS

A 41 + 3-week, male newborn weighing 3500 g was referred to the ENT clinic shortly after birth due to sublingual swelling noticed during crying. Vital signs were stable, and no respiratory distress was observed, although feeding difficulties were present.

Examination revealed a 3 × 4 cm soft, smooth mass located between the tongue and the floor of the mouth, extending into the oral cavity. Neck MRI demonstrated a well-defined cystic lesion measuring 32 × 30 mm, hypointense on T1 and heterogeneously hyperintense on T2, without diffusion restriction and with capsular enhancement after contrast, occupying a large portion of the oral cavity.

Following appropriate preoperative preparation, complete surgical excision was performed under general anesthesia. The postoperative course was uneventful. The patient tolerated oral feeding well, with no respiratory compromise, and was discharged in good condition. Histopathological examination confirmed a dermoid cyst (mature cystic teratoma).

RESULTS

Dermoid and epidermoid cysts are rare benign developmental lesions arising from ectodermal tissue entrapment during embryogenesis. Their occurrence in the head and neck region is uncommon, and intraoral localization is particularly rare, accounting for only 0.01–1.6% of oral cysts. They typically present as slow-growing, painless masses; however, larger lesions may cause dysphagia, speech difficulties, or airway obstruction. Neonatal presentation is exceptional, although congenital origin is well established.

Differential diagnosis includes ranula, thyroglossal duct cyst, lymphatic malformations, and infectious lesions. Imaging modalities such as ultrasonography, CT, and especially MRI are crucial for localization and surgical planning. Typical MRI findings include T1 hypointensity, T2 hyperintensity, and absence of diffusion restriction.

Definitive diagnosis is histopathological: epidermoid cysts contain squamous epithelium, dermoid cysts include skin appendages, and teratoid cysts contain elements from all three germ layers. Total surgical excision is the treatment of choice, with excellent prognosis and low recurrence rates.

CONCLUSIONS

Although dermoid cysts of the floor of the mouth are typically diagnosed later in life, neonatal presentation is rare but clinically significant. Progressive enlargement may result in feeding difficulties, dysphagia, tongue elevation, or airway compromise. Therefore, early recognition, close monitoring, and timely surgical intervention are essential in newborns.

Complete excision provides definitive treatment with excellent outcomes. This case highlights that dermoid and epidermoid cysts, although rare, should be considered in the differential diagnosis of cystic lesions of the neonatal oral cavity.

KEYWORDS

dermoid cysts, oral cavity, congenital cysts,head and neck ,newborn,floor of the mouth

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Assessment Of Different Coblation Wand Systems In Pediatric Adenoidectomy

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BACKGROUND & AIM

Coblation adenoidectomy is widely used in pediatric patients due to its ability to achieve controlled tissue ablation with effective hemostasis and minimal thermal injury to surrounding tissues. Recent developments in coblation technology have focused on optimizing surgical efficiency through modifications in wand design.

The present study aimed to assess whether a modification in coblation wand design is associated with changes in operative time in pediatric adenoidectomy.

MATERIAL & METHODS

This study included pediatric patients aged 2 to 16 years who underwent adenoidectomy due to adenoid hypertrophy at the Department of Otorhinolaryngology, Yeditepe University Faculty of Medicine, Istanbul, Türkiye.

All procedures were performed using coblation technology. From January 2013 to June 2017, PROcise EZ Plasma Wand; ArthroCare (the Procise EZ) was used, and from June 2017 to January 2026, all procedures were performed using Procise mAx Plasma Wand; ArthroCare (the Procise Max).

Demographic data (age and gender) and operative times were recorded. Operative time was defined as the duration from initiation of device use to completion of hemostasis.

RESULTS

A total of 167 pediatric patients were included (ProciseEZ: n=80; Procise Max: n=87). The mean age was similar between groups (5.76 ± 2.64 vs 5.78 ± 2.19 years, p>0.05). In the Procise EZ group, 33 (41.3%) were male and 47 (58.7%) female, whereas in the Procise Max group, 53 (60.9%) were male and 34 (39.1%) female, with no significant difference (p>0.05).

The mean operative time was 33.8 ± 10.7 minutes in the Procise EZ group and 21.8 ± 7.5 minutes in the Procise Max group, corresponding to a mean reduction of 12.0 minutes and indicating a significantly shorter operative time in the Procise Max group ($p < 0.001$).

CONCLUSIONS

The Procise Max coblation wand significantly reduces operative time in pediatric adenoidectomy compared with the Procise EZ system. This effect may be related to design-related features, including a wider wand diameter, which may facilitate a broader ablation field and reduce intraoperative clogging, thereby enabling a more continuous and efficient surgical process.

KEYWORDS

Adenoidectomy; Coblation; Pediatric; Operative time

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AUDIOLOGICAL SCREENING IN MATERNITY HOSPITALS IN KYRGYZSTAN

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BACKGROUND & AIM

Audiological screening of newborns is a procedure that allows you to identify possible hearing defects as quickly as possible. The detection of hearing impairments by speech leads to a very late diagnosis and delays the start of sign language rehabilitation. The diagnosis of hearing disorders in children at a very early age is possible only when conducting audiological screening of newborns – a mass hearing examination using quick and simple methods in order to identify children. Considering the above, the aim of our work is the large-scale introduction of early hearing diagnosis in children in the Kyrgyzstan.

MATERIAL & METHODS

From 2017 to 2023, 19924 children were examined in a clinical maternity hospital in four maternity hospitals in Kyrgyzstan, 221 newborns with varying degrees of hearing impairment were identified; 30948 children were examined in the city perinatal center, 240 of them newborns with hearing pathology; the maternity hospital of the Osh City Clinical Hospital: 24508 children were examined, 404 children were identified with hearing pathology. Jalal-Abad regional maternity hospital – total examined since 2021 (due to technical reasons, screening began in 2021) 5818 children, 221 of them were not screened. The audiological screening program includes 2 stages.

RESULTS

Newborn screening was carried out for 85-90% of all children born in participating maternity hospitals; A certain percentage of newborns (1-2%) showed abnormalities as a result of screening; It has been established that the equipment used to evaluate otoacoustic emission has high accuracy and reliability; A certain percentage of children (5-10%) were referred for additional examination due to questionable results; The implementation of screening has improved the early detection of hearing disorders; Difficulties in providing full coverage in remote regions were noted; The importance of early intervention for the development of a child's speech, social skills and learning is emphasized; It is necessary to expand screening to all maternity hospitals in the country. Conduct regular training of medical personnel. Implement electronic result accounting systems to improve monitoring efficiency.

CONCLUSIONS

The implementation of the program has made it possible to detect hearing disorders in newborns in a timely manner; Maternity hospitals and medical institutions are provided with modern diagnostic equipment; Systematic training of medical personnel has been organized to work with the equipment and interpret the results; The program lays the foundation for the creation of a system for the early detection and treatment of hearing disorders; The program requires sustainable financing, scaling to all regions of the country and inclusion in national standards of health care.

KEYWORDS

Audiological screening of newborns, The diagnosis of hearing disoUnilateral hearing loss rders,

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Retropharyngeal And Parapharyngeal Abscesses In Children: A Series Of 10 Cases

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BACKGROUND & AIM

Retropharyngeal and parapharyngeal abscesses are rare but potentially life-threatening deep neck infections, particularly in children. Early diagnosis and appropriate management are crucial to prevent severe complications.

The aim of this study was to analyze the clinical features and therapeutic management of these deep neck infections in children.

MATERIAL & METHODS

We conducted a retrospective study including children hospitalized for retropharyngeal or parapharyngeal abscesses between 2023 and 2025.

RESULTS

Ten patients were included. The mean age was 38 months (range: 16 months–11 years), with a male predominance (7/10). Prior use corticosteroids was reported in six cases. Fever and odynophagia/dysphagia were present in all patients, while lateral cervical swelling (3 cases) and torticollis (2 cases) were less frequent. Oropharyngeal bulging was observed in 90% of cases, and trismus in three patients.

CT scan revealed a retropharyngeal abscess in 7 cases, parapharyngeal in 3 cases, with one case showing extension between both spaces. The mean abscess size was 2.6 cm (1.7–5 cm).

All patients received intravenous cefotaxime plus metronidazole. Three patients improved with antibiotics alone. Surgical drainage was performed in seven cases (six intraoral, one external approach). Outcomes were favorable in all patients.

CONCLUSIONS

Deep neck abscesses in children require prompt recognition and multidisciplinary management. Surgical intervention should be considered based on clinical severity, imaging findings, and abscess accessibility.

KEYWORDS

children; deep neck infection ; medico-surgical emergency ;retropharyngeal abscess; parapharyngeal abscess.

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Solitary Mucosal Neuroma Of The Tongue In A Child Mimicking A Traumatic Granuloma: A Rare Case Report

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BACKGROUND & AIM

Mucosal neuroma (MN) is a benign neural lesion most commonly associated with multiple endocrine neoplasia type 2B (MEN2B), typically presenting as multiple oral papules. Solitary mucosal neuroma (SMN) without syndromic features is exceedingly rare, especially in the pediatric population. This study aims to present a rare case of a genetically confirmed, MEN2B-negative solitary mucosal neuroma confined to the tongue in a child and to highlight its diagnostic challenges.

MATERIAL & METHODS

A 13-year-old boy presented with a painless, slowly enlarging nodular lesion on the left lateral border of the tongue, initially suspected to be a traumatic granuloma due to chronic biting. The lesion was completely excised under local anesthesia. Histopathological examination and immunohistochemical analysis, including S-100 and EMA staining, were performed. Additionally, RET proto-oncogene mutation analysis and endocrinological evaluation were conducted to exclude MEN2B.

RESULTS

Histopathological examination revealed subepithelial proliferation of tortuous nerve fascicles with perineural thickening. Immunohistochemistry demonstrated diffuse S-100 positivity in neural elements and EMA positivity in perineurial cells, consistent with solitary mucosal neuroma. RET mutation analysis was negative, and no systemic or endocrinological

abnormalities were detected. The postoperative course was uneventful, and no recurrence was observed at six-month follow-up.

CONCLUSIONS

Solitary mucosal neuroma of the tongue is an extremely rare entity in the pediatric population and may clinically mimic reactive lesions such as traumatic granuloma. This case highlights the importance of considering neural tumors in the differential diagnosis of persistent oral nodules. Comprehensive histopathological, immunohistochemical, and genetic evaluation is essential to exclude MEN2B and guide appropriate management.

KEYWORDS

Solitary mucosal neuroma, tongue, pediatric, MEN2B, RET mutation, oral lesion, neural tumor

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Recurrent Preseptal Cellulitis Associated With Sinonasal Disease: A Case Report

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BACKGROUND & AIM

Preseptal cellulitis is an infectious inflammation of the periorbital soft tissues anterior to the orbital septum. Although most cases respond favorably to empirical systemic antibiotics, recurrent episodes warrant systematic investigation for predisposing factors — most notably sinonasal pathology, anatomical obstruction, immunological deficiencies, dermatological conditions, and persistent infectious foci. We present a diagnostically and therapeutically complex case of recurrent right-sided preseptal cellulitis associated with chronic ipsilateral rhinosinusitis, further complicated by DRESS syndrome and multiple severe drug hypersensitivities, ultimately managed with revision functional endoscopic sinus surgery (FESS) and individualized antimicrobial therapy.

MATERIAL & METHODS

A 6-year-old boy presented with recurrent right-sided orbital cellulitis associated with chronic rhinosinusitis and was hospitalized on four occasions over a 30-month period. The first episode required endoscopic sinus surgery and prolonged intravenous antibiotic therapy; however, treatment was complicated by Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS) secondary to vancomycin and beta-lactam exposure. Recurrent attacks were subsequently managed conservatively, although imaging repeatedly demonstrated persistent ipsilateral sinonasal inflammation with orbital extension and later development of a subperiosteal phlegmon. Ophthalmologic evaluations consistently excluded visual loss or ophthalmoplegia. Comprehensive immunological investigations revealed no evidence of primary immunodeficiency. Due to multiple severe hypersensitivity reactions, extensive allergological testing was performed and demonstrated positivity to vancomycin, ceftriaxone, and clindamycin, while linezolid had previously caused an anaphylactoid reaction. Intravenous tigecycline was therefore administered successfully as salvage therapy. Revision functional endoscopic sinus surgery restored sinonasal drainage, resulting in marked clinical and biochemical improvement.

RESULTS

This case highlights three important clinical considerations in the management of recurrent periorbital infections. First, recurrent preseptal cellulitis should prompt investigation for underlying sinonasal pathology rather than being regarded as an isolated eyelid infection. In our patient, persistent frontoethmoidal inflammation and postsurgical synechiae created a chronic infectious focus, and definitive improvement was achieved only after surgical correction of these anatomical abnormalities. Accordingly, nasal endoscopy and paranasal sinus imaging are essential in patients with recurrent periorbital infections. Second, severe multidrug hypersensitivity can significantly complicate antimicrobial management. DRESS syndrome and confirmed allergies to multiple first-line antibiotics necessitated the use of tigecycline as salvage therapy under multidisciplinary supervision, emphasizing the value of detailed allergological assessment and patch testing. Third, revision functional endoscopic sinus surgery successfully restored sinonasal drainage and eliminated the underlying mechanical and inflammatory factors, resulting in stable postoperative recovery without early recurrence.

CONCLUSIONS

Recurrent preseptal cellulitis should prompt a structured otorhinolaryngological assessment and high-resolution sinonasal imaging in every case. Early identification of underlying sinonasal pathology, combined with individualized antimicrobial selection in patients with severe drug hypersensitivities, can prevent orbital complications and reduce the risk of recurrence. This case highlights the indispensable role of multidisciplinary collaboration — involving otorhinolaryngology, infectious diseases, allergy and immunology, and dermatology — when standard therapeutic pathways are unavailable.

KEYWORDS

orbital selülit, orbital abse, fonksiyonel endoskopik sinüs cerrahisi

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The Mask Of Adenovirus: Pediatric Sigmoid Sinus Thrombosis And Epidural Empyema Complicating Acute Otitis Media

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BACKGROUND & AIM

Acute otitis media (AOM) is a common pediatric infection that rarely progresses to life-threatening intratemporal or intracranial complications in the modern antibiotic era. Among these, otogenic sigmoid sinus thrombosis (SST) and concomitant epidural empyema represent critical neuro-otologic emergencies. When AOM co-occurs with systemic viral infections like gastroenteritis, the diagnostic process becomes significantly complicated. Dehydration from gastrointestinal losses induces a hypercoagulable state that may accelerate dural venous sinus thrombosis, while overlapping constitutional symptoms often mask the early neurological red flags of intracranial extension.

MATERIAL & METHODS

A 4-year-old girl presented to a emergency department with a 10-day history of vomiting and diarrhea, followed by high fever and left-sided otalgia. Laboratory investigations revealed a markedly elevated C-reactive protein (CRP) level of 250 mg/L. She was hospitalized with diagnoses of acute otitis media (AOM), tonsillitis, and gastroenteritis, and intravenous ceftriaxone therapy was initiated. A stool viral panel was positive for adenovirus.

Although the gastrointestinal symptoms resolved by the second day of hospitalization, the patient developed a progressive severe headache that persisted despite resolution of the fever. Left-sided aural fullness continued without otorrhea.Contrast-enhanced temporal bone computed tomography performed because of the intractable headache demonstrated left sigmoid sinus thrombosis (SST) with an adjacent epidural empyema. Intravenous metronidazole was added, and the patient was urgently transferred to tertiary care Ear, Nose, and Throat (ENT) department due to impending intracranial decompensation.

RESULTS

Following multidisciplinary evaluation by the Otolaryngology and Pediatric Infectious Diseases teams, the patient underwent urgent surgical intervention. A left tympanomastoidectomy was performed to eradicate the primary otogenic source of infection, revealing extensive mastoiditis and granulation tissue intraoperatively. Simultaneously, successful drainage of the epidural empyema and decompression of the sigmoid sinus plate were achieved. In addition, a left ventilation tube was inserted via myringotomy to ensure adequate middle ear ventilation and drainage.

Postoperatively, the patient received targeted broad-spectrum intravenous antibiotic therapy consisting of ceftriaxone and vancomycin, along with pediatric anticoagulation therapy for thrombus management. The patient demonstrated rapid neurological and clinical improvement, with complete resolution of the intractable headache, normalization of inflammatory markers, and no evidence of focal neurological deficits or septic embolic complications during follow-up.

CONCLUSIONS

This case highlights the importance of maintaining a high index of suspicion for intracranial complications in children with AOM, even when concomitant infections appear to account for the clinical presentation. Coexisting adenoviral gastroenteritis may obscure evolving intracranial pathology and contribute to thrombotic complications through dehydration. Persistent headache despite resolution of gastrointestinal symptoms should therefore be considered an important warning sign. Early recognition and prompt surgical intervention, including tympanomastoidectomy and ventilatioan tube insertion, drainage of intracranial empyema are essential to prevent life-threatening complications and achieve favorable clinical outcomes.

KEYWORDS

Acute otitis media; sigmoid sinus thrombosis; epidural empyema; pediatric otogenic intracranial complications; adenovirus gastroenteritis; mastoiditis; intracranial infection; tympanomastoidectomy; pediatric ENT surgery

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Right-Sided Type IV Branchial Cleft Cyst Presenting As Cervical Esophageal Fistula In An Adult

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KEYWORDS

Type IV branchial cleft cyst, right-sided anomaly, cervical esophagus, deep neck infection

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Comparison Of Cold Knife Dissection And Bipolar Tonsillectomy In Terms Of Secondary Postoperative Hemorrhage

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BACKGROUND & AIM

Post-tonsillectomy hemorrhage remains one of the most important complications following tonsillectomy and adenotonsillectomy, and the potential influence of surgical technique on this outcome continues to be clinically relevant. The present study aimed to compare cold knife dissection and bipolar tonsillectomy in terms of the risk of secondary postoperative hemorrhage in patients undergoing tonsillectomy or adenotonsillectomy

MATERIAL & METHODS

A total of 742 patients who underwent tonsillectomy or adenotonsillectomy were retrospectively reviewed. Demographic characteristics, surgical indications, operative technique, and the occurrence of secondary postoperative hemorrhage were analyzed. Surgical indications were categorized as obstruction or infection, and operative technique was classified as either cold knife dissection or bipolar technique. The primary outcome was the association between surgical technique and secondary postoperative hemorrhage. In addition, the relationships between postoperative hemorrhage and sex as well as surgical indication were evaluated. Statistical significance was defined as a p value < 0.05

RESULTS

The mean age of the study population was 8.86 ± 7.56 years. Of all patients, 54.6% were male and 45.4% were female. The indication for surgery was obstruction in 57.8% of cases and infection in 42.2%. Cold knife dissection was performed in 55.4% of patients, whereas the bipolar technique was used in 44.6%. The overall rate of secondary postoperative hemorrhage was 3.0%. No statistically significant association was observed between surgical technique and secondary postoperative hemorrhage (p = 0.430). Similarly, no significant relationship was identified between secondary hemorrhage and sex (p = 0.383) or surgical indication (p = 0.575). These findings indicate that the two surgical techniques have comparable safety profiles with regard to secondary bleeding

CONCLUSIONS

Cold knife dissection and bipolar tonsillectomy did not differ significantly in terms of secondary postoperative hemorrhage. These results suggest that both techniques can be performed safely when appropriate surgical practice and standardized postoperative follow-up are maintained. In clinical decision-making, however, factors beyond hemorrhage risk—such as operative time, intraoperative blood loss, postoperative pain, and surgeon experience—should also be taken into consideration when selecting the surgical technique

KEYWORDS

Tonsillectomy; Adenoidectomy; Postoperative Hemorrhage; Electrocoagulation

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ASSESSMENT OF PRIMARY AND SECONDARY POST-TONSILLECTOMY HEMORRHAGE IN PEDATRIC PATIENTS: A SINGLE-CENTERED EVALUATION

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BACKGROUND & AIM

Tonsillectomy is one of the most common otolaryngologic surgeries in pediatric patients. Post-tonsillectomy hemorrahage is the most common complication. Bleeding that occurs within the first 24 hours after surgery is called primary bleeding while bleeding that occurs after 24 hours is referred to as secondary bleeding. The purpose of this study is to determine risk factors of post-tonsillectomy hemorrhage and their correlations for increased bleeding.

MATERIAL & METHODS

The clinical data from who underwent tonsillectomy in our hospital from 5 August 2015 to 3 March 2026 were retrospectively collected. The variables including gender, age, onset of bleeding, tonsil grade, season, surgical intervention in patients presenting with post-tonsillectomy hemorrhage were collected from hospital records.

RESULTS

According to the data collected so far; 700 pediatric patients were included in study. The bleeding rate was 2% (n=15). Bleeding cases were mostly observed in winter (44.4%) and autumn (33.3). The majority of bleeding episodes occurred between postoperative days 5–10 and were consistent with secondary hemorrhage.

CONCLUSIONS

Secondary post-tonsillectomay hemorrhage is most life-threatining complication. Post-operative follow up is so crucial. Age and season were one of the significant variables affecting bleeding risk. This study provides an important basis for future studies.

KEYWORDS

Tonsillectomy, hemorrahage, pediatric patients, primary and secondary bleeding

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Socio- Economic And Health Implications Of Impacted Oro-Esophageal Foreign Bodies In A Tertiary Health Care Facility In Ghana

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BACKGROUND & AIM

Ingestion of oro-esophageal foreign bodies (FBs) is a common clinical issue that can present with a wide range of symptoms, from minor self-limiting illnesses to serious, life-threatening conditions. Delaying the removal of impacted FBs can increase the risk of complications and reduce the chance of successful removal. Despite its significance as a medical emergency with potential socioeconomic and health impacts, there is a paucity of data on its implications. This study was to assess the socio-economic implications as well as the clinical features and treatment outcomes of impacted oro-esophageal foreign bodies (IOEFBs) in a tertiary health care facility in Ghana.

MATERIAL & METHODS

This was a prospective cross-sectional study employing a mixed-methods approach. The study was conducted at the 37 Military Hospital in the Greater Accra Region of Ghana from 1st March 2025 to 30th September 2025. A total of 60 participants aged 6 months to 65 years who presented with oro-esophageal FB impaction were enrolled using consecutive sampling. Data collection involved review of medical records, structured questionnaires, and semi-structured interviews with patients, families, and healthcare professionals. Demographic and clinical characteristics, types and locations of FBs, treatment modalities, outcomes, and socioeconomic impacts were documented. Descriptive and inferential statistics were performed using SPSS version 25, with p-values less than 0.05 considered statistically significant.

RESULTS

Young children aged 6 months to 5 years constituted 56.7% of cases, with male predominance (61.7%). Coins were the most frequently ingested foreign body (70%), followed by bones (13.3%) and disc batteries (6.7%). The upper esophagus was the most common site of impaction (46.7%). Dysphagia was the predominant presenting symptom (45%), and 85% of patients presented three or more hours after ingestion. Rigid esophagoscopy was the primary management modality (73.3%), with a successful removal rate of 86%. Treatment costs ranged between GHS 2,001–5,000 for 53.3% of participants. Financial constraints were the main barrier to accessing care (50%). Notably, 86.7% of participants experienced emotional or psychological distress, yet only 8.3% accessed mental health support. The majority rated their mental well-being as poor or very poor (76.6%). Delayed presentation was identified as the most common challenge in clinical management.

CONCLUSIONS

Impacted oro-esophageal foreign bodies represent a significant public health challenge in Ghana, predominantly affecting paediatric populations. While treatment outcomes were generally favourable at the tertiary level, substantial economic burden, significant psychosocial impacts, and delayed presentation patterns underscore the multifaceted nature of this condition. The findings emphasize the urgent need for comprehensive preventive strategies, improved health insurance coverage, integration of psychosocial support services, and public health education campaigns targeting parents and caregivers. Addressing this burden requires a multi-sectoral approach encompassing prevention, improved access to timely care, standardization of management protocols, and continued research to identify best practices.

KEYWORDS

Oro-esophageal foreign bodies, impaction, socioeconomic implications, clinical features, treatment outcomes.

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Cross-Disciplinary Management Approach In Children With Costen Syndrome

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BACKGROUND & AIM

The purpose of the study was to define: is the Costen syndrome in children correlation or coincidence?

MATERIAL & METHODS

143 patients aged from 6 to 14 years who made various ear complaints. All were examined by an otorhinolaryngologist, the tympanometry and the otoacoustic emission registration were performed. All diagnostic test were conducted using Audio-SMART (Neurosoft, Russia Federation).The cohort of patients with isolated otalgia (14.1%) was examined by a neurologist to exclude facial neuropathy. In 58.6% of cases, the secretory otitis and/or dysfunction of the auditory tubes was confirmed. The dentist examined 137 of 143 children and in 96.4% of cases confirmed the dental diagnosis: anomalies of the position of the teeth - in 16% of cases, anomalies of the ratio of dental arches - in 54%, malocclusion - in 10% and malformation of the jaw - in 20% of cases. The majority of patients had orthopedic disorders (N=82; 87.1%).

RESULTS

Costen syndrome or temporomandibular dysfunction in children is not a coincidence, but is a correlation

CONCLUSIONS

In turn, it is a guide to an cross-disciplinary management approach of patients with this pathology.

KEYWORDS

Costen syndrome, TMJ dysfunction, pediatric ENT

PP-539

Early Closed Reduction In Neonatal Nasal Fractures: Functional And Aesthetic Outcomes In A Four-Case Series

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BACKGROUND & AIM

Neonatal nasal fractures may occur due to intrauterine or perinatal trauma and can result in respiratory distress, feeding difficulties, and impaired growth. The reported incidence and classification of neonatal nasal deformities vary widely in the literature, and there is no clear consensus regarding optimal management. While conservative observation has been advocated by some authors, severe deformities or cases associated with compromised oxygenation may require early surgical intervention. This study aims to present our experience with early closed reduction of nasal fractures in four neonates within the first month of life and to evaluate short- and long-term outcomes.

MATERIAL & METHODS

Four neonates presenting with nasal deformity, respiratory symptoms, and feeding difficulties after birth were evaluated through clinical history and physical examination. All patients underwent closed nasal fracture reduction under general anesthesia within the first month of life. Postoperative stabilization was performed using a standardized combination of intranasal Doyle splints, thermal nasal casting, and nostril retainers. Postoperative follow-up included assessment of nasal airway patency, external nasal appearance, feeding status, need for revision, and potential complications. Patients were evaluated at 3 months, 6 months, and 1 year postoperatively.

RESULTS

All four patients presented with nasal deformity and mild respiratory distress in the early postnatal period. Immediate improvement in nasal airway patency was observed following closed reduction. Feeding difficulties, attributed to respiratory compromise, resolved in all patients during the early postoperative period. A marked improvement in external nasal appearance was achieved in all cases. At 3-month, 6-month, and 1-year follow-ups, no evidence of nasal obstruction or residual deformity was noted. No perioperative or postoperative complications occurred, and no revision procedures were required. Both short- and long-term outcomes were satisfactory in all patients.

CONCLUSIONS

Early closed reduction combined with adjunctive stabilization techniques, including Doyle splints, thermal nasal casting, and nostril retainers, appears to be a safe and effective treatment option for neonatal nasal fractures, providing favorable functional and aesthetic outcomes. Early intervention may alleviate feeding difficulties secondary to respiratory compromise, facilitate adequate weight gain, reduce upper airway obstruction, and potentially support normal midfacial development. This approach represents a reliable treatment modality in selected neonatal cases.

KEYWORDS

Neonatal nasal fracture; Closed reduction; Nasal trauma; Pediatric otolaryngology; Airway obstruction

PP-540

Remote Post-Discharge Support After Pediatric Tonsillectomy: A Systematic Review

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BACKGROUND & AIM

Recovery after pediatric tonsillectomy occurs mainly at home, where parents manage pain, hydration, medication schedules, and warning signs. Remote post-discharge support may improve caregiver preparedness and reduce avoidable healthcare use. This review aimed to evaluate remote support interventions for parents after pediatric tonsillectomy or adenotonsillectomy and their effects on recovery and healthcare utilization.

MATERIAL & METHODS

A systematic review with narrative synthesis was performed. Eligible studies included pediatric patients undergoing tonsillectomy or adenotonsillectomy, parent- or caregiver-directed remote support delivered after discharge, and at least one recovery or healthcare utilization outcome. Interventions included nurse-led telephone calls, text messaging, mobile applications, web/video platforms, and automated digital tools. Extracted outcomes included pain, analgesic use, hydration, complications, caregiver knowledge, anxiety, confidence, satisfaction, emergency department visits, unscheduled contacts, readmissions, and costs. Because study designs, interventions, and outcomes were heterogeneous, results were synthesized narratively.

RESULTS

29 studies were reviewed. Studies spanned 1997–2026 and included randomized trials, cohort studies, quality improvement projects, and retrospective reviews. Telephone follow-up was the most common modality, followed by text messaging, mobile applications, video/web platforms, and automated systems. The most consistent benefit was reduced healthcare utilization. Text messaging programs reduced emergency department visits from 13.78% to 11.11% (p=0.02), and non-participants in one automated messaging program were 9.12 times more likely to attend the emergency department for education-related reasons (p=0.047). The largest randomized trial (n=771) found fewer unanticipated medical service uses with telephone follow-up than in-person visits (12% vs 26%, p=0.022). Caregiver knowledge, confidence, and satisfaction generally improved, with satisfaction ranging from 85% to 100%. Effects on child pain were inconsistent, although some studies reported improved analgesic adherence and fluid intake.

CONCLUSIONS

Remote post-discharge support appears most useful for improving caregiver preparedness and reducing avoidable healthcare use after pediatric tonsillectomy. Evidence for direct pain reduction is less consistent. Future studies should use standardized recovery outcomes and stronger prospective designs.

KEYWORDS

tonsillectomy, Post-operative care, nurse-led telephone calls, text messaging, mobile applications, web/video platforms, automated digital tools.

PP-541

PEDIATRIC MUCOEPIDERMOID CARCINOMA: A RARE CASE REQUIRING RADICAL PAROTIDECTOMY AND NECK DISSECTION

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BACKGROUND & AIM

Salivary gland neoplasms in the pediatric population are rare, accounting for less than 5% of pediatric head and neck tumors. High-grade Mucoepidermoid Carcinoma (MEC) variants exhibit aggressive biological behavior and a high propensity for perineural invasion. The aim of this case report is to highlight the management of extensive facial nerve invasion in a pediatric patient and the importance of immediate nerve reconstruction.

MATERIAL & METHODS

A retrospective clinical evaluation was performed for a 7-year-old female patient who presented with a firm, 3x2 cm right infra-auricular mass. Diagnostic workup included physical examination, neck ultrasound, MRI, and Fine Needle Aspiration Biopsy (FNAB). The surgical approach involved radical parotidectomy, neck dissection, and immediate nerve grafting.

RESULTS

Intraoperative findings revealed the tumor encasing the facial nerve trunk and extending into the deep lobe. Following frozen section confirmation of malignancy and nerve invasion, a radical parotidectomy was performed. Immediate nerve reconstruction was achieved using a great auricular nerve cable graft, anastomosed between the stylomastoid foramen and the orbital branch. Final pathology confirmed high-grade MEC with negative surgical margins.

CONCLUSIONS

Extensive facial nerve involvement in pediatric MEC necessitates radical surgical intervention for oncological clearance. This case demonstrates that even when nerve sacrifice is unavoidable, immediate reconstruction with a cable graft is a viable strategy to address functional loss while ensuring patient survival.

KEYWORDS

Pediatric Mucoepidermoid Carcinoma; Radical Parotidectomy; Facial Nerve Sacrifice; Nerve Reconstruction; Great Auricular Nerve Graft.

PP-542

Complex Oropharyngeal Stenosis Following Adenotonsillectomy: Planned Airway Management And Reconstructive Surgical Approach

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BACKGROUND & AIM

Oropharyngeal stenosis is a rare but serious complication of adenotonsillectomy that may result in progressive dysphagia and challenging airway management. Early recognition is critical to prevent life-threatening airway compromise. This study aims to present a pediatric case of severe post-adenotonsillectomy oropharyngeal stenosis successfully managed with a combined surgical and medical approach.

MATERIAL & METHODS

A seven-year-old boy with a history of adenotonsillectomy three years prior presented with progressive dysphagia and reduced mouth opening. Clinical examination revealed dense fibrotic bands between the tonsillar pillars causing significant oropharyngeal narrowing. During preoperative assessment for unrelated orthopedic surgery, a difficult airway was anticipated. An elective tracheotomy was performed to secure the airway. Definitive treatment included excision of fibrotic bands using a sickle knife and monopolar cautery, followed by extensive adhesiolysis. The mucosal defect was reconstructed using a superiorly pedicled V-shaped nasopharyngeal advancement flap.

RESULTS

Two weeks postoperatively, a single-dose intralesional triamcinolone acetonide injection was administered under sedation to reduce the risk of restenosis. The patient was successfully decannulated and resumed full oral feeding with subsequent weight gain. At four months of follow-up, the oropharyngeal airway remained patent with no evidence of restenosis or functional impairment.

CONCLUSIONS

Early recognition and planned airway management are essential in post-adenotonsillectomy oropharyngeal stenosis. A combined approach including adhesiolysis, mucosal reconstruction, and adjunctive intralesional steroid therapy may provide durable airway patency and favorable functional outcomes. Increased awareness of this rare complication may help prevent life-threatening airway events.

KEYWORDS

Oropharyngeal stenosis; Adenotonsillectomy complication; Pediatric airway; Difficult airway management; Tracheotomy; Adhesiolysis; Intralesional steroid

PHONIATRICS

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PP-543

Reversible Bevacizumab Induced Dysphonia: Case Report

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BACKGROUND & AIM

Anti-angiogenic treatment in adjunct with chemotherapy is widely used for the treatment of various cancers. These agents inhibit vascular endothelial growth factor (VEGF) signaling thereby inhibiting tumor proliferation and invasion. Dysphonia, or voice changes, has been documented, but is an underreported side effect of anti-angiogenic agents. We report a case of intermittent dysphonia in a patient with metastatic, platinum-refractory cervical cancer treated with bevacizumab.

MATERIAL & METHODS

A 48-year-old female with high grade mixed type cervical adenocarcinoma and concurrent right sided breast cancer was transitioned to palliative therapy with gemcitabine-bevacizumab for her cervical cancer. At a follow-up visit after four cycles of the new therapy, the patient complained of intermittent changes in her voice, describing periods of hoarseness or softness in her voice after the chemotherapy-sometimes to the point that her voice was inaudible.

A patient was referred to our ENT department due to dysphonia, and no abnormalities were found during examination. An MRI scan revealed no pathological findings. When oncology physicians attempted to change the treatment regimen, the dysphonia completely resolved after two weeks. Since this treatment was insufficient, bevacizumab was restarted as a palliative measure. One month after restarting the treatment, dysphonia recurred.

RESULTS

Despite no pathology being found in the patient's tests and examinations, they were prescribed proton pump inhibitors and given voice rest. Oncology physicians were informed about this side effect and advised to perform a benefit-risk analysis regarding continuation of treatment.

CONCLUSIONS

Many of the potential serious complications of bevacizumab can be averted by close monitoring of patient-specific variables, which should be measured at baseline and then at predetermined intervals throughout the course of therapy to maximize patient safety. Vocal adverse effects of anti-VEGF agents have been documented in landmark trials and case reports; however, clinicians are often unaware of this rare side effect. Time to onset of symptoms and reversibility of symptoms vary by patient and require further study. There may be long-term voice sequelae.

KEYWORDS

Bevacizumab, reversible dysphonia, vascular endothelial growth factor

PP-544

Multidimensional Improvements Following Structured Voice Therapy In An Individual With Charcot-Marie-Tooth Disease: A Case Report

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BACKGROUND & AIM

Charcot-Marie-Tooth disease (CMT) often leads to impaired phonatory control due to reduced motor function and muscular endurance. While vocal fatigue is a hallmark of this population, evidence-based therapy protocols remain under-reported. This case report investigates the multidimensional outcomes of a 6 week structured voice therapy program in a 32-year-old male patient with Charcot-Marie-Tooth disease type 1A (CMT1A), diagnosed six months prior despite long standing symptoms since childhood with gradual progression.

MATERIAL & METHODS

An individual presenting with persistent vocal fatigue andreduced vocal intensity was evaluated using videolaryngostroboscopy (VLS), Acoustic Voice Quality Index (AVQI), and the Turkish-validated version of the Voice Handicap Index-10 (VHI-10) at baseline, week 3, and week 6. To minimize intra-subject variability three recordingswere obtained at each time point, and only those meeting predefined quality criteria were averaged for analysis. A 6-week therapy program was implemented, split into two phases: semi-occluded vocal tract exercises (SOVTE) for the first 3 weeks, followed by vocal function exercises (VFE) forthe remainder of the program. All voice recordings were obtained under standardized conditions and analyzed using Praat.Therapy intensity was adjusted according to patient tolerance.

RESULTS

AVQI increased slightly from 7.39 ± 0.27 to 7.67 ± 0.44 at week 3, which we attribute to the shedding of compensatory hyperfunctional patterns and subsequent physiologicalreorganization. By week 6, AVQI improved to 6.55 ± 0.42, indicating enhanced overall voice quality. This was mirroredby a substantial drop in VHI-10 scores (from 27 to 18), reflecting a reduced perception of vocal handicap. VLS findings confirmed these gains, showing diminished supraglottic squeezing and improved vocal fold vibratory stability. Overall, clinically meaningful improvements were observed across acoustic, perceptual, and laryngeal measures.

CONCLUSIONS

Our findings demonstrate that a hybrid SOVTE-VFE approachcan effectively support more efficient phonation in CMT, despite its progressive neuromuscular nature. The mid-therapy fluctuation in acoustic metrics is a key clinical observation; it suggests a transition from maladaptive compensation to a more physiological phonatory effort. While promising, the seresults highlight the necessity for larger-scale studies to further validate physiologically based therapy approaches in neuromuscular disorders.

KEYWORDS

Charcot-Marie-Tooth disease, voice therapy, vocal fatigue, semi-occluded vocal tract exercises, neuromuscular disorders

PP-545

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BACKGROUND & AIM

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KEYWORDS

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PP-546

Perceptual Auditory Analysis Of Normal And Pathological Swallowing

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BACKGROUND & AIM

To establish perceptual standards via cervical auscultation using a conventional stethoscope to differentiate normal from pathological swallowing, including the identification of critical accessory sounds for assessing swallowing safety and efficacy.

MATERIAL & METHODS

A historical review was conducted to contrast the literature on cervical auscultation. The analysis characterized the acoustic parameters (pitch/timbre, intensity, duration, and sequence) of swallowing sounds and their pathophysiological correlation, with special focus on concurrent sounds.

RESULTS

Normal swallowing is perceived as a single, compact, brief event, described as a crisp laryngeal "click" followed by a smooth bolus "whoosh." Pathology manifests as fragmented, weak, or absent sounds, or as wet, gurgling sounds prolonged by residue in the valleculae or pyriform sinuses. Accessory sounds are diagnostic determinants: a brief, complete respiratory pause following deglutition is normal, whereas the absence of this pause or the presence of immediate post-swallow inspiratory "bubbling" are audible findings highly suggestive of laryngeal penetration or aspiration.

CONCLUSIONS

A well-defined repertoire of perceptual auditory standards exists to allow a robust presumptive diagnosis regarding normal or pathological swallowing. The key to the analysis lies in the integrated perception of the swallowing sequence and its synchrony with the respiratory cycle. This skill remains a cornerstone of clinical dysphagia assessment.

KEYWORDS

Perceptual auditory analysis, swallowing, acoustic parameters, clinical assessment, dysphagia.

PP-547

Evaluation Of Synthetic Pathological Voices Using Mordukhovich Subdifferential Optimization Phoneme-Level Approach

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BACKGROUND & AIM

This study aimed to create an artificial intelligence–driven framework for phoneme-specific evaluation of synthetic pathological voices, with particular emphasis on alaryngeal speech following treatment for laryngeal carcinoma. The objective was to provide an objective assessment of speech quality by modeling the complex interactions and trade-offs among acoustic features associated with pathological phonation.

MATERIAL & METHODS

A dataset of 5,200 synthetic Lithuanian pathological voice samples was created using a controlled speech synthesis system designed to simulate different levels of hoarseness, breathiness, and strain. The corpus included vowels (/a/, /i/, /u/), plosives (/k/, /g/), fricatives (/s/, /z/, /ʃ/), and Lithuanian-specific complex sounds (/lj/, /ai/). For each phoneme, acoustic features including harmonics-to-noise ratio, cepstral peak prominence, and degree of aperiodicity were extracted. A multi-objective optimization approach based on Mordukhovich subdifferential analysis was then used to determine phoneme-specific Pareto fronts representing optimal acoustic thresholds. Synthetic voice samples were subsequently classified based on their distance from the Pareto front, yielding both an overall quality score and phoneme-level diagnostic feedback.

RESULTS

The proposed framework showed strong optimization convergence and reliable classification performance. Vowels demonstrated the best optimization outcomes (hypervolume up to 0.842) and the highest classification accuracy (F1-score up to 0.95), while consonants and more complex Lithuanian phonemes showed slightly lower, yet still robust, results. The overall mean classification performance achieved an F1-score of 0.86, with clear cluster separation, as reflected by a mean silhouette score of 0.70. In addition, the distance-to-Pareto-front metric showed strong correlation with clinically relevant acoustic parameters, including jitter, shimmer, and cepstral peak prominence.

CONCLUSIONS

This phoneme-specific Pareto-based framework offers a robust and interpretable approach to evaluating synthetic pathological voices and may serve as a valuable tool for the automated assessment of speech quality after surgical treatment of laryngeal cancer.

KEYWORDS

Phoneme assessment, alaryngeal speech, Acoustic feature extraction

PP-548

Acoustic Analysis Of Swallowing In Neurological Populations

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BACKGROUND & AIM

Objective: To evaluate the specific contributions of instrumental acoustic analysis to the characterization and monitoring of dysphagia in adults with central neurological pathologies.

MATERIAL & METHODS

Methods: A narrative literature review was conducted, focusing on studies utilizing accelerometry, electronic auscultation, or sound analysis in populations with Parkinson's disease (PD), stroke, multiple sclerosis (MS), and neuromuscular diseases.

RESULTS

Results: Acoustic techniques provide objective biomarkers. In PD, spectral analysis reveals swallowing sounds of lower amplitude and longer duration, which correlate with bradykinesia and pharyngeal rigidity, thereby allowing for the tracking of motor fluctuations. In stroke, a pattern of discoordination is identified, characterized by a prolonged latency between the oral propulsion sound and laryngeal closure, alongside chaotic post-swallow vibrations caused by residue. In MS and neuromuscular pathologies, weakness manifests as a progressive reduction in total acoustic signal power. High-resolution auscultation can detect silent micro-aspiration by identifying abnormal frequency components in the immediate post-swallow expiratory phase.

CONCLUSIONS

Conclusion: Instrumental acoustic analysis represents a significant contribution to the management of neurogenic dysphagia, providing quantifiable and reproducible parameters that reflect the disease-specific pathophysiological substrate. Its implementation in specialized clinical practice facilitates a more personalized and objective approach to treatment.

KEYWORDS

Instrumental acoustic analysis neurogenic dysphagia swallowing signal

PP-549

Swallowing Screening In The Older Adult Population: The Role Of Acoustic Analysis

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BACKGROUND & AIM

To evaluate the utility and reliability of instrumental acoustic swallowing analysis as a screening tool in older adults, comparing its performance with other clinical screening methods.

MATERIAL & METHODS

A scoping review of the literature was performed, analyzing studies that compare electronic cervical auscultation or computerized acoustic analysis with validated screening tools (such as the EAT-10 or volume-viscosity tests) and gold-standard instrumental methods (VFSS/FEES) in the geriatric population.

RESULTS

Acoustic analysis is an objective and rapid screening tool. Studies indicate that parameters such as increased total duration and reduced sound amplitude exhibit high sensitivity for detecting subclinical dysphagia or aspiration risk. Its main operational advantage over questionnaires is its independence from the patient's cognitive status. Compared to clinical tests based on the observation of signs, acoustic analysis detects anomalies before they become clinically apparent. However, its specificity for differentiating the type of dysphagia is moderate, always requiring a confirmatory evaluation.

CONCLUSIONS

Instrumental acoustic analysis provides objectivity and efficiency to dysphagia screening in older adults, complementing and enhancing existing clinical tools. Its implementation in multi-stage protocols can optimize resources and enable earlier, more accurate detection of at-risk patients, facilitating timely intervention.

KEYWORDS

Swallowing, screening, acoustic analysis, aspiration,

PP-550

Validation Of Lithuanian Version Of Voice Handicap Index-10

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BACKGROUND & AIM

The Voice Handicap Index-10 (VHI-10) is a widely used, 10-item patient-reported outcome measure for quantifying voice-related handicap. While validated in numerous languages, no Lithuanian version existed to date. The aim of this study was to translate, culturally adapt, and assess the psychometric properties of the Lithuanian version of the VHI-10 (VHI-10LT).

MATERIAL & METHODS

Translation and cultural adaptation were performed in accordance with World Health Organization standards for cross-cultural questionnaire translation, including forward translation, expert panel review, back-translation, and pilot testing. The study prospectively enrolled 134 patients with confirmed stable voice disorders and 77 healthy controls. All participants completed VHI-10LT, the Glottal Function Index (GFI-LT), a voice quality Visual Analogue Scale (VAS) alongside clinician-rated GRBAS assessment and maximum phonation time (MPT) measurement. A retest was performed at 2–4 weeks. Internal consistency was evaluated using Cronbach's alpha coefficient, discriminant validity by the Mann-Whitney U test, criterion validity by Spearman's rank correlation coefficient, test-retest reliability by the intraclass correlation coefficient, and diagnostic accuracy by receiver operating characteristic curve analysis.

RESULTS

The VHI-10LT demonstrated excellent internal consistency, meaning all ten questions reliably measure the same underlying construct. Patients with confirmed voice disorders scored substantially and significantly higher than healthy controls, confirming that the questionnaire is capable of clearly distinguishing between these two groups. Criterion validity analysis revealed meaningful associations between the VHI-10LT and all major clinical measures of voice function, including glottal function, clinician-rated voice quality, self-perceived voice quality, and maximum phonation time. Test-retest reliability in the control group was good-to-excellent, indicating that when a person's voice condition remains stable, the questionnaire produces consistent results across repeated administrations. Finally, ROC analysis identified an optimal score cut-off that provided both high sensitivity and high specificity, demonstrating that the VHI-10LT is an accurate tool for differentiating patients with voice disorders from healthy individuals in a clinical setting.

CONCLUSIONS

The VHI-10LT demonstrated excellent internal consistency, robust criterion and discriminant validity, and good-to-excellent test-retest reliability. The VHI-10LT is a reliable and valid instrument for assessing voice-related handicap in Lithuanian-speaking patients and is suitable for both clinical and research applications.

KEYWORDS

VHI-10; questionnaire validation; voice disorders; cross-cultural adaptation

PP-551

The Dependence Of Voice Characteristics On The Form And Degree Of Hearing Loss

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BACKGROUND & AIM

Today, there is a tendency towards an increase in the incidence of hearing impairment in children. In the absence of auditory feedback, children with impaired hearing suffer from voice and speech disturbances due to inability to control their own voices. The study of this issue will help develop methods for early diagnosis of voice disorders, and further rehabilitation and medical prevention aimed at improving voice quality in children with hearing loss.

MATERIAL & METHODS

The study involved 100 aged 4-12 years with a diagnosis of bilateral chronic sensorineural hearing loss. The children underwent subjective and objective voice research methods. An acoustic analysis of the voice was carried out using the «LingWaves».

RESULTS

The most prevalent complaint in children (72.94%) was a change in voice quality. Acoustic analysis of the voice in children with hearing loss showed the following voice disorders: in Grades 3 to 4 hearing loss, a shift in F0 towards low frequencies of 239.78 Hz is seen (95% CI 228.6 - 250.95) ($p < 0.05$). Children with hearing loss had high Jitter of 1.82 (95% CI 1.22 - 2.43) that was nearly three times over the normal limits ($p < 0.05$). MPT in children with Grades 3 to 4 hearing loss was lower than that in children with normal voice and hearing and measured 5.41 s (95% CI 1.22 - 2.43) ($p < 0.05$).

CONCLUSIONS

The study found that hearing impairment is associated with the development of voice abnormalities. Medical care for children with Grades 3 to 4 hearing loss should include measures to identify and treat those voice abnormalities.

KEYWORDS

Voice, hearing loss, children, acoustic analysis

RHINOLOGY

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PP-552

AI-Enabled Mucus Segmentation In Nasal Endoscopy With State Space And Attention-Based Modeling

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BACKGROUND & AIM

Diagnostic nasal endoscopy (DNE) is essential for sinusitis evaluation, yet mucus identification relies on subjective assessment requiring extensive training, limiting care access, which may be expanded using Artificial intelligence (AI)-enabled segmentation. However, existing models struggle with thin translucent layers, irregular boundaries, and illumination artifacts across DNE. We developed SUM-MucusNet, an AI model, to overcome these challenges and assist clinicians in accurate mucus identification.

MATERIAL & METHODS

We developed SUM-MucusNet, an AI model, integrating hierarchical Mamba state-space modeling with Swin-UNet architecture, deformable convolutions for boundary refinement, and Convolutional Block Attention Module (CBAM) for illumination management. The model was trained on 3,486 expert-annotated images from 454 patients (mean age 61±1.2 years; 42% male). Four medical graduate annotators achieved inter-rater reliability of Fleiss' kappa=0.80. Performance was evaluated using a Dice coefficient, measuring segmentation overlap Intersection over Union (IoU), precision, and recall through five-fold cross-validation. Comparative analysis included YOLOv8, YOLOv11, Swin-UNet, and Swin-UMamba models.

RESULTS

SUM-MucusNet achieved comparable performance to a trained ENT with a Dice coefficient score of 71% and IoU of 63% when overlapping area was compared against the trained ENTs annotations as ground truth. This is the highest accuracy among tested models. This indicates that there is a 71% overlap between the segmentation mask and ground truth, suggesting a fair to good mask fit. Performance improved cases of blurry images (89.3% true positive rate), diverse mucus morphology types (i.e. strands, crust, globs and trails) (90.8% true positive rate), and illumination artifacts (69% true positive rate). Real-time processing reached 17.3 frames per second, exceeding the clinical threshold. Boundary detection improved by 42%, and false positives from reflections decreased by 61%.

CONCLUSIONS

SUM-MucusNet demonstrates clinically viable automated mucus segmentation, addressing thin mucus detection, boundary delineation, and illumination challenges. Achieving agreement comparable to inter-physician reliability while maintaining real-time performance, this AI system shows potential for standardizing evaluations and expanding diagnostic endoscopy access to non-specialist settings globally.

KEYWORDS
mucus segmentation, computer-assisted diagnosis, nasal endoscopy, sinusitis, artificial intelligence

PP-553

Delayed Post-Traumatic Skull Base Defect Presenting As Pneumococcal Meningoencephalitis In A Child

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BACKGROUND & AIM

Delayed cerebrospinal fluid (CSF) leaks following pediatric skull base trauma are rare but potentially life-threatening. We hypothesize that remote anterior skull base fractures may remain clinically silent and later manifest as invasive pneumococcal meningoencephalitis, and that a unilateral endoscopic multilayer reconstruction provides definitive treatment with reduced morbidity compared to transcranial approaches.

MATERIAL & METHODS

An 11-year-old girl was admitted with meningoencephalitis due to Streptococcus pneumoniae with associated bacteremia. She had sustained traumatic brain injury four years earlier requiring craniotomy and titanium mesh reconstruction of the anterior skull base. Brain magnetic resonance imaging demonstrated diffusion-restricted intraventricular material compatible with pyogenic content. Computed tomography identified focal osseous defects of the left anterior skull base involving the ethmoidal fovea/lateral lamella and planum sphenoidale, with inferior herniation of CSF-density tissue consistent with CSF fistula and meningoencephalocele. After multidisciplinary evaluation, prolonged intravenous antibiotic therapy was administered (meningitic-dose ceftriaxone followed by vancomycin and meropenem). Upon infection control, unilateral endoscopic sinus surgery was performed with complete exposure of the defect and multilayer reconstruction using oxidized cellulose, collagen matrix, autologous septal bone graft, pedicled nasoseptal flap, and fibrin sealant.

RESULTS

The procedure was completed without intraoperative complications. No postoperative CSF leak, neurological deficit, or infectious recurrence was observed. The unilateral approach preserved contralateral sinonasal anatomy and avoided frontal lobe retraction.

CONCLUSIONS

Delayed post-traumatic CSF fistula should be suspected in pediatric bacterial meningoencephalitis with prior skull base trauma. Endoscopic unilateral multilayer reconstruction represents the optimal surgical strategy in selected pediatric anterior skull base defects. It ensures effective CSF leak closure while minimizing neurovascular risk, avoiding frontal lobe manipulation, and preserving contralateral nasal anatomy during craniofacial development. This case reinforces the paradigm shift from transcranial to minimally invasive endoscopic management in delayed post-traumatic skull base pathology.

KEYWORDS
Post-Traumatic CSF Fistula; Pediatric Skull Base; Meningoencephalocele; Endoscopic Repair

PP-554

Pneumocephalus Following Primary Septorhinoplasty Performed With Ultrasonic Osteotomy: A Case Report

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BACKGROUND & AIM

Rhinoplasty and septorhinoplasty are commonly performed procedures for both aesthetic and functional purposes, with reported complication rates ranging between 4% and 18%. Pneumocephalus is an extremely rare intracranial complication in rhinologic surgery, defined as the presence of air within the cranial cavity. Piezoelectric (ultrasonic) osteotomy is widely used in rhinoplasty due to its selective bone-cutting ability while preserving surrounding soft tissues. The aim of this case report is to present a rare case of pneumocephalus following piezoelectric osteotomy.

MATERIAL & METHODS

A 46-year-old female patient presented with nasal obstruction and aesthetic complaints. She had a history of nasal trauma due to a fall 10 months earlier, which had been treated with closed reduction and external splinting. Physical examination revealed septal deviation, inferior turbinate hypertrophy, nasal axis deviation, dorsal hump, tip ptosis, and bulbous tip deformity. Preoperative computed tomography showed no defect in the anterior skull base or cribriform plate. Open septorhinoplasty with inferior turbinate reduction using radiofrequency was planned under general anesthesia. Osteotomies were performed using a piezoelectric device. No intraoperative cerebrospinal fluid leak or any complication was observed.

RESULTS

On postoperative day 2, the patient developed sudden severe headache, nausea, and vomiting. Neurological examination was normal (GCS 15), and no cerebrospinal fluid rhinorrhea was detected. Cranial CT demonstrated extensive intracranial air, predominantly in the frontal regions and extending along cortical sulci and periventricular areas. No signs of tension

pneumocephalus were observed. The patient was managed conservatively with head elevation, bed rest, and high-flow oxygen therapy. Serial imaging showed progressive resolution of intracranial air, with complete absorption by postoperative day 14. The patient was discharged without neurological sequelae.

CONCLUSIONS

Pneumocephalus is a rare but possible complication following septorhinoplasty performed with piezoelectric osteotomy. Early cranial imaging should be performed in patients presenting with sudden severe postoperative headache. Conservative management is usually effective in stable patients without tension pneumocephalus.

KEYWORDS

Septorhinoplasty, pneumocephalus, piezoelectric osteotomy, rhinology, complications

PP-555

Intranasal Ectopic Tooth: Endoscopic Finding

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BACKGROUND & AIM

Intranasal ectopic teeth are rare clinical entities that may arise from supernumerary teeth, developmental disturbances, trauma, or craniofacial anomalies. Although sometimes asymptomatic, they may present with unilateral nasal obstruction, epistaxis, rhinorrhea, or recurrent infection.

MATERIAL & METHODS

A single-patient case report was conducted following incidental identification of an intranasal ectopic tooth during outpatient otorhinolaryngology consultation.

RESULTS

We report the case of a 27-year-old male referred for routine otorhinolaryngology evaluation. The patient denied nasal obstruction, epistaxis, rhinorrhea, facial pain, or recurrent infections.

Nasal endoscopy revealed a whitish, hard, well-defined structure arising from the floor of the right nasal cavity, partially covered by mucosa, without surrounding inflammation or purulent discharge.

Computed tomography (CT) of the paranasal sinuses demonstrated a well-circumscribed hyperdense structure with attenuation characteristics consistent with dental tissue, compatible with a supernumerary tooth located in the inferior nasal cavity. No adjacent bony erosion, mucosal thickening, or associated sinus disease was observed.

Asymptomatic cases may be managed expectantly with careful follow-up. CT imaging plays a crucial role in confirming the diagnosis and excluding associated pathology.

CONCLUSIONS

Intranasal supernumerary teeth may present as incidental findings. In selected asymptomatic patients without evidence of complications, conservative management with close surveillance represents a reasonable and safe approach.

KEYWORDS

Supernumerary teeth, nasal cavity

PP-556

Evaluation Of Paranasal Sinus CT Findings And Densitometric Parameters In Patients Diagnosed With Fungal Sinusitis In A Tertiary Care Center

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BACKGROUND & AIM

Fungal infections of the paranasal sinuses are classified into non-invasive (fungal ball/mycetoma) and invasive forms according to their clinical behavior. In non-invasive cases in particular, preoperative radiological evaluation with computed tomography (CT) plays a critical role in determining the surgical strategy. Although fungal sinusitis is known in the literature to demonstrate a hyperdense appearance on CT, the diagnostic threshold values of the quantitative counterpart of this density—Hounsfield Units (HU)—and the relationship of these values with bone remodeling or destruction remain current and actively investigated research topics.

MATERIAL & METHODS

A total of 34 patients who underwent endoscopic sinus surgery between January 2010 and January 2026 and had a histopathological and/or microbiological diagnosis of fungal sinusitis were retrospectively evaluated. Age, sex, involved sinuses, mean and maximum HU values, and CT findings such as heterogeneity, bilaterality, sinus expansion, remodeling, and

bone destruction were analyzed. Since HU values did not follow a normal distribution, Mann–Whitney U test was used for group comparisons, and Fisher exact test for categorical variables. A p-value <0.05 was considered statistically significant.

RESULTS

The mean age of the 34 patients included in the study was 58.3±17.1 years, and 67.6% were female. The maxillary sinus was the most commonly affected site (76.5%). The distribution of radiological findings was as follows: heterogeneity 91.2%, remodeling 67.6%, and destruction 61.8%. The median mean HU was 56.5, and the median maximum HU was 244. No significant association was found between HU values and sex, heterogeneity, remodeling, bilaterality, or expansion (all p>0.05). Maximum HU values were significantly higher in patients with bone destruction (median 287 vs. 151 HU, p=0.029). No significant association was found between mean HU and destruction (p=0.619). Although maximum HU tended to be higher in the presence of expansion, statistical significance was not reached (p=0.077). No correlation was observed between age and HU values.

CONCLUSIONS

Among the common CT findings of fungal sinusitis are heterogeneity, remodeling, and bone destruction. The significant association between maximum HU values and bone destruction in our study suggests that densitometric parameters may assist in predicting aggressive bone changes in fungal sinus disease. Larger prospective studies will help establish diagnostic HU thresholds and improve diagnostic accuracy.

KEYWORDS

Fungal Sinusitis,Hounsfield Units,Fungal Ball

PP-557

Importance Of Immunodeficiency Workup In Complicated Acute Sinusitis Patients: A Case Report

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BACKGROUND & AIM

Sinusitis is highly prevalent in patients with Human Immunodeficiency Virus Infection and may become significantly more severe when CD4 counts are below 200/mm^3. Both typical and opportunistic microorganisms may lead to sinusitis. Common bacterial pathogens include Streptococcus pneumoniae and Haemophilus influenzae , whereas opportunistic pathogens include fungal organisms and Pseudomonas aeruginosa. Immunosuppressive patients are more prone to agressive diseases and complications. We present a patient with periorbital cellulitis secondary to acute sinusitis who was subsequently diagnosed with HIV infection.

MATERIAL & METHODS

A 42-year-old woman presented to our clinic with diplopia, a 4-week history of headache, and 1-week history of exophthalmos at the left eye. Physical examination revealed mild hyperaemia and edema of the upper and lower left eyelids. There was marked exophtalmos of the left eye. Paranasal sinus computed tomography results showed left maxillary and frontal sinusitis and also bilateral ethmoid and sphenoid sinusitis. The patient was admitted to the hospital and was started on appropriate intravenous antibiotic treatment. Due to the severity and extent of the infection, secondary immunodeficiency was suspected. Advanced workup revealed previously undiagnosed Human Immunodeficiency Virus Infection. Figure 1 shows endoscopic examination of the left nasal cavity with purulent discharge originating from the maxillary sinus ostium. Figure 2 illustrates axial,coronal and sagittal computed tomography images of the paranasal sinuses, revealing extensive sinus involvement.

RESULTS

Patients who has complicated sinusitis, primary and secondary immunodeficiency disorders should be kept in mind.Conditions such as Diabetes Mellitus, Human Immunodeficiency Virus Infection, corticosteroid use, and hematologic malignancies are predisposal factors for patients to severe sinonasal and orbital infections. In theory, any condition causing immune dysfunction may increase the severity of infection; however, current evidence is insufficient to directly conclude that HIV infection independently increases the risk of periorbital cellulitis. Early recognition of underlying immunosuppression may improve diagnostic approach and management.

CONCLUSIONS

Patients who has complicated sinusitis, primary and secondary immunodeficiency disorders should be kept in mind.Conditions such as Diabetes Mellitus, Human Immunodeficiency Virus Infection, corticosteroid use, and hematologic malignancies are predisposal factors for patients to severe sinonasal and orbital infections. In theory, any condition causing immune dysfunction may increase the severity of infection; however, current evidence is insufficient to directly conclude that HIV infection independently increases the risk of periorbital cellulitis. Early recognition of underlying immunosuppression may improve diagnostic approach and management.

KEYWORDS

Sinusitis, Complicated Sinusitis, Peri-orbital Cellulitis

PP-558

Giant Thornwaldt Cyst Caused Unilateral Serous Otitis Media--A Rare Case Presentation

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BACKGROUND & AIM

Thornwaldt cyst is a congenital lesion resulting from the persistence of the embryological relationship between the remnants of the notochord and the nasopharyngeal endoderm. It is usually localized in the posterior wall of the nasopharynx. Most cases are asymptomatic and are detected incidentally on MRI or endoscopy. Symptoms usually appear with cyst growth or infection. This case is noteworthy because of the unusually large size of the lesion and the fact that it caused unilateral serous otitis media.

MATERIAL & METHODS

A 47-year-old female patient presented to the outpatient clinic with otological complaints of hearing loss, fullness sensation, and tinnitus in the left ear, in addition to long-standing difficulty breathing through the nose. Flexible endoscopy showed a giant cystic lesion in the nasopharynx obliterating approximately 90% of the left choana. Pure Tone Hearing Test results of 46/30 dB for the left ear and 26/23 dB for the right ear, and Tympanometry test results of type C for the left ear and type A for the right ear. Nasopharyngeal MRI reported a 2.5 cm lobulated lesion consistent with a Thornwaldt cyst in the posterior wall of the nasopharynx. The patient's cystic lesion was marsupialized using a 0-degree endoscope, and a Shepard tube was inserted into the left tympanic membrane following myringotomy.The material was sent to the pathology laboratory.

RESULTS

"The sections showed tissues representing the cyst wall, consisting of respiratory and squamous lining epithelium, with lymphoid aggregates visible in places in the subepithelial area. The findings can be considered consistent with Thornwaldt cyst," the report stated.

Postoperative audiometric tests showed a Pure Tone Hearing Test result of 29/25 dB for the left ear and 24/19 dB for the right ear, and Tympanometry test results were bilateral type A. Flexible endoscopic examination revealed no pathological findings such as residual mass, recurrence, infection, or bleeding in the nasopharynx.

CONCLUSIONS

This case, the cyst reached a giant size and caused serous otitis media secondary to Eustachian tube obstruction. Although otologic manifestations of Thornwaldt cysts have been reported, symptomatic giant lesions associated with significant middle ear pathology remain uncommon. Mechanism is thought to be mechanical compression or inflammation around torus tubarius, resulting in impaired middle ear ventilation. Endoscopic transnasal marsupialization has become the preferred technique because it provides excellent visualization, minimal morbidity, preservation of surrounding structures, and low recurrence rates. In our patient, complete endoscopic marsupialization resulted resolution of symptoms and improvement of middle ear ventilation without recurrence during follow-up.

KEYWORDS

Although rare, thornwaldt cysts can grow to enormous sizes and cause serous otitis media.

PP-559

OUR RESULTS OF ENDOSCOPIC DACRYOCYSTORHINOSTOMY PERFORMED AT THE ADNAN MENDERES UNIVERSITY OTORHINOLARYNGOLOGY CLINIC

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BACKGROUND & AIM

Epiphora due to acquired nasolacrimal duct obstruction is a common clinical condition that significantly impairs quality of life. Dacryocystorhinostomy (DCR) is accepted as the gold standard surgical treatment. With advances in endoscopic techniques, endoscopic dacryocystorhinostomy (En-DCR) has increasingly been preferred as an alternative to the external approach due to its minimally invasive nature and its ability to address concomitant intranasal pathologies. The aim of this study was to evaluate the outcomes of En-DCR and to analyze factors affecting surgical success.

MATERIAL & METHODS

In this retrospective, single-center study, 40 patients (6 males, 34 females; mean age 57.1±15.92 years) who underwent En-DCR were evaluated. Surgical success was defined as the absence of postoperative epiphora, patency on lacrimal irrigation, and no requirement for revision surgery. Failure was defined as ostium stenosis, granulation tissue or synechiae formation, and/or the need for revision surgery. Demographic characteristics, clinical features, level of obstruction, nasal pathologies, and surgical technical factors were analyzed. Statistical significance was set at $p<0.05$.

RESULTS

Age had no significant effect on surgical success (p=0.245), whereas a significant association was found between sex and postoperative epiphora (p=0.008). Smoking status, comorbidities, and diabetes mellitus were not associated with surgical

outcomes. Infection-related parameters and symptom duration did not affect prognosis (all p>0.05). No significant association was observed between surgical success and the level of obstruction assessed by dacryoscintigraphy, irrigation findings, or punctal status. Septal deviation on the operated side was significantly associated with surgical failure (p=0.014), whereas turbinate hypertrophy and the presence of nasal polyps or secretions were not. Silicone intubation duration and postoperative complications did not influence outcomes. There was no significant difference in success rates between primary and revision surgeries (p=0.606); however, ostium stenosis was significantly more frequent in revision cases (p=0.032).

CONCLUSIONS

En-DCR is an effective and reliable surgical technique with high success rates. While most clinical factors have limited impact on outcomes, septal deviation and increased ostium stenosis in revision cases appear to be important determinants of surgical failure. These findings highlight the importance of careful evaluation of nasal anatomical factors during surgical planning.

KEYWORDS

Endoscopic dacryocystorhinostomy Nasolacrimal duct obstruction, Epiphora, Surgical outcomes, Septal deviation ,Ostium stenosis,Revision surgery

PP-560

ORBITAL EXENTERATION IN SINONASAL MALIGNANT MELANOMA WITH ORBITAL INVASION

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KEYWORDS

MAXILLECTOMY, ORBITAL EXENTERATION, ORBITAL INVASION, SINONASAL MALIGNANT MELANOMA

PP-561

Pediatric Traumatic Nasal Septal Hematoma, A Case Report And Literature Review

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BACKGROUND & AIM

As the most prominent feature of the face, the nose is highly susceptible to trauma-related damage. In children, the nasal septum is more likely to be damaged than the nasal bone in the event of nasal trauma. Nasal septal hematoma (NSH) is a rare condition in pediatric patients that can progress to nasal septal abscess (NSA) and lead to severe complications, including nasal deformities and intracranial infections. Early diagnosis and appropriate management are critical for preventing long-term sequelae. This article aims to present a case of a traumatic septal haematoma that led to a septal abscess.

MATERIAL & METHODS

This article is a case report. The interventional procedure performed on the patient was described step by step. A literature review was conducted. The case presentation was illustrated with photographs of the patient.

Case Presentation: A 15-year-old male presented with nasal obstruction and discomfort two weeks after a facial trauma. Initial evaluation at the time of injury failed to detect NSH. On re-presentation, clinical examination revealed bilateral purplish swelling of the anterior nasal septum, and imaging confirmed a minimally displaced septal fracture with significant soft tissue swelling. The patient was diagnosed with a NSH. The patient underwent urgent surgical intervention, including drainage of purulent material, necrotic tissue debridement, and placement of a penrose drain. Culture results identified Corynebacterium striatum and Moraxella osloensis. Postoperatively, intravenous and oral antibiotic therapy was administered. Although the patient's recovery was uneventful, a saddle nose deformity became apparent during follow-up.

RESULTS

Discussion: Delayed diagnosis of NSH, especially in pediatric cases, increases the risk of complications. NSH can develop days after trauma and may not be immediately evident. This case highlights the importance of vigilant follow-up in trauma patients and the need for early intervention to prevent aesthetic and functional deformities.

CONCLUSIONS

Conclusion: NSH should be a differential diagnosis in pediatric nasal trauma cases. Prompt evaluation, surgical drainage, and appropriate antibiotic therapy are essential to mitigate risks. Further research is required to establish the benefits and timing of early reconstructive interventions.

KEYWORDS

Nasal Trauma, Nasal Septal Hematoma, Pediatrics, Saddle Nose Deformity, Case Report

PP-562

SKULL BASE DEFECT AND OCULAR FINDINGS SECONDARY TO SPHENOID SINUS MUCOCELE: A RARE CASE

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BACKGROUND & AIM

Sphenoid sinus mucoceles are rare lesions, accounting for approximately 1% of all paranasal sinus mucoceles and 15–28% of isolated sphenoid sinus diseases.

Patients may present with a wide spectrum of clinical findings, including headache, facial pain, anosmia, cranial nerve palsies, ocular paralysis, and visual loss.

Through this case, we highlight the potential role of sphenoid mucoceles in causing orbital complications via localized inflammatory mechanisms and compressive effects. Early diagnosis and timely surgical intervention are crucial in reducing life-threatening complications and facilitating neurological recovery.

MATERIAL & METHODS

A 67-year-old female patient presented to the ophthalmology clinic with diplopia and a recently developed persistent retro-orbital headache. The headache had been present for two weeks and had progressively worsened over the last few days. Diplopia had developed two days prior to presentation.

With a preliminary diagnosis of sphenoid sinus mucocele, the patient underwent urgent endoscopic sphenoethmoidectomy. The sphenoid sinus was accessed via a transethmoidal approach, and mucopurulent and putrefactive material within the sinus cavity was evacuated.

A skull base defect measuring approximately 4 cm in the posteroanterior plane was identified, involving the region adjacent to the optic nerve. The defect was reconstructed using a Hadad flap.

Postoperatively, the headache resolved completely, and diplopia secondary to extraocular muscle compression fully regressed by the end of the second postoperative month.

The patient had an uneventful postoperative course and remains under follow-up without evidence of recurrence at 12 months.

RESULTS

Postoperatively, headache resolved completely, and diplopia fully regressed by the second postoperative month. Follow-up imaging at 12 months demonstrated adequate sinus aeration without evidence of recurrence.

CONCLUSIONS

Sphenoid mucoceles are rare but potentially serious lesions that result from mucus retention secondary to obstruction of the sinus ostium. This obstruction may arise from chronic rhinosinusitis, postoperative scar formation, nasal polyps, trauma, or neoplasms.

Through this case, we highlight the potential role of sphenoid mucoceles in causing orbital complications via localized inflammatory mechanisms and compressive effects. Early diagnosis and timely surgical intervention are crucial in reducing life-threatening complications and facilitating neurological recovery.

KEYWORDS

sphenoid sinus, mucocele, endoscopic sinus surgery

PP-563

A Rare Case Of Congenital Nasoethmoidal Meningoencephalocele Presenting As A Unilateral Nasal Polyp In A Child

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BACKGROUND & AIM

Encephaloceles are lesions characterized by the herniation of brain parenchyma, meninges, and cerebrospinal fluid through a defect in the skull. While typically congenital, they can also be acquired due to trauma, tumors,iatrogenic injury [2]. Depending on their content, these lesions may consist solely of meninges known as a meningocele, or may also include brain tissue, referred to as a meningoencephalocele [1]. Encephaloceles may present as a blue-colored, pulsatile, and compressible mass near the nasal dorsum. Because nasal encephaloceles manifest as a nasal mass, they can be misdiagnosed as nasal polyps. The presence of intracranial extension renders biopsy contraindicated [1,3].

MATERIAL & METHODS

An 8-year-old male presented with the primary complaint of nasal obstruction. Anterior rhinoscopic and endoscopic examinations revealed a polypoid lesion nearly obliterating the left nasal cavity. Contrast-enhanced CT and MRI scans demonstrated a lesion extending from the left cribriform plate into the nasal cavity. The patient was scheduled for endoscopic transnasal excision of the meningocele. The procedure was performed under navigation-guided CT. The submucosal meningocele in the left nasal cavity was successfully excised. The skull base defect was repaired using a multilayered technique: a fascia lata graft was placed in an onlay fashion over the dura, followed by a fat graft. Following the excision, the redundant nasal mucosal tissue was transposed over the fascia lata graft as a flap. No intraoperative or immediate

postoperative complications were observed. Postoperative imaging confirmed the integrity and proper placement of the graft material. Histopathological analysis confirmed the diagnosis of meningoencephalocele.

RESULTS

Congenital meningoencephaloceles are rare craniofacial malformations resulting from defective neural tube closure during the fourth month of embryological development [5,6]. Meningoencephaloceles are classified as occipital, parietal, sincipital, and basal types based on their anatomical location. Our case involves a nasoetmoidal meningoencephalocele, which represents a rare localization. In the diagnostic approach, biopsy is strictly contraindicated due to the risk of intracranial extension, and manipulation of the mass must be avoided [5,10]. High-resolution CT is considered the gold standard for evaluating the bone defect, whereas MRI is preferred to demonstrate the intracranial component. The fundamental principle of treatment is the excision of the herniated meningeal tissue followed by the repair of the bony and dural defects [8,10]. Currently, endoscopic transnasal approaches are preferred due to lower morbidity and superior cosmetic outcomes [9,11]. Repair typically utilizes autologous graft materials (e.g., fascia lata, fat graft) and fibrin sealants [10,11].

CONCLUSIONS

Meningoencephalocele is a rare neural tube defect [12]. While congenital types are mostly diagnosed during the antenatal period, they can also manifest during childhood with non-specific symptoms, as demonstrated in our case [12,13]. It must be considered in the differential diagnosis, especially in patients presenting with unilateral nasal obstruction, rhinorrhea, or a history of recurrent meningitis [13,14]. Magnetic resonance imaging (MRI) is the preferred diagnostic modality due to its high sensitivity and specificity in demonstrating intracranial extension [15]. The primary treatment approach is surgical excision; currently, endoscopic methods are favored due to their lower morbidity and high success rates [13,16].

KEYWORDS

Meningoencephalocele, congenital, nasoethmoidal, pediatric, unilateral nasal obstruction, skull base defect, endoscopic repair

PP-564

Infected Giant Nasolabial Cyst A Case Report

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BACKGROUND & AIM

Nasolabial cysts are relatively rare, non-odontogenic soft tissue lesions that account for approximately 0.7% of all jaw cysts. These cysts are most commonly located in the upper lip and the nasal vestibule. Unless infected, they usually present as a painless swelling and, rarely, may cause nasal obstruction. Typically, they cause fullness in the canine fossa, upper lip, gingivolabial sulcus, and nasal ala and vestibule.

In this case report, we aimed to present the examination findings and treatment process of a patient with a nasolabial cyst that had been present for many years and eventually presented with infection and progressive nasal obstruction.

MATERIAL & METHODS

A 35-year-old female patient had a history of sinusitis symptoms since childhood. She had not frequently sought medical attention. Over the past six months, she had experienced difficulty breathing through the right nasal passage and foul-smelling nasal discharge. She reported no pain.

On endoscopic examination with a 0-degree endoscope, the left nasal passage was observed to be patent, while an infected cyst was identified in the right nasal passage. A contrast-enhanced facial MRI was performed. Imaging revealed a lobulated mass lesion with mucosal contrast enhancement extending from the right maxillary sinus to the ethmoidal cells.

A paranasal sinus CT (Computed Tomography) scan was subsequently obtained. CT examination demonstrated a 34 × 31 mm soft tissue density lesion nearly completely filling the right maxillary sinus, extending into the right middle and inferior meatus, and occluding the osteomeatal complex.

RESULTS

Based on the clinical and radiological findings, a nasolabial cyst was considered as the preliminary diagnosis. Surgical treatment was planned. Under general anesthesia, a 2 cm incision parallel to the right upper gingiva was made. An infected nasolabial cyst extending from the right nasal passage to the hard palate was observed. The cyst was dissected over the periosteum, and the capsule was reached via blunt dissection. It was noted that the cyst extended from the nasal floor into the nasal passage. The lesion was carefully dissected from the surrounding tissues and completely excised.

The postoperative period was uneventful, and the patient was discharged on the second postoperative day. Histopathological examination confirmed the diagnosis of a nasolabial cyst. No recurrence was observed during the follow-up period.

CONCLUSIONS

Nasolabial cysts are generally painless, non-odontogenic soft tissue cysts. In patients with long-standing sinusitis symptoms, nasolabial cyst should be considered in the differential diagnosis of soft tissue masses causing nasal obstruction accompanied by foul-smelling discharge. Surgical treatment can be successfully performed.

KEYWORDS

Nasolabial cyst, Sinusitis, Paranasal Sinus CT

PP-565

Cemento-Ossifying Fibroma With Secondary Aneurysmal Bone Cyst Of The Ethmoid Sinus In A Pediatric Patient: A Case Report And Review Of The Literature

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BACKGROUND & AIM

Cemento-ossifying fibroma (COF) is a benign fibro-osseous neoplasm that most commonly arises in the mandible and rarely involves the sinonasal tract. Secondary aneurysmal bone cyst (ABC) transformation is an uncommon but clinically significant phenomenon that can dramatically alter tumor behavior, leading to rapid expansion and mass effect. The coexistence of COF with secondary ABC in the ethmoid sinus is exceedingly rare, particularly in pediatric patients.

MATERIAL & METHODS

A comprehensive review of the literature was performed, identifying 16 previously reported cases of sinonasal aneurysmal bone cyst with or without ossifying fibroma. Written informed consent was taken from the patient.

RESULTS

We report the case of a 9-year-old girl who presented with a one-year history of progressive right-sided headache and facial asymmetry, complicated by worsening epistaxis and right eye proptosis. Radiologic evaluation revealed a large expansile cystic lesion centered in the right ethmoid sinus with extension into the nasal cavity and compression of the orbit, without intracranial invasion. The patient underwent complete excision via functional endoscopic sinus surgery with septoturbinoplasty. Intraoperatively, the lesion was noted to be highly vascular and multiloculated. Histopathological examination confirmed a cemento-ossifying fibroma with secondary aneurysmal bone cyst transformation. The postoperative course was uneventful, with marked improvement in symptoms and no evidence of recurrence at follow-up.

CONCLUSIONS

This case represents a rare and previously unreported presentation of cemento-ossifying fibroma with secondary aneurysmal bone cyst arising in the pediatric ethmoid sinus. Secondary ABC transformation should be considered when a sinonasal fibro-osseous lesion demonstrates rapid growth or aggressive radiologic features. Complete surgical excision, when feasible, remains the cornerstone of management and can be successfully achieved through an endoscopic approach with favorable outcomes.

KEYWORDS

Cemento-ossifying fibroma; Aneurysmal bone cyst; Ethmoid sinus; Pediatric sinonasal tumor; Endoscopic sinus surgery

PP-566

GIANT ANTROCHOANAL POLYP EXTENDING TO THE OROPHARYNX WITH COEXISTING ADENOID HYPERTROPHY: A CASE REPORT

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BACKGROUND & AIM

Antrochoanal polyps are benign and generally solitary nasal polyps originating from the maxillary sinus (1). While nasal polyps are seen in 1–4% of adults, they are rare in children (<0.1%) (1,2). They constitute 4–6% of nasal polyps in adults and 30–35% in children (1,2), and are usually unilateral (1). Although endoscopy is often sufficient for diagnosis, tomography (CT) is the gold standard (1). Large lesions may extend from the choana into the nasopharynx and, rarely, into the oropharynx, causing airway obstruction (4). Functional endoscopic sinus surgery (FESS) with complete removal of the antral component is the preferred treatment method (1).

MATERIAL & METHODS

Case Presentation

A 9-year-old female patient presented with complaints of chronic nasal obstruction, mouth breathing, and snoring. On endoscopy, a polyp was observed extending from the right middle meatus to the choana, nasopharynx, and oropharynx. In addition, adenoid hypertrophy nearly completely filling the nasopharynx was observed. CT revealed a soft tissue mass filling the right maxillary sinus and extending posteriorly into the oropharynx, as well as mucosal thickening in the ethmoid cells and

the left maxillary sinus. The findings were consistent with an antrochoanal polyp (1,2). The patient underwent FESS and adenoidectomy under general anesthesia. Histopathological examination confirmed the diagnosis (1).

RESULTS

Antrochoanal polyps grow progressively and may extend into the nasopharynx; however, extension into the oropharynx is rare and is generally associated with delayed diagnosis (4). Adenoid hypertrophy is a common cause of pediatric nasal obstruction and may coexist with these polyps (3). This coexistence may increase airway obstruction and make diagnosis more difficult (3). In this case, the adenoid tissue nearly completely obstructing the nasopharynx may have contributed to both the severity of symptoms and the extension of the polyp (3,4).

CONCLUSIONS

Although extension of antrochoanal polyps into the oropharynx has been reported, their coexistence with marked adenoid hypertrophy has rarely been emphasized. This case highlights the clinical significance and rarity of this combination.

KEYWORDS

Antrochoanal polyp, Oropharyngeal extension, Adenoid hypertrophy,Pediatric nasal obstruction, Functional endoscopic sinus surgery

PP-567

Efficacy Of Biological Agents In Allergic Rhinitis: A Descriptive Systematic Review

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BACKGROUND & AIM

Background: Allergic rhinitis (AR) is a common IgE-mediated inflammatory disorder that substantially affects quality of life and productivity. Biologic therapies targeting type 2 inflammatory pathways have been investigated as adjunctive or alternative options for patients with inadequately controlled disease.

Objective: To synthesize evidence on the efficacy and safety of biological agents in allergic rhinitis and to appraise certainty of evidence using GRADE.

MATERIAL & METHODS

Methods: A systematic review was conducted in accordance with PRISMA 2020. MEDLINE, Embase, SCOPUS, CENTRAL, and Google Scholar were searched from inception to December 2025. Randomized controlled trials (RCTs) and observational studies evaluating biologics in AR were eligible. Risk of bias was assessed using Cochrane RoB 2 for RCTs and ROBINS-I–aligned principles for observational studies. Due to substantial heterogeneity in populations, interventions, and outcomes, results were synthesized narratively.

RESULTS

Results: Twelve studies (2,577 participants) were included. The evidence base was dominated by anti-IgE therapy (omalizumab/rhuMAb-E25; 11/12 studies). Most placebo-controlled RCTs reported reductions in nasal symptom burden, rescue medication use, and improved rhinitis-related quality of life, though effect magnitude varied. Adjunctive omalizumab with allergen immunotherapy suggested potential improvements in symptom–medication outcomes and/or immunotherapy tolerability in some trials. A single trial of dupilumab plus SCIT did not demonstrate additional TNSS reduction versus SCIT alone but suggested potential tolerability and immunologic benefits.

CONCLUSIONS

Conclusion: Anti-IgE therapy appears to provide clinically meaningful benefit in allergic rhinitis for selected patients, with moderate certainty of evidence for key symptom and quality-of-life outcomes. Evidence for non–anti-IgE biologics in isolated AR remains limited. Standardized endpoints and longer follow-up studies are needed to clarify comparative effectiveness and long-term safety.

KEYWORDS

Keywords: Biological agents, Allergic Rhinitis, Systematic Review

PP-568

A RARE CASE: INTRACRANİAL AND ORBİTAL EXTENSİON SECONDARY TO MASSİVE SİNONASAL POLYPOSİS ASSOCİATED WİTH WOAKES SYNDROME

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BACKGROUND & AIM

Woakes' syndrome is a rare clinical condition characterized by massive recurrent nasal polyposis, leading to deformity of the nasal pyramid and expansion of sinonasal structures. Although orbital complications may occur in advanced cases, intracranial extension is extremely rare. In this study, we present a rare case of orbital and intracranial extension secondary to massive sinonasal polyposis associated with Woakes' syndrome.

MATERIAL & METHODS

A 47-year-old male patient was admitted to the emergency department following sudden loss of consciousness. With a Glasgow Coma Scale score of 6, he was intubated and transferred to the intensive care unit. His history included long-standing bilateral nasal polyposis and asthma. Otorhinolaryngological examination revealed advanced polypoid lesions nearly completely obstructing both nasal passages, accompanied by nasal pyramid expansion and orbital deformity.

Imaging demonstrated diffuse soft tissue densities filling all paranasal sinuses, destruction of the lamina papyracea, and orbital extension. An intracranial mass extending into the frontal lobe with destruction of the posterior wall of the right frontal sinus was also identified.

A combined surgical approach was performed with the neurosurgery team. Bilateral functional endoscopic sinus surgery was carried out, and infected polypoid tissue invading the dura via the frontal sinus was removed during the cranial procedure. Histopathological examination confirmed inflammatory nasal polyp.

RESULTS

The pathogenesis of Woakes' syndrome is associated with type 2 inflammation, particularly IL-4 and IL-5 mediated eosinophilic response. Medical treatment is often insufficient, and surgical intervention remains the mainstay of treatment. A multidisciplinary approach is required in extensive disease.

CONCLUSIONS

Woakes' syndrome is a rare but potentially serious condition that may lead to severe complications. Early diagnosis and aggressive surgical management are crucial, especially in cases with intracranial extension. Long-term follow-up is essential due to the high risk of recurrence.

KEYWORDS

Woakes syndrome,Massive sinonasal polyposis,Intracranial extension,Orbital involvement,Functional endoscopic sinus surgery (FESS)

PP-569

A Rare Complication Of Epistaxis Cauterization: A Case Of Refractory Septal Abscess

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BACKGROUND & AIM

Epistaxis is a common ENT emergency.Although cauterization is an effective treatment for persistent bleeding, rare complications such as septal abscess may occur.We present a refractory septal abscess following cauterization.

MATERIAL & METHODS

A 70-year-old female patient with a history of diabetes mellitus and hypertension presented with severe epistaxis.On examination, an arterial bleeding focus was identified in the Little's area, and bipolar cauterization was performed.Two weeks after, the patient developed nasal pain radiating to the upper teeth.On examination, fluctuation was detected on septal palpation.Laboratory findings revealed elevated WBC and CRP level of 34mg/L.Seropurulent material was aspirated.The patient was hospitalized, and intravenous antibiotic therapy was initiated.Under local anesthesia, the abscess was drained and silicone splint packing was placed.During follow-up, CRP levels increased.The packing was removed, and septal abscess repeat drainage and septoplasty were performed under general anesthesia.The weakened posteroinferior septal cartilage was resected, purulent material was aspirated, and transseptal sutures were placed.Antibiotherapy was updated.Ten days later, the patient developed recurrent pain over the nasal dorsum.Examination and imaging revealed a collection in the dorsal septum.Purulent material was drained.No recurrence of septal abscess was observed following.

RESULTS

Septal abscess is a rare but serious complication that usually develops due to infection of a septal hematoma.If not diagnosed early, it may lead to significant complications such as septal cartilage necrosis, septal perforation, and nasal deformity.Disruption of mucosal integrity following cauterization for epistaxis may increase the risk of infection, particularly in patients with comorbidities. In our case, despite local antibiotic therapy after cauterization, an infectious focus likely developed due to mucosal disruption.Therefore, prophylactic oral antibiotic therapy after cauterization may be considered in patients with risk factors.Additionally, transseptal sutures placed during the initial surgical intervention may have partially impaired adequate drainage of the collection.This highlights the importance of ensuring sufficient drainage and careful planning of surgical techniques to prevent re-accumulation in septal abscess management.

CONCLUSIONS

Septal abscess following cauterization for epistaxis is a rare but serious complication.Particular attention should be given to patients with comorbidities such as diabetes mellitus.Early diagnosis, adequate surgical drainage, and appropriate antibiotic therapy are critical in preventing complications.

KEYWORDS

Epistaxis, nasal mucosal cauterization, septal abscess, septoplasty

PP-570

Fronto-Orbital Solitary Fibrous Tumor: A Rare Presentation Of Diplopia And Proptosis - Case Report And Literature Review

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BACKGROUND & AIM

Solitary fibrous tumors (SFTs) are rare mesenchymal neoplasms. Their occurrence in the nasal cavity and paranasal sinuses is exceptional, with few cases reported in the literature, which hinders early recognition.

MATERIAL & METHODS

The clinical, surgical, and imaging data of the presented case were analyzed after obtaining the necessary informed consents, ensuring compliance with ethical standards and confidentiality requirements. The study was complemented by a brief narrative review of the literature.

RESULTS

An 82-year-old woman presented with a 3-month history of diplopia and headaches, followed by a 1-month history of left-sided proptosis, ocular pain, and decreased vision. On physical examination, anterior rhinoscopy revealed nasal septal deviation and hypertrophy of the middle turbinates, with no visible masses suitable for biopsy, also confirmed by nasopharyngolaryngoscopy. Inspection revealed a left supraorbital and supraciliary swelling, painless to touch, with associated softening of the ipsilateral nasal bones. Imaging studies demonstrated a left naso-sino-orbital expansile lesion, hypervascularized and with a bone-remodeling nature, arising from the left frontal sinus with invasion of the internal canthus of the orbit. Endoscopic surgical biopsy established the diagnosis of solitary fibrous tumor. The patient underwent complete excision of the lesion through a bicoronal approach. Histopathological examination of the surgical specimen confirmed the diagnosis. The patient remains disease-free since surgery.

CONCLUSIONS

Solitary fibrous tumors often present with nonspecific symptoms, mainly related to compressive effects on adjacent structures, which frequently delays diagnosis. Imaging is crucial to assess tumor extent, but definitive diagnosis requires histopathology and immunohistochemistry, with typical positivity for CD34 and STAT6. Treatment most often consists of radical surgical resection with clear margins. Despite an overall favorable prognosis, recurrence may occur, which highlights the importance of long-term follow-up. The rarity of these tumors in the frontal sinus underlines the need to consider broad differential diagnoses in lesions in this location. A multidisciplinary approach is essential for an accurate diagnosis and management.

KEYWORDS

Solitary fibrous tumor; Frontal sinus; Paranasal sinuses; Naso-orbital tumor; Diplopia; Proptosis;

PP-571

Contribution Of Digital Tools And Artificial Intelligence In Rhinoplasty Planning

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BACKGROUND & AIM

Rhinoplasty is one of the most technically demanding aesthetic surgical procedures, requiring precise planning and optimal communication with the patient. The rise of digital technologies and artificial intelligence (AI) has progressively transformed surgical practice. The aim of this work is to describe the current applications of digital tools in rhinoplasty, their benefits, limitations, and future perspectives.

MATERIAL & METHODS

A systematized literature review was conducted using the PubMed, Scopus, and Google Scholar databases. Keywords used included: rhinoplasty, aesthetics, artificial intelligence, digital simulation, and augmented reality. Included articles were published in English or French. A total of 56 articles were selected and analyzed.

RESULTS

Analysis of the selected articles revealed a progressive evolution of digital tools in rhinoplasty, structured in three stages. Two-dimensional simulation software (Adobe Photoshop®, Mirror®, AlterImage®...) represented the first preoperative planning

tools, facilitating patient communication through morphing and warping techniques. Subsequently, the emergence of three-dimensional (3D) simulation tools, through various dedicated software platforms, allowed more accurate volumetric modeling and enhanced surgical planning.. AI integration represented the most significant advance: machine learning algorithms successfully reproduced the surgeon's aesthetic criteria, custom implant fabrication via AI-assisted 3D printing achieved a margin of error below 1 mm, Generative Adversarial Networks generated realistic simulations despite representativeness biases, and conversational AI tools (ChatGPT-4) demonstrated reliability comparable to that of a senior surgeon in answering patients' postoperative questions.However, these tools remain limited by their inability to reproduce clinical judgment and surgical experience, their dependence on data quality, and the risk of generating plausible but inaccurate information.

CONCLUSIONS

AI represents a valuable complementary tool in rhinoplasty, enhancing surgical planning and patient satisfaction. It cannot, however, replace clinical expertise or the human physician-patient relationship. The future of the field likely lies in hybrid approaches combining advanced 3D simulation, augmented reality, and AI, governed by rigorous ethical and regulatory frameworks.

KEYWORDS

Rhinoplasty ,Artificial intelligence ,Digital simulation, Augmented reality

PP-572

Combined Galea Aponerotica And Fascia Lata Graft For Endoscopic Repair Of Iatrogenic Sphenoethmoidal CSF Leak Associated With Penumocephalus: A Case Report

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BACKGROUND & AIM

Cerebrospinal fluid (CSF) rhinorrhea is an abnormal communication between the subarachnoid space and the nasal cavity or paranasal sinuses, increasing the risk of meningitis and intracranial infections. It is most commonly traumatic (80–90%), while 4–10% are non-traumatic, with many idiopathic. Common leak sites include the cribriform plate, ethmoid roof, frontal sinus posterior wall, and sphenoid sinus. Management depends on defect location. Although transcranial and external approaches exist, endoscopic endonasal repair has become the preferred method due to lower morbidity, precise localization of defects, preservation of anatomical structures, and high success rates in sealing CSF leaks.

MATERIAL & METHODS

A 44-year-old male presented with a one-month history of intermittent, clear right-sided rhinorrhea, exacerbated by Valsalva maneuvers, forward bending, and sitting, accompanied by a salty taste and headache. He had a prior history of functional endoscopic sinus surgery. Endoscopic examination revealed clear fluid originating from the right sphenoid ostium. Paranasal sinus CT demonstrated a skull base defect consistent with cerebrospinal fluid (CSF) leakage.

The patient underwent endoscopic endonasal repair under general anesthesia by a multidisciplinary team. A lumbar drain was placed preoperatively. A fascia lata graft (1.5×1.0 cm) was harvested from the lateral thigh. Intraoperatively, the defect was identified in the anterosuperolateral region of the sphenoid ostium. The surrounding mucosa was elevated and the defect was repaired using an underlay fascia lata graft. Fibrin sealant and absorbable hemostatic material were applied, achieving complete closure without residual leakage.

RESULTS

On postoperative day 2, the patient developed headache, and CT imaging revealed pneumocephalus. The lumbar drain was removed; however, the patient subsequently developed behavioral changes consistent with frontal lobe dysfunction. Follow-up imaging demonstrated tension pneumocephalus with significant frontal mass effect.

Due to clinical deterioration, a second intervention was performed. A burr hole was created in the frontal region, allowing decompression of intracranial air via a closed underwater drainage system. A galea aponeurotica graft was harvested and combined with fascia lata to reconstruct the defect using a multilayer underlay technique.

Postoperative management included head elevation, activity restriction, and prophylactic antibiotics. The patient received intravenous ceftriaxone followed by meropenem due to elevated inflammatory markers. He was discharged on postoperative day 12 with oral antibiotics. Follow-up at one and two months showed no recurrence of CSF leakage or neurological complications.

CONCLUSIONS

This case highlights that multilayer reconstruction using combined fascia lata and galea aponeurotica grafts provides a reliable and durable solution for complex skull base defects. The addition of galea tissue enhances structural support and may reduce recurrence risk. Furthermore, tension pneumocephalus secondary to CSF leakage can be effectively managed with minimally invasive burr hole decompression and a closed drainage system. A multidisciplinary approach and careful postoperative management are essential for optimal outcomes. This combined strategy offers a safe and effective alternative to more extensive surgical procedures in selected cases.

KEYWORDS
Cerbrospinal fluid rhinorrhea, endoscopic endonasal surgery, sphenoethmoid recess, cribriform plate

PP-573

Association Of Dental Pathologies With Disease Laterality And Surgical Need In Chronic Rhinosinusitis: A CT-Based Retrospective Study

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BACKGROUND & AIM

Involvement of dental pathologies to chronic rhinosinusitis (CRS) has gained increasing attention but its relationship with disease laterality and surgical requirement still needs further research. We hypothesized that dental pathology is associated with CRS and it is more abundantly observed on the same side as sinus involvement, and increases the frequency of requiring surgical intervention.

MATERIAL & METHODS

In this retrospective study we included 130 patients diagnosed with CRS between January 2025 and March 2026. Computed tomography (CT) scans were observed to understand the CRS laterality (right, left, bilateral), localization and presence of dental pathologies. We categorized dental pathologies as apex-sinus contact and sinus-invasive pathology. CRS levels of maxillary sinuses was graded separately for each side by the help of modified Lund-Mackay-based maxillary score (0 = no opacification, 1 = partial opacification, 2 = complete opacification). Maxillary scores were recorded, and we calculated total maxillary scores by summing right and left scores. Surgical interventions was noted for every patient. Statistical analyses, such as chi-square and Mann-Whitney U tests, were used to evaluate associations between CRS laterality, dental pathology, maxillary scores, and surgical need, with $p<0.05$ considered significant.

RESULTS

The median age was calculated as 39.0 years (interquartile range: 31.0–52.0). We observed dental pathology in 72.3%, mostly bilaterally (52.3%), and bilateral CRS was seen in 67.7% of patients. There was a significant association between dental pathology localization and CRS laterality ($p<0.001$), demonstrating ipsilateral and bilateral concordance. In total 46.2% of patients underwent surgery. The presence of dental pathology was significantly associated with increased surgical need (52.1%- 30.6%, $p=0.027$). Higher surgical rates were seen in apex sinus contact as well (52.6%- 28.6%, $p=0.015$), whereas invasive dental pathology didn't show any significant association ($p=0.586$). Left-sided maxillary scores were significantly higher in patients with dental pathology ($p=0.027$).

CONCLUSIONS

In this research we found out that dental pathologies are significantly associated with increased surgical requirement and CRS laterality. Ipsilateral concordance supports a relevant relationship between dental and sinonasal disease. These findings highlight the importance of dental evaluation in CRS patients and in addition supports that dental pathology may influence CRS prognosis and management strategies.

KEYWORDS
dental pathology , chronic rhinosinusitis , maxillary sinus , endoscopis sinus surgery , dental invasion

PP-574

Fatal Rhino-Orbital Mucormycosis In A Patient With End-Stage Liver Disease Awaiting Transplantation: A Case Report

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BACKGROUND & AIM

INTRODUCTION: Mucormycosis, caused by fungi of the order Mucorales, is characterized by angioinvasion and extensive tissue necrosis. In patients with liver failure, neutrophil dysfunction and altered iron metabolism create a permissive environment for fungal proliferation.(1) Rhino-orbital-cerebral mucormycosis (ROCM) is a rapidly progressive and highly fatal opportunistic fungal infection, particularly in immunocompromised individuals.(2)(3) This case highlights the extreme vulnerability and high mortality rates associated with mucormycosis in patients with metabolic and hepatic failure.

MATERIAL & METHODS

CASE PRESENTATION: A 72-year-old female with a medical history of hypertension,diabetes and end-stage liver disease (on the liver transplant waiting list) presented to the emergency department with deteriorating general status and vision loss. Endoscopic endonasal examination showed an atrophic left middle turbinate covered with characteristic black fungal hyphae (eschar). Additionally restrictive ophthalmoplegia was observed in all quadrants of the left eye.

Computed Tomography (CT) demonstrated obliteration of the left anterior ethmoid cells and significant edema within the orbital fat. Intraoperatively, the left middle turbinate was found to be necrotic and covered with black hyphae. Total

ethmoidectomy and maxillary sinus ostium expansion were performed. Although the lamina papyracea appeared macroscopically intact, it was electively opened to facilitate a thorough inspection of the retrobulbar orbital fat, which subsequently revealed early signs of fungal infiltration. Necrotic tissues, including the middle turbinate axilla, were totally debrided, and samples were sent for histopathology and microbiology.

RESULTS

CLINICAL COURSE AND OUTCOME: Microbiological cultures confirmed the growth of Rhizopus spp. Intensive treatment was initiated with both intravenous and retrobulbar amphotericin B. However, the patient's condition worsened due to the severity of the underlying liver disease and metabolic instability. She was transferred to the intensive care unit (ICU) and subsequently passed away due to multi-organ failure.

CONCLUSIONS

DISCUSSION AND CONCLUSION: The mortality rate for mucormycosis in patients with liver cirrhosis is reported to exceed 80% in the literature.(4) The acidic environment found in diabetic and hepatic failure patients increases iron bioavailability, which significantly enhances the virulence of Rhizopus.(5) This case underscores that in high-risk groups awaiting organ transplantation, early recognition of nasal mucosal changes and orbital symptoms is critical. Although retrobulbar therapy serves as a potential alternative to orbital exenteration, the prognosis remains guarded in patients with end-stage liver disease due to severe immunosuppression and multi-organ frailty.(6)

KEYWORDS

Mucormycosis, Rhizopus, Liver Cirrhosis, End-Stage Liver Disease, Orbital Apex Syndrome, Retrobulbar Amphotericin B, Case Report.

PP-575

ENT- RELATED ISLAMIC INSTRUCTIONS

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BACKGROUND & AIM

To let people know these instructions, which can treat and/or prevent many diseases. The beauty of these instructions is that they are not exclusive to Muslims; on the contrary, they can be applied by any Muslim or non-muslim.

MATERIAL & METHODS

By collecting some of the ENT-related Islamic instructions that have a strong impact on some ENT-related diseases.

RESULTS

It is found many Islamic Instructions that can treat and/or prevent some ENT-related diseases, such as sinusitis, halitosis, and obstructive sleep apnea.... These instructions are easily applicable and highly cost-effective.

CONCLUSIONS

Muslim or Non-Muslim, if he follows these instructions strictly, he will gain much more than he expects.

KEYWORDS

islamic instructions, ENT-Related diseases, Sinusitis, Halitosis, Obstructive Sleep Apnea.

PP-576

Addition Of Inferior Meatal Antrostomy To Prelacriamal Approach As A Modification To Improve Postoperative Maxillary Sinus Access: Techniqual Note

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BACKGROUND & AIM

The prelacrimal approach to the maxillary sinus has been described as an effective technique that provides wide exposure and optimal visualization of the maxillary walls for the management of inflammatory and tumorous diseases of the maxillary sinus. However, one of its main drawbacks is the restricted endoscopic access to the maxillary sinus during postoperative office evaluations. The addition of the functional medial maxillectomy technique is described in this article as a complementary modification to improve postoperative accessibility and visualization of the maxillary sinus.

MATERIAL & METHODS

We classified the prelacrimal approach into three subtypes: Prelacrimal approach without middle meatal antrostomy, Prelacrimal approach with middle meatal antrostomy & Prelacrimal approach with middle meatal and inferior meatal antrostomy. Prelacrimal approach with MMA & IMA recommended in tumorous or inflammatory cases which post operative maxillary access is necessary.

RESULTS

Prelacrimal approach with MMA & IMA recommended in tumorous or inflammatory cases which post operative maxillary access is necessary.

CONCLUSIONS

The addition of functional medial maxillectomy to the prelacrimal approach provides improved post operative access to maxillary sinus in office endoscopic evaluations.

KEYWORDS

maxillary sinus pre lacrimal endoscopic

PP-577

A Rare Variant Of Perioperative Pharyngeal Neuropraxia Following Rhinoplasty: Why It Is NOT A Classical Tapia's Syndrome?

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BACKGROUND & AIM

Iatrogenic cranial nerve injuries during non-head and neck surgeries are rare. While Tapia's Syndrome (concurrent paralysis of the recurrent laryngeal and hypoglossal nerves) is more commonly recognized, isolated involvement of the Vagus nerve's pharyngeal branches remains exceptionally rare. This report aims to present an isolated unilateral soft palate paralysis presenting with delayed-onset nasal regurgitation following an uncomplicated septorhinoplasty and to emphasize the importance of differentiating this focal neuropraxia from more extensive neurological syndromes.

MATERIAL & METHODS

A retrospective clinical analysis was conducted on a 22-year-old female patient who developed nasal regurgitation two weeks after elective septorhinoplasty. The diagnostic workup included physical examination, fiberoptic laryngoscopy to assess vocal cord and tongue mobility, neurology consultation, cranial MRI, and Electromyography (EMG). The patient's management involved systemic corticosteroid therapy and Vitamin B complex, with a follow-up period of two months to monitor clinical resolution.

RESULTS

Clinical examination confirmed unilateral failure of soft palate elevation and uvular deviation. Fiberoptic laryngoscopy showed normal vocal cord mobility, and tongue movements were preserved, ruling out classical Tapia's Syndrome. Cranial MRI and EMG were normal, supporting a diagnosis of localized perioperative neuropraxia of the pharyngeal plexus. Following treatment with systemic methylprednisolone (1 mg/kg/day) and Vitamin B complex, full clinical resolution of the velopharyngeal insufficiency was achieved within eight weeks.

CONCLUSIONS

Perioperative pharyngeal neuropraxia can occur as an isolated entity following rhinoplasty, distinct from the broader Tapia's Syndrome. Clinicians should maintain a high index of suspicion for velopharyngeal insufficiency if nasal reflux is reported postoperatively, even without hoarseness. A systematic approach involving neurology consultation and electrophysiological studies is essential to confirm the transient nature of the injury. Isolated pharyngeal neuropraxia carries an excellent prognosis with appropriate corticosteroid and vitamin therapy.

KEYWORDS

Septorhinoplasty, Pharyngeal Plexus Neuropraxia, Velopharyngeal Insufficiency, Nasal Regurgitation, Tapia's Syndrome Differential

PP-578

Comparative Analysis Of Hematological Parameters In Chronic Rhinosinüsitis With Nasal Polyps

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BACKGROUND & AIM

Chronic Rhinosinüsitis with Nasal polyposis(CRSwNP) is chronic inflammatory lesions of the sinonasal mucosa with an unclear etiology involving both genetic and environmental factors. Over time, these factors interact to drive the disease through various inflammatory mechanisms in CRSwNP. Recently, routine hematological parameters have gained attention as markers of this systemic inflammation in chronic inflammatory diseases. This study aimed to compare these parameters between nasal polyp patients and healthy controls to evaluate their association with CRSwNP.

MATERIAL & METHODS

This retrospective, comparative study reviewed patients who underwent functional endoscopic sinus surgery (FESS) for CRSwNP (n=50) at Mardin Education and Research Hospital over 3 years. The control group comprised patients undergoing

septoplasty or rhinoplasty with normal paranasal sinus CT scans(n=50) over 2 years. Complete blood count data—including WBC, neutrophil, lymphocyte, eosinophil, and platelet counts, MPV, NLR, PLR, and ELR—were analyzed. Statistical comparisons were performed between groups, with p <0.05 considered statistically significant.

RESULTS

Among the inflammatory hematological markers, eosinophil and neutrophil counts were statistically significantly higher in the CRSwNP group (both p<0.05). Although NLR and PLR values tended to be elevated in patients with CRSwNP, the difference did not reach statistical significance (p>0.05). Eosinophilia was observed in 48% (n=24/50) of the patients with NP, while neutrophilia was present in 18% (n=9/50). These findings suggest a strong association between the systemic inflammatory response and CRSwNP.

CONCLUSIONS

Hematological parameters derived from routine blood tests, particularly preoperative eosinophil and neutrophil counts, may serve as useful, inexpensive, and easily accessible biomarkers in patients with CRSwNP. Furthermore, these preoperative inflammatory indices might contribute to predicting disease recurrence and evaluating inflammatory activity in CRSwNP. While indices like NLR and PLR showed an elevated trend, further prospective studies with larger sample sizes are required to fully elucidate their prognostic utility.

KEYWORDS

Nasal polyposis, Chronic rhinosinusitis, Eosinophils, Neutrophils, Disease recurrence, Inflammatory biomarkers.

PP-579

Effectiveness Of Balloon Sinuplasty In Patients With Isolated Chronic Frontal Rhinosinusitis Without Nasal Polyps

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BACKGROUND & AIM

Studies specifically evaluating balloon sinuplasty in patients with isolated chronic frontalrhinosinusitis without nasal polyps are limited. This study aimed to assess the effectiveness of balloon sinuplasty by evaluating postoperative changes in disease-specific sinonasal qualityof life as the primary outcome and nasal obstruction-related symptoms as the secondaryoutcome.

MATERIAL & METHODS

This single-center study was conducted at the Department of Otorhinolaryngology, Yeditepe University Faculty of Medicine, Istanbul, Türkiye. Patients with isolated chronic frontalrhinosinusitis without nasal polyps who underwent balloon sinuplasty between February 2013 and January 2024 were included. Patients with nasal polyps, previous sinonasal surgery, concomitant sinonasal procedures other than balloon sinuplasty, or incomplete postoperativefollow-up data were not included. Disease-specific sinonasal quality of life and nasalobstruction-related symptoms were evaluated preoperatively and at postoperative 3 and 6 months using the 22-item Sino-Nasal Outcome Test (SNOT-22) and the Nasal ObstructionSymptom Evaluation (NOSE) scale, respectively.

RESULTS

A total of 21 patients were included. The mean age at surgery was 36.52 ± 8.21 years and 5 patients were female and 16 were male. Balloon sinuplasty was performed unilaterally in 16 patients and bilaterally in 5 patients.

Mean SNOT-22 score decreased significantly from 49.38 ± 2.96 preoperatively to 26.05 ± 2.77 at 3 months and to 22.57 ± 3.26 at 6 months postoperatively. Compared withpreoperative values, the improvement in SNOT-22 scores was statistically significant at both3 months and 6 months postoperatively (both p<0.001).

Mean NOSE score was 40.00 ± 10.49 preoperatively, 39.29 ± 9.52 at 3 months, and 38.57 ± 10.02 at 6 months postoperatively. Compared with preoperative values, NOSE scores did not show a statistically significant change at neither 3 months nor 6 months postoperatively (bothp>0.05).

CONCLUSIONS

Balloon sinuplasty was associated with significant improvement in disease-specific sinonasalquality of life in patients with isolated chronic frontal rhinosinusitis without nasal polyps. However, nasal obstruction-related symptom scores did not demonstrate a statisticallysignificant postoperative change. These findings suggest that balloon sinuplasty mayprimarily improve disease-specific quality of life rather than nasal obstruction-relatedsymptoms in this patient population.

KEYWORDS

Frontal Sinusitis; Rhinosinusitis; Balloon Dilatation; Frontal Sinus; Quality of Life

PP-580

Extensive Sinonasal Osteochondromyxoma With Orbital And Intracranial Extension In A Pediatric Patient: Combined Transorbital And Endonasal Management

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BACKGROUND & AIM

Osteochondromyxoma is an extremely rare benign bone tumor characterized by locally aggressive behavior and a high recurrence rate. Craniofacial involvement is uncommon, and extensive sinonasal disease with orbital and intracranial extension is exceptionally rare. We hypothesized that combined transorbital and endoscopic endonasal surgery allows safe and effective gross total resection in advanced cases.

MATERIAL & METHODS

A 14-year-old female presented with progressive bilateral visual impairment for one year and right-sided proptosis. Initial biopsy at an external center suggested myxoma; repeat biopsy confirmed osteochondromyxoma. Magnetic resonance imaging (MRI) and computed tomography (CT) demonstrated a destructive mass occupying the nasal cavity, eroding bilateral lamina papyracea with retroorbital extension and extraocular muscle involvement. The lesion extended to the pterygopalatine fossa, masticator space, sphenoid sinus, cribriform plate, planum sphenoidale, and intracranial compartment with dural thickening. Bilateral cavernous internal carotid arteries were displaced laterally. Endocrine evaluation was normal. Carney complex was suspected; however, echocardiography excluded cardiac myxoma.

RESULTS

The patient underwent combined transorbital and endoscopic endonasal resection of the tumor. Despite extensive skull base erosion , no dural defect or cerebrospinal fluid leakage was identified, and therefore no dural reconstruction was required. Gross total resection was achieved without vascular injury. Postoperatively, right eye proptosis regressed, ocular motility normalized bilaterally, and visual acuity improved (right: counting fingers; left: 7/10).No recurrence was observed at 6-month follow-up.

CONCLUSIONS

Sinonasal osteochondromyxoma may present with extensive skull base and orbital involvement, mimicking other fibro-osseous lesions. Multidisciplinary management and aggressive but carefully planned surgical resection are essential to achieve complete tumor removal while minimizing morbidity.

KEYWORDS

Osteochondromyxoma,Carney Complex ,Sinonasal tumor,Skull base,Orbital extension,Endoscopic endonasal surgery

PP-581

A Rare Case Of Superior Ophthalmic Vein Thrombosis Secondary To Acute Pansinusitis

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BACKGROUND & AIM

Superior ophthalmic vein thrombosis (SOVT) is a rare but potentially vision and life threatening orbital emergency. While the most common causes include infectious processes such as orbital cellulitis and paranasal sinusitis, non-infectious factors may also contribute. Clinically, it presents with ptosis, proptosis, chemosis, and decreased vision; however, these findings can mimic orbital cellulitis and cavernous sinus thrombosis, making differential diagnosis challenging. Contrast-enhanced CT, MRI, and MR venography play a key role in diagnosis. Early recognition and prompt treatment are critical to prevent serious complications. In this study, we present a case of SOVT secondary to acute pansinusitis.

MATERIAL & METHODS

We report a 15 year old female patient who presented with a two day history of right periorbital swelling, fever, decreased vision, and ocular pain. Physical examination revealed marked periorbital edema, hyperemia, and chemosis, accompanied by glabellar and prefrontal swelling. Nasal endoscopy demonstrated bilateral purulent discharge, and ocular motility was restricted with subsequent development of diplopia. Imaging studies showed pansinusitis on computed tomography. Contrast-enhanced orbital magnetic resonance imaging (MRI) revealed inflammatory changes in the orbital fat, findings consistent with periorbital cellulitis, and a diffusion-restricted, peripherally enhancing collection in the frontal sinus suggestive of abscess formation. Additionally, the superior ophthalmic vein appeared dilated with lack of contrast filling and wall enhancement, consistent with SOVT. Magnetic resonance venography excluded cavernous sinus thrombosis.

RESULTS

The patient was promptly started on intravenous broad-spectrum antibiotics and anticoagulation therapy. Emergency functional endoscopic sinus surgery (FESS) was performed, achieving adequate drainage of purulent material from the maxillary and frontal sinuses. Postoperatively, the patient demonstrated rapid clinical improvement, with resolution of orbital signs and restoration of full ocular motility. Evaluation for underlying hypercoagulable states and systemic diseases was unremarkable.

CONCLUSIONS

Orbital complications of acute rhinosinusitis are rare but can be serious if not recognized early. In our case, marked edema in the glabellar region raised suspicion for venous involvement and prompted further imaging. MRI revealed a filling defect in the superior ophthalmic vein, and MR venography confirmed absent flow, establishing the diagnosis of SOVT. Management requires a multidisciplinary approach. Intravenous antibiotics are essential in infectious cases, while anticoagulation helps prevent thrombus progression. When sinusitis or abscess is present, surgical drainage with endoscopic sinus surgery is crucial. Early combined treatment in our patient led to rapid recovery without complications.

KEYWORDS

Superior ophthalmic vein thrombosis, orbital cellulitis, cavernous sinus thrombosis, endoscopic sinus surgery

PP-582

Primary Ectopic Olfactory Neuroblastoma Of The Sphenoid Sinus: A Rare Case

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BACKGROUND & AIM

Olfactory neuroblastoma is a rare malignant neuroectodermal tumor comprising 3% to 5% of sinonasal tumors. ONB occurs equally in males and females and is most common in the second and sixth decades. ONB typically arises in the superior nasal cavity along the cribriform niche (1,2). The development of an ONB in an ectopic location, albeit exceedingly rare, may occur in sites like the nasopharynx, maxillary sinus, and ethmoid and sphenoid sinuses (2,3). These atypical locations and histological variability pose significant diagnostic challenges for both radiologists and pathologists. We present a rare sphenoid ONB case evaluated with CT and MRI.

MATERIAL & METHODS

A 71-year-old male with no significant medical history presented with a one-year history of left-sided nasal obstruction. Non-enhanced paranasal sinus CT revealed soft tissue densities extending from the left nasal cavity into the posterior ethmoid and left sphenoid sinus. Contrast-enhanced MRI demonstrated a 24x14 mm diffusely enhancing nodular lesion in the posterior left nasal cavity, adjacent to the inferior turbinate.

The patient underwent a 'Left Sphenochoanal Polyp Excision + Sphenoid Sinusotomy + Posterior Ethmoidectomy' surgery. Intraoperatively, a polypoid mass originating from the anterior wall of the sphenoid sinus and extending to the choana was identified and excised. The sphenoid sinus interior mucosa was intact.

Immunohistochemical evaluation revealed tumor cells positive for synaptophysin, chromogranin, CD56, and INSM-1. Prominent mitotic activity and Flexner-Wintersteiner rosettes were observed, confirming a diagnosis of 'Neuroblastoma, Hyams Grade 3'.

RESULTS

ONB originates from neural crest cells in the olfactory epithelium. While typically presenting in the nasal vault with unilateral obstruction and epistaxis, ectopic primary ONBs are exceptionally rare. Management utilizes the Kadish system (A–D) for clinical staging and the Hyams system (I–IV) for pathological grading. Our patient was classified as Kadish Stage B and Hyams Grade 3. Following a multidisciplinary tumor board evaluation, adjuvant radiotherapy combined with carboplatin-etoposide chemotherapy was planned.

CONCLUSIONS

Despite its rarity, ONB must be considered in the differential diagnosis of aggressive sphenoid sinus tumors. Accurate clinical diagnosis, fine interpretation of imaging, precise tissue evaluation, and a multidisciplinary team approach are mandatory for early detection and optimal management.

KEYWORDS

Neuroblastoma, Sphenoid Sinus, Hyams Grade, Endoscopic Surgery, Immunohistochemistry

PP-583

Advanced Sinonasal Squamous Cell Carcinoma With Orbital And Skull Base Involvement: Multimodal And Multidisciplinary Management And Complex Reconstruction

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BACKGROUND & AIM

Sinonasal malignancies are a heterogeneous group of tumors with variable biological behavior that often require individualized treatment strategies. In locally advanced disease, multimodal management combining systemic therapy, surgery, and radiotherapy is widely accepted [1,3]. Induction chemotherapy has increasingly been used in advanced sinonasal SCC, particularly in cases with orbital or skull base involvement, to assess tumor biology and guide treatment planning [3–5].

This study aims to present a case of advanced sinonasal SCC managed with a multidisciplinary, multimodal approach, highlighting intraoperative decision-making and reconstruction of a laterally extended skull base defect where standard intranasal flaps were not feasible [2].

MATERIAL & METHODS

A 50-year-old male presented with headache and retro-orbital pain in January 2025. Biopsy at an outside center revealed poorly differentiated squamous cell carcinoma. Ophthalmologic evaluation showed reduced visual acuity and restricted extraocular movements. Imaging demonstrated a mass in the left nasal cavity extending to the skull base and orbit.

The tumor was classified as T4 at a multidisciplinary tumor board. Induction chemotherapy with docetaxel, cisplatin, and 5-fluorouracil was completed in May 2025, achieving partial response. In July 2025, the patient underwent endoscopic tumor resection. Frozen sections revealed optic nerve involvement, leading to orbital exenteration, and confirmed dural invasion; margins were negative.

A nasoseptal flap was prepared but not used due to tumor involvement. A 4 × 4 cm skull base defect extending laterally over the right orbital roof through left zygoma was reconstructed using multilayer fascia lata, adipose tissue, and temporoparietal fascia flaps with a side-door technique [9]. Adjuvant chemoradiotherapy was administered.

RESULTS

Sinonasal malignancies are rare, heterogeneous tumors that often present at an advanced stage, requiring a multidisciplinary and multimodal treatment approach [1]. Current guidelines recommend surgery followed by radiotherapy, with or without chemotherapy, in locally advanced sinonasal squamous cell carcinoma [1,2].

Induction chemotherapy has gained increasing interest in T3–T4 disease for assessing tumor biology and guiding treatment planning [3–5]. In our case, partial response was achieved; however, persistent involvement of critical structures necessitated surgical resection.

Intraoperative decision-making was crucial, as frozen section detection of optic nerve involvement led to orbital exenteration. Although orbit-sparing strategies may be considered, involvement of critical structures remains an indication for radical surgery [4,6].

Laterally extended skull base defects pose a reconstructive challenge, where standard intranasal flaps may be insufficient. Multilayer reconstruction combined with vascularized flaps provides reliable coverage and reduces complications [2,7,8].

CONCLUSIONS

Advanced sinonasal SCC requires a multidisciplinary, stepwise approach. Induction chemotherapy can aid treatment planning and may improve outcomes in selected patients [3–5]. Intraoperative findings, particularly optic nerve involvement, can directly influence surgical decisions, including the need for orbital exenteration. In large, laterally extended skull base defects where intranasal flaps are not feasible, multilayer reconstruction with vascularized flaps such as temporoparietal flap provides a reliable solution.

KEYWORDS

Sinonasal squamous cell carcinoma; skull base surgery; orbital exenteration; induction chemotherapy; temporoparietal fascia flap; reconstruction

PP-584

Silver Nitrate Cautery Versus Topical Non-Cautery Therapies For Epistaxis: An Updated Systematic Review And Meta-Analysis

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PP-585

Lateral Intraconal Abscess Associated With Acute Rhinosinusitis In An Adult Patient

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BACKGROUND & AIM

Orbital complications have an incidence of 5% to 7% in patients with acute rhinosinusitis (ARS). Although orbital complications are well documented in pediatric populations, orbital involvement associated with ARS is rare in adults. Infection can spread either directly to the orbital cavity through neurovascular foramina and congenital/acquired bony dehiscence, or indirectly through hematogenous spread. Predisposing factors associated with orbital complications are: immunocompromised patients

and impaired sinus drainage. Orbital involvement of sinonasal infection was classified by Chandler et al into 5 groups (I: preseptal oedema, II: orbital cellulitis, III: subperiosteal abscess, IV: orbital abscess, V: cavernous sinus thrombosis).

MATERIAL & METHODS

An 81-year-old, female patient was hospitalized with decompensated heart failure at the cardiology department of our hospital. Four days after her hospital admission, she exhibited left periorbital redness with oedema and complained of left hemifacial pain. She reported purulent nasal discharge the days prior to her admission, which has ceased since. On clinical examination, she presented with chemosis, proptosis and ophthalmoplegia of her left eye. She also had impaired visual acuity on ophthalmologic assessment. A CT scan showed opacification of the left ethmoid and maxillary sinus, along with inflammatory findings in the ipsilateral intraconal department. As an orbital abscess was suspected, an MRI with gadolinium was subsequently performed. It revealed a lateral intraconal abscess and the patient underwent an urgent operation. The operative treatment consisted of a combined endoscopic and external approach. Through the extrenal approach, lateral canthotomy and cantholysis was performed in order to drain the orbital abscess.

RESULTS

The patient received piperacillin/tazobactam and vancomycin intravenously for a week. During the postoperative period she exhibited constant clinical improvement and was discharged a week postoperatively. On her follow up visit two weeks postoperatively, she had complete ocular motility without diplopia and no visual impairment.

CONCLUSIONS

Orbital complications of ARS are rare in adults, but of great clinical significance as they can result in vision impairment and morbidity. Early diagnosis and appropriate intervention are critical.

KEYWORDS

Orbital abscess, acute rhinosinusitis complication

PP-586

Isolated Chronic Sphenoidal Sinusitis: A Diagnostic Challenge — Case Report

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BACKGROUND & AIM

Isolated chronic sphenoidal sinusitis is an uncommon condition, representing less than 3% of all paranasal sinus diseases. Its deep anatomical location and nonspecific clinical presentation often lead to delayed diagnosis. Patients frequently present with vague symptoms such as persistent headache, retro-orbital pain, or visual disturbances, without typical sinonasal complaints. Early recognition is essential due to the proximity of the sphenoid sinus to critical neurovascular structures.

MATERIAL & METHODS

We report the case of a 42-year-old patient presenting with persistent retro-orbital headache for over three months, unresponsive to medical treatment. Nasal endoscopy findings were normal. Computed tomography (CT) scan revealed isolated opacification of the sphenoid sinus, with no involvement of other paranasal sinuses. There were no neurological deficits or visual disturbances. The patient underwent endoscopic transnasal sphenoidotomy. Intraoperatively, thick mucopurulent secretions and inflamed mucosa confined to the sphenoid sinus were observed. Samples were obtained for microbiological analysis to guide targeted postoperative therapy.

RESULTS

The postoperative course was uneventful, with complete resolution of symptoms. Follow-up endoscopic examination and imaging confirmed adequate sinus ventilation and absence of disease recurrence. The patient remained symptom-free during follow-up

CONCLUSIONS

Isolated chronic sphenoidal sinusitis should be considered in patients with persistent, unexplained headache. CT imaging is crucial for diagnosis, and endoscopic sphenoidotomy is an effective treatment. Prompt management is essential to prevent potentially serious complications.

KEYWORDS

Sphenoidal Sinusitis, Chronic Sinusitis, Endoscopic Surgery, Headache, Case Report

PP-587

Modified Castelnuovo Approach With Costal Cartilage Sandwich Grafting For Simultaneous Septal Perforation Repair During Structural Rhinoplasty: A Case Report

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BACKGROUND & AIM

Surgical closure of medium-to-large septal perforations (SPs) remains a significant challenge, requiring both tension-free mucosal coverage and rigid structural support. This report presents a hybrid reconstructive approach utilizing bilateral anterior ethmoidal artery (AEA) pedicled flaps combined with a costal cartilage "sandwich" interposition, performed simultaneously with structural rhinoplasty.

MATERIAL & METHODS

A 23-year-old female presented with a 3-year history of symptomatic 1.5 x 1.3 cm idiopathic anterior septal perforation and aesthetic concerns. A single-stage procedure was performed, integrating endonasal bilateral AEA-based mucosal flaps and an interpositional 2.5-cm thin costal cartilage graft. The graft was sutured posteriorly to the caudal septum for stability. Simultaneously, an open structural rhinoplasty was conducted using autologous costal cartilage for L-strut reinforcement and tip reconstruction.

RESULTS

Postoperative week 3 endoscopic evaluation revealed partial mucosal necrosis of the right inferior turbinate, which resolved with conservative management. Complete epithelialization of the septal repair site was achieved by week 6. At the 1-year follow-up, endoscopic evaluation confirmed a stable, fully closed perforation with healthy respiratory-type mucosa and no signs of thinning. The patient reported complete resolution of crusting, epistaxis, and whistling, with high satisfaction regarding functional and aesthetic outcomes.

CONCLUSIONS

The hybrid modification of the Castelnuovo technique, integrating bilateral AEA flaps with costal cartilage interposition, provides robust vascular support and long-term structural integrity. This approach is an effective strategy for the single-stage management of medium-to-large perforations while allowing for successful aesthetic refinement.

KEYWORDS

Septal perforation, AEA flap, costal cartilage, sandwich technique, rhinoplasty

PP-588

Warthin Tumor In The Nasopharynx: A Rare Cause Of Nasopharyngeal Fullness

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BACKGROUND & AIM

Nasopharyngeal fullness is a common finding in otolaryngology, often presenting with nasal obstruction or aural fullness, though frequently detected incidentally. This case report describes a patient presenting with a neck mass who was diagnosed with a nasopharyngeal Warthin tumor following endoscopic evaluation and biopsy. The primary objective of this report is to emphasize the critical role of systematic endoscopic nasopharyngeal examination in patients presenting with cervical lymphadenopathy. Furthermore, it aims to raise clinical awareness among junior residents regarding rare, atypical pathologies that may involve the nasopharynx beyond common presentations.

MATERIAL & METHODS

A 62-year-old male presented with a several-month history of an asymptomatic right-sided neck mass. Physical examination revealed a 2x2 cm, mobile, solid mass at the tail of the right parotid gland. While otoscopic and laryngeal examinations were unremarkable, nasal endoscopy identified an incidental nasopharyngeal fullness. Neck ultrasonography (USG) demonstrated two prominent lymph nodes (18x10 mm and 13x10 mm) with increased cortical thickness (5 mm) and preserved hila, adjacent to the inferior parotid gland. Contrast-enhanced MRI initially interpreted these as nodular lymphadenopathies, with no significant enhancement in the nasopharynx.

USG-guided fine-needle aspiration biopsy (FNAB) of the cervical node revealed polymorphic lymphoid cells. However, a punch biopsy of the nasopharyngeal lesion confirmed histopathological findings consistent with a Warthin tumor. This rare extra-parotid presentation underscores the diagnostic importance of comprehensive endoscopic evaluation in patients presenting with cervical masses, even when primary symptoms are localized elsewhere.

RESULTS

Following a multidisciplinary clinical council evaluation, a three-month follow-up was recommended. At the first interval, the cervical lymphadenopathy persisted; however, endoscopic examination revealed no significant nasopharyngeal fullness. Repeat ultrasonography demonstrated a reduction in the dimensions of the infra-parotid nodes (13x6 mm and 10x4.8 mm) with decreased cortical thickness (2.1 mm) and preserved hila. A control MRI performed six months post-initial imaging identified a 10 mm extra-parotid lymph node at the inferior-posterior aspect of the right parotid gland, with no abnormal contrast enhancement in the nasopharynx. Following this evaluation, the patient voluntarily opted out of further clinical surveillance. This sequence suggests a regressive course for the reactive lymphadenopathy despite the initial biopsy findings.

CONCLUSIONS

Nasopharyngeal fullness is a common finding, typically attributed to adenoid hypertrophy or malignancies like nasopharyngeal carcinoma. However, nasopharyngeal Warthin tumors are exceedingly rare. Unlike synchronous cases reported in literature, our patient presented with isolated nasopharyngeal involvement. Given the asymptomatic course and spontaneous resolution of endoscopic findings, a conservative 'watch-and-wait' approach was adopted instead of surgical intervention. This case emphasizes the necessity of comprehensive endoscopic nasopharyngeal evaluation in patients with cervical lymphadenopathy. Especially under high clinical workloads, junior residents must maintain high diagnostic suspicion for such rare entities to ensure timely biopsy and personalized management.

KEYWORDS

Nasopharyngeal fullness , Warthin tumor , Ectopic Warthin tumor , Cervical lymphadenopathy

PP-589

Evaluation Of The Effectiveness Of Endoscopic Holmium:YAG Laser-Assisted Inferior Turbinate Reduction

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BACKGROUND & AIM

Inferior turbinate hypertrophy is a common cause of chronic nasal obstruction and surgical treatment aims to improve nasal patency while preserving turbinate function. This study aimed to evaluate the effectiveness of Holmium:YAG laser-assisted endoscopic inferior turbinate reduction by assessing postoperative changes in nasal obstruction symptoms and sinonasal quality of life.

MATERIAL & METHODS

This study was conducted at the Department of Otorhinolaryngology, Yeditepe University Faculty of Medicine, Istanbul, Türkiye. Adult patients who underwent Holmium:YAG laser-assisted endoscopic inferior turbinate reduction for inferior turbinate hypertrophy between March 2013 and June 2025 were included. Patients who underwent additional nasal or sinonasal surgical procedures were excluded. Nasal obstruction-related symptoms and sinonasal quality of life were evaluated preoperatively and at postoperative 3 and 6 months using the Nasal Obstruction Symptom Evaluation (NOSE) scale and the Sino-Nasal Outcome Test-22 (SNOT-22).

RESULTS

A total of 382 adult patients were included. The mean age at surgery was 37.4 ± 11.4 years. The cohort included 193 males and 189 females. Postoperative questionnaire data were available for 331 patients at 3 months and 303 patients at 6 months; 281 patients had complete follow-up data, while 29 had preoperative data only. The mean NOSE score decreased from 71.5 ± 12.2 preoperatively to 30.5 ± 17.4 at 3 months and 26.0 ± 23.9 at 6 months. Both postoperative scores were significantly improved compared with preoperative values (both $p<0.001$), with no significant difference between 3 and 6 months ($p>0.05$). The mean SNOT-22 score decreased from 42.5 ± 5.3 preoperatively to 22.4 ± 7.1 at 3 months and 20.0 ± 11.6 at 6 months. Both postoperative scores were significantly improved compared with preoperative values (both $p<0.001$), with no significant difference between 3 and 6 months ($p>0.05$).

CONCLUSIONS

Isolated endoscopic inferior turbinate reduction using Holmium:YAG laser was associated with significant improvement in nasal obstruction symptoms and sinonasal quality of life, with benefits observed at 3 months and maintained at 6 months postoperatively.

KEYWORDS

Turbinates; Nasal Obstruction; Laser Therapy; Quality of Life; Treatment Outcome

PP-590

An Unusual Concurrence Of Lemierre Syndrome And Preseptal Cellulitis Secondary To Chronic Rhinosinusitis With Nasal Polyposis:A Case Report

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BACKGROUND & AIM

Lemierre syndrome is a rare but potentially life-threatening condition characterized by septic thrombophlebitis of the internal jugular vein following head and neck infection. Although classically associated with oropharyngeal sources, atypical presentations arising from sinonasal, odontogenic, or periocular infections are increasingly recognized. Preseptal cellulitis is commonly associated with rhinosinusitis but rarely occurs in conjunction with Lemierre syndrome.

MATERIAL & METHODS

A 34-year-old male presented with right periorbital swelling, facial edema, fever, and malaise. His medical history included chronic rhinosinusitis with nasal polyposis, prior functional endoscopic sinus surgery, and recent mandibular molar extraction. Imaging revealed pansinusitis, right-sided preseptal cellulitis, and a suspected thrombus in the right internal jugular vein. The patient was treated with broad-spectrum intravenous antibiotics, anticoagulation, and supportive therapy. Due to rapid clinical deterioration and progression of ophthalmologic findings, urgent endoscopic sinus surgery was performed. Persistent symptoms prompted repeat imaging, which demonstrated a frontal sinus abscess requiring revision surgery. During follow-up, treatment-related complications, including cytopenia, neutropenia, and drug-related rash, were observed. Subsequent imaging suggested frontal sinus osteomyelitis, and prolonged intravenous antibiotic therapy was administered.

RESULTS

This case illustrates an atypical presentation of Lemierre syndrome originating from a non-oropharyngeal source. Chronic rhinosinusitis with nasal polyposis and a possible odontogenic infection may have contributed to the development of septic thrombophlebitis and periocular involvement. The coexistence of preseptal cellulitis and internal jugular vein thrombosis may obscure the diagnosis and delay appropriate management. Recognition of atypical clinical pathways and early imaging are essential for timely diagnosis.

CONCLUSIONS

Lemierre syndrome should be considered in patients with sinonasal or periocular infections who develop systemic inflammatory findings or evidence of venous thrombosis. Early diagnosis, aggressive antimicrobial therapy, and timely surgical intervention are critical to prevent severe complications and improve clinical outcomes.

KEYWORDS

Lemierre Syndrome; Preseptal Cellulitis; Sinusitis; Jugular Vein Thrombosis; Nasal Polyps

PP-591

A Rare Case: Bifid Inferior Turbinate

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BACKGROUND & AIM

The nasal turbinates are crucial for nasal function. Anatomic variations of the lateral nasal wall, such as a bifid inferior turbinate, are extremely rare and typically asymptomatic, often detected incidentally on imaging. They are frequently associated with the absence of the uncinate process. While usually requiring no treatment, these anomalies can occasionally contribute to severe nasal obstruction and necessitate surgical intervention. The aim of this report is to present an exceedingly rare case of a symptomatic bifid inferior turbinate and to describe what appears to be the first documented surgical management of this specific anatomic variation.

MATERIAL & METHODS

A 42-year-old male presented with persistent nasal obstruction and intranasal dryness. Initial anterior rhinoscopy revealed bilateral inferior turbinate hypertrophy and a high anterior septal deviation to the left. A comprehensive diagnostic workup, including rigid nasal endoscopy and coronal paranasal sinus computed tomography (PNS CT), was performed. These modalities clearly demonstrated a bifid right inferior turbinate, consisting of distinct superiorly and inferiorly positioned components. Additionally, the right uncinate process was absent. Due to the patient's persistent obstructive symptoms, surgical intervention was planned. The procedure included a septoplasty to address the structural deviation. For the turbinate anomaly, the superior component of the bifid right inferior turbinate was surgically resected. Concurrently, radiofrequency ablation was applied to the remaining inferior component and the contralateral left inferior turbinate to maximize the nasal airway.

RESULTS

The surgical procedures—septoplasty, selective resection of the superior turbinate component, and bilateral radiofrequency ablation—were completed successfully without any intraoperative complications. The combination of these techniques effectively addressed both the septal deviation and the unique turbinate hypertrophy. During the 1-month postoperative follow-up examination, both nasal passages were widely patent. Endoscopic evaluation confirmed that the right inferior turbinate had healed well and exhibited a normal anatomical appearance. The patient reported a marked and highly satisfactory improvement in nasal breathing, complete resolution of his prior obstructive symptoms, and relief from intranasal dryness. The successful clinical outcome indicates that addressing the structural anomaly through selective resection of the duplicated component, alongside standard volume reduction techniques, adequately restores normal nasal airway dynamics and relieves patient discomfort.

CONCLUSIONS

Although the bifid inferior turbinate is a remarkably rare and typically asymptomatic developmental anomaly, it can occasionally cause significant nasal obstruction. Accurate preoperative identification via nasal endoscopy and paranasal sinus CT is essential, especially given its frequent association with an absent uncinate process. While asymptomatic cases require no

intervention, this report demonstrates that symptomatic variations can be safely and effectively managed with tailored surgical treatment. Selective resection of the duplicated component combined with appropriate reduction yields excellent functional outcomes, highlighting the importance of recognizing lateral nasal wall variations for optimal surgical planning.

KEYWORDS

bifid, variation, nasal cavity, turbinate

PP-592

A RARE ANATOMICAL VARIATION: MIDDLE TURBINATE DUPLICATION CAUSED BY HYPERTROPHİC ETHMOİDAL BULLA

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BACKGROUND & AIM

Endoscopic sinus surgery is one of the most frequently performed surgical procedures in rhinology clinics. One of the important landmarks during endoscopic surgery is the middle turbinate.

Turbinate development is a complex process during embryological life and different anatomical variations may occur during this process. Middle turbinate duplication is a rare anatomical variation encountered in rhinology. The presence of hypertrophic bulla ethmoidalis causing middle turbinate duplication has not been reported in the literature and is an extremely rare condition.

MATERIAL & METHODS

A 30-year-old male patient presented to our clinic with complaints of left periorbital pain and nasal obstruction. The patient had received medical treatment at another center, but his complaints did not regress. Endoscopic examination revealed left middle turbinate duplication and a hypertrophic bulla ethmoidalis extending between the middle turbinates. The septum was observed to be deviated to the right. Endoscopic sinus surgery and endoscopic septoplasty were planned for the patient, who had opacification in the ethmoid cells on paranasal computed tomography (PNCT) imaging. During the operation, the lateral middle turbinate and hypertrophic bulla ethmoidalis were resected. Anterior ethmoid cells were cleaned.So that, obstructed ostiomeatal complex was opened.

RESULTS

Postoperative follow-ups were performed at 1 week and 1 month. At the 1-week follow-up, splint tampons were removed and crusts were cleaned. At the 1-month follow-up, it was observed that the patient's complaints of left periorbital pain and nasal obstruction, which had been resistant to medical treatment, had completely regressed.

CONCLUSIONS

Rare anatomical variations may lead to complaints resistant to medical treatment and their detection with endoscopic examination and PNCT before surgery is important. As anatomical variations are reported in the literature, their awareness increases.

KEYWORDS

MIDDLE TURBINATE DUPLICATION, HYPERTROPHİC ETHMOİDAL BULLA

PP-593

Multidimensional Assessment Of Cottle Septoplasty Outcomes For Nasal Septum Deviation: A Prospective Study Using Peak Nasal Inspiratory Flow And Patient-Reported Outcome Measures

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BACKGROUND & AIM

Nasal septum deviation is one of the most common causes of nasal obstruction with a significant impact on patients' quality of life. Nasal septoplasty is considered the treatment of choice for nasal obstruction due to septal deviation. An ongoing discussion among rhinologists is whether it is reasonable to perform objective measurements of nasal patency pre or postoperatively routinely. The aim of this study was to identify the functional benefits for patients undergoing Cottle septoplasty with the use of an objective method assessing nasal patency and to evaluate the patients' perception of symptom relief and disease-specific quality of life (QoL) outcomes.

MATERIAL & METHODS

Forty-three patients with nasal obstruction symptoms caused by septal deviation who underwent Cottle septoplasty were enrolled in this prospective observational study. Peak Nasal Inspiratory Flow (PNIF) was utilized for the objective assessment of

nasal patency. All participants completed the NOSE (Nasal Obstruction Symptom Evaluation) and SNOT-22 (Sinonasal Outcome Test-22) validated questionnaires and a 10-point Visual Analogue Scale (VAS) for the subjective evaluation of nasal obstruction symptom severity and the impact on their quality of life. All assessments were performed preoperatively and in one and three months postoperatively.

RESULTS

There were statistically significant improvements in nasal patency (PNIF scores), mean postoperative NOSE, SNOT-22 and VAS scores at both follow-up points. PNIF showed a linear improvement over time, whereas subjective outcomes demonstrated a non-linear pattern of improvement which was more significant during the first month after surgery. Significant correlations between the PNIF measurements and mean NOSE, SNOT-22 and VAS scores were found only at first month follow-up.

CONCLUSIONS

The present study confirms that Cottle septoplasty significantly increases nasal patency and causes a significant subjective improvement in nasal obstruction symptoms and theis impact on patients' QoL. The absence of a significant correlation between the objective measurements and the symptom scores and the lower degree of improvement of patients' disease-specific quality of life (QoL) outcomes at three months compared to one month after surgery indicates that factors other than the anatomical findings may also contribute to the patients' perception of nasal obstruction symptom related QoL.

KEYWORDS

Nasal septum deviation, Cottle septoplasty, Nasal obstruction, PNIF, NOSE scale, SNOT-22, Quality of life

PP-594

Anterior Ethmoidal Artery–Based Pedicled Flap For Septal Perforation Repair: Why Expanding The Vascularized Flap Repertoire Matters

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BACKGROUND & AIM

Septal perforation repair remains surgically demanding, with failure often related to inadequate vascular support and excessive closure tension. Although multiple local and regional techniques have been described, no standardized reconstructive algorithm exists. Most commonly used flaps may be insufficient in previously operated septa or in medium-sized defects. The anterior ethmoidal artery (AEA)–based pedicled flap offers vascularity and rotation; however, its application in septal perforation repair is rarely emphasized in the literature. Expanding the repertoire of reliable vascularized flaps is critical for improving surgical predictability.

MATERIAL & METHODS

A 23-year-old female presented with complaints of difficulty breathing through the nose and intranasal sores and crusts. These symptoms had been ongoing for several months, with progressive nasal obstruction and crusting. The patient did not report a history of prior septal surgery. Endoscopic examination revealed a 1x1 cm perforation located in the anterior part of the nasal septum. An endoscopic unilateral AEA-based mucosal pedicled flap was elevated with preservation of its vascular pedicle and rotated to achieve tension-free closure without interposition grafting

RESULTS

Healing was uneventful. Complete closure was maintained at 6-month follow-up with full symptom resolution. No flap necrosis, septal hematoma or major bleeding occurred.

CONCLUSIONS

This case illustrates that the AEA-based pedicled flap is not merely an alternative technique but a strategically valuable option in septal reconstruction. Its axial blood supply enhances tissue viability and may reduce recurrence risk, particularly in revision settings. Broader recognition of this flap could refine reconstructive algorithms and improve outcome reliability in selected patients.

KEYWORDS

Septal perforation, pedicled flap

PP-595

Intranasal Therapies: Overuse, Misuse, And Long-Term Effects On The Nasal Mucosa

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BACKGROUND & AIM

Intranasal therapies are widely used in the management of various nasal conditions. Although generally considered safe, their inappropriate use, overuse, and off-label application may lead to alterations in the nasal mucosa structure and function. In this

narrative review, we examined the patterns of overuse and misuse of commonly administered intranasal agents and related long-term clinical consequences.

MATERIAL & METHODS

We searched PubMed for studies related to the use of topical decongestants, intranasal corticosteroids, topical antibiotics, and saline solutions. Data of interest included patient history; clinical findings; frequency, manner, and duration of use; symptom persistence; and endoscopic findings.

RESULTS

Prolonged use of topical decongestants is associated with development of rhinitis medicamentosa, characterized by mucosal edema and impaired vasoregulation. Intranasal corticosteroids exhibit a favorable safety profile when used appropriately; however, incorrect administration techniques reduce their efficacy and increase the incidence of local side effects such as dryness and epistaxis. Intranasal antibiotics show no clear benefit in non-bacterial conditions and their misuse may contribute to mucosal irritation and resistance. Excessive use of hypertonic saline solutions often leads to mucosal dryness and patient discomfort.

CONCLUSIONS

Misuse and overuse of intranasal therapies remain a substantial but underrecognized clinical problem. Proper patient education, correct administration techniques, and adherence to evidence-based guidelines are essential to prevent long-term mucosal damage. Increased awareness among clinicians and patients is crucial for optimizing therapeutic outcomes and minimizing complications.

KEYWORDS

decongestants ,intranasal therapies,topical antibiotics,misuse,saline solutions

PP-596

Recurrent Pott's Puffy Tumor In An Adult Following Incision And Drainage: The Importance Of Early Otolaryngology-Led Management

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BACKGROUND & AIM

Pott's puffy tumor is an uncommon yet potentially life-threatening complication of frontal sinusitis, characterized by frontal bone osteomyelitis with a subperiosteal abscess and possible intracranial extension. Adult presentations may be mistaken for isolated soft-tissue infection, resulting in repeated antibiotic courses or incision-and-drainage without definitive sinonasal source control. We report a 47-year-old man with recurrent frontal swelling over two years, including relapse after attempted drainage, who ultimately required surgical management by otolaryngology. The aim is to highlight the need for early cross-sectional imaging and timely ENT-led definitive treatment in recurrent adult cases.

MATERIAL & METHODS

A 47-year-old man was admitted with recurrent frontal swelling over a two-year period, including two prior antibiotic-treated episodes and relapse after a recent incision-and-drainage attempt. Paranasal sinus CT and contrast-enhanced maxillofacial MRI demonstrated complicated left frontal sinusitis with frontal bone osteomyelitis, a fistulous tract, and an anterior frontal subcutaneous infectious collection with cutaneous fistulization, without meningitis or intracranial extension. Broad-spectrum intravenous antibiotics (ceftriaxone, vancomycin, and clindamycin) were started after infectious diseases consultation. Definitive management consisted of bilateral functional endoscopic sinus surgery under general anesthesia, including uncinectomy, middle meatal antrostomy, anterior and posterior ethmoidectomy, and endoscopic frontal sinusotomy with debridement of granulation tissue; intraoperative cultures were obtained. Merocel nasal packing was placed intraoperatively.

RESULTS

CT and contrast-enhanced MRI demonstrated complicated left frontal sinusitis with frontal bone osteomyelitis, a fistulous tract, and an anterior frontal subcutaneous collection with cutaneous fistulization, without meningitis or intracranial extension. Aspirate culture yielded Streptococcus intermedius and antimicrobial therapy was adjusted accordingly; the patient received 6 days of intravenous vancomycin, ceftriaxone, and clindamycin. Endoscopic sinus surgery with frontal sinusotomy was completed uneventfully; intraoperatively, purulent secretions and granulation tissue were encountered and cleared, achieving frontal sinus drainage. Postoperatively, the frontal swelling and pain regressed, and no orbital, intracranial, or cerebrospinal fluid–related complications occurred. Nasal packing was removed on postoperative day 3. Inflammatory markers improved, with C-reactive protein decreasing from 41.4 to 26.6 and 6.8 mg/L prior to discharge. The patient was discharged with clinical improvement on targeted antibiotics and scheduled ENT follow-up.

CONCLUSIONS

Recurrent frontal swelling in adults should raise suspicion for Pott's puffy tumor secondary to complicated frontal sinusitis, rather than being managed as an isolated superficial abscess. Early cross-sectional imaging is crucial to identify frontal bone osteomyelitis and fistulization and to exclude intracranial extension. Repeated antibiotic courses and superficial incision-and-

drainage alone are often insufficient because they fail to achieve definitive sinonasal source control. Timely ENT-led surgical management (endoscopic frontal sinus surgery) combined with appropriate intravenous antibiotics can provide durable resolution, reduce recurrence, and prevent potentially life-threatening orbital or intracranial complications.

KEYWORDS

Pott's puffy tumor; complicated frontal sinusitis; subperiosteal abscess; frontal bone osteomyelitis; endoscopic sinus surgery

PP-597

Transnasal Penetrating Maxillofacial Trauma: A Rare Case Of Nail Gun Injury

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BACKGROUND & AIM

Penetrating maxillofacial injuries require emergency intervention and meticulous planning due to their proximity to vital vascular and neurological structures. While typically caused by firearms or sharp objects, industrial nail gun injuries are rare in the literature.The surgical strategy relies on defining the trajectory of the foreign body relative to critical regions such as the nasolacrimal system, vascular structures, and brain parenchyma. This report presents a case of transnasal nail injury-entering through the medial left eyebrow, extending from the anterior left frontal sinus to the posterior left nasolacrimal duct, and terminating in the right nasal passage-successfully excised via an endoscopic approach.

MATERIAL & METHODS

A 49-year-old male presented after a nail gun accident. Examination showed an entry wound 1.5 cm above the medial left eyebrow with the nail head visible. History suggested a threaded nail. Rigid endoscopy revealed the foreign body entering the left lateral nasal wall anterior to the middle turbinate axilla, perforating the septum, and ending at the right inferior turbinate. CT imaging confirmed a 7-cm metallic object traversing the anterior left frontal sinus, posterior to the nasolacrimal duct, crossing the septum, and reaching the right nasal cavity. Under general anesthesia, a small incision exposed the nail head. Endoscopic removal was attempted with counter-clockwise rotation but failed due to fixation. The nail was successfully extracted using controlled axial traction guided by its threaded structure. Postoperative endoscopy showed intact mucosa without bleeding. The wound was sutured primarily. No vascular or neurological complications occurred during the immediate postoperative period and short-term follow-up course observed.

RESULTS

In this case, the trajectory avoided vital structures despite its depth. The endoscopic approach facilitated real-time visualization of the relationship with surrounding tissues, preventing secondary mucosal damage and allowing immediate management of potential bleeding. While the literature often suggests rotational removal for threaded objects, this case demonstrates that controlled linear traction, adhering to the nail's specific characteristics, is a safe alternative.

CONCLUSIONS

In transnasal penetrating traumas, rigid endoscopy combined with advanced imaging enhances diagnostic accuracy and minimizes surgical morbidity. This case highlights that appropriate planning and minimally invasive techniques can ensure successful outcomes despite complex craniofacial anatomy.

KEYWORDS

Transnasal penetrating trauma, nail gun injury, maxillofacial trauma, endoscopic surgery

PP-598

Endoscopic Endonasal Removal Of War-Related Skull Base Foreign Bodies: Technical Considerations And Surgical Experience

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BACKGROUND & AIM

War-related craniofacial trauma may result in retained foreign bodies lodged within anatomically challenging skull base regions. Surgical management is often complicated by the proximity of critical neurovascular structures and the morbidity associated with traditional open approaches. This study aims to describe our surgical experience with endoscopic endonasal removal of war-related skull base foreign bodies and highlight key technical considerations for safe extraction.

MATERIAL & METHODS

Clinical, radiological, operative, and postoperative data were reviewed for patients undergoing endoscopic endonasal removal of war-related skull base foreign bodies at a tertiary military referral center. Surgical planning was based on preoperative computed tomography to assess foreign body location and its relationship to adjacent neurovascular structures. Endoscopic transnasal approaches were used to achieve direct visualization, controlled mobilization, and safe extraction while minimizing tissue disruption and avoiding external incisions whenever possible.

RESULTS

Two patients with war-related retained skull base foreign bodies were successfully managed using endoscopic endonasal techniques. The first patient sustained a transorbital gunshot injury with a bullet lodged within the sphenoid sinus adjacent to the internal carotid artery. The second patient sustained a blast injury with a metallic shrapnel fragment lodged within the maxillary sinus. Complete foreign body removal was achieved in both cases without major intraoperative complications. No cerebrospinal fluid leak, major hemorrhage, infection, or neurological deterioration occurred. Both patients experienced favorable postoperative recovery and were discharged without procedure-related morbidity.

CONCLUSIONS

Endoscopic endonasal surgery represents a safe and effective minimally invasive option for selected war-related skull base foreign bodies, including lesions located adjacent to critical neurovascular structures. Careful preoperative planning, detailed anatomical knowledge, and meticulous surgical technique allow successful foreign body removal while avoiding the morbidity associated with traditional open approaches.

KEYWORDS

Endoscopic endonasal surgery; Skull base trauma; War-related injuries; Foreign body removal; Bullet injury; Shrapnel injury

PP-599

Sphenoid Sinusitis Presenting With Cavernous Sinus Syndrome: Infection Or Autoimmune Vasculitis?

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BACKGROUND & AIM

Isolated sphenoid sinusitis is a rare but potentially life-threatening condition because of its close relationship to the cavernous sinus, cranial nerves, and skull base. Symptoms such as headache, diplopia, and cranial nerve palsy are often nonspecific and may delay diagnosis.

This report presents a rare case of sphenoid sinusitis with cavernous sinus involvement and CN VI palsy in a patient with rheumatoid arthritis receiving biologic therapy, emphasizing the importance of early imaging, multidisciplinary evaluation, and prompt surgical management.

MATERIAL & METHODS

A retrospective case evaluation was performed for a patient presenting with headache, diplopia, and cranial nerve dysfunction. Clinical examination, nasal endoscopy, laboratory findings, and radiologic imaging including computed tomography (CT) and magnetic resonance imaging (MRI) were reviewed.The patient's medical history, including rheumatoid arthritis and ongoing biologic immunosuppressive therapy, was evaluated in detail. Radiologic assessment focused on sphenoid sinus pathology, skull base extension, and cavernous sinus involvement.The patient underwent endoscopic endonasal sphenoidotomy for diagnostic and therapeutic purposes. Intraoperative findings, microbiological culture results, histopathological examination, medical treatment, and clinical follow-up outcomes were analyzed.Written informed consent was obtained from the patient for publication of clinical and radiologic data.

RESULTS

A patient with rheumatoid arthritis receiving biologic immunosuppressive therapy presented with progressive headache, diplopia, and limitation of lateral gaze. Neurological examination revealed isolated abducens nerve (CN VI) palsy. Nasal endoscopy demonstrated inflammatory findings within the sphenoethmoidal recess.Computed tomography and magnetic resonance imaging revealed isolated sphenoid sinus opacification with extension toward the cavernous sinus and adjacent skull base structures. Radiologic findings raised concern for invasive infection and possible inflammatory vasculitic involvement.The patient underwent urgent endoscopic endonasal sphenoidotomy. Intraoperative examination revealed purulent inflammatory material within the sphenoid sinus. Microbiological and histopathological analyses were consistent with invasive infectious sphenoid sinusitis, with no evidence of malignancy.Following surgical drainage and targeted antimicrobial therapy, the patient demonstrated significant clinical improvement, including resolution of headache and gradual recovery of diplopia and cranial nerve dysfunction during follow-up.

CONCLUSIONS

Isolated sphenoid sinusitis should be considered in patients with headache, diplopia, and cranial nerve palsy, especially in immunocompromised individuals. Early CT/MRI evaluation and prompt multidisciplinary treatment are essential to prevent severe neurological complications and improve outcomes.

KEYWORDS

Sphenoid sinusitis • Cavernous sinus syndrome • Cranial nerve palsy • Rheumatoid arthritis • Rituximab • Immunosuppression • Invasive sinusitis

PP-600

Basaloid-Type Conventional Ameloblastoma Of The Maxillary Sinus: A Diagnostic Pitfall

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BACKGROUND & AIM

Ameloblastoma is a benign but locally aggressive odontogenic tumor that rarely involves the maxillary sinus, where it may mimic sinonasal malignancy both clinically and radiologically. In this case, the lesion initially raised concern for a malignant process and required repeated histopathological verification before the final diagnosis was established. We hypothesized that maxillary sinus ameloblastoma, particularly with basaloid morphology, may present as a diagnostic pitfall in otorhinolaryngology practice and may require multidisciplinary reassessment for accurate diagnosis and appropriate surgical management.

MATERIAL & METHODS

We retrospectively reviewed the medical records, imaging findings, operative notes, and histopathological reports of a 42-year-old woman who presented with gingival swelling and later underwent evaluation for a right maxillary sinus mass. Radiological assessment included MRI, CT, and PET/CT. Initial imaging demonstrated an approximately 2.8 × 2.8 × 3 cm destructive lesion at the right maxillary region with intense FDG uptake (SUVmax: 9.9). The patient underwent maxillectomy in 2024. Follow-up imaging later demonstrated a recurrent lesion measuring approximately 26 × 23 mm, prompting reoperation in 2026.

RESULTS

Initial biopsy had been reported as basal cell adenocarcinoma. However, reevaluation and subsequent pathology demonstrated a locally aggressive odontogenic tumor. Microscopy showed basaloid tumor cells with weak peripheral palisading, focal glandular formations, and infiltrative growth without significant atypia or necrosis. Immunohistochemistry showed CK19, p63, and CK7 positivity. Final diagnosis was basaloid-type conventional ameloblastoma. Surgical margins were negative.

CONCLUSIONS

Basaloid-type ameloblastoma of the maxillary sinus may mimic malignancy due to aggressive imaging features and FDG uptake. This case highlights the importance of repeat histopathological evaluation and clinicoradiological correlation. Accurate diagnosis is essential for appropriate surgical management and follow-up.

KEYWORDS

Ameloblastoma,Maxıllary sınus,Basalood varıant,Dıagnostıc pıtfall,Multıdıscıplınary approach

PP-601

THE SIGNIFICANCE OF PATHOHISTOLOGICAL STUDIES IN PREDICTING RECURRENCE OF CHRONIC RHINOSINUSITIS AFTER REVISION FESS

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BACKGROUND & AIM

Background: Recurrence of chronic rhinosinusitis after functional endoscopic sinus surgery (FESS), especially in type 2 (T2) inflammation, remains high. According to EPOS 2020 and recent studies, recurrence rates range from 40–80% within 3–10 years and reach 88–100% after 10 years in patients with marked tissue eosinophilia. Surgery alone does not eliminate eosinophilic inflammation or excess IL-4, IL-5, and IL-13 production. Histopathological examination provides superior diagnostic accuracy compared with clinical and radiological methods.

Objective: To improve prediction of chronic rhinosinusitis recurrence after revision FESS by identifying histopathological features and inflammatory endotypes to guide targeted therapy and follow-up monitoring.

MATERIAL & METHODS

A multifactorial analysis was performed on the treatment outcomes of 153 patients with chronic recurrent rhinosinusitis. The majority of patients (123 patients – 80.4%) were between 30 and 70 years of age. There were 85 men (55.6%) and 68 women (44.4%). Classification of the pathology, scope and nature of examinations (laboratory tests, endoscopy, CT scans, etc.), treatment approaches, as well as histopathological analysis of surgical specimens, were conducted using standard accepted methods. To determine the biological type of inflammation, the cellular composition of mucosal and polypoid tissue infiltrates, the condition of the basement membrane, and the degree of tissue remodeling were evaluated.

RESULTS

Among 153 patients, chronic rhinosinusitis without nasal polyps was observed in 37 (24.2%), with nasal polyps in 111 (72.5%), and inverted papilloma in 5 (3.3%). Tissue eosinophilia (T2 inflammation) was identified in 45 patients (29.4%), while neutrophilic infiltration (non-T2 inflammation) was found in 103 (67.3%). Basement membrane changes, mucosal metaplasia, and polypoid alterations occurred in 12 patients (8.3%). Among eosinophilic cases, eosinophil counts were <50 cells/HPF in 7 patients (15.6%), 50–100 cells/HPF in 19 (42.2%), and >100 cells/HPF in 19 (42.2%). Mean disease duration was 11 years and 2

months, with 1–9 recurrences. Recurrence rates were higher in T2 inflammation (6.7%) than non-T2 inflammation (4.9%) and increased with eosinophilia severity, particularly at ≥50 cells/HPF (84.4%).

CONCLUSIONS

1. Histopatological examination of removed tissue structures plays a leading role in predicting recurrence of the studied pathology and thereby helps optimize comprehensive postoperative treatment.

2. Despite the progress achieved, the problem remains highly relevant and requires further in-depth investigation.

KEYWORDS

recurrence, rhinosinusitis, revision FESS, histopathology.

PP-602

Frontoethmoidal Schwannoma Mimicking Mucocele: Diagnostic Challenge And Endoscopic Management

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BACKGROUND & AIM

Sinonasal schwannomas are rare benign tumors of peripheral nerve sheath origin, accounting for less than 4% of head and neck schwannomas. Frontal sinus involvement is exceptionally uncommon. Their nonspecific clinical and radiological features often lead to misdiagnosis, particularly as mucoceles or inverted papillomas.

MATERIAL & METHODS

A 67-year-old woman presented with an incidental CT finding of left ethmoidal and bilateral frontal sinus occupation with bone remodeling and posterior wall dehiscence, initially suggestive of a mucocele. MRI showed heterogeneous enhancement without intracranial extension. Given the diagnostic uncertainty, endoscopic surgery was indicated as a simultaneous diagnostic and therapeutic procedure. A left endoscopic endonasal approach was performed, consisting of a type III resection according to the LOEM classification with a DRAF III procedure, achieving wide access to the frontal sinus.

RESULTS

Complete macroscopic resection was achieved without complications. Histopathology confirmed schwannoma (S-100 positive; Antoni A and B patterns) with no malignant features. The tumor origin was presumed to arise from branches of the ophthalmic division of the trigeminal nerve (anterior ethmoidal nerve), the most widely accepted origin. Alternative hypotheses involving aberrant Schwann cells in the olfactory region have been described but remain controversial. No clinical or radiological features suggestive of NF2 or schwannomatosis were identified after systematic evaluation, supporting a sporadic presentation. No recurrence was observed at 6-month follow-up.

CONCLUSIONS

Frontoethmoidal schwannoma should be considered in the differential diagnosis of frontal sinus lesions with bone remodeling. Radiological findings may be misleading, making histopathological confirmation essential. Endoscopic endonasal surgery usually provides a safe and effective approach, allowing complete resection while simultaneously establishing a definitive diagnosis, and should be considered the preferred approach in the majority of cases.

KEYWORDS

Schwannoma; Frontal sinus; Endoscopic surgery; Differential diagnosis

PP-603

Amphotericin B-Resistant Angioinvasive Aspergillus Rhinosinusitis Mimicking A Skull Base Tumor With Orbital And Intracranial Extension: A Case Report

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BACKGROUND & AIM

Invasive fungal rhinosinusitis (IFRS) is a severe infection with high mortality that can accurately mimic advanced skull base malignancies. Due to superficial inflammatory tissue changes, it frequently presents a diagnostic dilemma. This case report aims to highlight the diagnostic challenges, clinical pitfalls, and the critical role of emergency multidisciplinary management in a patient presenting with Aspergillus fumigatus infection causing extensive rhino-orbital-cerebral destruction.

MATERIAL & METHODS

A 36-year-old immunocompetent male presented in early 2026 with progressive right-sided nasal obstruction, anosmia, and periorbital edema. His history revealed that in 2008, he had undergone endonasal explorations for similar neurological signs and a suspected clivus chordoma, which yielded non-diagnostic necrotic and polypoid tissue. On admission, examination showed right oculomotor nerve palsy and trigeminal hypesthesia. CT and MRI demonstrated a massive soft-tissue lesion obliterating the right paranasal sinuses and nasal cavity, destroying the orbital roof, invading the extraconal space of the right

orbit (causing proptosis and diplopia), with radiological signs of preseptal orbitocellulitis, and extending extra-axially into the intracranial space with significant right frontal lobe compression. Repeated superficial outpatient biopsies initially yielded only inflammatory polypoid tissue, masquerading as a benign process and mimicking an advanced neoplasm. Due to acute clinical worsening, an emergency multi-specialty intervention was indicated.

RESULTS

The patient underwent right-sided functional endoscopic sinus surgery (FESS) combined with an external bicoronal approach. In close collaboration between ENT and neurosurgery teams, radical debulking of mycotic masses, removal of necrotic bone, and skull base reconstruction were achieved. Histopathology definitively confirmed granulomatous and suppurative inflammation with marked angioinvasion by Aspergillus structures. Mycological cultures identified Aspergillus section Fumigati (A. fumigatus), showcasing in vitro resistance to Amphotericin B (MIC 1.5). Treatment was optimized to targeted systemic therapy. During the 34-day hospitalization, visual acuity was successfully preserved, diplopia resolved, and oculomotor function progressively recovered.

CONCLUSIONS

Aspergillus rhinosinusitis can mimic advanced skull base tumors radiologically, where initial superficial biopsies yielding benign polypoid tissue pose a major diagnostic trap. Because potential drug resistance and angioinvasion are initially unknown, prompt surgical intervention combined with subsequent susceptibility-guided systemic therapy is paramount to prevent further progression while preserving visual and neurological function.

KEYWORDS

Invasive fungal rhinosinusitis, Aspergillus fumigatus, Amphotericin B resistance, Skull base reconstruction

PP-604

AUTONOMIC NERVOUS SYSTEM STATE IN PATIENTS WITH VASOMOTOR RHINITIS ASSOCIATED WITH THYROTOXICOSIS

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BACKGROUND & AIM

The relationship between otolaryngology and other clinical disciplines is primarily observed in terms of the impact of upper respiratory tract diseases on the condition of internal organs. The impact of various diseases on the onset, course, and treatment of chronic inflammatory processes of the upper respiratory tract remains extremely understudied.

The aim of this study is to examine current issues in the comprehensive diagnosis of vasomotor rhinitis in patients with thyrotoxicosis.

MATERIAL & METHODS

We observed 145 patients with vasomotor rhinitis associated with thyrotoxicosis. Results of a baseline autonomic nervous system study in 75 patients with AR associated with thyrotoxicosis, using blood pressure, pulse, and autonomic tests (Aschner-Dagnini oculocardiac reflex, orthoclinostatic tests). When analyzing the Aschner-Dagnini test results, a paradoxical reaction with an increase in pulse rate by 6.3±0.3 beats per minute was detected in 45 (60.0%) patients, a reaction with a decrease in pulse rate by 14.6±0.6 beats per minute was noted in 16 (21.5%) patients, and the remaining 14 (18.6%) patients had a normal reaction.

RESULTS

Orthostatic test results revealed an excessive increase in heart rate by 30-38 beats per minute in 42 (55.4%) subjects, a moderate increase in heart rate by 26-30 beats per minute in 20 (26.6%), and within the normal range in the remaining 14 (18.6%). A clinostatic test study revealed that 47 (62.6%) patients exhibited a paradoxical reaction, i.e., an increase in heart rate by 8.3±1.15 beats per minute instead of a slowdown. Twenty-one patients had a slowing of heart rate by 3-4 beats per minute; the remaining 7 had a normal reaction. High blood pressure was found in 40 (53.3%) of the 75 patients, with systolic blood pressure ranging from 150-160 mmHg and diastolic blood pressure ranging from 95-100 mmHg. Increased heart rate at baseline (at rest) was observed in 47 patients (62.6%), while the remaining 28 (37.3%) had rates within the age-appropriate range.

CONCLUSIONS

Thus, the results of the initial study of autonomic responses indicate the presence of autonomic dystonia in the overwhelming majority of patients, with sympathetic tone predominating.

KEYWORDS

thyrotoxicosis, vasomotor rhinitis, nasal mucosa, autonomic dystonia

PP-605

Malignant Hyperthermia Developing During Rhinoplasty Surgery: A Case Report

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BACKGROUND & AIM

Malignant hyperthermia is a pharmacogenetic muscle disorder characterized by cutting, hypermetabolism, muscle rigidity and muscle breakdown, particularly associated with succinylcholine and inhalation anaesthetics. It progresses with autosomal dominant inheritance. It may occur following anaesthesia induction, during surgery, or in the postoperative period. Dantrolene is the first-line treatment.

MATERIAL & METHODS

A 27-year-old female patient presented to the ear, nose and throat clinic for rhinoplasty surgery. Preoperative assessment revealed no history of previous surgery, known family medical history, allergies, or medication use; the patient was classified as ASA 1. Midazolam, lidocaine, thiopental, rocuronium, and fentanyl were administered intravenously to the patient during anaesthesia induction. The surgery proceeded without complications until the 105th minute intraoperatively, when an abrupt rise in end-tidal CO2 and tachycardia were detected, prompting arterial blood gas sampling (Table 1). The surgery was interrupted. Body temperature was measured at 40.5°C. The anaesthesia team administered dantrolene sodium 2.5 mg/kg intravenously as a bolus to the patient, suspecting malignant hyperthermia. External cooling was provided. The patient, whose arterial blood gas parameters improved, was extubated three hours after being monitored in the intensive care unit.Table 2).The dantrolene sodium infusion was stopped on the second day as the patient's follow-up values were normal.

RESULTS

Malignant hyperthermia is a rare complication , but it can lead to life-threatening problems. Early recognition of this potentially serious complication, prompt intervention and having dantrolene readily available and on hand care crucial.

CONCLUSIONS

Malignant hyperthermia is a rare complication , but it can lead to life-threatening problems. Early recognition of this potentially serious complication, prompt intervention and having dantrolene readily available and on hand care crucial.

KEYWORDS

Malignant hyperthermia , rhinoplasty , dantrolene

PP-606

Acute Epistaxis - A Prospective Study On Aetiology, Management And Outcome

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BACKGROUND & AIM

Epistaxis remains the most common emergency in otorhinolaryngology, affecting up to 60% of the population in their lifetime. We present a prospective observational study on patients presenting with acute epistaxis to our service, aiming to investigate aetiologies and management of epistaxis.

MATERIAL & METHODS

This study recruited all consenting adult patients and from both genders presenting with epistaxis to our service from the Emergency Department and inpatients. A detailed history-taking, complete with clinical examination, was conducted, with data entered in a structured proforma and subjected to statistical analysis by Microsoft Excel and SPSS.

RESULTS

A total of 153 patients were recruited from 2021 to 2025. The most common age groups were the 7th decade (25%) and 8th decade (23%) followed by 6th decade (21%), with male (63%) predominance. Anterior epistaxis (76%) was mainly observed, with the most common bleeding source identified at the nasal septum (89%). Most common causes of epistaxis were the use of oral anticoagulatns (54%), followed by hypertension (52%). All patients with an identified systemic cause were treated with medical management. The majority of the patients underwent anterior nasal packing (52%). Within two-week follow-up, 20% reported recurrence of epistaxis, of which 48% required surgical intervention in the form of sphenopalatine artery ligation (93%).

CONCLUSIONS

The cause of epistaxis often stems from a systemic disorder and a multi-disciplinary approach in its management is paramount. The majority of our patient group was managed with nasal packing. In recalcitrant cases especially those involving co-morbidities - such as the use of oral anticoagulation - a low threshold for surgical intervention is indicated to ensure timely control of bleeding. Following the acute episode, patients should be advised to avoid strenuous activity, vigorous nose blowing and high environmental temperatures.

KEYWORDS
epistaxis, multi-disciplinary approach, nasal packing, sphenopalatine artery ligation

PP-607

Post-ESS Septal Abscess Without Septal Manipulation : A Rare Complication

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BACKGROUND & AIM

Septal abscess is a rare but serious complication, most commonly encountered after trauma or septal surgery. Its development following endoscopic sinus surgery performed without septal manipulation is exceedingly rare. In this case report, we aimed to present the diagnostic and therapeutic management of a septal abscess developing after functional endoscopic sinus surgery.

MATERIAL & METHODS

A 42-year-old male patient was evaluated for nasal obstruction. Nasal endoscopy revealed bilateral grade 3 nasal polyposis. Paranasal sinus CT demonstrated diffuse opacification in the frontal and ethmoid sinuses, as well as mucosal thickening in the bilateral maxillary and sphenoid sinuses; the nasal septum was noted to be mildly deviated to the right (Figure 1).

RESULTS

The patient underwent bilateral functional endoscopic sinus surgery. At postoperative month 1, he presented with nasal pain, and anterior rhinoscopy revealed a left septal abscess (Figure 2). Abscess drainage was performed, a culture specimen was obtained, and 10 days of intravenous antibiotic therapy was administered according to the culture results. The patient was discharged following clinical improvement.Follow up examination revealed no development of septal perforation.

CONCLUSIONS

Septal abscess is a rare complication that may develop even after endoscopic sinus surgery performed without septal manipulation. This possibility should be considered during postoperative follow-up, and complications may be prevented through early diagnosis and prompt treatment.

KEYWORDS
Septal abscess, functional endoscopic sinus surgery, nasal polyposis

PP-608

Sinonasal Olfactory Neuroblastoma: Diagnostic Challenges In A Rare Entity – Case Report

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BACKGROUND & AIM

Olfactory neuroblastoma is a rare malignant tumor arising from the superior nasal vault, accounting for less than 5% of sinonasal malignancies. Its rarity and morphological overlap with other poorly differentiated sinonasal neoplasms create significant diagnostic challenges, particularly in high-grade presentations.

MATERIAL & METHODS

We present the case of a 46-year-old male with a history of progressive nasal obstruction and epistaxis, found to have a left sinonasal mass. The patient underwent endoscopic tumor resection. Initial histopathological evaluation described a poorly differentiated sinonasal carcinoma with neuroendocrine features, and immunohistochemistry supported a diagnosis of large-cell neuroendocrine carcinoma. Due to persistent disease with anterior skull base extension and intracranial involvement, a radical resection was subsequently performed, achieving complete excision of both sinonasal and intracranial components. Skull base reconstruction was performed using autologous thigh fat graft, fascia lata, septal cartilage graft, and a vascularized nasoseptal flap. Comprehensive reassessment of all specimens, including repeat histopathological examination and expanded immunohistochemical analysis, ultimately established the diagnosis of olfactory neuroblastoma. The patient subsequently received adjuvant chemotherapy and radiotherapy.

RESULTS

This case highlights the diagnostic complexity of rare sinonasal malignancies. Discordant pathological interpretations underscore the substantial overlap between high-grade olfactory neuroblastoma and other poorly differentiated neuroendocrine tumors.

CONCLUSIONS

Accurate diagnosis requires extensive immunohistochemical evaluation and expert pathological review, as diagnostic uncertainty remains a significant management challenge.

KEYWORDS
olfactory neuroblastoma, sinonasal tumor, immunohistochemistry, rare malignancy

PP-609

Unilateral Maxillary Sinus Agenesis: A Rare Case Report

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BACKGROUND & AIM

Maxillary sinus agenesis is a rare congenital anomaly that can mimic chronic sinonasal disease, especially in unilateral cases with nonspecific symptoms. Recognition is essential due to associated anatomical variations that may increase surgical risk. This study aims to present a rare case of unilateral maxillary sinus agenesis diagnosed radiologically and to highlight its importance in differential diagnosis and preoperative evaluation.

MATERIAL & METHODS

This study presents a single-case report of a 20-year-old male patient who presented with sinonasal symptoms. Clinical evaluation included detailed history-taking, physical examination, anterior rhinoscopy, and rigid nasopharyngoscopic assessment. Radiological evaluation was performed using paranasal sinus computed tomography (CT) with axial and coronal sections to assess sinonasal anatomy and detect possible anomalies. The imaging findings were analyzed with particular attention to the maxillary sinus, uncinate process, and ostiomeatal complex. Based on clinical and radiological findings, a diagnosis was established, and the patient was managed with symptomatic medical treatment. Follow-up evaluation was conducted one month after treatment to assess clinical outcomes.

RESULTS

A 20-year-old male patient presented with intermittent headache, nasal obstruction, and right-sided facial swelling. Physical examination revealed facial asymmetry, bilateral inferior turbinate hypertrophy, and a fissured tongue. Endoscopic evaluation suggested increased nasal cavity volume on the affected side. Paranasal sinus CT demonstrated complete absence of the right maxillary sinus, uncinate process, and maxillary infundibulum, along with inferior positioning of the ipsilateral orbital floor and mild septal deviation. These findings were consistent with unilateral maxillary sinus agenesis. Following symptomatic medical treatment, the patient showed significant improvement in headache and nasal discharge at one-month follow-up.

CONCLUSIONS

Maxillary sinus agenesis, although rare, should be considered in patients with atypical sinonasal symptoms and unilateral anatomical variations. Accurate radiological evaluation is essential to avoid misdiagnosis and to identify associated structural changes. Recognizing this anomaly is particularly important in preoperative planning, as altered anatomy may increase the risk of complications during endoscopic sinus surgery.

KEYWORDS

Maxillary sinus agenesis, Paranasal sinuses, Anatomical variation, CT imaging

PP-610

Association Between PTC (Phenylthiocarbamide) Taster Status And Treatment Outcomes In Patients With Taste Dysfunction

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BACKGROUND & AIM

The sense of taste is essential to overall health and taste dysfunction can significantly impair daily functioning. Previous studies have demonstrated a higher prevalence of PTC nontaster phenotypes or TAS2R38 AVI/AVI genotypes among patients with taste disorders compared with healthy controls, suggesting that impaired PTC bitter taste perception may be associated with susceptibility to gustatory dysfunction. However, the clinical relevance of PTC taster phenotype in predicting treatment response or recovery outcomes in taste dysfunction remains poorly characterized. The objective of this study was to evaluate whether PTC taster phenotype is associated with therapeutic outcomes in patients with taste dysfunction.

MATERIAL & METHODS

A total of 157 patients with taste dysfunction were classified into PTC non-tasters (n = 30) and tasters (n = 127) based on a PTC detection threshold test using a series of 15 graded solutions. All patients received a standardized treatment protocol. Therapeutic outcomes were assessed using validated taste function evaluations conducted before and after treatment, and improvement rates were compared between the two groups

RESULTS

Overall, 112 patients (71.3%) demonstrated improvement following treatment. Improvement rates were 66.7% (20/30) in non-tasters and 72.4% (92/127) in the taster group. Although a higher improvement rate was observed in the taster group compared with the non-taster group, no statistically significant difference was found between the two groups (p = 0.819).

CONCLUSIONS

PTC taster status was not significantly associated with therapeutic outcomes in patients with taste dysfunction, despite previous reports suggesting a relationship with disease susceptibility and baseline taste sensitivity. These findings suggest that mechanisms underlying treatment recovery may differ from those involved in disease susceptibility.

KEYWORDS

Taste, PTC (Phenlthiocarbamide), Treatment

PP-611

Digital Pathway For Patients With Nasal Obstruction

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BACKGROUND & AIM

Rhinitis patients are a largeburden in public Health care. Ai is to investigate and develop nasal obstruction patients' treatment in a tertiary care unit.

MATERIAL & METHODS

Referrals for nasal obstruction per year were calculated in Helsinki University Hospital (HUH) Rhinology unit. 20 min appointments at the polyclinic were timed for doctor and nurse counseling. A digital pathway was developed for patients to better understand and learn self-caring their symptoms. It takes approximately 6.5 mins to go through the pathway, including 2 videos of nasal function and local treatment instructions. The percentage of participation and satisfaction on 0-10 scale were collected.

RESULTS

1975 referrals per year for nasal obstruction are dealt with in HUH Rhinology unit. 10-20 patients per day are visiting the polyclinic. One appointment takes approximately 17minutes, additionally nurse is consulting 5-7minutes per patient afterwards and giving instructions. After March 2023, 76% of patients referred to HUS Rhinology Unit for nasal obstruction logged in the pathway and went through it. Median score for satisfaction of the pathway was 8,6/10. All together 4% of patients cancelled their appointment for being satisfied with the pathway and instructions.

CONCLUSIONS

Digital self-care pathway can save both patient and hospital resources in a large group of patients with common and benign symptoms such as nasal obstruction.

KEYWORDS

Rhinitis, video, nose, self care

PP-612

Gender Differences In Keros Classification: A CT-Based Study

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BACKGROUND & AIM

The Keros classification is an important anatomical parameter used in assessing the risk of anterior skull base injury during endoscopic sinus surgery. Variations in olfactory fossa depth and ethmoidal roof anatomy may increase the likelihood of intraoperative complications, including cerebrospinal fluid leakage and skull base injury. This study aimed to evaluate the olfactory fossa depth according to the Keros classification using paranasal sinus computed tomography (CT) images and to investigate gender-related differences in Keros types between male and female patients. Additionally, the potential clinical significance of these anatomical variations in preoperative surgical risk assessment was analyzed.

MATERIAL & METHODS

We retrospectively analyzed 100 paranasal sinus computed tomography (CT) images obtained between March 2025 and March 2026. The depth of the cribriform plate was measured on coronal sections and classified according to the Keros classification. The relationship between Keros types and gender was statistically evaluated, and a p value of <0.05 was considered statistically significant.

RESULTS

A total of 100 paranasal sinus CT images were included in the study, consisting of 50 male and 50 female patients. Based on the Keros classification, Type II was the most frequent anatomical variation in both genders. Keros Type II was observed in 58% of male patients and 76% of female patients, making it the predominant subtype overall. In contrast, Keros Type III was more frequently detected in male patients compared to females. When Keros classification subtypes we

CONCLUSIONS

Our findings demonstrate that Keros Type II is the predominant anatomical variation in both male and female patients. Significant gender-related differences in the distribution of Keros subtypes were identified, with higher rates of Keros Type III observed in males. These anatomical variations should be carefully evaluated during preoperative planning to minimize the risk of complications associated with endoscopic sinus surgery.

KEYWORDS

paranasal ct, keros , gender, ethmoid roof, olfactory fosaa depth

PP-613

A Rare Complication After Septorhinoplasty Surgery: Negative Pressure Pulmonary Edema

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BACKGROUND & AIM

The aim of this case report is to present a rare case of NPPE developing during the recovery period after rhinoplasty, to raise awareness among surgical and anesthesia teams about this complication, and to highlight early diagnosis and effective management strategies. It also aims to provide guidance in the diagnosis and treatment of similar cases by sharing clinical experience on this condition, which has been reported in a limited number of cases in the literature.

MATERIAL & METHODS

A 39-year-old male patient presented to our clinic with complaints of difficulty breathing through the nose and aesthetic concerns. The patient's medical history included occupation as an aircraft and aviation technician, and scuba diving as a hobby. There were no known chronic diseases, and no regularly used medications.During the operation, the patient's vital signs remained normal, and no decrease in saturation was observed. The surgery proceeded and was completed without complications.

RESULTS

After the septorhinoplasty operation was completed without complications, the patient was extubated by the Anesthesiologist. While the saturation level was around 90 under oxygen via mask, it was observed to be between 60-70 in room air. Due to the patient producing pink frothy phlegm from their mouth during respiratory effort, an emergency thoracic CT scan was performed. The patient was admitted to the intensive care unit with a diagnosis of NPPE, connected to a Positive Pressure Mechanical Ventilator, and monitoring and treatment procedures were initiated. Following CPAP treatment in the Intensive Care Unit, our patient's saturation levels in the room air improved and radiological improvement was observed in the chest X-ray. Therefore, the patient was transferred to our ward on the first postoperative day.The patient, who did not experience any decrease in saturation during follow-up in our ward, was reported to have no additional complaints during regular check-ups after discharge.

CONCLUSIONS

The fact that this complication can occur even after operations such as septorhinoplasty, which are generally associated with low mortality and short hospital stay, shows that the post-extubation period should be carefully evaluated. Although the sudden desaturation, tachypnea, and bilateral pulmonary infiltration that developed after extubation in our patient initially suggested differential diagnoses such as aspiration, cardiogenic pulmonary edema, fluid overload, and anaphylaxis, the history of laryngospasm, the acute onset of symptoms, and the rapid clinical improvement after appropriate supportive treatment supported the diagnosis of NPPE.

KEYWORDS

Negative Pressure Pulmonary Edema after Rhinoplasty Surgery

PP-614

Chronic Atrophic Rhinitis Complicated By ESBL Klebsiella Pneumoniae Infection: A Case Report

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BACKGROUND & AIM

Background: Atrophic rhinitis is a chronic inflammatory condition characterized by progressive atrophy of the nasal mucosa, often complicated by secondary infections. While primary atrophic rhinitis is well-documented, infections with resistant pathogens such as extended-spectrum β-lactamase (ESBL)-producing Klebsiella pneumoniae remain underexplored in this context.

MATERIAL & METHODS

We report the case of a 63 year old female with refractory atrophic rhinitis, exhibiting severe nasal crusting, foul odor, and anosmia. Microbiological analysis confirmed colonization with ESBL-producing K. pneumoniae. Following targeted

antimicrobial therapy and performed endoscopic sinus surgery, the patient demonstrated notable clinical improvement, suggesting a potential pathogenic role of this organism in mucosal atrophy.

RESULTS

This case underscores the emerging role of ESBL-producing Klebsiella pneumoniae in exacerbating atrophic rhinitis, potentially mediated through mechanisms such as sustained chronic inflammation or direct mucosal damage. The findings advocate for the incorporation of comprehensive microbial screening in cases resistant to standard therapeutic regimens, particularly in regions with elevated rates of antibiotic resistance. Additionally, endoscopic sinus surgery has demonstrated therapeutic efficacy in facilitating patient recovery, particularly in reducing extensive necrotic lesions and promoting mucosal healing.

CONCLUSIONS

ESBL-producing Klebsiella pneumoniae may play a significant role in the pathogenesis of atrophic rhinitis, necessitating its inclusion in the diagnostic evaluation of refractory cases. This observation underscores the imperative for further research into the complex interplay between antimicrobial-resistant infections and chronic nasal pathologies, as well as the development of targeted therapeutic strategies to address this emerging clinical challenge.

KEYWORDS

Chronic Atrophic Rhinitis; ESBL-producing Klebsiella pneumoniae; Endoscopic sinus surgery; ESS

PP-615

Systemic Oxidative Stress Changes After Functional Endoscopic Sinus Surgery In Chronic Rhinosinusitis With Nasal Polyps

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BACKGROUND & AIM

This study aimed to investigate systemic oxidative stress in patients with nasal polyposis (NP) undergoing functional endoscopic sinus surgery (FESS). Serum oxidant and antioxidant parameters were evaluated before surgery and at postoperative week 3.

MATERIAL & METHODS

Thirty-five patients with NP who did not respond adequately to medical treatment and subsequently underwent FESS were included in this prospective study. Serum levels of reactive oxygen species (ROS), thiobarbituric acid reactive substances (TBARS), advanced oxidation protein products (AOPP), ferric reducing antioxidant power (FRAP), total sulfhydryl (SH), glutathione peroxidase (GSH-Px), catalase (CAT), and superoxide dismutase (SOD) were measured preoperatively and postoperatively. Patients with severe systemic disorders were excluded from the study.

RESULTS

After surgery, serum ROS and TBARS levels showed a significant decrease compared with preoperative values ($p=0.012$ and $p<0.001$, respectively). AOPP levels were also lower postoperatively, although this reduction was not statistically significant. Antioxidant parameters generally improved following FESS. FRAP, total SH, and CAT levels increased significantly in the postoperative period (all $p<0.01$). SOD levels showed an upward trend, while GSH-Px levels remained relatively unchanged.

CONCLUSIONS

FESS may help reduce systemic oxidative stress in patients with NP. Surgical treatment appears to support restoration of the oxidant-antioxidant balance and may decrease the overall oxidative stress burden.

KEYWORDS

Functional endoscopic sinus surgery; nasal polyposis; oxidative stress; antioxidant markers.

PP-616

Oculonasal Myiasis: A Very Rare Condition Based On 2 Cases

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BACKGROUND & AIM

Myiasis is a parasitic infestation that usually occurs when larvae of the genus Oestrus ovis are transmitted from sheep and goats to humans by flies. Oculonasal myiasis is a rare clinical entity characterized by simultaneous involvement of the eye and nasal cavity, and if not diagnosed and treated promptly, it may lead to sinusitis, preseptal and orbital cellulitis, vision loss, and even intracranial complications. By presenting two cases with this extremely rare concomitant involvement—diagnosed through a high index of suspicion and confirmed by diagnostic nasal endoscopy—we aim to raise awareness of this clinical entity.

MATERIAL & METHODS

Case 1 A 4-year-old girl presented to the emergency department with complaints of sudden-onset severe ocular irritation, including foreign body sensation, redness, and tearing in her right eye after traveling by motorcycle in rural area. During biomicroscopic examination, motile larvae were observed in the right conjunctiva. After obtaining informed consent from the family, removal of the ocular foreign bodies under general anesthesia in the operating room was planned.

Case 2 A 51-year-old male patient presented to the outpatient clinic with a one-week history of right-sided facial pain, tenderness, and nasal discomfort. His medical history revealed that one week prior, while in rural area, a fly struck his eye, after which a larva was removed at the ophthalmology outpatient clinic. Subsequent ophthalmologic consultation revealed no pathological findings.

Examination with a 0-degree nasal endoscope revealed inflamed and edematous mucosa of the septum and middle turbinate, with a larva lodged between these two mucosal surfaces.

RESULTS

Despite their close anatomical proximity, cases of oculonasal myiasis with simultaneous involvement of the eye and nose are extremely rare in the literature. Eyigör et al. reported such a combined involvement in an agriculture faculty assistant in 2006, while Smillie et al. described a similar case in a British tourist following travel to Africa in 2010. Hamdi et al. reported a case of nasal myasis that developed 10 days after ocular involvement in a healthy Syrian woman and was treated surgically. This case alone emphasizes the importance of endoscopic evaluation of the nose in every patient with ocular myasis. In both of our cases, nasolacrimal lavage with hypertonic saline was performed to assess for the presence of larvae in the nasolacrimal duct or sac.

CONCLUSIONS

Oculonasal myiasis is a parasitic infestation that may occur in individuals involved in animal husbandry and residing in rural areas, and it can lead to significant morbidity if not managed promptly. In patients presenting with external ophthalmomyiasis, a through nasal examination, including diagnostic nasal endoscopy, is essential to evaluate for concomitant nasal myiasis and to ensure complete removal of all intranasal larvae.

KEYWORDS

endoscopic sinus surgery, oculonasal myiasis, nasal endoscopy, sheep bot fly, larvae,

PP-617

A Rare Anatomical Variation: “Triple Middle Turbinate”

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BACKGROUND & AIM

The middle turbinate is a key anatomical landmark in endoscopic sinus surgery (1). Anatomical variations are common in the paranasal sinuses, with pneumatization (concha bullosa) being the most frequent (2). While concha bullosa is the most prevalent middle turbinate variation, it is followed by the paradoxical middle turbinate, whereas secondary and accessory middle turbinates are rare (3). The “trifurcate” or triple middle turbinate is a rare variant first described by Eweiss et al. in 2008 (2). Awareness of such variations is essential for safe surgery and accurate evaluation of inflammatory sinonasal disease (4).

MATERIAL & METHODS

A 31-year-old male presented with long-standing nasal obstruction, with no history of prior sinonasal surgery or trauma. Endoscopy revealed mild right septal deviation and bilateral grade 4 nasal polyposis. Computed tomography (CT) demonstrated nasal polyps and variations in the middle turbinate structures; endoscopic sinüs surgery was planned. Before gross polypectomy, three middle turbinate–like structures were identified: one initially presumed to be the middle turbinate, a second traced from the axilla, and a third from its posterior lateral wall attachment; CT correlation confirmed triple middle turbinates. Three middle turbinate-like structures with internal bony components were palpated. Further dissection was avoided; symptoms improved, pathology confirmed sinonasal polyps, and follow-up was arranged.

RESULTS

Our literature review indicates that the “triple middle turbinate” is an extremely rare variation, with only a single case reported to date. Such anatomical anomalies of the nasal cavity are typically identified through a combination of careful endoscopic examination and meticulous radiological evaluation.

This case highlights that preoperative CT should not be limited to detecting pathology but must also be thoroughly reviewed to identify subtle anatomical variations that may alter or obscure surgical landmarks. Maintaining a high index of suspicion for these variations is essential to prevent intraoperative disorientation and reduce the risk of injury to adjacent structures.

CONCLUSIONS

Although middle turbinate variations are uncommon, they may present significant surgical challenges during functional endoscopic sinus surgery . Surgeons should meticulously evaluate preoperative imaging, consistently identify and follow anatomical landmarks throughout the procedure, and remain vigilant for atypical configurations. Preparedness to encounter

rare variations, such as a triple middle turbinate, is essential to ensure safe dissection, maintain orientation, and minimize the risk of complications.

KEYWORDS

Triple middle turbinate , Anatomical variation , Endoscopic sinus surgery, middle tirbunate

PP-618

Double-Layered Closure Of Chronic Oroantral Fistula Using Pedicled Buccal Fat Pad After Endoscopic Sinus Surgery: Video Case Report

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BACKGROUND & AIM

Oroantral fistula (OAF) is an epithelialized communication between the oral cavity and the maxillary sinus, frequently complicated by chronic sinus pathology. Inadequate sinus management may increase the risk of recurrence after fistula repair. Various closure techniques have been described, including pedicled buccal fat pad (BFP) flaps and double-layered approaches. This report aims to present a staged surgical management strategy combining endoscopic sinus surgery and double-layered intraoral repair using a pedicled buccal fat pad, supported by a surgical video.

MATERIAL & METHODS

A 60-year-old male with a one-year history of persistent OAF following maxillary molar extraction was evaluated. Computed tomography demonstrated an 8 × 7 mm fistula associated with a 1.5 cm infected dentigerous cyst within the maxillary sinus. A staged approach was adopted. First, endoscopic maxillary sinus surgery with wide antrostomy and septoplasty was performed to restore adequate drainage and ventilation. Two months later, the fistula was repaired using a double-layered intraoral technique. The epithelialized tract was excised, a pedicled buccal fat pad was mobilized and secured as the inner layer, and buccal and palatal mucosal advancement flaps were sutured for tension-free primary closure.

RESULTS

Endoscopic sinus surgery and cyst excision were completed without complications, achieving adequate sinus drainage. The subsequent double-layered intraoral repair was successfully performed. No intraoperative or early postoperative complications occurred. At the second postoperative month follow-up, the patient was asymptomatic, with complete resolution of oral–nasal regurgitation and air leakage, and no evidence of recurrence.

CONCLUSIONS

A staged approach combining endoscopic sinus surgery and double-layered intraoral repair using a pedicled buccal fat pad appears to be a reliable option for managing chronic OAF associated with sinus pathology. Ensuring adequate sinus drainage prior to closure may reduce recurrence risk. The video-supported presentation highlights the technical details and practical applicability of this approach.

KEYWORDS

Oroantral fistula; Buccal fat pad; Double-layered closure; Endoscopic sinus surgery; Maxillary sinus; Staged surgical approach

PP-619

Primary Burkitt Lymphoma Of The Maxillary Sinus: A Case Report.

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BACKGROUND & AIM

Primary Burkitt lymphoma (BL) involving the maxillary sinus is an exceedingly rare clinical entity, particularly in immunocompetent adults, with only two cases reported in the literature. Its clinical presentation often mimics chronic rhinosinusitis or neuropathic facial pain, potentially leading to delayed diagnosis and management.

MATERIAL & METHODS

We report the case of a 38-year-old immunocompetent caucasian male presenting with a 5-month history of progressively worsening left-sided facial pain accompanied by localized hypoesthesia over the maxillary region, without additional symptoms.

RESULTS

Computed tomography revealed a soft tissue mass occupying the left maxillary sinus, associated with bony erosion of the superior, lateral, and posterior walls and compression of the infraorbital nerve. These findings were confirmed by magnetic resonance imaging. Endoscopic biopsy was performed, and histopathological and immunohistochemical analysis confirmed Burkitt's lymphoma, with a Ki-67 proliferation index of 98%. Serological testing for EBV, HIV, and hepatitis B and C was negative. Further staging work-up demonstrated localized disease (Ann Arbor stage IE). The patient received combination

chemotherapy with the R-CODOX-M/IVAC regimen, achieving complete remission within two months. He remains disease-free at 2-year follow-up.

CONCLUSIONS

Burkitt's lymphoma may present with atypical symptoms that resemble benign sinonasal conditions, contributing to delayed diagnosis and treatment. Given its highly aggressive nature, BL should be included in the differential diagnosis of patients presenting with persistent, unilateral sinonasal symptoms, unresponsive to standard therapy. Early imaging, prompt biopsy, and a multidisciplinary approach are crucial for optimal therapeutic outcomes.

KEYWORDS

Burkitt lymphoma; maxillary sinus; paranasal sinuses; immunocompetent; case report

PP-620

Secondary Sinonasal Meningioma With Intracranial Extension Mimicking Nasal Polyposis: A Case Report

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BACKGROUND & AIM

Meningiomas originate from arachnoid cap cells, with extracranial meningiomas (EM) representing less than 2% of cases. Sinonasal involvement is exceptionally rare, accounting for 0.1% of nasal tumors. Due to their slow growth, EMs are often misidentified as nasal polyps or sinusitis, leading to diagnostic delays. These tumors are classified as primary ectopic or secondary extensions. We present a case initially managed as nasal polyposis, subsequently diagnosed as a secondary sinonasal meningioma with intracranial communication, highlighting the importance of differential diagnosis in persistent sinonasal masses.

MATERIAL & METHODS

A 42-year-old female presented with chronic left-sided nasal obstruction and anosmia, without rhinorrhea, headache, or fever. Her history included endoscopic sinus surgery (ESS) for nasal polyposis in 2019, though previous imaging was unavailable. Examination revealed a soft tissue mass in the left middle meatus. PNSCT and MRI showed a 28x19 mm lesion with peripheral polypoid foci and a central T2-hypointense area at the left middle turbinate level, suggestive of "inverted papilloma surrounded by nasal polyposis." No significant bone destruction was noted. Due to the suspicion of recurrence or inverted papilloma, a preoperative biopsy was not performed, and ESS was scheduled. Intraoperatively, a fragile mass arising from the lateral nasal wall, below the middle turbinate stump, was identified and totally resected endoscopically. Crucially, no intraoperative or postoperative cerebrospinal fluid (CSF) leak was observed, and no CSF rhinorrhea occurred during the uneventful recovery period.

RESULTS

Histopathological examination revealed a "Transitional Meningioma" (WHO Grade I). Multidisciplinary evaluation confirmed an intracranial connection; however, as the nasal portion was completely excised, no additional neurosurgical intervention was required. The patient remains asymptomatic at the 3-month follow-up.

CONCLUSIONS

Meningioma should be considered in the differential diagnosis of unilateral or recurrent sinonasal masses, particularly those showing atypical radiological features like T2 hypointensity. This case emphasizes that endoscopic examination alone is insufficient; advanced imaging is crucial to detect potential intracranial communications. While the prognosis for WHO Grade I cases is excellent after complete surgical resection, long-term follow-up and monitoring skull base integrity are vital in patients with intracranial involvement. Maintaining a high clinical suspicion is essential to avoid diagnostic delays and ensure adequate surgical management of these rare extracranial tumors.

KEYWORDS

Ectopic meningioma , Intracranial communication, Secondary sinonasal meningioma

PP-621

Posterior Ethmoid Mucocele In A Patient With Recurrent Diplopia

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BACKGROUND & AIM

Introduction: Mucoceles are cystic lesions of the paranasal sinus that contain mucinous material of variable viscosity. They most commonly develop as a result of previous surgery in the sinonasal tract or head trauma.

MATERIAL & METHODS

Symptoms may vary depending on size and location of the mass. Diagnosis is based on thorough history taking, clinical and imaging examination. Definite treatment is surgical. Urgent intervention is necessary in case of brain or orbital involvement. In this article, we present a case of 47-year old patient with a posterior ethmoid mucocele who had no history of trauma or

previous operation. We also attempt to highlight the most popular theories of pathogenesis and the key steps for optimal management of the disease.

RESULTS

Case report: A 47-year-old patient presented with a 12-month history of nasal obstruction, discharge and recurrent diplopia. Rhinoscopy revealed mucosal swelling and thick secretions. CT and MRI were performed showing a large mucocele occupying the left posterior ethmoid region with co-existent remodelling of the ipsilateral lamina papyracea.

CONCLUSIONS

Conclusion: Although mucoceles are benign lesions they require a high index of clinical suspicion for diagnosis. Treatment is surgical and includes drainage and wide marsipularization, in order to establish proper aeration of the affected sinus and minimize the risk of recurrence.

KEYWORDS

mucocele, paranasal sinus, diplopia

PP-622

RINOJERMINA IN THE TREATMENT OF INFLAMMATORY DISEASES OF THE PHARYNX

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BACKGROUND & AIM

Despite the fact that many methods and means are used in the treatment of chronic inflammation of the pharyngeal tonsil, their effectiveness is still insufficient. One of the main causes of long-term, slow-progressing, recurrent, and difficult-to-treat chronic diseases is a decrease in the body's resistance.

The purpose of the study was to increase the effectiveness of the drug rhinojermina in the diagnosis and treatment of inflammatory diseases of the pharyngeal tonsil.

MATERIAL & METHODS

62 children (32 - main and 30 - control group) aged 3 to 12 years, who came for treatment with a diagnosis of chronic adenoiditis, participated in the clinical study. If the criterion for inclusion in the study was a confirmed diagnosis of chronic adenoiditis, then the criteria for inclusion were the presence of inflammatory processes in other ENT organs, age under 3 years and over 12 years. In addition to the standard treatment complex, patients in the main group were additionally recommended the local use of the drug rhinojermina.

RESULTS

Assessment of the degree of difficulty in nasal breathing showed that even with the same initial degree of blockage, the improvement in respiration in children of the main group by day 5 was 15% higher than in the control group, by day 7 - by 30%, and by day 9 - by 73%. The nature and intensity of rhinorrhea also had its own dynamic characteristics. At the time of admission to the department in the main group of children, 6.257% of children had purulent discharge, 31.2% had mucopurulent discharge, 12.5% had a moderate amount of mucous discharge, 9.38% had a small amount of mucous discharge, and 28.15% of children had no discharge at all. Even on the 9th day of treatment, the average mucus secretion was preserved in 10% of children in the comparison group. Improvement in nasal breathing began on the 5th day of treatment.

CONCLUSIONS

Thus, the results of the conducted research showed that the inclusion of the drug Rinojermina in the treatment regimen for chronic adenoiditis allows for increased treatment effectiveness and rapid restoration of the nasal mucosa.

KEYWORDS

chronic adenoiditis, Rinojermina, nasal mucosa, treatment

PP-623

Microbiological Analysis And Antimicrobial Resistance Profile In Patients With Chronic Rhinosinusitis

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BACKGROUND & AIM

This study aims to characterize the microbiological profile and antimicrobial resistance patterns of bacterial isolates from patients diagnosed with Chronic Rhinosinusitis (CRS).

MATERIAL & METHODS

A retrospective cohort review analyzed 743 cultures obtained from 432 adult patients with CRS managed at a tertiary rhinology clinic between 2015 and 2024. After excluding duplicate isolates and patients with secondary CRS, statistical analyses

evaluated patients demographics, distribution of bacterial isolates, temporal trends in antimicrobial resistance, species-specific resistance rates, and resistance differences between MRSA and non-MRSA isolates. Pearson's Chi-square, Fisher's exact, and Kendall-Tau correlation tests were applied, with significance set at 5%.

RESULTS

Among 432 CRS patients (53.9% female; mean age 50.7 years; 63.4% with nasal polyps), 743 cultures were analyzed. Overall, 66.4% were positive, yielding 586 isolates, predominantly gram-positive bacteria (68.3%). Staphylococcus aureus was the most frequent pathogen (42.1%), followed by Pseudomonas aeruginosa (9.4%) and Streptococcus pneumoniae (6.1%). Negative cultures were common (33.6%), particularly in CRSwNP, although without statistical significance. Over the 10-year period, resistance increased significantly to lincosamides (p=0.002) and decreased to sulfonamides (p=0.029). S. aureus demonstrated high resistance to penicillin (94.9%), with moderate rates for macrolides (52.5%) and lincosamides (47.9%). MRSA accounted for 23% of S. aureus isolates and showed significantly higher resistance to gentamicin (p = 0.002), ciprofloxacin (p = 0.031), and sulfamethoxazole (p< 0.001) compared with non-MRSA strains.

CONCLUSIONS

Staphylococcus aureus remains the predominant pathogen in CRS, while the high proportion of negative cultures reinforces the multifactorial and primarily inflammatory nature of CRS. The increasing resistance in lincosamides and emerging trends in macrolides reinforce the importance of personalized therapies adjusted to local microbiological profiles, along with continuous antibiotic stewardship and monitoring of resistance patterns.

KEYWORDS

Chronic Rhinosinusitis, Microbiology, Bacterial resistance, Antibiotics.

PP-624

Effect Of NF-Kb/SMAD Decoy Oligodeoxynucleotide On Inflammsome Formation In Nasal Epithelial Cells

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BACKGROUND & AIM

Chronic rhinosinusitis (CRS) can be endotypically classified into eosinophilic (ECRS) and non-eosinophilic CRS (NECRS)with distinct immunological characteristics. The role of inflammasomes in chronic inflammation has been the subject of intense research in rhinology. We investigated the effect of ring type NF-kB/SMAD decoy oligodeoxynucleotide (ODN) on inflammasome and cytokine expression in nasal epithelial cells.

MATERIAL & METHODS

Primary nasal epithelial cells were isolated from healthy control, patients with ECRS and NECRS. Cytotoxic effect of ODNs were determined with MTT assay and further experiments were performed using a safe concentration of NF-kB, SMAD, and chimeric ODN. The epithelial cells were pretreated with ODNs and then stimulated with Alternaria, Aspergillus, and lipopolysaccharide (LPS) for 24 h. and the levels of IL-6, IL-8, GM-CSF, and IL-1β were measured by ELISA. To assess the biomarker of inflammasome, caspase-1, NOD-like receptor family, pyrin domain containing 3 (NLRP3), and IL-1beta mRNA expression were determined.

RESULTS

NF-κB, SMAD, and chimeric ODN did not show cytotoxicity up to 48 h. Although the pretreatment of epithelial cells with ODNs did not suppress cytokine production, in non-ECRS epithelial cells, IL-1β production was significantly inhibited. The expression of caspase-1 and NLRP3 mRNA was significantly increased by fungi and LPS, and NF-kB, SMAD, and chimeric ODN significantly suppressed caspase-1 and NLRP3 in non-ECRS nasal epithelial cells.

CONCLUSIONS

NF-κB and SMAD ODN exhibited different effects on the suppression of cytokine production and suppressed pyoptosis in nasal epithelial cells depending on the endotype of CRS. This finding suggests that CRS possesses distinct immunopathologic characteristics according to its endotype, and ODNs ODN showed a particularly suppressed inflammatory response of the nasal mucosa of non-ECRS patients.

KEYWORDS

Rhinosinusitis, Inflammasome, NF-κB, SMAD, Oligodeoxynucleotide

PP-625

ANATOMICAL PITFALLS DURING ENDOSCOPIC SINUS SURGERY IN ACHONDROPLASIA: A CASE OF ORBITAL ABSCESS COMPLICATED BY IATROGENIC CSF LEAK

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BACKGROUND & AIM

Achondroplasia causes craniofacial and sinonasal anatomical variations that increase the risk of complications during functional endoscopic sinus surgery (FESS). We report a 12-year-old achondroplastic girl with a history of hydrocephalus and prior ventriculoperitoneal shunt who underwent emergent FESS for orbital abscess. Intraoperatively, skull base injury and cerebrospinal fluid (CSF) leak occurred due to a low-lying and thinned skull base. The patient was managed conservatively with bed rest and medical therapy, resulting in complete resolution of CSF rhinorrhea and orbital symptoms, demonstrating conservative treatment as a viable option in selected cases.

MATERIAL & METHODS

Due to the lack of adequate response after 48 hours of intravenous broad-spectrum antibiotic therapy, an emergent surgical intervention was planned. Right functional FESS and orbital decompression were performed under general anesthesia. Intraoperative evaluation revealed marked variations in the sinonasal anatomy secondary to achondroplasia, with the ethmoid roof and skull base located significantly lower (prolapsed) than their normal anatomical positions. The abscess cavity was reached, and the purulent material was successfully drained endoscopically. However, during dissection within the infected and fragile tissues, the extremely thin bony structure of the skull base gave way, resulting in concurrent dural injury. Active CSF rhinorrhea was observed from the site.

RESULTS

The combination of a low-lying skull base anomaly seen in achondroplasia and the bone thinning caused by a history of hydrocephalus exponentially increases the risk of dural injury and CSF leak during FESS. It is vital for surgeons to meticulously evaluate preoperative CT scans, particularly focusing on the level of the ethmoid roof and bone thickness. In the event of a CSF leak during surgery, a conservative management approach based on strict bed rest and medical follow-up, rather than primary repair, is an effective and safe alternative that prevents additional surgical morbidity in selected cases.

CONCLUSIONS

Achondroplasia-associated low skull base and hydrocephalus-related bone thinning significantly increase the risk of dural injury and CSF leak during FESS. Careful preoperative CT evaluation is essential, and in selected cases, conservative management of intraoperative CSF leaks may be a safe alternative to primary repair.

KEYWORDS

Akondroplazi, orbital apse, endoskopok sinüs cerrahisi, CSF sızıntısı, kafatası tabanı incelmesi, hidrosefali hikayesi

PP-626

Two-Year Real-World Outcomes In Patients With Crswnp Treated With Dupilumab

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps (CRSwNP) is part of type 2 inflammatory airway disease and is associated with a high clinical burden, impaired quality of life, and frequent asthma comorbidity. Dupilumab has demonstrated efficacy in clinical trials; however, real-world evidence is needed to confirm its effectiveness. The aim of this study was to evaluate clinical, endoscopic, functional, and inflammatory outcomes at 24 months.

MATERIAL & METHODS

An ambispective longitudinal observational study was conducted in patients with CRSwNP treated with dupilumab. Visual analogue scale (VAS) for smell and sleep, SNOT-22, Nasal Polyp Score (NPS), Asthma Control Test (ACT), Total Symptoms Score (TSS), and peripheral eosinophil counts were assessed at baseline and at 3, 6, 12, and 24 months. The need for oral corticosteroids and the indication for endoscopic sinus surgery (FESS) were also evaluated. Comparisons were performed against baseline using the Wilcoxon signed-rank test, reporting median change (ΔMd) with 95% confidence intervals. Changes in the need for ESS and oral corticosteroids were assessed using McNemar's test.

RESULTS

A total of 21 patients were included. At 3, 6, and 12 months, a progressive and statistically significant improvement was observed across all variables, reaching maximal therapeutic effect at 12 months, with a reduction in SNOT-22 (ΔMd −34.5; 95% CI −45 to −19; p=0.001) and nasal polyp score (ΔMd −4; 95% CI −5 to −3; p<0.001), along with improvements in olfaction (ΔMd −5; 95% CI −7 to −3; p=0.004) and sleep quality (ΔMd −3; 95% CI −4 to −2; p=0.001). ACT scores increased significantly (ΔMd +5.5; 95% CI +2 to +7; p=0.024). At 24 months, improvements were sustained across all variables, with no significant differences observed between 12 and 24 months, suggesting long-term stabilization of treatment effect.

CONCLUSIONS

Dupilumab is associated with significant clinical, endoscopic, and functional improvement in real-world CRSwNP patients, with an early response at 3 months, further improvement at 6 months, maximal effect at 12 months, and sustained benefits at 2 years. Treatment significantly reduces the need for endoscopic sinus surgery and oral corticosteroids from early stages, with persistent effects over time.

KEYWORDS
Dupilumab, CRSwNP, outcomes, biologic therapy

PP-627

Pediatric Meningoencephalocele Mimicking A Nasal Polyp

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BACKGROUND & AIM

The aim of this case report is to present a pediatric meningoencephalocele mimicking a nasal polyp and to emphasize the importance of considering this rare but clinically significant condition in the differential diagnosis."It also present the clinical, radiological, and surgical management of a pediatric meningoencephalocele initially suspected to be a nasal polyp and to highlight the importance of establishing the correct diagnosis.

MATERIAL & METHODS

A 10-year-old girlHistory of persistent nasal dischargeComplaint of clear rhinorrheaNasal endoscopic examination revealed:A smooth-surfaced polypoid massLocated in the superior aspect of the left nasal cavityRadiological FindingsParanasal Sinus CTA bony defect was detected at the level of the left cribriform plate.Figure 1. Meningoencephalocele. CT imaging demonstrated a bony defect on the left side of the cribriform plate.Magnetic Resonance Imaging (MRI)MRI demonstrated herniation of the left frontal gyrus extending through the cribriform plate into the nasal cavity.Figure 2. Meningoencephalocele. MRI demonstrated inferior herniation of the left frontal gyrus through the left side of the cribriform plate.The radiological findings were consistent with meningoencephalocele

RESULTS

High-resolution computed tomography (CT) plays a crucial role in identifying skull base bony defects, whereas magnetic resonance imaging (MRI) is indispensable for evaluating herniated brain tissue and its intracranial continuity (2,3). The combined use of these imaging modalities provides excellent diagnostic accuracy.In recent years, the endoscopic endonasal approach has become the preferred surgical technique for the treatment of meningoencephaloceles and anterior skull base defects. Compared with open surgical approaches, it offers lower morbidity, shorter hospital stays, and superior cosmetic outcomes (3–5).

CONCLUSIONS

These findings support that meningoencephaloceles can be treated safely and effectively with meticulous preoperative evaluation and appropriate surgical technique.

KEYWORDS
Pediatric meningoencephalocele Nasal meningoencephalocele Nasal polyp Differential diagnosis Clear rhinorrhea

PP-628

Frontal Sinus Mucosele Complicated By A Superior Subperiostal Abscess With Orbital Roof Defect In A Child

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BACKGROUND & AIM

Frontal sinus mucoceles are benign, epithelium-lined cystic lesions that may expand and cause erosion of adjacent bony structures. They can lead to orbital and, less commonly, intracranial complications. Although mucoceles are relatively rare in the pediatric population, they should be considered in the differential diagnosis of orbital pathology.

Subperiosteal abscess is a well-known complication of sinusitis; however, its occurrence secondary to a frontal sinus mucocele is uncommon. In such cases, the underlying mucocele may contribute to bony destruction, particularly of the orbital roof, facilitating extension into the orbit.

MATERIAL & METHODS

Case: A 12-year-old girl presented with a 3-day history of left periorbital swelling, erythema, and ptosis. elevated CRP elevated and leukocytosis was found. Preserved visual acuity and normal ocular motility. Clinically, inferior displacement of the globe due to mass effect was noted. No purulent discharge in nasal cavity on endoscopic examination.

PNCT demonstrated a subperiosteal abscess with an air–fluid level. Also, thinning and a bony defect of the superior orbital wall were observed. MRI showed a superiorly located subperiosteal collection, and images demonstrated hyperintense signal characteristics consistent with a mucocele.

The patient underwent urgent surgical drainage with a preliminary diagnosis of orbital abscess. During the initial procedure, the ophthalmology team accessed the orbital rim through an eyelid crease incision, and minimal purulent material was drained. Despite broad-spectrum intravenous antibiotic therapy, no significant clinical improvement was observed.

RESULTS

Rest of the case: The patient was scheduled for functional endoscopic sinus surgery . During the second operation, navigation guidance was used to access the frontal recess, and the wall of the mucocele was reached. The mucocele was marsupialized within the frontal sinus. Also, the ophthalmology team re-entered the orbital rim via a subbrow incision and placed a drain.

Following surgery, the patient showed rapid improvement, and both CRP levels and leukocytosis decreased significantly. No recurrence was observed during follow-up.

Result: Following second surgical management, the patient showed rapid and sustained clinical improvement. Visual acuity remained fully preserved. Intraoperative findings confirmed a frontal sinus mucocele associated with a defect in the orbital roof, leading to a superior subperiosteal abscess. Microbiological cultures revealed no pathogenic growth. The orbital drain was removed and both clinical and radiological findings resolved during follow-up.

CONCLUSIONS

Frontal sinus mucoceles, although rare in children, can give rise to significant orbital complications, including subperiosteal abscess formation through erosion of the orbital roof. In pediatric patients presenting with orbital findings, especially when atypical intraoperative features such as absence of purulent material are encountered, an underlying mucocele should be considered. Early recognition and appropriate surgical management, including endoscopic marsupialization with navigation guidance when necessary, are essential for effective treatment and prevention of recurrence.

KEYWORDS

frontal sinus mucocele , frontal sinus abscess , Subperiosteal abscess, Endoscopic sinus surgery ,Navigation-guided surgery

PP-629

IRREVERSIBLE ELECTROPORATION IN THE TREATMENT OF HYPERTROPHIC RHINITIS

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BACKGROUND & AIM

Hypertrophic rhinitis is a disease that develops as a result of chronic hyperplasia of the inferior nasal conchae, which seriously impairs breathing and reduces the quality of life. Currently, the search for minimally invasive and effective methods in the selection of methods for treating this disease is relevant.

The aim of the study was to improve the effectiveness of hypertrophic rhinitis treatment.

MATERIAL & METHODS

Materials and methods. The study involved 60 patients diagnosed with hypertrophic rhinitis. They were divided into two groups. The first group (30 patients) received irreversible electroporation. The second group (30 patients) underwent conchoplasty using an electrocoagulator. During electroporation, short pulses of high voltage disrupt the structure of the cell membrane and initiate apoptosis in the tissues. The main advantage of this method is that it reduces tissue volume and reduces the likelihood of regrowth without mechanical or thermal damage. In contrast, during electrocoagulation, a strong thermal effect is exerted on the tissues, which leads to local edema, pain, and prolonged recovery.

The study evaluated the effectiveness of the following criteria: the level of nasal breathing, subjective assessment of the quality of sleep of patients, recovery period, the occurrence of complications, and the effectiveness of treatment.

RESULTS

Results and discussion of the study. The study compared the effectiveness and recovery process of irreversible electroporation and electrocoagulation conchoplasty. Within 7–10 days, the mucosa returned to an almost normal state, and in most patients, the healing process was painless and bloodless. In necrotic tissues, natural clearance was observed through controlled apoptosis, and fibrosis or granulation processes in the tissues were almost absent. Patients treated with irreversible electroporation began to experience relief of breathing within 7–10 days after the procedure. Swelling resolved quickly, pain was minimal, and patients had virtually no change in their recovery. Most importantly, the restored tissues retained function and recurrence rates were low. The analysis showed that the irreversible electroporation method is not only highly effective, but also has a special value due to the preservation of tissues in a physiological state, low degree of trauma and short rehabilitation period.

CONCLUSIONS

Conclusion. The irreversible electroporation method in the treatment of hypertrophic rhinitis provides high efficiency, minimal trauma and comfortable recovery conditions for the patient. This method is significant in that it effectively eliminates hypertrophy while preserving the functions of the nasal mucosa. Therefore, it is advisable to widely introduce electroporation technology into clinical practice.

KEYWORDS

irreversible electroporation, hypertrophic rhinitis, treatment, nasal mucosa

PP-630

Nasolabial Cyst With Aesthetic And Functional Impairment: Clinical, Radiological, And Surgical Perspectives – Case Report

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BACKGROUND & AIM

Nasolabial cysts are rare, benign, non-odontogenic lesions arising from epithelial remnants of the nasolacrimal duct. First described by Klestadt in 1953 as part of his facial cleft cyst theory, they remain diagnostically challenging due to their rarity and resemblance to other cystic pathologies.[1,3] These lesions occur more frequently in women, with a reported female predominance of approximately 3:1 and peak incidence between the third and fifth decades of life.[2] The pathogenesis is debated, with Bruggemann attributing origin to nasolacrimal duct epithelium and Klestadt emphasizing embryologic epithelial entrapment.[1,3] Most cases are unilateral, though bilateral presentations have been reported.[4]

MATERIAL & METHODS

A 53-year-old woman presented with progressive left nasal obstruction and visible asymmetry of the left nasal ala and nasolabial region over five years. Clinical examination revealed bulging of the nasal floor and nasolabial area. Nasal endoscopy demonstrated a cystic lesion in the inferior nasal vestibule. Computed tomography (CT) was performed to characterize the lesion and its anatomical relationships. CT revealed an oval, well-circumscribed extraosseous lesion in the left nasolabial region measuring 2.7 × 2.0 × 1.6 cm, with intermediate attenuation consistent with proteinaceous content. Associated findings included alveolar ridge remodeling, narrowing of the nasal vestibule, septal deviation to the left, inferior turbinate hypertrophy, mucosal thickening of the maxillary and ethmoidal sinuses, and bilateral Onodi cells. Definitive management consisted of surgical excision via a combined transnasal and intraoral Denker approach, chosen to provide wide exposure and ensure complete removal.[5] The excised specimen was submitted for histopathological evaluation.

RESULTS

CT imaging confirmed an extraosseous cystic lesion consistent with a nasolabial cyst, associated with remodeling of the alveolar ridge and narrowing of the nasal vestibule. The lesion was excised completely using a combined transnasal and intraoral Denker approach, which provided wide exposure and enabled removal. Histopathological examination revealed a cyst wall lined predominantly by pseudostratified columnar (respiratory-type) epithelium with goblet cells, with focal squamous metaplasia. No evidence of atypia, malignancy, or infection was identified. Patient was discharged without complications. At two-month follow-up, she reported resolution of nasal obstruction and improved facial symmetry, with no recurrence. Clinically, nasolabial cysts often present with swelling of the nasolabial fold, elevation of the nasal ala, nasal obstruction, and occasionally pain when infected.[2,3] Spontaneous rupture with drainage into the nasal or oral cavity has also been described.[3] In this case, cosmetic deformity was the principal concern, and surgical excision achieved excellent functional and aesthetic outcomes.[2,3,5]

CONCLUSIONS

Nasolabial cysts should be considered in the differential diagnosis of nasolabial swellings and unilateral nasal obstruction. Cross-sectional imaging, particularly CT or MRI, is crucial to confirm their extraosseous origin and to distinguish them from odontogenic cysts, dermoid cysts, nasolacrimal duct cysts, and minor salivary gland tumors.[3] Histopathology typically reveals respiratory-type epithelium with goblet cells and occasional squamous metaplasia.[2] Surgical excision remains the definitive treatment. While the sublabial approach offers direct access, endoscopic transnasal techniques and reverse Denker variants provide minimally invasive alternatives.[5] Prognosis is favorable, recurrence is rare, and early intervention optimizes nasal function and facial aesthetics.[2,3]

KEYWORDS

Nasolabial cyst, Nasal obstruction, Endoscopic excision

PP-631

The Role Of Orbital Decompression In Expansile Frontal Sinus Mucocele

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BACKGROUND & AIM

Paranasal sinus mucoceles are benign, expansile, pseudocystic masses. This case report aims to present a frontal sinus mucocele diagnosed by headache-associated orbital manifestations, to share our experience with combined functional endoscopic sinus surgery (FESS) and orbital decompression, and to highlight potential surgical challenges and postoperative outcomes associated with this technique.

MATERIAL & METHODS

62-year-old male patient presented with longstanding headache, left facial and periorbital pain, and progressive deformity of the left eye following previous functional endoscopic sinus surgery (FESS) for chronic sinusitis. Imaging revealed a frontal sinus mucocele extending into the ethmoid sinus, causing posterior frontal wall erosion, orbital compression, exophthalmos, and

remodeling of the medial orbital wall with compression of the extraocular muscles. Preoperative ophthalmologic examination demonstrated limited left extraocular movements and orbital dystopia. Revision left-sided FESS was performed under general anesthesia. Intraoperatively, the middle turbinate was massively enlarged due to extension of the mucocele into the ethmoid cells and middle turbinate. Incision of the middle turbinate resulted in dense mucoid drainage. Following evacuation of the mucocele, frontal and ethmoidal marsupialization was completed. The lamina papyracea was markedly thickened and sclerotic and was excised while preserving globe integrity. Due to severe periorbital sclerosis and risk of globe injury, further dissection was avoided.

RESULTS

Postoperative ophthalmologic examination demonstrated full extraocular movements. At 3-month follow-up, all symptoms had resolved, and ocular asymmetry had markedly improved.

CONCLUSIONS

Combined FESS and orbital decompression provided favorable postoperative outcomes in this case. Osseous remodeling should be considered a major surgical challenge during orbital decompression in frontal sinus mucoceles, as adjacent anatomical structures may demonstrate marked sclerosis and thickening. Further studies and consecutive case series are required to objectively evaluate the outcomes of this surgical approach

KEYWORDS

Mucocele, Exophthalmos, Frontal Sinus, Decompression

PP-632

CT-Based Three-Dimensional Printed Nasal Cavity Models Provide Anatomical Reference Data For Development Of A Standard Model For Intranasal Vaccine Evaluation

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BACKGROUND & AIM

Intranasal drug delivery, including emerging nasal vaccines, requires appropriate evaluation of pharmacokinetics and mucosal deposition within the nasal cavity. However, currently available commercial nasal cavity models are simplified and do not accurately represent real human anatomy. Establishing a clinically relevant nasal cavity model is essential for preclinical evaluation of intranasal formulations, yet anatomical reference data derived from human imaging are limited. The aim of this study was to construct patient-specific three-dimensional (3D) nasal cavity models based on computed tomography (CT) imaging and to obtain anatomical data necessary for development of a representative standard nasal cavity model.

MATERIAL & METHODS

CT datasets from nine Japanese subjects aged 4–57 years were used to reconstruct 3D polygonal models of the nasal cavity and paranasal sinuses. Segmentation was performed using DICOM imaging software, and the reconstructed structures were fabricated as physical models using multiple 3D-printing materials selected for durability during device insertion. The morphology of the nasal cavity and paranasal sinuses, including spatial configuration and volumetric characteristics, was analyzed to obtain anatomical reference information.

This study was approved by the Institutional Review Board of Oita University Faculty of Medicine (approval No. 2874-D34) with collaboration from Chiba University.

RESULTS

The 3D-printed models successfully reproduced detailed anatomical structures, including the inferior turbinate, middle meatus, superior nasal cavity, and paranasal sinuses. Despite age-related differences in cavity size, consistent spatial relationships among key anatomical regions were observed across subjects. Quantitative measurements provided practical anatomical parameters required for constructing a representative experimental nasal cavity model based on real human anatomy.

CONCLUSIONS

CT-based 3D-printed nasal cavity models constitute an anatomically realistic experimental platform. The present anatomical analysis provides foundational reference data for establishing a representative standard nasal cavity model derived from real human anatomy. Such a standardized model will enable future pharmacokinetic and deposition studies of intranasal drugs and vaccines and support the development and regulatory evaluation of intranasal formulations.

KEYWORDS

Intranasal drug delivery, 3D-printed nasal cavity model, Nasal anatomy, Pharmacokinetics, Rhinology

PP-633

PEDİATRİC ETHMOİD MUCOCELE CAUSİNG MASSİVE LAMİNA PAPRYCEA EROSİON: A CASE REPORT OF CHRONİC PERİORBİTAL PRESENTATİON

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BACKGROUND & AIM

Paranasal sinus mucoceles (PSM) are benign, epithelial-lined, air-filled cystic lesions that expand slowly due to the accumulation of mucoid secretions. While common in adults, they are rarely encountered in the pediatric population, often associated with cystic fibrosis or chronic rhinosinusitis. The aim of this report is to present a rare case of a massive ethmoid mucocele in a 9-year-old child that resulted in significant bony erosion of the lamina papyracea (LP) and presented with chronic periorbital symptoms mimicking inflammatory processes.

MATERIAL & METHODS

A 9-year-old female presented with a 3-month history of persistent right-sided facial pain, periorbital swelling, and ecchymosis. Clinical examination and diagnostic imaging were performed. Computed Tomography (CT) revealed a highdensity cystic lesion, 18 mm in diameter, located at the right lacrimal duct entrance, causing erosion of the anterior segment of the LP. Magnetic Resonance Imaging (MRI) confirmed a 2 cm expansile, smooth-contoured lesion in the right ethmoid cells with generalized mucosal thickening in all paranasal sinuses. The patient underwent Functional Endoscopic Sinus Surgery (FESS) under general anesthesia. The surgical intervention involved medialization of the middle turbinate, excision of the lesion wall at the site of the bony defect, aspiration of the cystic content, and marsupialization of the structure into the nasal cavity to ensure permanent drainage.

RESULTS

Intraoperative findings confirmed a large expansile mucocele that had created a significant dehiscence in the medial orbital wall. The cystic contents were successfully evacuated, and the orbital periosteum was found to be intact despite the bony erosion. Histopathological analysis of the biopsy specimens confirmed the diagnosis of a mucocele. Postoperatively, the patient showed rapid resolution of periorbital swelling and facial pain. No recurrence or visual complications were observed during the follow-up period

CONCLUSIONS

Ethmoid mucoceles should be considered in the differential diagnosis of chronic periorbital swelling in children. This case highlights the aggressive nature of mucoceles in the pediatric age group, where they can cause significant bone destruction such as LP erosion within months. Early diagnosis via CT/MRI and prompt endoscopic marsupialization are essential to prevent permanent orbital complications and ensure complete recovery.

KEYWORDS

Pediatric Mucocele, Ethmoid Sinus, Lamina Papyracea Erosion, Orbital Decompression, Endoscopic Sinus Surgery (FESS), Periorbital Swelling

PP-634

CYSTIC MASS ORIGINATING FROM THE NASOLACRIMAL DUCT, ANGIOLIPOMA: A CASE REPORT

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BACKGROUND & AIM

Masses encountered in the nasal passage may originate from structures such as the paranasal sinuses, nasal septum, lateral nasal wall, and nasopharynx. Although rare, it should not be overlooked that the nasolacrimal duct may represent the origin of a mass prolapsing into the nasal passage. In this case report, we present an exceptionally rare case of angiolipoma arising from the nasolacrimal duct.

MATERIAL & METHODS

A 55-year-old female patient presented to the outpatient clinic with complaints of epistaxis, nasal obstruction, and epiphora. Rigid endoscopic examination revealed a mass prolapsing into the nasal passage from beneath the left inferior turbinate (Figure 1). Computed tomography (CT) and magnetic resonance imaging (MRI) were subsequently obtained (Figure 2). Following radiological evaluation, a punch biopsy was performed. The pathology report stated: "While the present findings are primarily suggestive of papilloma, the possibility of vascular neoplasms and low-grade nasopharyngeal papillary adenocarcinoma cannot be definitively excluded. Excision of the lesion is recommended for definitive diagnosis."

RESULTS

Following incisional biopsy, total excision of the mass was performed under general anesthesia. Intraoperatively, a well-circumscribed mass measuring approximately 2×2 cm was identified within the nasolacrimal duct, adherent to the inferomedial aspect of the left inferior turbinate, without involvement of the lateral wall. The frontal process of the maxillary bone was removed to achieve adequate access to the nasolacrimal duct. The duct was transected with sharp scissors at a level

proximal to the sac. The mass was completely excised following circumferential dissection from the surrounding margins. The patient was discharged on postoperative day one with a prescription of topical nasal corticosteroid, decongestant, and nasal saline irrigation. Postoperative follow-up revealed resolution of the patient's complaints of epiphora and epistaxis. The surgical specimen was reported as angiolipoma on pathological examination (Figure 3).

CONCLUSIONS

Space-occupying masses may account for complaints of nasal obstruction and epiphora in affected patients. Nasal endoscopy should not be omitted in patients presenting with these symptoms, and in the event of a detected mass, pathological diagnosis should be established following appropriate imaging. In this case report, we present a rare case both in terms of localization and diagnosis — an angiolipoma originating from the nasolacrimal duct.

KEYWORDS

angiolipoma, epiphora, nasolacrimal duct, epistaxis

PP-635

Revision Endoscopic Draf III For Recurrent Frontal Osteoma Presenting As Pott's Puffy Tumor

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BACKGROUND & AIM

Frontal sinus osteomas are benign lesions that may remain asymptomatic but can lead to severe complications when recurrent or obstructive. Pott's puffy tumor, defined as frontal bone osteomyelitis with subperiosteal abscess, is a rare but potentially life-threatening condition. Complex recurrent frontal osteomas with complications can be effectively managed via an extended endoscopic approach

MATERIAL & METHODS

A 60-year-old male with a history of two prior paranasal sinus osteoma surgeries (2000, 2007), both performed via an external approach, presented with progressive frontal swelling. Previous imaging in 2019 demonstrated recurrence; however, the patient was lost to follow-up. On presentation, paranasal sinus computed tomography and magnetic resonance imaging revealed a hyperdense lesion filling the frontal sinus and frontoethmoidal recess, extending medially to the skull base and laterally to the lamina papyracea, with anterior wall defect and subcutaneous extension consistent with Pott's puffy tumor. The patient underwent endoscopic sinus surgery including bilateral frontal sinusotomy (Draf III procedure), complete osteoma excision, drainage of purulent material, and right medial orbital wall decompression due to proptosis

RESULTS

Intraoperative findings confirmed purulent material within the frontal sinus, consistent with active infection. The osteoma was completely excised endoscopically. Wide frontal drainage was achieved via Draf III. No cerebrospinal fluid leakage or major complications occurred. Postoperatively, frontal swelling regressed significantly, and the patient showed favorable clinical recovery under antibiotic therapy.

CONCLUSIONS

Recurrent frontal sinus osteomas may lead to serious complications such as Pott's puffy tumor, particularly in previously operated patients. Extended endoscopic approaches, including Draf III, allow safe and effective management even in complex revision cases with orbital involvement. Early surgical intervention is essential to prevent intracranial and orbital morbidity.

KEYWORDS

frontal sinus osteoma, Pott's puffy tumor, endoscopic sinus surgery, Draf III procedure, revision surgery, orbital decompression, frontal sinusitis, skull base proximity

PP-636

Sinonasal Ameloblastoma Of The Maxillary Sinus: Differential Diagnosis In Unilateral Lesions With Bone Remodeling

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BACKGROUND & AIM

Ameloblastoma is a benign but locally aggressive odontogenic tumor, typically of intraosseous origin and most commonly located in the mandible. Its sinonasal or maxillary presentation, particularly as a peripheral or extraosseous form, is exceptionally rare and represents a diagnostic challenge due to its clinical and radiological overlap with more prevalent entities such as inverted papilloma or malignant neoplasms. Distinct molecular profiles have been described according to tumor origin: intraosseous ameloblastomas frequently harbor BRAF V600 mutations, whereas extraosseous variants more commonly exhibit alterations in SMO or FGFR2 genes and are typically BRAF V600 negative.

MATERIAL & METHODS

A 68-year-old asymptomatic male was referred after an incidental finding on computed tomography of a soft tissue lesion filling the right maxillary sinus. His medical history included prior rectal, cecal, and laryngeal malignancies. Imaging revealed a mass obliterating the middle meatus and extending to the choana, associated with bone remodeling and erosion of the floor and lateral wall of the right maxillary sinus. These findings were suggestive of an inverted papilloma, although malignancy could not be excluded. Nasofibroscopy demonstrated an inflammatory-appearing mass in the right middle meatus. Oral examination identified a non-ulcerated, non-tender cystic lesion over the only remaining tooth in the right upper dental arch. An extensive biopsy was performed via endoscopic sinonasal surgery under general anesthesia.

RESULTS

Histopathological examination was consistent with ameloblastoma. Clinicoradiological correlation suggested a primary sinonasal or peripheral/extraosseous origin. Molecular analysis showed no evidence of BRAF V600 mutation. Following diagnostic confirmation and given bone involvement of the maxillary sinus floor, the patient was referred to maxillofacial surgery for evaluation of curative-intent resection to minimize the recurrence risk. This finding significantly altered the initial diagnostic suspicion and therapeutic approach.

CONCLUSIONS

Sinonasal ameloblastoma is an extremely rare entity, with very few cases reported. Its presentation as a unilateral mass with bone remodeling may mimic inverted papilloma or carcinoma, particularly in patients with a history of malignancy, thereby increasing suspicion of a malignant process. In our case, the absence of BRAF V600 mutation is consistent with a a possible peripheral/extraosseous origin. Compared to the intraosseous variant, extraosseous forms may exhibit less aggressive behavior, although recurrence remains possible. Definitive diagnosis relies on histopathological evaluation, and multidisciplinary correlation is essential for optimal treatment planning.

KEYWORDS

ameloblastoma, sinonasal, mutation, maxillary

PP-637

Primary Tubercular Dacryocystitis Presenting As Surgical Failure In Endoscopic Dacryocystorhinostomy With Literature Review And Suggestion Of Treatment Strategies

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BACKGROUND & AIM

Recurrent dacryocystitis is primarily managed through dacryocystorhinostomy (DCR), utilizing either an external or endonasal approach. In this report, we describe a case of refractory dacryocystitis involving 2 failed DCR surgeries, which was ultimately attributed to a localized Mycobacterium tuberculosis infection. Through the lens of this case, we review the challenges in diagnosing atypical dacryocystitis and discuss optimized approaches to disease management.

MATERIAL & METHODS

Case Presentation: A 62-year-old Chinese female presented with persistent right medial canthal swelling and epiphora. Despite multiple courses of antibiotics, condition persisted. After nasal probing and syringing showing evidence of hardstop, she underwent endonasal endoscopic dacryocystorhinostomy (DCR).

Following transient relief, symptoms recurred despite repeated surgeries. Lacrimal discharge was repeatedly send for culture and sensitivity later confirming tuberculous infection. Standard anti-tubercular therapy (ATT) was initiated subusequently, leading to clinical improvement.

Discussion: We review published journals and identify a few commonly faced challenges in this case.

Issues identified include:

1.Clinical mimicry: Early symptoms are mostly general including epiphora and discharge.

2.False negative microbiology: standard swabs often fail to detect bacilli due to paucibacillary nature of extrapulmonary TB.

3.No obvious intraoperative distinct features.

RESULTS

To optimize management of nasolacrimal tuberculosis, several clinical gaps must be addressed. First, a high index of clinical suspicion is paramount; thorough history-taking should explicitly screen for TB exposure, particularly in patients from endemic regions. Second, given the high rate of false-negative cultures, all lacrimal discharge or collections should undergo Acid-Fast Bacilli (AFB) smear as a baseline, with PCR testing reserved for suspicious cases to improve diagnostic sensitivity. Finally, intraoperative histopathological evaluation of the lacrimal sac wall is recommended for all atypical or recurrent presentations to facilitate early detection and prevent surgical failure.

CONCLUSIONS

Primary nasolacrimal tuberculosis remains a rare but critical diagnostic consideration in cases of chronic, refractory dacryocystitis, particularly when symptoms recur post-operatively. This case highlights that clinicians must maintain a high

index of suspicion in endemic regions, utilizing high-sensitivity PCR and intraoperative histopathology to overcome the limitations of traditional cultures. Early diagnosis and the initiation of a standard anti-tubercular regimen are essential to achieve complete clinical resolution and prevent permanent lacrimal system scarring.

KEYWORDS

primary tubercular dacryocystitis, recurrent dacryocystitis, failed dacryocystorhinostomy

PP-638

Long-Term Olfactory Dysfunction Post SARS-Cov-2 Infection: A Systematic Review

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BACKGROUND & AIM

Olfactory dysfunction (OD) emerged early in the COVID-19 pandemic as a prevalent and often persistent symptom. While most individuals recover within weeks, a significant proportion continue to suffer from long-term impairments, including both quantitative and qualitative sensory deficits. Our review aimed to summarize current evidence on long-term post-COVID-19 OD with a duration of at least three months, including prevalence, recovery trajectory, and prognostic factors.

MATERIAL & METHODS

The PubMed and Scopus databases were searched for relevant studies up to August 2024 following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

RESULTS

Twenty-one studies were ultimately included, involving over 4,000 individuals. A remarkable proportion of patients continue to experience persistent dysfunction post-infection for a period ranging from several months to over two years. Qualitative disorders, such as parosmia and phantosmia, frequently appeared during recovery. Prognosis seemed to be related to age, initial severity, duration of OD, co-existing symptoms, and potentially sex. A consistent discrepancy between subjective reports and objective psychophysical test results was observed. Methodological heterogeneity limited comparability across studies.

CONCLUSIONS

Olfactory dysfunction is a significant and often overlooked long-term complication of COVID-19. Standardized diagnostic criteria, validated outcome measures, and prospective longitudinal research are urgently needed to guide evidence-based management and improve patient outcomes.

KEYWORDS

Anosmia; coronavirus; covid-19; hyposmia; long covid; olfaction disorders; olfactory; parosmia; sars-cov- 2; smell

PP-639

Evaluation Of Peripheral Olfaction Disorders After Viral Diseases

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BACKGROUND & AIM

According to the World Health Organization (WHO), olfactory disorders are currently very common, with the prevalence of olfactory and gustatory disorders in the world ranging from 1% to 2% of the population. The widespread prevalence of the disease among the population and the potential for negative consequences and disability are increasing, raising the level of social importance.

MATERIAL & METHODS

80 patients with peripheral olfactory disorders after viral diseases treated at the Republican Specialized Center for Otorhinolaryngology and Head and Neck Diseases were included in the study. Patients were divided into 4 groups according to the duration of the disease: Group 1 consisted of 31 patients with impaired sense of smell up to 6 months, group 2 - 17 patients with impaired sense of smell from 6 months to 1 year, group 3 - 20 patients with impaired sense of smell from 1 to 3 years, and group 4 - 12 patients with impaired sense of smell for more than 3 years. All patients included in the first part of the study underwent a standard otorhinolaryngological examination, endoscopic examination of the nasal cavity and nasopharynx, and olfactory perception was assessed using the visual analog scale and the SST method, an expanded version.

RESULTS

The frequency of occurrence of the three types of olfactory groove configurations was 11.25%, 68.05% and 20.7%, respectively.The highest sensitivity was recorded for MRI, which was 92%. According to the results of olfactometry using the SST method, normal smell perception was detected in 10 patients (25%), anosmia - in 1 patient (2.5%), hyposmia was detected in 29 patients (72.5%), and in the last 8 patients (20%), hyposmia was diagnosed as conductive, and in 21 patients (52.5%) hyposmia was of a mixed type. The average values of the main parameters of the olfactory function were as follows: olfactory threshold - 4.6±2.1 points, odor discrimination - 11.3±2.6 points, odor identification - 11.6±2.3 points, OID - 27.6±5.3 points.

Thus, it was found that in 55% of patients, olfactory impairment is not only associated with a peripheral factor, but also with dysfunction of the central structures of the olfactory analyzer.

CONCLUSIONS

The presence of both conductive and perceptual olfactory impairments in all nosological groups of patients justifies the need to perform extended olfactometry in all rhinological patients, if possible - in patients who can be expected to have a conflict with the doctor after olfactometry and treatment.

KEYWORDS

olfactory disorders, width of the olfactory groove, magnetic resonance imaging, olfactometry

PP-640

Generation Of A Primary ALI Nasal Epithelium–Microbiome Co-Culture Model To Investigate Microbial Drivers Of Respiratory Virus Susceptibility

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BACKGROUND & AIM

The nasal cavity is the primary entry site for respiratory pathogens.
Beyond serving as a physical barrier, it harbors a diverse microbiome that contributes to mucosal defense. Emerging clinical data suggest that nasal commensals influence respiratory health, and recent studies linked nasal microbiome composition to COVID-19 infection risk. However, the mechanisms by which nasal commensals modulate host susceptibility to respiratory viruses remain poorly understood. To address this gap, we aimed to generate and optimize a primary human nasal air–liquid interface (ALI) co-culture model with key commensal bacteria to enable controlled investigation of epithelial–bacterial–viral interactions.

MATERIAL & METHODS

Primary nasal epithelial cells from healthy donors were differentiated under ALI conditions to establish mucociliary architecture resembling in vivo nasal tissue. Epithelial maturation was assessed by mucus production and ciliation using microscopy. Key nasal commensal species representative of the healthy adult population were selected. To develop stable nasal bacteria–epithelial co-cultures, key commensals were inoculated at varying densities and incubation durations. The goal was to identify optimal conditions that allowed sustained bacterial colonization without compromising epithelial integrity. Colonization efficiency was quantified by colony-forming unit (CFU) counts and confirmed with microscopy. Epithelial cytotoxicity was evaluated using lactate dehydrogenase (LDH) release and confirmed with microscopy. For viral infections, mature epithelia were infected with SARS-CoV-2 (Omicron BA.1), respiratory syncytial virus (RSV-A2), or rhinovirus (HRV-16) under varying multiplicity of infection (MOI) and incubation times to achieve consistent viral replication in the model. Viral replication was quantified by RT-qPCR using virus-specific targets.

RESULTS

Mature primary nasal epithelia (42 days post-ALI) exhibited robust mucociliary morphology and mucus secretion. Optimal inoculum sizes and incubation durations were established for each commensal: Staphylococcus aureus (50 CFU/tissue, 1 day), Staphylococcus epidermidis (1000 CFU/tissue, 1 day), Dolosigranulum pigrum (100,000 CFU/tissue, 1 day), Cutibacterium acnes (1,000,000 CFU/tissue, 4 days), Moraxella catarrhalis (5000 CFU/tissue, 4 days), and Haemophilus influenzae (5000 CFU/tissue, 4 days). Corresponding viral infection parameters were established as follows: SARS-CoV-2 (MOI = 0.001, 1 day), RSV (MOI = 0.01, 2 days), and HRV (MOI = 1, 2 days).

CONCLUSIONS

We successfully developed and optimized a dual-system primary nasal ALI co-culture model that supports both commensal bacterial colonization and respiratory viral infection. This organotypic in vitro platform enables mechanistic

dissection of how nasal commensals contribute to inter-individual variability in infection outcomes. Ultimately, this model provides a foundation for identifying therapeutic targets that may reduce the incidence and severity of respiratory viral infections.

KEYWORDS

SARS-CoV-2, microbiome, in vitro, air-liquid interface, respiratory epithelial culture

PP-641

Diagnosis And Management Of Cerebrospinal Fluid Rhinorrhea

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BACKGROUND & AIM

Cerebrospinal fluid (CSF) rhinorrhea is the result of pathologic communication between the intracranial subarachnoid space and the sinonasal cavities. It could be due to trauma, raised intracranial pressure (ICP), tumors, erosive diseases, and congenital skull base defects. Severe and life-threatening intracranial complications like pneumocephalus, ascending bacterial meningitis, brain abscess, mucocele formations are possible but on time prompt diagnosis could prevent them. According to data from the National Center for Infectious and Parasitic Diseases (NCCPD), Department of Epidemiology, in 2018, the main cause of mortality among acute infectious diseases in Bulgaria are the neuroinfections, which represent about 40% of all deaths.

MATERIAL & METHODS

Over a period of 10 years, we have observed a total of 80 cases of CSF leak rhinorrhea. From all the the patients studied, 59% were women and 41% were men .We have divided them according to two main factors: etiology and localization.

In 81% of the patients we applied a verification test for beta 2 transferrin in the nasal secretion. We evaluated the research methods according to the intraoperative findings. In all examined patients, we applied computed tomography with a high resolution. 60% of patients underwent magnetic resonance imaging. We have investigated the sensitivity of the method according to the intraoperative finding. In our clinical study, in addition to the main tasks that we have set ourselves - effectiveness of the methods for detection of cerebrospinal fistulas, we have also assessed the demographic and clinical factors for their manifestation.

RESULTS

In the prospective study, we applied our diagnostical algorithm, which in practice verified and was 99% effective in diagnosis and operative treatment decision. As a standard test for identifying cerebrospinal fluid in nasal secretions we chose the beta 2 transferrin test.

42% of patients had a neuroinfection in their clinical history, and some of them had multiple incidents. We have evaluated the sensitivity of CT according to the intraoperative finding and it reaches 56% and MRI -70%. Intraoperative diagnosis is supported by the administration of fluorescein 10% intrathecally. We have not obtained false-positive results from intrathecal fluorescein administration. Based on the obtained data, we built a clinically applicable algorithm for the diagnosis of CSF leak rhinorrhea.

CONCLUSIONS

CSF leaks are historically difficult to diagnose and treat because of their wide variability. The diagnostical algorithm is still a challenge and is of great importance for final surgical success. The localization of the defect determines the choice of treatment approach. A multidisciplinary team which includes neurosurgeons, otolaryngologists, neuroradiologists, ophthalmologists, endocrinologists is always required for early posttraumatic CSF leak, spontaneous CSF leak, multiple skull base trauma and progressive pneumocephalus.

KEYWORDS

CSF leak rhinorrhea, diagnostical algorithm, endoscopic endonasal surgery, fluorescein 10%

PP-642

Predictors Of 30-Day Emergency Department Visits After Sinonasal Surgery: A Retrospective Cohort Study

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BACKGROUND & AIM

Sinonasal surgery is among the most frequently performed procedures in otolaryngology. With the shift toward ambulatory care, unplanned 30-day emergency department (ED) visits represent a meaningful quality metric. Predictors of early ED return following sinonasal surgery remain poorly characterized. This study aimed to determine the incidence and identify independent patient-, disease-, and procedure-level predictors of 30-day ED visits at a major tertiary referral center.

To determine the incidence of ED visits within 30 days of sinonasal surgery and to identify independent patient-, disease-, and procedure-level predictors of ED return at a major tertiary referral center in Saudi Arabia.

MATERIAL & METHODS

A retrospective chart review was conducted at King Abdulaziz Medical City (KAMC), Riyadh, among adult patients (≥18 years) who underwent sinonasal surgery. Data were extracted from the BestCare electronic medical record system. Patient demographics, comorbidities, CRS subtype, Lund-Mackay (LM) radiologic severity scores, and surgical details were recorded. The primary outcome was any ED visit within 30 days postoperatively. Univariable and multivariable logistic regression were used to identify independent predictors.

RESULTS

Of 2,007 patients, 198 (9.9%) returned to the ED within 30 days. Returners were older (41.6 vs. 38.4 years; p=0.003), more likely to smoke (22.2% vs. 16.3%; p=0.033), and had higher rates of allergic rhinitis (37.4% vs. 26.8%; p=0.047) and CRSwNP (22.7% vs. 14.6%; p=0.015). The leading reasons for ED visits were postoperative pain (34.3%) and bleeding/epistaxis (26.3%), together accounting for ~60% of visits. On multivariable analysis, independent predictors of ED return were older age (aOR 1.16; p=0.005), allergic rhinitis (aOR 1.47; p=0.018), and CRSwNP (aOR 1.78; p=0.006), while FESS-based surgery was protective (aOR 0.68; p=0.020). A Lund–Mackay sub-analysis revealed an inverse gradient in ED return rates, falling from 16.4% in minimal radiologic disease to 6.8% in severe disease (p=0.013).

CONCLUSIONS

Nearly 1 in 10 patients returned to the ED within 30 days of sinonasal surgery, driven primarily by pain and epistaxis. Older age, allergic rhinitis, and CRSwNP independently increased risk. FESS and greater radiologic disease severity were protective, reflecting the higher pain/bleeding burden of structural nasal-airway procedures in low-LM patients. These findings support procedure-specific discharge protocols and targeted perioperative counseling to reduce preventable ED utilization.

KEYWORDS

sinonasal surgery; emergency department visits; FESS; septoplasty; CRS with nasal polyps; Lund-Mackay score; postoperative complications; predictors; Saudi Arabia

PP-643

SEVERE EPİSTAXİS MİMİCKİNG GASTROİNTESTİNAL BLEEDİNG CAUSED BY A GİANT SİNONASAL SOLİTARY FİBROUS TUMOR: A CASE REPORT

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BACKGROUND & AIM

Sinonasal solitary fibrous tumors (SFTs) are rare mesenchymal neoplasms that may present with nonspecific clinical findings, often leading to diagnostic challenges. Due to their hypervascular nature, they may present with severe epistaxis and, in rare cases, mimic upper gastrointestinal bleeding with symptoms such as hematemesis and melena.

This study aims to emphasize the diagnostic pitfalls and to evaluate the effectiveness of navigation-assisted endoscopic surgical management in a patient with a giant sinonasal SFT presenting with gastrointestinal bleeding-like symptoms.

MATERIAL & METHODS

A 55 year old male patient with no significant comorbidities presented with recurrent severe epistaxis, hematemesis, and melena. Clinical evaluation included endoscopic nasal examination, gastroenterological assessment, and non-contrast magnetic resonance imaging.

An incisional punch biopsy was obtained from the nasal cavity. Due to a known contrast agent allergy, preoperative embolization was not performed. The patient underwent navigation-assisted endoscopic sinus surgery, and the mass was excised completely following tumor debulking. Histopathological and immunohistochemical analyses were performed for definitive diagnosis.

RESULTS

Endoscopic examination revealed a large lobulated mass filling the left nasal cavity, extending into the nasopharynx and oropharynx, and causing marked septal deviation (Figure 1). Radiological imaging demonstrated a sinonasal mass originating from the nasopharynx, extending into bilateral nasal cavities, maxillary sinus ostia, and adjacent orbital regions, with close proximity to the anterior skull base and hyperintense areas on T2-weighted images (Figure 2). Initial biopsy was interpreted as glomangiopericytoma. However, final histopathological evaluation revealed a spindle-cell mesenchymal tumor with CD34 and vimentin positivity, diffuse nuclear STAT6 positivity, and a Ki-67 index of approximately 6%, confirming the diagnosis of solitary fibrous tumor. Complete surgical excision was achieved endoscopically (Figure 3). The postoperative course was uneventful, and no recurrence was observed during follow up.

CONCLUSIONS

Sinonasal SFTs may mimic gastrointestinal bleeding and lead to diagnostic delays, particularly in cases presenting with hematemesis and melena. This case highlights the importance of considering sinonasal sources in the differential diagnosis of

severe epistaxis and gastrointestinal bleeding-like symptoms. Immunohistochemical markers, especially STAT6, play a critical role in achieving an accurate diagnosis, particularly in cases with misleading initial biopsy results. Navigation-assisted endoscopic surgery is a safe and effective treatment modality for large and extensive sinonasal tumors, even in the absence of preoperative embolization. Long-term follow-up is essential due to the potential risk of recurrence.

KEYWORDS

Solitary fibrous tumor, Glomangiopericytoma, Sinonasal tumor, Epistaxis, STAT6, Endoscopic surgery

PP-644

Cryosurgery In Chronic Rhinitis Treatment, Experience In Republic University Hospital Of Vilnius

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BACKGROUND & AIM

Chronic rhinitis is a very common pathology worldwide. There are also increasing numbers in allergic rhinitis cases. Not all patients tolerate conservative treatment or are suitable for traditional surgical intervention. Cryosurgery is a good treatment solution in those cases. We perform about 190 cryosurgery procedures a year in Republic University Hospital of Vilnius.

MATERIAL & METHODS

36 years old male patient had a difficult breathing through the nose for several years. He was diagnosed with allergic rhinits for pollen. Enlarged inferior nasal turbinates were observed during clinical examination. Pacient did not want conchoplasty for his condition. Cryosurgery was done using local anesthesia in outpatient department in Republic University Hospital of Vilnius. The nasal probe of cryotherapy device was applied to inferior nasal turbinate for 1 minute, then repeated in different position. Process was repeated on the other side.

RESULTS

After the treatment with cold therapy the results were very good objectively during nasal endoscopy evaluation and also by patient`s own assessment. Main complaints of difficulty breathing and rhinorrhea were gone after 2 weeks. Endoscopy showed significantly reduced inferior nasal turbinates.

CONCLUSIONS

Cryosurgery is becoming more popular in Lithuania. Although it can not replace traditional conchoplasty, it can help patients who can not tolerate medicines, have many comorbidities and can not have general anesthesia. The weak point of this method is that effect lasts shorter than with standart conchoplasty – mostly for 3-5 years. The main strong features of cryosurgery - it can be done with local anesthesia in the outpatient department, can be repeated as many times as needed, it does not cause scarring. The method is bloodless and not very painful.

KEYWORDS

cryosurgery, cryotherapy, rhinitis, allergic rhinitis

PP-645

Frontoethmoidal Osteoma Presenting With Pansinusitis And Subdural Empyema: Multidisciplinary Surgical Management

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BACKGROUND & AIM

Frontal sinus osteomas are benign, slow-growing lesions that are frequently asymptomatic and incidentally detected; however, they may lead to significant complications through obstruction of sinus drainage pathways and secondary infection . Although rare, intracranial complications such as meningitis, abscess, and empyema have been reported and may be life-threatening . We present a case of frontal osteoma complicated by subdural empyema, highlighting the importance of early diagnosis and multidisciplinary management.

MATERIAL & METHODS

A 70-year-old female patient presented with syncope and septic clinical findings. Radiological evaluation with computed tomography and magnetic resonance imaging demonstrated a left frontoethmoidal osteoma extending into the frontal sinus, associated with complete opacification of the maxillary, ethmoid, and sphenoid sinuses. The lesion was located in close proximity to the lamina papyracea without orbital invasion. Intracranial imaging revealed a left-sided subdural empyema with atypical extension toward the temporal region. The patient underwent urgent neurosurgical craniotomy for empyema drainage, followed by endoscopic sinus surgery including maxillary antrostomy and partial osteoma resection.

RESULTS

The intracranial empyema was successfully drained, and sinonasal infection was controlled through combined surgical and medical treatment. The atypical localization of the empyema, predominantly toward the temporal region, represented an unusual pattern of spread. Postoperatively, the patient required intensive care monitoring due to transient clinical

deterioration related to sepsis but demonstrated gradual clinical improvement under multidisciplinary management. No orbital complications were observed, and infection parameters regressed during follow-up.Although frontal sinus osteomas are generally benign, they may predispose to severe intracranial complications through obstruction and infection . Early recognition, detailed radiological assessment, and prompt multidisciplinary surgical intervention are essential to prevent life-threatening outcomes.

CONCLUSIONS

We present a rare case of subdural empyema arising as a complication of a frontal sinus osteoma. This case highlights that intracranial spread may not always follow classical anatomical pathways and reinforces the need for early recognition and detailed radiological evaluation in patients with complicated rhinosinusitis.

KEYWORDS

Frontal sinus osteoma, intracranial complication, complicated rhinosinusitis, endoscopic sinus surgery, multidisciplinary management

PP-646

GIANT CONCHA BULLOSA: A RARE CASE CAUSING COMPLETE OBLITERATION OF THE NASAL PASSAGE

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KEYWORDS

Giant concha bullosa, nasal obstruction, middle turbinate, endoscopic surgery, septoplasty

PP-647

Predictive Value Of Peripheral And Tissue Eosinophils And Total Ige For Recurrence In Nasal Polyposis: A Prospective Clinical Study

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BACKGROUND & AIM

Postoperative recurrence remains a major challenge in nasal polyposis, with rates of 25–40% within the first year. Reliable and cost-effective predictors are still lacking. This ongoing study aims to evaluate the relationship between preoperative peripheral eosinophil levels, tissue eosinophil density, and total IgE levels, and to assess their predictive value for recurrence.

MATERIAL & METHODS

This prospective, single-center study is currently ongoing and includes adult patients (18–65 years) undergoing primary endoscopic sinus surgery for nasal polyposis. Preoperative assessment included nasal endoscopy, Sinonasal Outcome Test-22 (SNOT-22), olfactory testing using the Connecticut Chemosensory Clinical Research Center Smell Identification Test (CC-SIT), Lund–Mackay scoring, and laboratory measurements including peripheral eosinophil count, basophil levels, and total Immunoglobulin E (IgE). Tissue eosinophil density was evaluated from surgical specimens. Patients are being followed at 3, 6, and 12 months postoperatively. The primary outcome is endoscopic recurrence within 12 months, with early recurrence defined as occurring within 6 months.

RESULTS

Interim analysis of 40 patients demonstrated a recurrence rate of 55% (n=22) at 12 months. Among patients with recurrence, preoperative peripheral eosinophil levels were elevated in 63.6% and total IgE levels in 72.7%. In contrast, tissue eosinophil density was elevated in 54.5% of cases, showing a more heterogeneous distribution.Notably, the combination of elevated peripheral eosinophil levels and total IgE was associated with the highest recurrence rate (75%).

CONCLUSIONS

Elevated peripheral blood eosinophil levels and total IgE concentrations were more frequently observed in patients who developed recurrence, with their concomitant elevation demonstrating the highest recurrence rate (75%). In contrast, tissue eosinophil density did not confer additional predictive value. These findings indicate that peripheral eosinophilia and total IgE may represent more robust biomarkers for predicting recurrence. However, given the limited sample size and the ongoing nature of the study, these observations should be interpreted with caution and require validation in larger, well-powered cohorts.

KEYWORDS

Nasal polyposis; Eosinophils; Total Immunoglobulin E; Recurrence

PP-648

One-Year Real-World Effectiveness Of Mepolizumab In Severe Type 2 Chronic Rhinosinusitis With Nasal Polyps (Crswnp)

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyp (CRSwNP) is a predominant type 2 inflammatory disease, affecting the sense of smell and quality of life. Aspirin-exacerbated respiratory disease (AERD) represents a severe inflammatory endotype of CRSwNP, characterized by intense type 2 inflammation, frequent recurrence, and limited response to conventional therapies. Although anti–IL-5 biologics are effective to treat CRSwNP, the real-world response in severe cases remains insufficiently defined.The present study aimed to evaluate one-year clinical, endoscopic, and quality-of-life outcomes in a Brazilian cohort of patients with severe type 2 CRSwNP treated with Mepolizumab.

MATERIAL & METHODS

This multicenter retrospective study included 73 adults with difficult-to-treat CRSwNP and evidence of type 2 inflammation who received mepolizumab 100 mg every 4 weeks for 12 months. Outcomes assessed at baseline and one year included symptom burden measured by the Sino-Nasal Outcome Test-22 (SNOT-22), olfactory performance evaluated with the Connecticut Chemosensory Clinical Research Center (CCCRC) test, and endoscopic severity quantified by the Nasal Polyp Score (NPS). Longitudinal changes were assessed using the paired t-test for normally distributed continuous data and the Wilcoxon signed-rank test for non-parametric or ordinal data (e.g., polyp score). Treatment response and disease control were categorized according to predefined clinical criteria.

RESULTS

Mepolizumab produced significant overall improvements in symptoms, olfaction, and nasal polyp burden (all $p < 0.001$). However, AERD status markedly influenced treatment response. Compared with non-AERD patients, individuals with AERD exhibited significantly smaller improvements in SNOT-22 scores (median Δ −21,6 vs −42,6), olfactory performance (median Δ 0 vs −2,5), and NPS (median Δ −1 vs −4) ($p < 0.01$ for all comparisons). High-level treatment response was substantially more frequent among non-AERD patients, whereas attenuated responses predominated in the AERD subgroup.

CONCLUSIONS

Mepolizumab provided clinically meaningful improvements in symptoms, olfaction, and polyp burden in Brazilian patients with severe type 2 CRSwNP. However, AERD significantly attenuates the real-world effectiveness of the medication. These findings highlight the importance of endotype-driven patient stratification and suggest that alternative or complementary biologic strategies may be required to optimize outcomes in patients with AERD.

KEYWORDS

CRSwNP; Mepolizumab; AERD; Smell; NPS; SNOT-22

PP-649

Delayed Infections After Rhinoplasty: Clinical Presentation And Management Strategies – A Case Report

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BACKGROUND & AIM

Delayed infections following rhinoplasty are rare but important complications that may appear weeks to months after surgery. They are often associated with low-virulence organisms, foreign materials, or biofilm formation, and can negatively impact both aesthetic and functional outcomes. Early recognition and appropriate management are essential.

MATERIAL & METHODS

We present a case of a 29-year-old female who developed nasal tip inflammation three months after primary open rhinoplasty. Clinical evaluation included physical examination and ultrasound imaging to assess for fluid collection. Initial empirical antibiotic therapy was administered. Due to persistent symptoms, surgical exploration was performed. Intraoperative findings, microbiological cultures, and postoperative outcomes were analyzed.

RESULTS

The patient presented with localized erythema, edema, and tenderness of the nasal tip without systemic signs of infection. Ultrasound revealed a small localized collection. Surgical exploration identified a confined abscess surrounding non-absorbable

suture material. The suture was removed, and the area was irrigated. Culture grew Staphylococcus epidermidis, and targeted antibiotic therapy was initiated. Complete resolution of symptoms was achieved within two weeks, with preservation of nasal contour and satisfactory aesthetic result.

CONCLUSIONS

Delayed infections after rhinoplasty, although uncommon, should be considered in patients presenting with late-onset inflammation. Imaging can assist diagnosis, while definitive treatment often requires removal of infected foreign material combined with targeted antibiotics. Prompt intervention ensures optimal functional and aesthetic outcomes.

KEYWORDS

rhinoplasty, delayed infection, biofilm, nasal tip, suture-related infection, case report

PP-650

Bilateral Concha Bullosa Within Concha Bullosa: A Rare Middle Turbinate Variation

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BACKGROUND & AIM

Concha bullosa, defined as pneumatization of the middle turbinate, is one of the most common anatomical variations of the nasal cavity. Complex internal patterns of pneumatization are rare. We report a case of bilateral concha bullosa within concha bullosa detected during evaluation of maxillary sinus pathology. This case highlights the importance of correlating radiologic findings with clinical and functional assessment before deciding on surgical treatment of the middle turbinate.

MATERIAL & METHODS

This study is a single case report of a 51-year-old male presented with severe right-sided facial pain and postnasal discharge one month after undergoing a right sinus lifting procedure. He had no prior history of chronic rhinosinusitis or nasal obstruction. Paranasal sinus CT demonstrated mucosal inflammation in the right maxillary sinus. In addition, bilateral concha bullosa within concha bullosa were identified in the middle turbinates . The internal architecture showed a distinct pneumatized cavity located within a larger pneumatized middle turbinate on both sides. Both osteomeatal complexes were clearly patent on coronal CT images. The patient was initially managed with medical treatment, including antibiotics and nasal saline irrigation. As symptoms persisted, endoscopic surgery of the right maxillary sinus was performed to address the inflammatory pathology. Intraoperative inspection confirmed that the conchae bullosae did not narrow or obstruct the osteomeatal complex. Therefore, no surgical intervention was performed on the conchae bullosae.

RESULTS

Despite its striking CT appearance, the concha bullosa within concha bullosa did not produce functional impairment. The patient's symptoms were clearly related to maxillary sinus inflammation following sinus lifting surgery. This distinction is important because unusual radiologic findings may lead to unnecessary surgical intervention if not carefully correlated with clinical and functional evaluation.

From a surgical standpoint, this case reinforces a key principle of endoscopic sinus surgery: intervention on the middle turbinate should be based on evidence of obstruction or symptom correlation. Routine or prophylactic resection of concha bullosa without functional indication may increase the risk of destabilization of the middle turbinate, lateralization, or postoperative synechiae formation. Preservation of normal anatomical structures remains a fundamental goal in sinonasal surgery. Therefore, careful radiologic assessment combined with intraoperative evaluation allowed appropriate management of the sinus pathology while avoiding unnecessary manipulation of the middle turbinates.

CONCLUSIONS

Bilateral concha bullosa within concha bullosa is a rare morphological variation of middle turbinate pneumatization. Although its radiologic appearance may be remarkable, it does not necessarily result in osteomeatal obstruction or clinical symptoms.This case emphasizes that surgical decision-making should be guided by clinical findings and functional assessment rather than imaging appearance alone. When no obstruction is present, preservation of the middle turbinate is appropriate and preferable.

KEYWORDS

Concha bullosa, middle turbinate, rare variation

PP-651

Secondary Invasive Aspergillosis Mimicking Tumor Progression In Aggressive Nasopharyngeal Burkitt Lymphoma With Intracranial Extension

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BACKGROUND & AIM

Nasopharyngeal Burkitt lymphoma (BL) is a rare, highly aggressive B-cell malignancy characterized by rapid proliferation, early skull base invasion, and cranial neuropathies. Immunosuppression due to intensive chemotherapy predisposes patients to opportunistic infections such as invasive fungal sinusitis, which may clinically and radiologically mimic tumor progression. We hypothesized that early differentiation between malignant progression and opportunistic infection, combined with an aggressive multidisciplinary approach, significantly impacts patient outcomes.

MATERIAL & METHODS

A patient without known comorbidities presented with progressive right ptosis, ophthalmoplegia, and hemifacial hypoesthesia following an upper respiratory tract infection. Neurological examination revealed multiple cranial nerve involvement (III, IV, V_1–V_2, VI), consistent with cavernous sinus syndrome. Contrast-enhanced MRI showed a large infiltrative nasopharyngeal mass with skull base destruction and intracranial extension(figure 1). Biopsy demonstrated atypical B-cell proliferation with CD20/CD19 positivity, high Ki-67 index (70-80%), and c-MYC rearrangement, consistent with Burkitt lymphoma. Staging included cerebrospinal fluid analysis, bone marrow biopsy, and PET/CT, confirming secondary CNS involvement.

Treatment consisted of MATRix-based chemotherapy with intrathecal prophylaxis and debulking surgery. During therapy, the patient developed febrile neutropenia complicated by invasive fungal rhinosinusitis. Endoscopic biopsy confirmed Aspergillus species with angioinvasion(figure 2). Management included intravenous voriconazole, granulocyte colony-stimulating factor, and repeated endoscopic surgical debridement. Infection control was achieved, with partial neurologic recovery and oncologic partial response. The patient developed panhypopituitarism during follow-up and remains under multidisciplinary care.

RESULTS

A case of nasopharyngeal Burkitt lymphoma presenting with cavernous sinus syndrome was identified. Imaging revealed an infiltrative skull base mass with intracranial extension. Histopathology confirmed high-grade B-cell lymphoma with c-MYC rearrangement. The patient received MATRix-based chemotherapy with intrathecal prophylaxis and surgical debulking due to mass effect. During treatment, prolonged neutropenia led to febrile episodes and acute sinonasal deterioration. Endoscopic evaluation and biopsy confirmed invasive Aspergillus rhinosinusitis with angioinvasion. The patient was managed with intravenous voriconazole, granulocyte colony-stimulating factor support, and repeated endoscopic surgical debridement. Infection control and stabilization were achieved, with no further necrotic progression. Interim assessment showed partial oncologic response. Neurological deficits improved partially over follow-up. A late complication of panhypopituitarism developed, requiring endocrine replacement therapy. The patient continues under multidisciplinary follow-up involving oncology, infectious diseases, otorhinolaryngology, neurosurgery, and endocrinology. Long-term monitoring is ongoing to evaluate disease control and manage potential treatment-related complications over time in follow-up care.

CONCLUSIONS

This case highlights the dual complexity of aggressive head and neck lymphomas and opportunistic infections during immunosuppressive therapy. Nasopharyngeal Burkitt lymphoma may present with cavernous sinus involvement and rapidly progressive neurological deficits requiring urgent diagnosis and intensive chemotherapy. However, clinical deterioration during treatment does not always indicate tumor progression. Invasive fungal rhinosinusitis, particularly Aspergillus infection, should be strongly suspected in neutropenic patients with new sinonasal or neurological symptoms. Repeated bedside endoscopic evaluation, early biopsy supported by frozen section, and prompt antifungal therapy combined with surgical debridement are critical for survival. Multidisciplinary management is essential for optimal outcomes and long-term follow-up.

KEYWORDS

Nasopharyngeal lymphoma , Invasive fungal infection , Aspergillosis , Burkitt lymphoma, Cavernous sinus syndrome

PP-652

Revision Rates And Associated Risk Factors After Functional Endoscopic Sinus Surgery

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BACKGROUND & AIM

This study aimed to evaluate revision rates and the interval from primary functional endoscopic sinus surgery to revision surgery, and to determine the association of nasal polyp status, preoperative Lund–Mackay score, asthma, and preoperative peripheral eosinophil count with revision surgery.

MATERIAL & METHODS

This study was conducted at the Department of Otorhinolaryngology, Yeditepe University Faculty of Medicine, Istanbul, Türkiye. Patients who underwent primary functional endoscopic sinus surgery between January 2013 and April 2025 were included. Patients younger than 18 years of age, as well as those with prior sinus surgery, secondary chronic rhinosinusitis etiologies, or insufficient baseline data, were not included. Patients were classified according to the presence or absence of nasal polyps at the primary operation as chronic rhinosinusitis with nasal polyps (CRSwNP) or chronic rhinosinusitis without nasal polyps (CRSsNP). The occurrence of revision surgery and the interval from primary surgery to revision were evaluated in relation to nasal polyp status, asthma, preoperative Lund–Mackay score, and peripheral eosinophil count.

RESULTS

A total of 2,443 patients were included; 238 had CRSwNP and 2,205 had CRSsNP at primary FESS. Revision surgery was required in 52 patients, corresponding to an overall revision rate of 2.13%. Revision surgery was more frequent in CRSwNP than CRSsNP patients (9.66% vs 1.32%; $p < 0.001$).Five- and ten-year revision-free rates were lower in CRSwNP than in CRSsNP patients (91.3% vs 98.8% and 84.5% vs 98.0%; $p < 0.001$). Asthma was more common in patients with CRSwNP than in those with CRSsNP ($p < 0.001$); however, no significant association was observed between asthma and revision surgery ($p > 0.05$). Preoperative Lund–Mackay scores were higher in patients with CRSwNP than in those with CRSsNP (17.4 ± 5.1 vs 11.7 ± 4.8; $p < 0.001$). Preoperative peripheral eosinophil counts were higher in patients requiring revision surgery than in those without revision (438 ± 233 vs 256 ± 178/µL; $p < 0.001$).

CONCLUSIONS

Revision after primary FESS was more frequent in patients with nasal polyposis. These patients also demonstrated lower long-term revision-free rates and higher preoperative Lund–Mackay scores. Higher preoperative peripheral eosinophil counts were observed among patients who underwent revision surgery. Although asthma was more common in patients with nasal polyposis, it was not significantly associated with revision surgery. These findings may help guide postoperative follow-up, patient counseling, and long-term management after primary FESS.

KEYWORDS

Sinusitis; Functional Endoscopic Sinus Surgery; Reoperation; Nasal Polyps; Asthma; Rhinitis, Allergic

PP-653

A Diagnostic Challenge In Skull Base Masses: Chordoma Presenting As A Nasopharyngeal Obstructing Lesion

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BACKGROUND & AIM

Skull base masses pose substantial diagnostic complexity due to overlapping clinical presentations, deep anatomic location, and frequent skull base invasion involving neurovascular structures. Rare tumors such as chordoma remain critical in the differential diagnosis of destructive clival–petrous lesions presenting with nasopharyngeal obstruction and lower cranial neuropathy. This case is noteworthy for its extensive infiltrative pattern across the clivus, petrous apex, cavernous sinus region, and prepontine cistern, with multimodality imaging features that can mimic alternative entities. We aimed to emphasize that multidisciplinary correlation and adequately deep, representative biopsy are essential to establish a definitive diagnosis in atypical skull base disease.

MATERIAL & METHODS

A 46-year-old incarcerated male presented with 6 months of progressive nasal breathing difficulty and dysphagia, and 10 days of new-onset hoarseness. Nasal endoscopy demonstrated an irregular mass nearly filling the choana, and flexible laryngoscopy revealed left vocal cord paralysis. To expedite tissue diagnosis, an outpatient punch biopsy was obtained at presentation prior to imaging and was reported as chronic/reactive inflammation. Paranasal CT then showed an ill-defined posterior nasal cavity/nasopharyngeal mass (left-predominant) causing marked choanal and nasopharyngeal airway narrowing, extending toward the sphenopalatine fossa with bony erosion, involving the sphenoid sinus, and demonstrating destructive clival–petrous spread. Given the invasive radiologic phenotype, multiple deeper biopsies were obtained under operating room conditions for definitive histology and immunohistochemistry. Immunoprofiling demonstrated diffuse PanCK and vimentin positivity, EMA positivity, and focal weak S100 positivity, supporting chordoma. MRI and FDG PET-CT were subsequently performed for staging.

RESULTS

The initial outpatient punch biopsy was non-diagnostic, reporting chronic/reactive inflammation despite near-complete choanal obstruction and left vocal cord paralysis, highlighting the limitations of superficial sampling in deep skull base disease. Paranasal CT demonstrated an ill-defined posterior nasal cavity/nasopharyngeal mass with aggressive osseodestruction, extension toward the sphenopalatine fossa, sphenoid sinus involvement, and destructive clival–petrous spread. Because imaging and pathology were discordant, multiple deeper biopsies obtained in the operating room yielded representative tumor. Immunohistochemistry showed diffuse PanCK and vimentin positivity with EMA positivity and focal weak S100 reactivity, supporting chordoma in the appropriate anatomic context. Subsequent MRI refined staging, confirming strong enhancement, cavernous sinus involvement, internal carotid artery narrowing, and a separate prepontine component compressing the medulla/inferior pons with diffusion restriction. Post-diagnosis FDG PET-CT showed mild uptake (SUVmax 3.8) without other abnormal regional activity. Progressive imbalance, diplopia, and worsening dysphagia prompted tertiary skull base referral for multidisciplinary planning and definitive surgical management.

CONCLUSIONS

Skull base chordomas may present to otolaryngology with progressive nasopharyngeal obstruction, dysphagia, dysphonia, and evolving cranial neuropathies, reflecting clival–petrous invasion and intracranial extension. Suspicion should increase when endoscopy shows a posterior nasal/nasopharyngeal mass accompanied by focal neurologic signs (e.g., vocal cord paralysis,

diplopia, imbalance) or when CT demonstrates a destructive clival-centered lesion with multi-compartment spread. Management requires stepwise evaluation with contrast-enhanced MRI to define intracranial and neurovascular involvement, followed by multidisciplinary planning to select the safest diagnostic route and definitive approach. Early referral to specialized skull base teams is essential for timely treatment and complication avoidance.

KEYWORDS

chordoma; skull base mass; nasopharyngeal obstruction; cranial neuropathy

PP-654

RECURRENT SINONASAL SQUAMOUS CELL CARCINOMA ARISING FROM HPV-16 POSITIVE INVERTED PAPILLOMA MANAGED WİTH ORGAN-PRESERVİNG ENDOSCOPIC APPROACH

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BACKGROUND & AIM

Sinonasal inverted papilloma(IP) is a rare tumor that has aggressive behavior, high recurrence rate and potential of malignant transformation. Sinonasal squamous cell carcinoma(SCC) arising from inverted papilloma, especially in recurrent cases, complicates treatment planning and often requires radical surgical approaches. External maxillectomy approaches performed in malignancies arising from maxillary sinus can result in severe functional and esthetic morbidity secondary to defect of hard palate and teeth.

Aim of this case is presenting an advanced endoscopic surgical approach that preserves hard palate, teeth and orbita without the need for radical maxilllectomy in a recurrent SCC case arising from HPV-16 positive IP.

MATERIAL & METHODS

This patient who has history of three endoscopic sinus surgeries was evaluated for recurrent sinonasal mass. Previous pathological examinations revealed SCC arising from IP and HPV-16 positivity was confirmed by molecular analyses.

Facial MRI imaging showed that the lesion extended from right nasal cavity to nasopharynx , bilateral frontal sinuses, left nasal cavity overlapping septum and ostium of the right maxillary sinus.There was no invasion of orbital cavity or intracranial structures and involvement of hard palate or alveolar arch.

Endoscopic endonasal surgery was planned based on these findings. Surgery was performed using a combination of endoscopic right anterior-posterior ethmoidectomy, Draf-III (Modified Lothrop) procedure and right medial maxillectomy. Periorbital structures were preserved, and no external incision was performed.Hard palate, teeth and alveolar arch were preserved.

RESULTS

The tumor was completely resected. No orbital invasion, periorbital defect or cerebrospinal fluid leak was observed. Radical maxillectomy was not performed, so hard palate and dental structures could be preserved.

The diagnosis of SCC arising from IP was confirmed in histopathological analysis. Oral function was preserved.

CONCLUSIONS

Advanced endoscopic surgery is an alternative approach to radical maxillectomy in recurrent SCC cases through detailed radiological evaluation and appropriate patient selection. This case shows that hard palate, teeth and orbital structures can be preserved while maintaining oncological margins, so we can provide long-term functional life quality for the patient.

KEYWORDS

Sinonasal squamous cell carcinoma, Draf III (Modified Lothrop) procedure, Recurrent sinonasal tumor, HPV-16

PP-655

“Surgical Management And Outcomes Of Odontogenic Cysts In The Maxillary Region: A Retrospective Study (2022–2025)”

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BACKGROUND & AIM

The aim of this study is to evaluate the clinical, radiological, and surgical characteristics of patients who underwent surgery in our clinic due to odontogenic cysts, and to present the outcomes of these surgically treated cases. The study includes cases that were followed with preliminary diagnoses of dentigerous cyst and periapical cyst and were surgically managed in our clinic.

MATERIAL & METHODS

The data of patients who were evaluated with a preliminary diagnosis of odontogenic cyst in the maxillary region and underwent surgical treatment between 2022 and 2025 were retrospectively reviewed. Patients’ presenting complaints, CT/MRI findings, and lesion localization were analyzed. Surgically, an intraoral vestibular incision was used to access the anterior wall of the maxillary sinus, followed by dissection of the cyst capsule from surrounding tissues and total excision.

RESULTS

A total of 9 patients were included in the study (age range: 9–54). The most common presenting symptoms were cheek swelling, purulent drainage into the oral cavity from upper molar teeth, and incidental radiological findings. CT and MRI evaluations revealed expansile cystic lesions causing thinning and remodeling of the maxillary sinus walls in most cases. Many lesions were associated with molar or premolar tooth roots, and in some patients, the maxillary sinus floor, lateral, or medial walls were significantly deformed by the cyst. Surgical excision was successfully completed in all cases with no residual cyst wall left, and all operations were uneventful. In two cases, the cyst was removed together with the associated teeth.The surgical field was washed with rifampicin in the postoperative period.One patient experienced recurrence in the postoperative period and reoperated.

CONCLUSIONS

Odontogenic cystic lesions are pathologies commonly associated with tooth roots and can significantly affect the anatomy of the maxilla and maxillary sinus. Accurate radiological characterization and appropriate surgical planning are particularly important in large lesions that deform sinus walls. Surgical excision via an intraoral vestibular approach is a safe and effective treatment option for most cases.

KEYWORDS

Odontogenic cysts,Maxillary sinus,Dentigerous cyst,Periapical cyst

PP-656

NEUROSURGICAL AND ENDOSCOPIC MANAGEMENT OF PEDIATRIC SUBDURAL EMPYEMA SECONDARY TO PANSINUSITIS: A MULTIDISCIPLINARY APPROACH

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BACKGROUND & AIM

Subdural empyema (SDE) is a rare and devastating complication of pediatric rhinosinusitis,occurring in approximately 3% of children hospitalized for sinusitis. Despite advancements in antimicrobial therapy, SDE remains a neurosurgical emergency due to its potential for rapid neurological deterioration. This study presents the successful multidisciplinary surgical management of a pediatric patient with massive SDE that proved refractory to high-dose broad-spectrum intravenous (IV) antibiotic therapy.

MATERIAL & METHODS

A retrospective case analysis was conducted on a 12-year-old female patient presenting with altered mental status (GCS: 12/15) and pansinusitis-induced subdural empyema (SDE). Diagnostic evaluation included contrast-enhanced cranial imaging. The therapeutic protocol involved a multidisciplinary surgical approach: initial neurosurgical intervention via decompressive craniectomy (DC) and interhemispheric drainage, followed by a galeal graft duraplasty and abdominal bone flap autografting. Concurrently, the Otorhinolaryngology team performed bilateral "Full House" Functional Endoscopic Sinus Surgery (FESS) to eliminate the primary paranasal infection source. Intraoperative samples were analyzed via microscopy, culture, and pathological examination.

RESULTS

Imaging revealed an 11 mm thick SDE with a 7 mm midline shift. Despite prior high-dose IV Vancomycin and Meropenem treatment, clinical deterioration had occurred. Post-surgical results showed rapid neurological improvement and successful drainage of the empyema on follow-up imaging. While intraoperative cultures remained sterile due to antibiotic suppression, direct microscopy identified Gram-positive diplococci, and pathology confirmed acute suppurative inflammation. The multidisciplinary intervention resulted in a complete recovery, and the patient was discharged without any permanent neurological sequelae.

CONCLUSIONS

Conclusions

Subdural empyema (SDE) is a critical complication of pediatric pansinusitis requiring high clinical suspicion when medical therapy fails. This case underscores that sterile cultures are common following intensive antibiotic use, making direct microscopy and pathological examination vital for diagnosis. For massive SDE with significant midline shift, a coordinated, simultaneous approach involving neurosurgical decompressive craniectomy and ENT-led "Full House" FESS is a life-saving strategy that effectively prevents long-term morbidity and neurological deficits.

KEYWORDS

Subdural Empyema, Pediatric Pansinusitis, Decompressive Craniectomy, Functional Endoscopic Sinus Surgery (FESS), Multidisciplinary Approach and Intracranial Complications

PP-657

THİNK BEYOND POLYPS: A RARE CASE OF ADULT NASAL MENİNGOENCEPHALOCELE

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BACKGROUND & AIM

Intranasal meningoencephalocele is a rare entity characterized by herniation of the meninges, and occasionally brain parenchyma, from the cranial cavity into the nasal cavity. Usually the patients will show symptoms in neonatal or in childhood; however in rare cases patients might present with sympton in adulthood. Clinically, some cases may remain asymptomatic until adulthood. Presentation with nasal obstruction or unilateral nasal congestion or recurrent seizures has also been reported. İn this case we report a patient who presented with a polypoid tissue like mass in a left nasal passage and a history of epileptic seizures

MATERIAL & METHODS

52-year-old female patient was referred to our department from the emergency department with a history of recurrent seizures over the past 6 months. İntranasal polypoid tissue was observed to completely obstruct the left nasal passage by endoscopic examination.MRI imaging identicated meningoencephalocele in the left nasal passage originating from left gyrus rectus.The tissue was surgically removed using an endoscopic technique.

RESULTS

Nasal meningoencephalocele is often detected incidentally without a specific clinical presentation. Although it is most commonly diagnosed in children and adolescents, it can bearly occur in adults. In particular, new-onset headaches and neurological symptoms such as epileptic seizures should raise suspicion of nasal meningoencephalocele, especially in patients with polypoid tissue.

CONCLUSIONS

Although nasal meningoencephalocele is rare, it must be considered in the differential diagnosis of polyps found in the nasal passages. For this reason, advanced imaging studies should be performed in patients with intranasal polyps, particularly those with neurological symptoms. These cases should be evaluated using MRI and CT scans.

KEYWORDS

nasal meningoencephalocele , nasal polyp, rhinology, skull base

PP-658

A Rapidly Progressing Recurrent Sinonasal Sarcoma With Profound Immunophenotypic Shift: A Diagnostic And Therapeutic Challenge

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BACKGROUND & AIM

Sinonasal sarcomas are rare, aggressive malignancies prone to diagnostic complexity. Tumor heterogeneity and immunophenotypic shifts upon recurrence pose significant challenges. The aim of this report is to present a highly unusual case of a rapidly progressing sinonasal sarcoma demonstrating a complete immunophenotypic shift between its initial presentation and a late local recurrence, emphasizing the diagnostic pitfalls and the concept of clonal evolution in mesenchymal tumors.

MATERIAL & METHODS

We present the clinical, surgical, and histopathological data of a 59-year-old male patient managed at our institution. In 2022, an initial biopsy of a right nasal mass revealed a high-grade malignant mesenchymal tumor (positive for S100, SOX10, STAT6, and TLE-1). A subsequent wide local excision showed only dysplasia. After 3.5 asymptomatic years, the patient presented with a rapidly enlarging 8x4.3x3 cm septal recurrence. The mass was resected via a combined endoscopic and septocolumellar approach, and the excision was completed after intraoperative frozen section analysis confirmed benign surgical margins. The recurrent tumor was subsequently subjected to Next-Generation Sequencing (NGS). Following this second surgery, the case was evaluated by the head and neck multidisciplinary tumor board.

RESULTS

Despite initial imaging suggesting a vascular lesion, the rapidly expanding recurrent mass required urgent surgery. Histopathology confirmed a high-grade spindle cell sarcoma with marked pleomorphism, necrosis, and a Ki-67 index of 30%. Critically, this recurrence demonstrated a complete phenotypic shift. It lost expression of all original markers and gained focal expression of SMA, CD31, F13a, and ERG. Comprehensive NGS analysis revealed a complex mutational profile with pathogenic and likely pathogenic variants in NF1, ATR, BLM, CHEK1, AR, and KMT2C, underscoring severe genomic instability and supporting the profound clonal evolution. A postoperative PET-CT scan showed no metastasis. Due to these aggressive features, postoperative adjuvant radiotherapy was administered.

CONCLUSIONS

This case illustrates the dynamic nature of mesenchymal malignancies. The striking immunophenotypic shift and the complex mutational landscape (NF1, ATR, KMT2C) underscore the limitations of relying solely on immunohistochemistry for recurrent lesions, highlighting the absolute necessity of molecular diagnostics (NGS). Furthermore, it demonstrates that rigorous follow-up is imperative for sinonasal sarcomas even when initial surgical pathology appears reassuring, and that multidisciplinary adjuvant therapy becomes crucial upon aggressive recurrence.

KEYWORDS

Sinonasal sarcoma, immunophenotypic shift, clonal evolution, next-generation sequencing, tumor recurrence, Ki-67

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Sinonasal Disease And Persistent Cranial Neuropathy: A Diagnostic Challenge

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BACKGROUND & AIM

Unilateral fungal rhinosinusitis typically presents with localized sinonasal symptoms and often improves after endoscopic surgical treatment. However, persistent or progressive neurological complaints despite adequate management should prompt reconsideration of the diagnosis. We report a challenging case emphasizing the risks of diagnostic anchoring in patients with overlapping sinonasal and neurological disease.

MATERIAL & METHODS

A 47-year-old immunocompetent woman presented with progressive right facial pressure, intermittent nasal obstruction and right hemifacial paresthesia evolving over several months, associated with headaches, periocular discomfort and sensory disturbances. Initial computed tomography (CT) of the paranasal sinuses demonstrated near-complete opacification of the right maxillary sinus with central hyperdensities, suggestive of fungal rhinosinusitis.

The patient underwent endoscopic sinus surgery. Intraoperatively, thick whitish material compatible with fungal infection was identified within the maxillary sinus. Histopathological analysis confirmed fungal rhinosinusitis and reported morphology raising suspicion for mucormycosis.

RESULTS

Following surgery, the patient initially experienced improvement in nasal symptoms, facial pressure and hemifacial paresthesia, supporting a sinonasal contribution to symptom burden. However, over subsequent months, neurological complaints progressively recurred and worsened, including severe headaches, persistent right hemifacial paresthesia and sensory disturbances.

Further neuroimaging revealed an expansile lesion centered in the right cavernous sinus/periclival region with extension towards Meckel's cave, suggestive of meningioma, potentially explaining trigeminal involvement and persistent craniofacial symptoms.

The clinical course became increasingly inconsistent with isolated fungal sinonasal disease despite initial improvement after surgery and histopathological concern regarding mucormycosis, leading to multidisciplinary reassessment.

CONCLUSIONS

This case illustrates how sinonasal pathology and intracranial disease may coexist, creating diagnostic complexity. Initial symptomatic improvement after surgery may reinforce diagnostic anchoring, potentially delaying recognition of alternative neurological pathology. Persistent or recurrent craniofacial symptoms disproportionate to sinonasal findings should prompt broader investigation and multidisciplinary evaluation.

KEYWORDS

Fungal rhinosinusitis; Craniofacial neuropathy; Hemifacial paresthesia; Endoscopic sinus surgery;

PP-660

Inflammatory Pseudotumor Of The Maxillary Sinus; A Case Report

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BACKGROUND & AIM

Inflammatory pseudotumors may be defined as lesions that clinically and radiologically simulate neoplasms. There have been few reports of inflammatory pseudotumors in the nasal cavity and the paranasal sinuses; of these, most were in the maxillary sinus. This is very rare but highly recurrent and harmful

MATERIAL & METHODS

A 57-year-old male patient presented to our clinic with a complaint of nasal congestion. The CT scan revealed a mass extending into the nasal cavity and filling the right maxillary sinus, causing compression of the adjacent bony structures. The patient underwent functional endoscopic sinus surgery (FESS) on the right side. During the procedure, it was observed that the tumor

was attached to the lamina papyracea; multiple biopsies were taken, but the tumor could not be completely removed due to a defect in the lamina papyracea.

The biopsies were examined at our clinic and at external centers, and it was concluded that the tumor was reactive-inflammatory in nature rather than neoplastic.

RESULTS

Since the pathology reports did not provide a definitive diagnosis, the patient underwent a repeat biopsy under general anesthesia on February 12, 2026. The final pathology report indicated inflammatory tissue changes rich in plasma cells. The patient was evaluated by a multidisciplinary team including ENT, oncology, radiology, and pathology specialists, who diagnosed the condition as an ınflammatory pseudotumor. The patient was referred to the Department of Internal Medicine for steroid therapy and appropriate adjunctive treatments. Following steroid therapy, a reduction in the size of the mass led to plans for total excision.

CONCLUSIONS

Clinical or endoscopic findings may reveal a mass covered by a polyp, hypertrophic turbinates, or bloody nasal discharge. In CT and MRI, inflammatory pseudotumors can mimic malignant neoplasms. Due to the difficulty in establishing a diagnosis, repeated biopsies may be required. Histologically, tumors consist of mixed myofibroblastic spindle cells with a marked infiltration of lymphocytes, plasma cells, and acute inflammatory cells. Treatment of IP depends on the tumor's location, biological behavior and the patient's general condition and primarily includes surgical resection, oral glucocorticoids, chemotherapy, combination therapies. Generally, surgery is effective and glucocorticoids or chemotherapy can used as adjuvant therapies.

KEYWORDS

Maxillary sinus inflammation, Inflammatory pseudotumor

PP-661

THREE CASES DEMONSTRATING THAT PRESEPTAL CELLULITIS REQUIRES EVALUATION OF THREE FOCAL POINTS IN DIFFERENTIAL DIAGNOSIS

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BACKGROUND & AIM

Preseptal cellulitis (periorbital cellulitis) is an acute bacterial infection of the eyelid and periorbital soft tissues located anterior to the orbital septum. Clinically, it is characterized by sudden-onset erythema, edema, and pain, while visual acuity and ocular movements are typically preserved. The infection often develops secondary to trauma, insect bites, or via contiguous spread from the paranasal sinuses, middle ear, or dental region. Failure to distinguish preseptal cellulitis from orbital cellulitis in the early period may lead to life-threatening complications.

MATERIAL & METHODS

During 2021-2025, patients admitted to our clinic with preseptal cellulitis secondary to middle ear, odontogenic and paranasal sinuses infections were evaluated. The odontogenic-origin case, a 37-year-old male presented with right facial swelling persisting for one week. Imaging revealed soft tissue densities in the right maxillary sinus, anterior wall destruction, and an infected odontogenic cyst arising from the right first premolar tooth. The patient underwent Right Caldwell-Luc operation. The otic-origin case, a 12-year-old male with Down syndrome and history of chronic purulent otorrhea exhibited mastoid bone destruction and subperiosteal abscess extending to the zygomatic region consistent with Luc's abcess. Bilateral preseptal cellulitis was noted. Right radical mastoidectomy and repair of cerebrospinal fluid leak operation was performed. The sinus-origin case, a 56-year-old male presented with recurrent left eyelid swelling. Imaging demonstrated opacification of the frontal, ethmoid, and maxillary sinuses. Functional endoscopic sinus surgery and frontal sinus osteoplastic flap surgeries were performed.

RESULTS

All three patients presented with periorbital swelling, redness, edema, and pain. Advanced imaging identified distinct primary infection sources in each. Patient history, physical examination, and targeted CT and MRI scans (paranasal, temporal, facial bones, and maxilla) played a crucial role in determining etiology and infection spread.

CONCLUSIONS

The clinical course and management of preseptal cellulitis vary depending on the primary infection source. Early multidisciplinary evaluation involving infectious disease, neurology, and ophthalmology specialists ensured recovery without complications. Comprehensive ENT assessment considering the three main origins sinonasal, otic, and dental is essential. Prompt diagnosis, thorough physical and radiological evaluation, and appropriate medical treatment and surgery are critical to prevent extracranial and intracranial complications.

KEYWORDS
Preseptal cellulitis, periorbital infection, sinusitis, otitis media, luc's abcess, odontogenic cysts, caldwell-luc, orbital complications, frontal sinus osteoplastic flap, ENT surgery, rare ENT cellulitis complications

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Cost-Effectiveness Of Limited Versus Full FESS In Crswnp (Airgos Operative Study)

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BACKGROUND & AIM

Chronic rhinosinusitis with nasal polyps (CRSwNP) is treated with intranasal steroids and saline irrigation, if these do not help, courses of peroral steroids may be used, and surgery is considered.

The AIRGOs operative study is an investigator-initiated, randomized, controlled trial comparing limited and full functional endoscopic sinus surgery (FESS) for CRSwNP patients to evaluate the optimal extent of surgery. This current study is a sub-analysis of the AIRGOs operative study to evaluate the cost-effectiveness of limited vs full FESS in the treatment of CRSwNP until 24 months after the surgery.

MATERIAL & METHODS

Patient reported outcome measures (PROMs) such as the sinonasal outcome test-22 (SNOT-22), 15D and EQ-5D were used to measure health related quality of life. Costs of surgery, used medications, absenteeism and presenteeism were evaluated using Work Productivity and Activity Impairment questionnaire: General Health (WPAI:GH), Institute of medical technology assessment (iMTA) Medical Consumption Questionnaire (iMCQ), iMTA Productivity Cost Questionnaire (iPCQ) questionnaires. Based on these, health economics metrics such as Quality-Adjusted Life Years (QALYs) and Incremental Cost-Effectiveness Ratios (ICERs) will be counted and compared between the limited and full FESS surgery groups.

RESULTS

The final study population consisted of 95 study subjects, 47 (49.5%) in the limited FESS group and 48 (50.5%) in the full FESS group.

The mean cost of all medications before surgery were 95.4 e/month for limited FESS and 100.5e/month for full FESS groups - the same costs cumulatively from surgery to 24months after surgery were 95.6e/month for limited FESS and 112.3e/month for the full FESS group. The total surgery related costs per patient were 5541.38 e forlimited FESS group and 7234,98e for full FESS group.

Preoperative absenteeism (in WPAI-GH) was present in mean 4.1% of limited FESS and 4.9% full FESS patients, at 12 months postoperatively in mean 0.5% of limited FESS and 5.3% of full FESS patients. Preoperative presenteeism was found in mean 16.8% of limited FESS and 18.1% of full FESS patients, at 24 months postoperatively in mean 4.0% of limited FESS and 11.25% of full FESS patients.

CONCLUSIONS

So far it seems that full FESS is more expensive than limited FESS, but the results are still incomplete and will be presented in a more finalized version at the congress.

KEYWORDS
FESS, cost-effectiveness, CRSwNP, surgery

PP-663

OSTEOPLASTIC FLAP APPROACH FOR FRONTAL SINUS–EYELID FISTULA: A CASE REPORT

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BACKGROUND & AIM

To present the surgical management of a frontal sinus–eyelid fistula using an osteoplastic flap. A patient-specific 3D-printed model was utilized for precise planning of the anterior wall osteotomy, supported by intraoperative images.

MATERIAL & METHODS

Due to the presence of a fistula tract between the right upper eyelid and the right frontal sinus, an open approach was selected. As described by Becker, marking the sinus boundaries and opening the anterior wall with an osteoplastic flap is a reliable and well-established method (1,2).

A horizontal periosteal incision was made at the superior borders of both frontal sinuses, as determined using navigation and a patient-specific 3D-printed model. An oblique inferior bone cut was performed using piezosurgery and osteotomes, and an inferiorly based osteoplastic flap was elevated.

The fistula tract was identified, completely excised, and primarily repaired. Fungal material within the frontal sinus was removed. Defects at the sinus floor and septum were noted. All mucosa was excised; the frontal recesses were obliterated with bone wax, and the sinuses were filled with fat.

The bone flap was easily repositioned and secured using periosteal suturing.

RESULTS

Frontal sinus fungal infections are rare and typically present as non-invasive fungal sinusitis (fungal ball), most commonly caused by Aspergillus species (1,2). Fistula formation is an uncommon but significant complication, indicating advanced or complicated disease and posing diagnostic and therapeutic challenges, particularly in the frontal sinus.

While endoscopic approaches are widely used, open techniques remain crucial in cases with fistulae, large defects, or complex anatomy (3,4). In our case, complete fistula excision and repair, combined with osteoplastic flap access and 3D-guided planning, enabled safe exposure and effective disease clearance.

CONCLUSIONS

In the presence of a frontal sinus–eyelid fistula, the osteoplastic flap approach provides reliable exposure for complete fistula excision and repair. Navigation and patient-specific 3D modeling enhance anatomical accuracy and surgical safety.

This approach is particularly valuable in fistula-associated frontal sinus disease requiring precise anatomical orientation.

KEYWORDS

osteoplastic flap, frontal sinus fistula, open frontal sinus surgery, fungal sinusitis

PP-664

Rendu-Osler-Weber Disease In A Pacient With Nasal Polyposis: Case Report

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BACKGROUND & AIM

Rendu–Osler disease is an uncommon autosomal dominant vascular condition marked by multisystemic vascular malformations and wide spectrum clinical manifestations. It presents with recurrent epistaxis, iron deficiency and secondary anemia. The disease predominantly affects small-caliber vessels of the nasal, oral, gastrointestinal mucosa, and cutaneous surfaces of the face, lips, and fingertips, and solid organs.

In this type of syndrome the capillary networks are absent, resulting in direct communications between dilated arteries and veins. Recurrent epistaxis represents the most frequent clinical manifestation of the disease, occurring in up to 95% of patients as a result of telangiectasias affecting the nasal mucosa.

MATERIAL & METHODS

This paper wishes to discuss the case of a 70-year-old man diagnosed at the age of 32 with Rendu–Osler–Weber syndrome, admitted to the emergency department at I.F.A.C.F.- ENT „ Prof. Dr. D. Hociota" with massive bilateral epistaxis. The patient had a history of hypertension, a mechanical aortic valve for aortic insufficiency, and long-term anticoagulation with acenocoumarol and nasal polyps from which he was also bleeding. He underwent surgery because the hemorrhage could not be controlled following local maneuvres: bilateral nasal packing with Merocele and intravenous vasoconstrictor infusion. Oral anticoagulation was suspended and replaced with low-molecular-weight heparin.

RESULTS

The patient's severe epistaxis was successfully managed intraoperatively where we performed the excision of the nasal polyps that were affecting the nasal mucosa, followed by placing topical hemostatic powder, resorbable hemostatic strips and also nasal packing maintained for 72 hours and removed under endoscopic guidance during sedation. No recurrent bleeding occurred, and oral anticoagulation was subsequently resumed.

CONCLUSIONS

Hereditary hemorrhagic teleangectasia is an infrequent genetic disorder that affects the small vessels and produces recurrent epistaxis, sometimes severe, with systemic repercussions like chronic anemia and iron depletion. Management of this disease demands a multidisciplinary approach and should be individualized based on systemic and local manifestations, comorbidities, ongoing therapies, and surgical needs. Nasal bleeding should be addressed stepwise, beginning with conservative measures, advancing to medical therapy, and reserving surgery for refractory cases.

KEYWORDS

teleangectasia, polyp, epistaxis, anemia, capillary

PP-665

Use Of Isotretinoin Post-Rhinoplasty In Patients With Thick Nasal Skin

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BACKGROUND & AIM

Background:

Patients with thick nasal skin undergoing rhinoplasty often present a surgical challenge due to increased sebaceous activity, reduced skin contractility, and a higher risk of prolonged edema and suboptimal tip definition. Adjunctive medical therapies may improve postoperative outcomes. This study evaluates the role of low-dose isotretinoin in enhancing skin quality and surgical results following rhinoplasty in this patient population.

MATERIAL & METHODS

A prospective observational study was conducted including patients with clinically thick nasal skin undergoing primary rhinoplasty. 12 Patients (females) with thick skin received low-dose oral isotretinoin (20 mg / day) starting 4 weeks postoperatively for a duration of 3–6 months. Outcomes assessed included skin thickness, sebaceous activity, duration of edema, and tip definition. Clinical evaluation was performed through standardized photography and surgeon/patient satisfaction scores.

RESULTS

Patients treated with isotretinoin demonstrated a noticeable reduction in skin oiliness and dermal thickness, with faster resolution of postoperative edema compared to typical healing patterns. Improved nasal tip definition and contour were observed over time. Patient satisfaction scores were high in all 12 patients. and no major adverse effects were reported. Mild mucocutaneous side effects were manageable in 10 payients and did not require discontinuation of therapy. 2 patients with moderate side effects was treated with internitent doses (one week off every month)

CONCLUSIONS

Postoperative low-dose isotretinoin appears to be a valuable adjunct in patients with thick nasal skin undergoing rhinoplasty. It may enhance skin contractility, reduce edema duration, and improve aesthetic outcomes, particularly in nasal tip definition. Further controlled studies are recommended to establish standardized protocols and long-term safety.

KEYWORDS

Keywords: Rhinoplasty, Thick Skin, Isotretinoin, Nasal Tip, Postoperative Care

PP-666

Ligneous Conjunctivitis With Nasolacrimal And Gingival Involvement: A Report Of Two Cases

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BACKGROUND & AIM

Ligneous conjunctivitis (LC) is a rare, chronic and recurrent form of conjunctivitis, characterized by the formation of fibrin-rich, yellow-white pseudomembranes on the palpebral conjunctiva, which exhibit a distinctive “woody” appearance. For many years, the pathophysiology of LC remained unclear until Schuster et al. identified plasminogen (PLG) deficiency as a central etiological factor in 2001. LC is an extremely rare disorder, with an estimated prevalence of approximately 1.6 cases per million individuals. This poster presents the otolaryngological manifestations observed in two patients with LC and discusses the diagnostic and therapeutic challenges associated with PLG deficiency.

MATERIAL & METHODS

A 32-year-old female patient was referred to ENT clinic for endoscopic dacryocystorhinostomy (DCR) following a diagnosis of left nasolacrimal duct obstruction and dacriocystitis. She reported a one-year history of epiphora. She had been diagnosed with LC at 18 years of age and had since undergone multiple treatments, including topical fresh frozen plasma (FFP), heparin, corticosteroids and cyclosporine. The patient underwent left endoscopic DCR without intraoperative or early postoperative complications. However, one month postoperatively, she presented with nasal obstruction. Endoscopic examination demonstrated grape-like mucosal lesions in the left nasal cavity. After starting treatment with IV PLG concentrate the patient experienced noticeable improvement in symptoms and a significant reduction in complaints.

A 20-year-old male patient was referred to ENT clinic following an incisional gingival biopsy performed at the site of the right mandibular first molar for evaluation of a persistent oral ulcer. Histopathological examination revealed findings highly suggestive of squamous cell carcinoma.

RESULTS

Although PLG deficiency most commonly manifests as LC, systemic involvement may also occur. In this report, we describe the clinical findings, differential diagnosis, and management of two patients with LC who presented with nasolacrimal duct obstruction, dacryocystitis, and gingivitis. Both patients underwent endoscopic DCR, but only the first patient developed refractory nasolacrimal duct obstruction postoperatively. The recurrent pseudomembrane formation in the nasal cavity was attributed to surgical trauma.

Currently, no established gold-standard therapy exists for gingival involvement in PLG deficiency. A wide range of treatments has been attempted, including cromoglycates, idoxuridine, steroids, acetylcysteine, cytarabine, topical hyaluronidase, alpha-

chymotrypsin, fibrinolysin, cryotherapy, silver nitrate, carbon dioxide laser, radiotherapy, systemic azathioprine, heparin-containing eye drops, and surgical excision. Antibiotic therapy is not recommended, as evidence does not support its in either local or systemic treatment of persistent disease.

CONCLUSIONS

In conclusion, this poster highlights several important considerations: the occurence of nasolacrimal duct obstruction and the outcomes of endoscopic surgical management—previously unreported in patients with LC; the potential for recurrent membrane formation and obstruction secondary to PLG deficiency; the necessity of close postoperative surveillance and the possible need for local and systemic replacement therapies. In addition to FFP, emerging treatment modalities such as IV PLG replacement therapy represent promising targeted approaches aimed at correcting the underlying deficiency.

KEYWORDS

Ligneous Conjunctivitis, Nasolacrimal duct obstruction , plasminogen deficiancy

PP-667

Rhinolithiasis: When Unilateral Nasal Obstruction Hides A Stone

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BACKGROUND & AIM

Rhinolithiasis is a rare rhinologic condition characterized by the formation of a calcified intranasal concretion resulting from progressive deposition of mineral salts around an endogenous or exogenous nidus. Its slow and often silent progression, combined with the nonspecific nature of clinical symptoms, frequently leads to delayed diagnosis or discovery at a complicated stage. The aim of this study was to highlight the epidemiological, clinical, radiological, therapeutic, and outcome features of this uncommon condition.

MATERIAL & METHODS

We conducted a retrospective descriptive study including eleven patients managed for rhinolithiasis in our department of Otorhinolaryngology and Head & Neck Surgery over a nine-year period (January 2016–December 2025).

RESULTS

The mean age of patients was 29.8 years , with a female predominance. The mean duration before consultation was 4 years. Clinical presentation included unilateral nasal obstruction (9 cases), foul-smelling purulent rhinorrhea (10 cases), recurrent epistaxis (5 cases), and anosmia (1 case). The rhinolith was unilateral in all cases. A history of nasal trauma with foreign body insertion was reported in one case.

Nasal endoscopy showed a calcified intranasal mass in 8 cases and crusted nasal floor in 1. CT scan revealed a calcified lesion (mean 21.5 mm; range 13–31), with suspected fungal appearance in 2 cases, osteomeatal narrowing in 1, and inferior turbinate lysis in 1. Complications included chronic rhinosinusitis (2 cases), aspergillary superinfection (1), and turbinate lysis (1).

All patients underwent endoscopic removal under general anesthesia. Histology showed inflammatory pseudopolypoid changes with actinomycotic granules. Outcomes were favorable in all cases

CONCLUSIONS

Rhinolithiasis is an uncommon condition often diagnosed late due to its insidious course and nonspecific symptoms. Nasal endoscopy and CT scan remain essential for diagnosis and evaluation. Endoscopic removal is an effective treatment with excellent functional outcomes.

KEYWORDS

Rhinolithiasis, Nasal obstruction, Chronic rhinosinusitis, Nasal endoscopy

PP-668

A Primary Frontal Mucopyocele Presenting With Acute Orbital Cellulitis

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BACKGROUND & AIM

Frontal sinus mucoceles are expansile lesions that may erode adjacent bony walls and extend into the orbit. Infection may transform a mucocele into a mucopyocele, creating a vision-threatening orbital complication. We present a primary frontal mucopyocele with orbital extension without previous sinonasal surgery or trauma.

MATERIAL & METHODS

Case Study: 61-year-old man presented with a 1-week history of right periorbital swelling. Laboratory tests showed elevated inflammatory markers. Nasal endoscopy revealed a polypoid lesion arising from the right middle meatus with mucoid discharge. Ophthalmologic examination showed right chemosis, proptosis, and marked limitation of extraocular movements in

all directions, while bilateral light reflexes were preserved. Paranasal computed tomography demonstrated right middle meatus and frontal recess obstruction, hyperdense polypoid/mucocele-like tissue in the right nasal cavity and ethmoid cells, orbital roof and lamina papyracea defects, superior extraconal inflammatory extension with compression of the globe and extraocular muscles, and optic nerve stretching.

RESULTS

Upper blepharoplasty incision was made. The incision was extended to the levels of the medial and lateral canthi. Using a transorbital approach, the superior orbit was elevated while preserving the periorbital tissues. The mucocele was observed to extend through the superior orbital defect into the right frontal sinus. With endoscopic assistance, the mucocele filling the frontal sinus was excised together with its entire wall. Erosion of the anterior table of the frontal sinus and the interfrontal septum was noted. The mucocele was also observed to extend through the defect into the left frontal sinus. The mucocele wall and infected inflammatory tissue were excised, anterior and posterior ethmoidectomy was completed and the frontoethmoidal recess was cleared by endonasal surgery. Postoperative nasal endoscopic examination showed normal middle meatal findings bilaterally. The limitation of extraocular movements gradually decreased over time. Postoperative ocular movements were full and painless in all directions.

CONCLUSIONS

Primary frontal mucopyocele may present acutely with orbital cellulitis, proptosis, and ophthalmoplegia even without prior trauma or surgery. Early imaging, multidisciplinary evaluation, and prompt surgical drainage can preserve vision and reverse orbital motility restriction.

KEYWORDS

Frontal sinus mucopyocele; orbital cellulitis; proptosis; ophthalmoplegia; endoscopic sinus surgery; transorbital approach

PP-669

POTT'S PUFFY TUMOR: A RARE COMPLICATION OF SINUSITIS – CASE REPORT

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BACKGROUND & AIM

Pott's puffy tumor (PPT) is an uncommon but serious complication of frontal sinusitis. When diagnosis is delayed, it may result in significant intracranial morbidity.

MATERIAL & METHODS

This study is a single case report of a 12-year-old male patient diagnosed with Pott's puffy tumor secondary to frontal sinusitis. The patient's presenting symptoms, clinical examination findings, laboratory results, and radiological investigations were retrospectively reviewed. Imaging evaluation included paranasal sinus and brain computed tomography as well as magnetic resonance imaging. Medical management with broad-spectrum intravenous antibiotics and surgical interventions performed jointly by otolaryngology and neurosurgery teams were analyzed. Postoperative clinical course and response to treatment were monitored and assessed. The study was conducted in accordance with patient confidentiality principles, and informed consent was obtained from the patient's legal guardian.

RESULTS

Clinical evaluation revealed prominent swelling in the frontal and periorbital regions accompanied by purulent nasal discharge. Computed tomography and magnetic resonance imaging demonstrated findings consistent with frontal bone osteomyelitis, a subperiosteal abscess, an epidural collection, and pansinusitis. Broad-spectrum intravenous antibiotic therapy was initiated, followed by functional endoscopic sinus surgery with simultaneous epidural abscess drainage through a coordinated approach involving otolaryngology and neurosurgery teams. A marked improvement in clinical findings was observed in the postoperative period. Follow-up imaging showed a reduction in the frontal subcutaneous collection and regression of intracranial extension. The patient was discharged with clinical recovery and without the development of additional complications.

CONCLUSIONS

Pott's puffy tumor is a rare but potentially serious complication of frontal sinusitis that may lead to life-threatening intracranial involvement if diagnosis is delayed. Early and appropriate radiological evaluation is essential in patients presenting with frontal swelling. The combination of medical therapy and timely surgical intervention, supported by a multidisciplinary approach, is crucial for achieving favorable clinical outcomes. This case underscores the importance of early recognition and prompt surgical management in preventing severe complications.

KEYWORDS

Pott's puffy tumor; sinusitis; sinusitis complications; epidural abscess; multidisciplinary approach

PP-670

Nasopharyngeal Amyloidosis Diagnosed Due To Serous Otitis, A Rare Case

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BACKGROUND & AIM

Amyloidosis of the nasopharynx is an exceedingly rare condition. Amyloid can impair normal tissue elasticity at the site of deposition, thereby disrupting local physiological functions. Lesions localized in the nasopharynx often produce a mass effect and may clinically and radiologically mimic nasopharyngeal carcinoma.

Therefore, histopathological confirmation and exclusion of systemic involvement are of critical importance for accurate diagnosis

MATERIAL & METHODS

A 20-year-old male patient presented with a 5-year history of hearing loss in the right ear. Otolaryngological examination revealed right-sided serous otitis and a mass in the nasopharynx obstructing the right Rosenmüller fossa. A punch biopsy of the lesion was obtained. Based on these findings, an excisional biopsy of the nasopharyngeal lesion was performed at our center. Postoperative histopathological examination confirmed the diagnosis of amyloidosis. Following surgery, the patient's conductive hearing loss in the right ear resolved

RESULTS

Isolated nasopharyngeal amyloidosis is a rare entity. Although benign in nature, it is characterized by chronic and potentially progressive growth and may carry a risk of evolving into systemic amyloidosis affecting multiple organs.

CONCLUSIONS

Early differential diagnosis and thorough evaluation for systemic involvement are essential.

KEYWORDS

Nasopharynx, Amyloidosis, Serous otitis

PP-671

Partial Oculomotor Nerve Involvement Secondary To Sphenoid Sinus Inflammation: A Case Report

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BACKGROUND & AIM

Pathologies of the sphenoid sinus are uncommon but clinically significant due to their close relationship with critical neurovascular structures, including cranial nerves within the Cavernous Sinus. Inflammatory processes may rarely result in cranial nerve dysfunction and mimic central neurological disorders. We present a case of sphenoid sinus inflammation associated with partial cranial nerve involvement manifesting as diplopia and medial gaze limitation.

MATERIAL & METHODS

A 66-year-old male presented with a two-week history of diplopia and right-sided facial pain. Cranial MRI performed at an external center suggested a lesion in the right sphenoid sinus, and the patient was referred to our department for further evaluation.On physical examination, there was limitation of medial gaze and ptosis in the right eye.

Endoscopic nasal examination revealed a patent sphenoid sinus ostium; the sinus cavity was explored, and no intraluminal lesion was identified. Paranasal computed tomography demonstrated no significant pathology.

Due to persistent ocular findings, the patient was evaluated by neurology and ophthalmology. Additionally, internal medicine consultation was obtained due to dysregulated blood glucose levels. No central nervous system pathology was detected.

RESULTS

The clinical findings were attributed to sphenoid sinus inflammation causing partial Oculomotor Nerve involvement, leading to diplopia, ptosis, and limitation of medial gaze. The patient was managed conservatively with anti-inflammatory therapy, in line with previously reported cases (1–4).

At the 6-month follow-up, the patient's symptoms had completely resolved, and no residual neurological or ophthalmological deficits were observed.

CONCLUSIONS

Sphenoid sinus inflammation may present with cranial nerve deficits mimicking central nervous system pathology. Given its anatomical proximity to the cavernous sinus and adjacent cranial nerves, such inflammatory processes should be considered in the differential diagnosis of isolated cranial nerve palsies, particularly in patients with metabolic comorbidities such as diabetes. Early recognition and a multidisciplinary approach are essential for accurate diagnosis and optimal management.

KEYWORDS

Sphenoid sinus inflammation, Partial Oculomotor Nerve Involvement

PP-672

Destruction Of Medial And Superior Orbital Wall Due Pyoceles In Fronto-Ethmoidal Region

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BACKGROUND & AIM

Mucocele is defined as an accumulation of mucus within a sinus as result of an obstructed outlet.When the contents of cavity are purulent in character , the conditionis reffered to as a Supurating mucocele or Pyocele. Pyocele are rare complication of sinusitis that is usually associated with stenosis of the sinus ostium caused by inflammation

MATERIAL & METHODS

Case Study: A 66 years old woman refered to Otorhinolaryngology Department at General City Hospital 8 th September- Skopje due to severe headache, lateralization of left eye bulb imparing vision on left eye, diplopia, incapability to look on right side , On CT scan was found Tumor of the left ethmoidal region with destruction of left medial orbital wall with pressure on eye bulb moving it lateraly. Also there was opacification on left frontal sinus and destruction of inferior sinus wall. Endoscopic sinus surgery was preformed in intravenous anesthesia to obtein a biopsy of the tumor, opening the ethmoidal bulla , leading to drainage of ethmoidal cells and abundant outflow of purulent discharge. Bacteriological swab and part of tissue were taken.

RESULTS

The main disease entity - Pyocele are caused by superinfection of mucolece by bacteria. An efficient and sufficient method of treatment of Pyocele of paranasal sinuses is their endoscopic drainage

CONCLUSIONS

In the diagnosis of pyocele most important are anamnesis, physical examination and results from CT and MRI. Treatment is mainly based on properly performed surgery and evacuation of accumulated pus, pharmacotherapy and rehabilitation. Endoscopic surgery is an effective procedure that leads to recovery

KEYWORDS

Pyocele, Mucocele, FESS, eyebulb imparing

PP-673

Paramedian Alın Flepli Dev Rinofimanın Rekonstrüksiyonu: Bir Vaka Raporu

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BACKGROUND & AIM

Rhinophyma is the advanced stage of rosacea, characterized by sebaceous gland hypertrophy and connective tissue increase, leading to progressive deformity of the distal nose. This study aims to present the outcomes of surgical excision and reconstruction with a paramedian forehead flap in a case of giant rhinophyma causing severe cosmetic disfigurement and nasal obstruction.

MATERIAL & METHODS

Under general anesthesia, the rhinophymatous tissue was totally excised by dissecting it from the surrounding healthy tissue margins. A paramedian forehead flap, known for its high vascularization and tissue compatibility, was planned for the reconstruction of the extensive defect following excision. The flap was elevated as a pedicled flap based on the supratrochlear artery, transposed to the nasal defect, and sutured anatomically.

RESULTS

The operation was completed without complications. Postoperatively, full flap viability was maintained, and the patient's nasal airway was cleared. While tangential excision and secondary healing are options for small lesions in rhinophyma, total excision and flap reconstruction are the gold standard for giant lesions where anatomical sub-units are completely lost.

CONCLUSIONS

Consequently, high patient satisfaction was achieved both functionally and aesthetically, significantly improving the patient's quality of life.

KEYWORDS

Rhinophyma, Rosacea, Paramedian Forehead Flap, Nasal Reconstruction.

PP-674

A Tailored Algorithmic Approach To Endoscopic Nasal Septal Perforation Repair: A Clinical Case Series And Outcome Analysis

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BACKGROUND & AIM

Nasal septal perforation (NSP) remains a challenging surgical problem due to limited donor tissue and the risk of recurrence. We hypothesize that a structured treatment algorithm based on perforation topography, size, and vascular supply of the used flap significantly improves successful closure rates. Our aim was to evaluate the effectiveness of an individualized surgical strategy using various pedicled flaps.

MATERIAL & METHODS

In this clinical study (2022–2025), we implemented a diagnostic and surgical algorithm for 85 patients with NSP. Preoperative assessment included history, perforation size, localization, and edge condition. Subjects were categorized according to the posterior margin's relation to the middle turbinate axilla (MTA) and etiology. Patients were divided into four main groups: 1) Castelnuovo flap based on the anterior ethmoidal artery (AEA) for perforations anterior to the MTA (n=53); 2) Extended (Rusetsky) flap based on the posterior septal branches of sphenopalatine artery for larger (more than 2 cm) and posterior defects (n=16); 3) L-strut overlay flaps for small (up to 1 cm) spontaneous/iatrogenic anterior NSPs (n=10) and 4) Other techniques, including relaxing incisions and superior labial artery flaps (n=6).

RESULTS

The overall successful closure rate across all groups was 89.4% (76/85), with a 10.6% (n=9) recurrence rate. The Castelnuovo flap showed the highest clinical reliability with a 96.2% success rate (only 2 recurrences out of 53). The Posterior flap group achieved a 81.3% success rate (3 recurrences). The L-strut overlay technique resulted in a 70% success rate (3 recurrences), indicating lower stability for complex defects.Other techniques had a success rate of 83.3% (1 recurrence). Combining techniques with "with turned-up edges" (umbo) to create a double-layered closure significantly improved flap stability.

CONCLUSIONS

A topography-based algorithmic approach is effective for NSP repair. Pedicled vascular flaps provide superior outcomes compared to free grafts. The Castelnuovo flap is particularly robust due to its vascular supply and flexibility, while extended posterior (Rusetsky) flap demonstrates better outcomes in patients with defects larger than 2 cm.

KEYWORDS

nasal septal perforation closure

PP-675

Biologic Therapy In Chronic Rhinosinusitis With Nasal Polyps (Crswnp): A Systematic Review And Indirect Comparison Of Efficacy Through December 2025

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BACKGROUND & AIM

Background and aim

Biologic therapies targeting type-2 inflammation have significantly changed the management of chronic rhinosinusitis with nasal polyps (CRSwNP), particularly in patients refractory to corticosteroids and endoscopic sinus surgery. However, direct comparative evidence among biologics remains limited because of the absence of head-to-head randomized controlled trials (RCTs). Our objective was to systematically review and indirectly compare the efficacy and safety of biologic therapies for CRSwNP using evidence published through December 2025.

MATERIAL & METHODS

Material & Methods

A systematic search of PubMed/Medline, Embase, Google Scholar, and Cochrane Library databases identified 1348 records published between January 2013 and December 2025. After duplicate removal (n=286), 1062 records underwent title and abstract screening. Following eligibility assessment, 37 studies were included in the final qualitative synthesis, comprising 20 randomized controlled trials, 12 systematic reviews/meta-analyses, 3 indirect treatment comparison studies, and 2 real-world evidence studies. Biologics formally evaluated included omalizumab, dupilumab, mepolizumab, benralizumab, and tezepelumab. Emerging evidence regarding depemokimab was reviewed narratively because peer-reviewed comparative data remained limited.

RESULTS

Results

All biologics demonstrated superiority over placebo across major clinical outcomes, including nasal polyp score, nasal congestion, smell function, SNOT-22, radiologic severity, and reduction in systemic corticosteroid use and surgery. Dupilumab consistently showed the greatest and most comprehensive efficacy across clinical and patient-reported outcomes. Tezepelumab demonstrated strong emerging efficacy in recent Phase III evidence. Omalizumab showed favorable safety and moderate efficacy, while mepolizumab and benralizumab appeared particularly beneficial in eosinophilic/type-2 inflammatory phenotypes.

CONCLUSIONS

Conclusions

Biologic therapy is effective and generally well tolerated in severe CRSwNP refractory to standard treatment. Current evidence through December 2025 supports dupilumab as the most consistently effective biologic overall, while tezepelumab and benralizumab expand the evolving therapeutic landscape. Further head-to-head RCTs and long-term comparative studies are required to optimize biologic selection and individualized treatment strategies.

KEYWORDS

biologics, CRSwNP, omalizumab, mepolizumab, dupilumab, benralizumab, tezepelumab, depemokimab

PP-676

Atypical Spread Of Sinusitis: Contralateral Orbital Cellulitis And Ipsilateral Subdural Empyema

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BACKGROUND & AIM

Acute bacterial sinusitis is typically a self-limiting condition; however, it can rarely result in severe outcomes due to orbital and intracranial complications. Subdural empyema (SDE) is among the most common and life-threatening intracranial complications of sinusitis (1,2). Infection may spread not only by direct extension but also via retrograde thrombophlebitis through the valveless diploic venous system (3). Although complications usually occur ipsilateral to the primary infection, atypical dissemination to different anatomical compartments, including the contralateral side, may be observed (4). This report highlights that unilateral sinusitis can present with contralateral orbital cellulitis and ipsilateral subdural empyema, posing significant diagnostic challenges.

MATERIAL & METHODS

An 11-year-old girl was evaluated for a one-week history of fever followed by right periorbital swelling. Due to the development of speech impairment and altered mental status during follow-up, she was referred to our tertiary care center. Physical examination revealed marked periorbital edema, restriction of ocular movements, and neck stiffness. Laboratory findings indicated significant inflammatory response. Computed tomography (CT) demonstrated left maxillary, ethmoidal, and frontal sinusitis, while magnetic resonance imaging (MRI) revealed an extra-axial collection in the left frontal region consistent with subdural empyema. The patient was managed with a multidisciplinary approach involving otolaryngology, ophthalmology, and neurosurgery teams. Right orbital abscess drainage, left-sided functional endoscopic sinus surgery, and left craniotomy with drainage of the subdural empyema were performed, followed by initiation of broad-spectrum intravenous antibiotic therapy.

RESULTS

Despite left-sided sinusitis, the patient initially presented with right-sided preseptal/orbital cellulitis and abscess formation. Subsequently, intracranial spread resulted in the development of subdural empyema in the left frontal region. This discordance in laterality was notable and posed a diagnostic challenge. It has been reported that sinusitis-related infections may spread to different compartments via the venous system (4,5). In our literature review, a case of contralateral brain abscess secondary to sinusitis has been reported in an adult patient (6); however, to the best of our knowledge, this is the first pediatric case demonstrating contralateral orbital abscess with ipsilateral subdural empyema. Following combined surgical and medical management, the patient showed significant clinical and radiological improvement, with no permanent neurological or ophthalmological sequelae.

CONCLUSIONS

This case demonstrates that unilateral sinusitis may extend beyond expected anatomical boundaries, leading to contralateral orbital infection and ipsilateral intracranial complications. Reliance solely on laterality during clinical evaluation may be misleading. Early and comprehensive neuroimaging is crucial, particularly in the presence of neurological symptoms. A multidisciplinary approach and timely surgical intervention are essential for achieving favorable clinical outcomes.

KEYWORDS

Subdural empyema, intracranial complications of sinusitis,orbital cellulitis

PP-677

IDH1-Positive Ossifying Fibromyxoid Tumor Of The Nasal Septum: A Rare Case Mimicking Low-Grade Chondrosarcoma

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BACKGROUND & AIM

Ossifying fibromyxoid tumor (OFMT) is a rare mesenchymal neoplasm of uncertain differentiation and borderline malignant potential. While typically found in the extremities, its occurrence in the sinonasal tract is exceedingly rare. We report a unique case of a nasal septal OFMT exhibiting isocitrate dehydrogenase-1 (IDH1) immunoreactivity, a finding traditionally associated with cartilaginous tumors.

MATERIAL & METHODS

A 68-year-old male presented with a two-year history of progressive bilateral nasal obstruction. Nasal endoscopy revealed a firm, smooth mass arising from the nasal septum. Computed tomography (CT) demonstrated a well-circumscribed 2.5 cm mass with coarse peripheral calcifications. Magnetic resonance imaging (MRI) showed an atypical T2-hypointense signal and minimal enhancement, suggesting a dense, mineralized structure. The mass was successfully excised via an open septoplasty approach. Microscopic examination revealed a well-circumscribed, encapsulated tumor composed of uniform spindle cells arranged in cords within a fibromyxoid stroma. Immunohistochemical (IHC) analysis showed diffuse positivity for S100 and, notably, IDH1. This initial immunoprofile raised suspicion for low-grade chondrosarcoma (LGC). However, the characteristic morphology and absence of true cartilaginous matrix led to the final diagnosis of benign OFMT.

RESULTS

This case represents the first report of an IDH1-positive OFMT of the nasal septum. The IDH1 expression highlights a significant diagnostic pitfall, as it mimics the molecular profile of chondrosarcoma.

CONCLUSIONS

Clinicians and pathologists must integrate radiologic findings, classic morphology, and expanded IHC panels to ensure accurate diagnosis and avoid over-treatment of this rare "scrambled" phenotype tumor.

KEYWORDS

Ossifying fibromyxoid tumor (OFMT), Nasal septum, Soft tissue neoplasm, Chondrosarcoma, Isocitrate dehydrogenase-1 (IDH1)

PP-678

AN UNUSUAL NASAL FOREIGN BODY CAUSING RHINOLITHIASIS: A CASE REPORT

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BACKGROUND & AIM

Rhinoliths are hard, dense, calcified masses formed in the nasal cavity around an endogenous or exogenous nidus, resulting from the deposition of mineral salts over time. They usually develop secondary to a retained foreign body and chronic inflammation.

This report presents an unusual case of rhinolithiasis caused by a retained gas cylinder (LPG tube) rubber seal that had remained undetected since childhood.

MATERIAL & METHODS

A 30-year-old female patient presented to our clinic with complaints of unilateral nasal congestion, purulent nasal discharge, and foul odor that had persisted for approximately 15 years. The patient did not initially recall any history of nasal foreign body insertion. Endoscopic examination revealed purulent discharge and a hard mass consistent with a rhinolith in the right nasal cavity. The left nasal cavity and other otorhinolaryngological examinations were normal.

Paranasal sinus computed tomography (CT) demonstrated a well-defined hyperdense calcified mass in the right nasal cavity, consistent with a rhinolith, containing a central hypodense area suggestive of an embedded non-metallic foreign body.

RESULTS

The patient underwent endoscopic sinus surgery under general anesthesia for removal of the rhinolith. During the procedure, the rhinolith was fragmented and extracted from the right nasal cavity, revealing an embedded foreign body identified as a circular rubber seal belonging to a small domestic gas cylinder (LPG tube) gasket. Postoperatively, the patient recalled that such a seal had gone missing during her childhood; however, the incident had not been considered clinically significant at that time.

Histopathological examination confirmed calcified material consistent with rhinolith formation. The postoperative period was uneventful, and the patient’s symptoms resolved completely during follow-up

CONCLUSIONS

Although nasal foreign bodies are more commonly encountered in children, they should also be considered in adults presenting with long-standing unilateral nasal obstruction, purulent rhinorrhea, and malodor. Unusual inorganic materials such as rubber gaskets may remain asymptomatic for years and subsequently serve as a nidus for progressive calcification and rhinolith formation. Radiologically, a hyperdense calcified mass with a central hypodense component may suggest a retained non-metallic foreign body. Early recognition and endoscopic management are essential to prevent chronic complications.

KEYWORDS
rhinolith, foreign body, rubber gasket, adult patient

PP-679

Bilateral Frontal And Ethmoid Sinus Osteomas And Surgical Approach: A Case Report

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BACKGROUND & AIM

Osteomas are benign bone tumors arising from osseous tissue and most commonly involve the paranasal sinuses, particularly the frontal and ethmoid sinuses. They are usually solitary lesions, while multiple or bilateral paranasal sinus osteomas are extremely rare. Although most osteomas are asymptomatic and detected incidentally, larger lesions or those extending to adjacent structures may cause significant symptoms and complications.The aim of this case report is to present a rare case of bilateral frontal and ethmoid sinus osteomas and to discuss the surgical management and approach in light of the current literature.

MATERIAL & METHODS

A 54-year-old female patient presenting with long-standing dizziness, headache, blurred vision in the right eye, and a sensation of cranial pressure was evaluated. Paranasal sinus computed tomography (CT) revealed multiple ossified lesions: a 34 × 15 mm lesion filling the right frontal sinus and anterior ethmoid cells with extension toward the extraconal medial orbital area, and additional smaller osteomas in the left ethmoid and superomedial orbital region.Due to the presence of multiple osteomas, the patient was screened for intestinal polyposis and Gardner syndrome. A combined endoscopic and external surgical approach was planned for the symptomatic right frontal sinus osteoma.

RESULTS

The right frontal sinus osteoma was successfully excised using a combined endoscopic approach and external trephination with a 3-cm eyebrow incision. Intraoperative ophthalmologic examination revealed a normal optic disc. The suspicious area on the medial wall of the frontal sinus was repaired using Surgicel and tissue sealant.Left-sided osteomas were not surgically treated due to their small size and lack of clinical symptoms. Postoperative follow-up was uneventful, and the patient remained symptom-free with a good general condition.

CONCLUSIONS

Bilateral frontal and ethmoid sinus osteomas are extremely rare entities. Surgical treatment should be individualized based on tumor size, localization, extension, and symptomatology. Combined endoscopic and external approaches provide effective and safe management for large or complex frontal sinus osteomas. Early diagnosis and appropriate surgical planning are crucial to prevent potential orbital and intracranial complications.

KEYWORDS

Frontal sinus osteoma; Ethmoid sinus osteoma; Paranasal sinus tumors; Surgical approach

PP-680

The Effectiveness Of Dupilumab In Treating Pediatric Refractory Allergic Fungal Rhinosinusitis

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BACKGROUND & AIM

Allergic fungal rhinosinusitis (AFRS) is a benign, extramucosal, non-invasive fungal condition of the paranasal sinuses caused by a type 1 IgE-mediated hypersensitivity reaction. It primarily affects young adults but may also occur in children. Although biologic therapies such as Dupilumab have shown favorable results in adult AFRS, their use in the pediatric population remains undocumented. This study aims to present the first reported case of a pediatric patient with refractory AFRS and bronchial asthma successfully treated with Dupilumab.

MATERIAL & METHODS

A pediatric patient with refractory AFRS and coexisting bronchial asthma was treated with subcutaneous Dupilumab, starting with a loading dose of 600 mg, followed by 300 mg every two weeks. The patient's clinical, endoscopic, and radiological findings were evaluated before and after initiation of treatment to assess therapeutic response.

RESULTS

Following Dupilumab therapy, the patient demonstrated marked clinical improvement, reduced sinonasal symptoms, and enhanced endoscopic and radiological outcomes. Additionally, the patient's bronchial asthma was effectively controlled during follow-up, with no reported adverse effects.

CONCLUSIONS

Dupilumab appears to be a safe and promising treatment for pediatric patients with refractory AFRS, showing significant improvement in both sinonasal disease control and asthma symptoms. Further studies with larger pediatric cohorts and long-term follow-up are required to validate these findings.

KEYWORDS

Allergic fungal rhinosinusitis, chronic rhinosinusitis, Dupilumab, biologic therapy, pediatric AFRS, bronchial asthma, type 2 inflammation, IL-4Rα blockade

PP-681

Fulminant Rhino-Orbital Mucormycosis With Subtle Early Imaging Findings Following Steroid Exposure: A Case Requiring Orbital Exenteration

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BACKGROUND & AIM

Rhino-orbital mucormycosis is an aggressive angioinvasive fungal infection associated with high morbidity and mortality, most commonly occurring in patients with uncontrolled diabetes mellitus or immunosuppression. Early diagnosis may be challenging because initial clinical and radiological findings can be nonspecific, and delays in treatment may substantially worsen outcomes.

MATERIAL & METHODS

A 74-year-old male patient with diabetes mellitus, hypertension, and obesity presented with right periorbital swelling and headache. He had received systemic corticosteroid therapy for facial paralysis 10 days before presentation. Initial imaging demonstrated sinonasal soft-tissue opacification without definite orbital involvement. However, the patient showed rapid clinical progression, with the development of proptosis, complete ptosis, ophthalmoplegia, and reduced visual acuity. Despite empirical antibiotic therapy for presumed preseptal cellulitis, clinical deterioration continued. Endoscopic sinus surgery revealed necrotic tissue extending to the lamina papyracea. Histopathological examination confirmed mucormycosis, and liposomal amphotericin B therapy was initiated.

RESULTS

Despite systemic antifungal therapy and initial surgical debridement, the patient's condition continued to deteriorate, with progressive orbital involvement extending toward the orbital apex and optic nerve, accompanied by near-total ophthalmoplegia. Orbital exenteration was therefore performed, revealing extensive necrotic involvement reaching the orbital apex. Postoperatively, serial debridement and systemic antifungal therapy were continued. Follow-up endoscopic and radiological evaluations showed no residual necrotic tissue or intracranial extension.

CONCLUSIONS

Rhino-orbital mucormycosis may present with limited early radiological findings despite rapid clinical progression. A high index of clinical suspicion is essential, particularly in diabetic patients with recent corticosteroid exposure. Early initiation of systemic antifungal therapy combined with prompt and aggressive surgical debridement is critical for disease control. Orbital exenteration should be considered in selected cases with advanced orbital involvement, optic nerve or orbital apex extension, and poor response to conservative surgical and medical treatment. Treatment decisions should be individualized through a multidisciplinary approach.

KEYWORDS

rhino-orbital mucormycosis, angioinvasive fungal infection, endoscopic sinus surgery, surgical debridment, orbital exenteration

PP-682

A Modified Double-Pass Transseptal Conchopexy Technique To Facilitate Knot Tying During Middle Turbinate Preservation In Endoscopic Sinus Surgery

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BACKGROUND & AIM

Preservation of the middle turbinate during endoscopic sinus surgery (ESS) helps maintain anatomical landmarks, support nasal physiology, and facilitate postoperative endoscopic surveillance and revision procedures. However, postoperative middle turbinate lateralization and synechiae remain relevant technical challenges. Transseptal conchopexy is widely used to achieve medial stabilization, but suture placement and knot tying may be difficult within the narrow endonasal surgical field. We aim to describe a modified double-pass transseptal conchopexy technique routinely used in our department, designed to facilitate anterior knot tying while safely providing controlled bilateral medialization and stable preservation of both middle turbinates following ESS procedures.

MATERIAL & METHODS

This technical note describes the modified double-pass transseptal conchopexy performed after completion of endoscopic sinus surgery when preservation of both middle turbinates is desired. Under endoscopic visualization, a non-absorbable suture is first passed through the most anterior portion of the nasal septum, creating an accessible anterior anchoring point. From the right septal side, the needle is advanced through the right middle turbinate from lateral to medial, then across the septum, and subsequently through the left middle turbinate from medial to lateral. A second pass is then performed in the opposite direction: the suture re-enters the left middle turbinate from lateral to medial, crosses the septum from left to right, and exits through the right middle turbinate from medial to lateral. Both free ends are finally retrieved anteriorly and tied at the anterior septal region, allowing controlled bilateral medialization while avoiding deep intranasal knot tying and improving surgical ergonomics overall intraoperatively.

RESULTS

The modified double-pass transseptal conchopexy provided a reproducible way to stabilize both middle turbinates while keeping the knot in an anterior and accessible position. The sequential passage of the suture through the septum and both middle turbinates created a symmetric fixation, allowing controlled medialization without excessive traction on the turbinate mucosa. By returning the suture anteriorly before tying, knot manipulation was performed outside the deepest portion of the nasal cavity, reducing the technical difficulty usually associated with conventional transseptal conchopexy. The technique was easily integrated after completion of endoscopic sinus surgery and did not interfere with the surgical cavity or postoperative endoscopic access. In our experience, the maneuver was useful in cases where middle turbinate preservation was desired and there was concern for postoperative lateralization or synechiae. No specific additional instrumentation beyond a standard needle holder and suture was required, making it practical for routine use in selected patients.

CONCLUSIONS

The modified double-pass transseptal conchopexy is a simple, reproducible technical modification for middle turbinate preservation during endoscopic sinus surgery. By returning the suture to an anterior septal position before knot tying, the technique improves accessibility and may reduce the difficulty of deep intranasal knot manipulation. The double-pass configuration provides bilateral and symmetric medialization of the middle turbinates, helping maintain surgical landmarks and postoperative endoscopic access. This maneuver requires no specific instrumentation and can be easily incorporated into routine practice in selected cases after ESS procedures. Further prospective studies are warranted to evaluate its impact on lateralization, synechiae, and long-term outcomes.

KEYWORDS

Endoscopic sinus surgery; middle turbinate preservation; transseptal conchopexy; double-pass technique; anterior knot tying; turbinate medialization; synechiae prevention; surgical technique; functional endoscopic sinus surgery; nasal septum; endonasal suture management.

PP-683

Oncocytic Schneiderian Papilloma Of The Nasopharynx: An Unusual Cause Of Severe Obstructive Sleep Apnea

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BACKGROUND & AIM

Sinonasal papillomas are benign epithelial neoplasms of the sinonasal tract. Among them, the Oncocytic Schneiderian Papilloma (OSP) is a rarer variant, often overshadowed by its more common counterpart, the Inverted Papilloma (IP). This report delves into a unique presentation of nasopharyngeal OSP in a patient exhibiting severe symptoms of Obstructive Sleep Apnea (OSA), emphasizing the intricate relationship between the two conditions and the challenges they pose in clinical management.

MATERIAL & METHODS

A 37-year-old Malay male with a history of active smoking presented with a year-long complaint of bilateral nasal obstruction, worsened over the past two months, accompanied by foul-smelling nasal discharge. He also experienced significant loud snoring and apnea episodes during sleep. Physical examination noted reduced misting bilateral nostrils, and nasoendoscopy identified a smooth looking pink lobulated mass in the nasopharynx. CT showed a homogeneous mass in the fossa of Rosenmüller, confined to the nasopharynx, extending down to level of soft palate. His BMI was 31.5, and the Apnea-Hypopnea Index (AHI) was 56. He underwent excision of nasopharynx mass, tonsillectomy and pharyngoplasty. Histopathology confirmed oncocytic Schneiderian papilloma. The patient was managed with desloratadine, mometasone furoate nasal spray, and repeated sleep study showed significant reduction in AHI score (11).

RESULTS

Oncocytic Schneiderian Papillomas (OSPs) are rare benign tumors of the sinonasal tract, accounting for 3–5% of Schneiderian papillomas. They typically present with nasal obstruction, epistaxis, and, in some cases, OSA. The association between OSPs and OSA is not well-established, but in this case, the tumor's nasopharyngeal location and bilateral extension likely contributed to severe OSA symptoms. Treatment involves complete surgical excision, often via endoscopic sinus surgery (ESS), which is

minimally invasive with lower morbidity. However, the tumor's size and location in this case required a combined approach, including adenoidectomy, tonsillectomy, and pharyngoplasty. Postoperative management typically includes nasal corticosteroids and antihistamines to reduce inflammation and prevent recurrence. The patient's severe OSA (AHI 56) underscores the impact of sinonasal pathologies on sleep quality. Addressing nasal obstruction through surgery is essential for improving OSA symptoms, with postoperative follow-up and repeat sleep studies to assess resolution and guide further management.

CONCLUSIONS

This case underscores the importance of considering OSPs in the differential diagnosis of patients presenting with nasal obstruction and OSA symptoms. A comprehensive approach, including appropriate imaging, surgical intervention, and postoperative management, is essential in effectively treating OSPs and associated OSA.

KEYWORDS

Sinonasal papilloma, Obstructive Sleep Apnoea

PP-684

Acute Complicated Sinusitis Presenting With A Subperiosteal Orbital Abscess In A 17-Year-Old Adolescent: A Case Report

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BACKGROUND & AIM

Subperiosteal orbital abscess (SPOA), classified as Stage III according to the Chandler criteria, is a critical complication originating from acute bacterial rhinosinusitis that carries a substantial risk of permanent blindness and intracranial extension. This presentation aims to report the clinical features of an SPOA case arising during the course of acute rhinosinusitis, highlight the definitive role of contrast-enhanced CT and MRI in the diagnostic workup, and discuss the management combining aggressive, broad-spectrum IV antibiotic therapy with prompt surgical decompression in light of current literature

MATERIAL & METHODS

This is a retrospective clinical evaluation of a single case. A 17-year-old male adolescent presenting with an acute complicated rhinosinusitis-induced superior subperiosteal orbital abscess was evaluated. Diagnostic workup included nasal endoscopy, complete blood count, inflammatory markers (WBC, CRP), contrast-enhanced orbital CT, and MRI. Interventions consisted of urgent multidisciplinary surgical decompression (right functional endoscopic sinus surgery combined with external abscess drainage) and culture-guided, broad-spectrum IV antibiotic therapy managed jointly by Otorhinolaryngology, Ophthalmology, and Pediatric Infectious Diseases departments.

RESULTS

In sinus-derived orbital complications occurring within the adolescent age group, the threshold for surgical drainage should be kept low due to distinct anatomical and microbiological variations characteristic of this population. Vigilant monitoring utilizing a multidisciplinary approach, timely surgical decompression, and aggressive, broad-spectrum IV antibiotic therapy covering anaerobic pathogens remain the cornerstones to preventing permanent visual loss and devastating intracranial sequelae.

CONCLUSIONS

Orbital complications of acute rhinosinusitis are ENT emergencies. Subperiosteal abscesses form posterior to the orbital septum, risking permanent visual sequelae in 15% to 30% of cases if mismanaged. While FESS with endoscopic decompression is the gold standard for medial abscesses, frontal sinusitis carries a high risk of polymicrobial infections.Therefore, maintaining targeted IV antibiotic therapy for at least two weeks or longer is essential to achieve complete resolution and prevent both recurrence and devastating intracranial complications.

KEYWORDS

Acute Rhinosinusitis; Orbital Complications, Subperiosteal orbital abscess; Functional endoscopic sinus surgery

PP-685

JUVENILE NASOPHARYNGEAL ANGIOFIBROMA: CASE SERIES

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BACKGROUND & AIM

Juvenile nasopharyngeal angiofibroma (JNA) is a rare, benign but locally aggressive hypervascular tumor that occurs predominantly in adolescent males. It most often presents with unilateral nasal obstruction and recurrent epistaxis and may extend to the pterygopalatine fossa, infratemporal fossa, maxillary sinus, orbit, and skull base. We present three surgically treated JNA cases with different radiologic and anatomic extension patterns.

MATERIAL & METHODS

Three male patients aged 13, 16, and 19 years who underwent surgery for JNA were reviewed retrospectively. Clinical presentation, computed tomography and magnetic resonance imaging findings, surgical technique, and postoperative outcomes were evaluated. Surgical planning was based on tumor extent. Preoperative angiography, with embolization when indicated, is generally recommended as an adjunct to reduce intraoperative bleeding; however, its use was not specified in these cases.

RESULTS

All three patients presented with unilateral nasal obstruction and epistaxis. In the 16-year-old patient, imaging showed a left-sided mass extending from the sphenopalatine foramen into the nasal cavity and nasopharynx, widening the pterygopalatine fossa and progressing toward the infratemporal fossa and skull base. Surgery was started endoscopically but completed with a combined endoscopic and Weber–Ferguson approach because of advanced lateral extension. The 19-year-old patient had a more limited right-sided lesion centered at the sphenopalatine foramen with extension to the choana and nasopharynx, and complete resection was achieved by a purely endoscopic transnasal approach. The 13-year-old patient had a large left-sided tumor filling the maxillary sinus, protruding into the nasal cavity, and extending to the infratemporal and prezygomatic regions; this lesion was removed using an expanded endoscopic approach with medial maxillectomy. Gross total resection was achieved in all cases.

CONCLUSIONS

Management of JNA requires careful radiologic assessment and a surgical plan tailored to tumor extent. Endoscopic surgery is effective in selected cases, whereas combined approaches remain important for lesions with extensive lateral or skull base extension. In this series, individualized surgical treatment provided successful tumor control without major morbidity and no major intraoperative or postoperative complications were observed, and no residual tumor was identified in the immediate postoperative period.

KEYWORDS

Angiofibroma , Endoscopic Surgery , Rhinology , Epistaxis

PP-686

Re-Emergence Of Human Nasal Myiasis By Cochliomyia Hominivorax In Central America: An Extensive Endoscopic Surgical Case From Guatemala

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BACKGROUND & AIM

Human myiasis is a parasitic infestation caused by dipterous larvae. Nasal involvement by Cochliomyia hominivorax (New World screwworm) is rare but potentially aggressive, especially in regions with recent epidemiological alerts. We report an extensive case of sinonasal and nasopharyngeal myiasis requiring surgical reintervention and discuss its clinical and public health implications.

MATERIAL & METHODS

A 51-year-old male from Alta Verapaz, Guatemala, presented with worsening headache and epistaxis after nasal packing for epistaxis. Nasal endoscopy revealed multiple live larvae in the left nasal cavity and nasopharynx. CT imaging was performed to evaluate disease extension. The patient underwent endoscopic surgical removal and irrigation under general anesthesia. Extracted larvae were sent for laboratory identification. Due to incomplete removal during the first procedure, a second endoscopic intervention was performed. Adjunctive treatment included systemic antibiotics and single-dose ivermectin.

RESULTS

Larvae were identified in the maxillary sinus, frontal recess, nasopharynx (including the Rosenmüller fossa), and near the Eustachian tube orifice. A total of approximately 100 larvae were removed in two surgical procedures. Laboratory analysis confirmed Cochliomyia hominivorax (L3 stage). Complete eradication was technically challenging due to anatomical proximity to vascular structures. The patient showed favorable evolution, with no residual infestation on follow-up, although localized mucosal tissue loss was observed.

CONCLUSIONS

This case highlights the destructive potential of C. hominivorax nasal myiasis, the importance of early surgical intervention, and the technical challenges of complete endoscopic removal in deep sinonasal spaces. In endemic or re-emerging regions, otolaryngologists must maintain high clinical suspicion and consider the possible role of local epidemiological factors.

KEYWORDS

Nasal myiasis; Cochliomyia hominivorax; Sinonasal infection; Endoscopic surgery; New World screwworm; Global health; Nasopharyngeal infestation

PP-687

ADULT INTRANASAL GLIAL HETEROTOPIA WITH SPHENOIDAL EROSION: A RARE CASE REPORT AND 5 YEAR FOLLOW-UP.

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BACKGROUND & AIM

Nasal glioma is a rare congenital malformation formed by the appearence of heterotopic central nervous system tissue in the nasal cavity. It is usually diagnosed during childhood, with very few adult cases reported in the literature. It may present as a subcutaneous extranasal mass, an intranasal polypoid lesion, or a combination of both. CT scan and MRI are essential diagnostic tools used to differentiate nasal glioma from encephalocele and to rule out intracranial communication. Definitive diagnosis is established through histopathological and immunohistochemical analysis, typically showing positivity for S100 protein and glial fibrillary acidic protein (GFAP).

MATERIAL & METHODS

We present the case of a 39-year-old man who consulted for progressive right nasal obstruction. Nasofibroscopy revealed a polypoid lesion arising from the posterior nasal septum, almost completely occupying the right choana. CT imaging demonstrated a heterogeneous lesion measuring 3.6 × 1.7 × 1.4 cm, associated with remodeling of the posterior vomer and erosion of the floor of the right sphenoid sinus.

RESULTS

Endoscopic endonasal surgery was performed, revealing a polypoid-cystic lesion originating from the intersphenoidal septum. Posterior septectomy and complete excision of the lesion were achieved. Histopathological and immunohistochemical studies confirmed the diagnosis of nasal glial heterotopia (nasal glioma) positive for S100 protein and glial fibrillary acidic protein (GFAP). The postoperative course was uneventful, and after 5 years of follow-up, the patient remains asymptomatic with no evidence of recurrence.

CONCLUSIONS

Adult nasal glioma is an exceptional entity that should be included in the differential diagnosis of unilateral nasal masses. Preoperative radiological evaluation is essential to exclude intracranial communication and avoid potentially harmfull procedures such as outpatient biopsy. Endoscopic surgery provides a safe and effective treatment with excellent long-term control.

KEYWORDS

Nasal glioma, Adult presentation, Sphenoid Sinus, Nasal glial heterotopia, Endoscopic surgery, Unilateral nasal mass.

PP-688

Atypical Polymicrobial Nasal Dorsum Abscess Secondary To Septal Hematoma Induced By Concurrent Rhinoplasty And Perforation Repair In A Celiac Patient

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BACKGROUND & AIM

Performing concurrent rhinoplasty and nasal septal perforation repair severely alters local tissue hemodynamics and increases surgical dead space, directly predisposing patients to septal hematoma formation. While hematomas are known complications, their evolution into an atypical, polymicrobial nasal dorsum abscess is exceptionally rare. This report presents a unique case where a massive septal hematoma, strictly induced by the extensive dissection of simultaneous perforation repair and rhinoplasty, served as the exact nidus for a devastating polymicrobial (Pseudomonas aeruginosa and MRSA) dorsal abscess. We aim to emphasize how the mechanical alterations of this concurrent surgery cascade into severe, atypical infections.

MATERIAL & METHODS

A 28-year-old female with a medical history of celiac disease presented in June 2025 with severe nasal obstruction and aesthetic dissatisfaction. Endoscopy revealed an approximately 1 cm anterior septal perforation, a nasal dorsal hump, and weak tip support. The patient underwent concurrent rhinoplasty and septal perforation repair. Postoperatively, internal silicone and external thermal splints were applied. On the 7th postoperative day, upon external splint removal, the nasal dorsum appeared severely erythematous, edematous, and highly tender. Recognizing that the concurrent procedures likely caused a large septal hematoma—now presenting with signs of an evolving atypical abscess—the patient was immediately taken to the operating room for emergency exploration and surgical drainage.

RESULTS

Emergency exploration evacuated copious purulent fluid from the nasal dorsum and septal space, confirming an abscess superimposed on a surgically-induced septal hematoma. Intraoperative cultures were obtained, and empiric intravenous

ceftriaxone and metronidazole were initiated. By postoperative day 2, cultures grew Pseudomonas aeruginosa. Subsequent advanced evaluation by Infectious Diseases revealed co-infection with Methicillin-Resistant Staphylococcus aureus (MRSA), confirming a polymicrobial etiology. The patient received a targeted 3-week intravenous teicoplanin regimen. While aggressive systemic therapy eradicated the infection, the atypical abscess caused severe cartilaginous necrosis, resulting in a saddle nose deformity. A delayed revision rhinoplasty utilizing costal cartilage grafting is currently planned to reconstruct the structural deficit.

CONCLUSIONS

The concurrent execution of rhinoplasty and septal perforation repair creates extensive dead space and vascular compromise, acting as the primary causal factor for septal hematoma formation. This case illustrates a severe domino effect where the surgery-induced hematoma provided an ideal breeding ground for a destructive, polymicrobial (Pseudomonas and MRSA) onslaught, culminating in an atypical nasal dorsum abscess. Surgeons must be hyper-vigilant regarding hematoma risk during combined procedures. Early recognition upon splint removal and urgent surgical drainage are critical to halt this infectious cascade, though irreversible cartilage necrosis may still necessitate complex structural revision.

KEYWORDS

Rhinoplasty, septal perforation repair, septal hematoma, atypical nasal dorsum abscess, polymicrobial abscess, MRSA, Pseudomonas aeruginosa, celiac disease, saddle nose.

PP-689

Coblator-Assisted Endoscopic Total Excision Of A Nasal Glomus Tumor: A Rare Case Report

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BACKGROUND & AIM

Glomus tumors (GT) are rare benign mesenchymal neoplasms, most commonly found in the distal extremities. Sinonasal glomus tumors are extremely rare, accounting for only 0.4% of non-epithelial tumors in this region. Due to their high vascularity, surgical excision carries a significant risk of intraoperative bleeding.

MATERIAL & METHODS

A 60-year-old female presented with a six-month history of left-sided nasal obstruction and intermittent epistaxis. Physical examination revealed a red-purple, tender polypoid mass obstructing the left nasal passage. Imaging showed a highly vascularized 4.5 cm mass. Following a biopsy confirmed benign glomus tumor, the lesion was totally excised via an endoscopic approach. To ensure hemostasis and clear visualization, coblator technology (Evac 70) was utilized during the procedure. The coblator facilitated precise dissection while providing simultaneous coagulation at low thermal temperatures. No postoperative complications or recurrences were observed during the one-year follow-up

RESULTS

Although rare, sinonasal glomus tumors should be considered in the differential diagnosis of vascular nasal masses. Complete surgical excision is the primary treatment. The use of coblator-assisted endoscopic surgery offers a safe and effective alternative by providing superior bleeding control and minimizing thermal damage to surrounding tissues.

CONCLUSIONS

Sinonasal glomus tumors are rare benign vascular lesions that should be considered in patients presenting with nasal obstruction and epistaxis. Accurate preoperative diagnosis is essential for appropriate surgical planning and safe tumor removal. In the present case, the lesion was successfully diagnosed by biopsy and completely excised using an endoscopic approach. Coblator-assisted surgery provided effective intraoperative hemostasis, improved visualization of the surgical field, and reduced thermal injury to adjacent tissues. These advantages contributed to a safe and minimally invasive procedure with successful outcomes. Therefore, coblator-assisted endoscopic excision may represent a reliable treatment option for vascular tumors of the sinonasal region.

KEYWORDS

Coblation, Endoscopic surgery, Epistaxis, General Otorhinolaryngology, Glomus tumor, Nasal cavity, Rhinology, Vascular neoplasm.

PP-690

Clinical Efficacy Of Low - Power LED (Light Emitting Diode) , Light Irradiator In Allergic Rhinitis Patients

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BACKGROUND & AIM

This study aimed to evaluate the clinical efficacy of patients with allergic rhinitis using a low-power LED (Light Emitting Diode) light irradiator for investigational medical devices.

MATERIAL & METHODS

The clinical trial subjects of this study were a total of 24 allergic rhinitis patients. 12 patients in the control group (saline irrigation group) and 12 test group (low-power LED light irradiation group) were evaluated. The patients were children and adults 7 years of age and older. The test group and control group completed a symptom score evaluation diary once a day after applying each medical device for 28 days from the start of treatment.

RESULTS

The patient symptom scores (comprehensive) before and after the application of medical devices in the test group and the control group were compared with the results of pre-treatment-post-treatment (2 weeks)-post-treatment (4 weeks) (by period). The symptom evaluation items checked the change in symptom scores for runny nose, sneezing, nasal congestion, and itching. The symptom score was lower and statistically significant ($p<0.001$). Differences between groups were not statistically significant. In comparison to nasopharyngeal endoscopy improvement scores, the improvement score was increased over time, and it was statistically significant ($p<.001$). As a result of comparing the acoustic rhinometry results before and after the application of the medical device in the test group and the control group, it was not statistically significant ($p = .444$). In this clinical trial, no adverse events or serious adverse events occurred after the application of the medical device.

CONCLUSIONS

Four weeks of phototherapy using low-power LCD showed clinical effects equivalent to those of the saline irrigation group. This suggests that it can be used as an alternative and adjuvant treatment for improving clinical symptoms in patients with allergic rhinitis, such as saline irrigation in the future.

KEYWORDS

Allergic rhinitis, Phototherapy, Saline irrigation

PP-691

Infected Nasolabial Cyst In A Child: A Rare Pediatric Case

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BACKGROUND & AIM

Nasolabial cysts are uncommon, benign non-odontogenic lesions that predominantly affect middle-aged women. Pediatric cases are extremely rare, and few cases of infected nasal cysts in children have been reported worldwide. The pediatric nasolabial cysts—particularly those presenting with infection—are even less well documented. We present a case of a Korean child who developed facial swelling due to an infected nasolabial cyst and report this case to share our experience with this unusual presentation.

MATERIAL & METHODS

A 10-year-old boy presented to the emergency department with right nasal pain and progressive facial swelling. Physical examination revealed tenderness over the right nasal ala and cheek. Paranasal sinus computed tomography (PNS CT) demonstrated fat infiltration in the right facial soft tissue and a cystic lesion in the right nasolabial region, suggestive of an infected nasolabial cyst. The patient was admitted and managed conservatively with intravenous antibiotics. Definitive treatment with endoscopic marsupialization was performed six months after resolution of the acute inflammatory phase.

RESULTS

The patient showed rapid improvement following intravenous antibiotic therapy, with complete resolution of facial swelling by the time of discharge. Endoscopic marsupialization was successfully performed without complications, and the patient has remained symptom-free with no evidence of recurrence during follow-up.

CONCLUSIONS

Nasolabial cysts complicated by infection are exceedingly rare in the pediatric population, and only a few cases have been reported in the literature to date. This patient improved with stepwise management consisting of medical treatment followed by marsupialization. We present this case to share our experience with this rare pediatric presentation.

KEYWORDS

Nasolabial Cysts, Nonodontogenic Cysts, Pediatrics, Nose Diseases

PP-692

Pyoderma Gangrenosum Of The Nasal Dorsum Mimicking Septal Abscess – A Rhinologic Diagnostic Pitfall

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BACKGROUND & AIM

Pyoderma gangrenosum (PG) is a rare neutrophilic dermatosis most commonly affecting the lower extremities. Nasal involvement is exceptionally uncommon and may mimic severe bacterial infection, including septal abscess or complicated

cellulitis. In rhinologic practice, this may lead to delayed diagnosis and potentially harmful surgical interventions due to pathergy. The aim of this report is to present a rare case of PG involving the nasal dorsum and septal region, highlighting diagnostic challenges and therapeutic implications for otolaryngologists.

MATERIAL & METHODS

We present a retrospective analysis of a single clinical case managed in a tertiary referral center. Clinical presentation, radiologic findings, microbiological results, histopathology, treatment course, and follow-up were reviewed.

RESULTS

A 55-year-old male presented with progressive erythema, painful swelling of the nasal dorsum, purulent discharge, and nasal obstruction. Additional ulcerative skin lesions were present on the trunk and upper limbs. His medical history was significant for ulcerative colitis.

Imaging demonstrated nasal mucosal edema without clear features of acute sinusitis. Despite broad-spectrum antibiotic therapy and surgical drainage of a suspected septal abscess, rapid progression of necrotic ulceration involving the nasal dorsum and eyelids occurred. Repeated microbiological cultures remained sterile. Histopathological examination supported neutrophilic dermatosis.

Following initiation of systemic corticosteroid therapy, rapid clinical improvement and arrest of tissue destruction were observed. Recurrence associated with exacerbation of inflammatory bowel disease required biological therapy with infliximab, resulting in sustained remission.

CONCLUSIONS

Pyoderma gangrenosum should be considered in rapidly progressive, culture-negative nasal ulcerations unresponsive to antibiotic therapy, particularly in patients with inflammatory bowel disease. Early recognition is crucial in rhinologic practice to avoid unnecessary surgical procedures and to initiate prompt immunosuppressive treatment.

KEYWORDS

Pyoderma gangrenosum; nasal dorsum; septal abscess; rhinology; inflammatory bowel disease; neutrophilic dermatosis

PP-693

HETEROGENEOUS RESPONSE TO TREATMENT IN SINONASAL MALIGNANT MELANOMA: FROM LOCAL REGRESSION TO LUNG METASTASIS.

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KEYWORDS

sinonasal, malignant, melanoma, desmoplastic, immunotherapy

PP-694

How Biological Treatment Can Change The Course Of A Rare Immunological Disease

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BACKGROUND & AIM

IgG4-related disease is a rare, immune disease with hyper-IgG4-gamma-globulinemia and fibro-inflammatory lesions that can occur in any organ. Diagnosis requires integration of clinical, radiological, serological and histopathological findings, as serum IgG4 elevation alone is insufficient. In otorhinolaryngological practice, IgG4-related disease should be taken into account in the differential diagnosis of patients with salivary or lacrimal gland enlargement, with eyelid edema and chronic rhinosinusitis. Systemic glucocorticosteroids are the first line of treatment and can be combined with other immunosuppressants or biological treatment. The prognosis is favorable, but delay in diagnosis and therapy can lead to multiple organ failure and premature death.

MATERIAL & METHODS

A woman, first time admitted to our ENT Department at the age of 38; initially treated for allergic rhinitis, asthma and eyelid edema, accompanied by rhinosinusitis, and history of numerous comorbidities (Hashimoto's disease, parotid tumor, idopathic hepatitis, anemia and albinism). Imaging studies confirmed enlargement of the salivary and lacrimal glands with the upper eyelids edema and rhinosinusitis. The patient was qualified for sinus surgery. Postoperative histopathological examination enabled the diagnosis of IgG4-related disease. For next 5 years, patient received prednisone and azathioprine, then prednisone and methotrexate, inhaled and nasal steroids. Eyelid oedema resolved, asthma and allergic rhinitis were well controlled.

RESULTS

Despite the treatment, sinus symptoms gradually worsened and were accompanied by headaches. The patient was diagnosed with a mucocele of the left frontal sinus qualified for sinus resurgery. Despite intensive treatment, mucocele of the right frontal sinus developed in the postoperative period. Finally, another radical surgery (Draf III) was performed on the frontal sinuses. The patient also presented with other signs of progression of IgG4-related disease, including a twofold increase in serum IgG4

concentration.The lack of full control of the disease as manifested by the difficult-to-treat rhinosinusitis, became the basis for the patient, at the age of 44, being qualified for biological treatment with rituximab.The patient has been treated with scheduled rituximab infusions over the past two years, resulting in complete resolution of symptoms involving the upper respiratory tract, orbital, and systemic organ manifestations, as well as normalization of serum IgG4 concentrations.

CONCLUSIONS

Glucocorticoids remain standard induction therapy in IgG4-related disease, but relapses and steroid toxicity are common. Rituximab, an anti-CD20 monoclonal antibody, plays a key steroid-sparing role by depleting B cells and plasmablast precursors. It is particularly useful in relapsing, refractory, multiorgan or organ-threatening IgG4-related disease, often producing rapid and sustained clinical improvement.

KEYWORDS

gG4-related disease, biological treatment, rituximab, chronic rhinosinusitis, difficult-to-treat rhinosinusitis, eyelid edema, lacrimal gland

PP-695

ENDOSCOPIC APPROACH IN DACRYOCYSTOCELE AND DACRYOCYSTORINOSTOMY - THE ROLE OF THE ENT AND OUR EXPERIENCES

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BACKGROUND & AIM

Dacryocystitis in newborns in 90-95% of cases resolves spontaneously within the first year of life. Recurrent infections, dacryocystocele or failure of conservative treatment, surgical intervention is necessary. Clinical aspects of congenital and acquired dacryocystitis, clinical presentation, and therapeutic options, are analyzed. Special emphasis is placed on surgical treatment - endoscopic approach and endonasal marsupialization of congenital dacryocystitis. The indications for the application of the endoscopic method and complications were discussed. This study aims to present a series of cases of congenital dacryocystocele in infantsand their treatment, as well as the role of the otorhinolaryngologist in dacryocystorhinostomy from our experience.

MATERIAL & METHODS

This case study evaluates a series of 6 cases of congenital dacryocystocele in infants aged 0 to 6 months who presented with a with ocular symptoms (epiphora, cellulitis, and dacryocystocele) and even mild stridor refered by neonathologist or ophthalmologist. A comprehensive diagnostic workup was conducted, including nasal endoscopy performed by ent specialist using otoendoscope. In all the cases intranasal cysts - dacryocystocele was found and under local anesthesia marsupialization was performed. Folow up examinations was performed in folowing weeks and monts by otorhinolaryngologist and ophthalmologist.

RESULTS

Infants exhibiting respiratory symptoms, even mild stridor, with or without ocular symptoms (epiphora, cellulitis, and dacryocystocele), must undergo endoscopic evaluation. Endoscopic dacryocystorhinostomy performed by ophthalmologist allows a minimally invasive approach with direct visualization of anatomical structures, preserving the integrity of the surrounding tissues and avoiding external scars. Potential complications, such as stent occlusion, bleeding or infection, occur rarely and significantly less often compared to the classic external approach. Role of ent is reserved for cases with complex nasal anatomy(bulose or hypertrofic inferior conha). In children with intranasal cysts, dacryocystocele, endoscopic marsupialization has proven to be a simple and effective method that eliminates the risks of general anesthesia and reduces the need for repeated interventions. This intervention can be performed by ent specialist due to better understanding of nasal anatomy and surgical experience in sinus surgery. Surgical success was also achieved in all our 6 patients without complications.

CONCLUSIONS

Treatment of dacryocystitis requires a multidisciplinary approach of ophthalmologists and otorhinolaryngologists. The endoscopic endonasal approach is a safe, effective and minimally invasive method that improves the outcome of treatment in children and adults, with a significant reduction in complications and a better postoperative result.

KEYWORDS

endoscopic surgery, ophthalmology, teamwork, congenital dacryocystitis

PP-696

Dense Osteoma Of Ethmoid Sinus

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BACKGROUND & AIM

Paranasal sinus osteomas are rare, slow-growing lesions and represent the most common benign tumors of the paranasal sinuses. Clinical presentation varies widely, ranging from completely asymptomatic cases to symptoms such as headache and orbital complications. Most patients become symptomatic only after the lesion reaches a considerable size. In this case report, we present the endoscopic surgical removal of a large, dense osteoma originating from the left ethmoid sinus, abutting the medial orbital wall and extending toward the orbital apex.

MATERIAL & METHODS

A 70-year-old female patient presented with a three-month history of headache predominantly localized to the left side of the face and the left orbital region. The patient had previously received medical treatment for presumed sinusitis from a family physician but was referred to our clinic after the treatment failed to relieve her symptoms. Endoscopic nasal examination revealed no findings suggestive of sinusitis. Preoperative computed tomography demonstrated a dense bony mass located in the left ethmoid sinus extending toward the left orbital apex.

RESULTS

The patient's headache and orbital symptoms resolved immediately after surgery. At the two-month postoperative follow-up, no complications were observed, and the patient remained asymptomatic.

CONCLUSIONS

Pathological examination confirmed diagnosis of dense osteoma. Fibrous dysplasia should be considered in differential diagnosis when a bony mass is detected on CT. Asymptomatic ethmoid sinus osteomas may continue to enlarge until they impair sinus ventilation, which can subsequently lead to infection. Therefore, surgical treatment may be considered even in patients who are not yet symptomatic. During surgery, care is required to avoid injury to adjacent structures, orbital complications can occur when operating in the ethmoid sinus region. Compared with open techniques, endoscopic surgery offers cosmetic advantages. With use of powered instruments, even large osteomas can be successfully removed endoscopically.

KEYWORDS

dense osteoma, endoscopic sinus surgery

PP-697

Oral–Nasolacrimal-Orbital Fistula Following Pediatric Facial Trauma: A Rare Case Report And Literature Review

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BACKGROUND & AIM

Palatal fractures in children are less frequently observed compared to adults due to the greater elasticity of pediatric bone structures. Although pediatric palatal fractures typically occur after high-energy trauma and are commonly associated with craniofacial bone fractures, clinicians should be aware that isolated hard palate fractures may rarely develop and can fistulize to the orbit through the nasolacrimal system.

This case report presents a 9-year-old female patient who developed an isolated hard palate fracture following a fall-related facial trauma.This fracture extended through the nasolacrimal system to the orbit, ultimately leading to food appearance.

MATERIAL & METHODS

A 9-year-old female patient who sustained facial trauma after a fall was evaluated clinically and radiologically. The diagnostic work-up and follow-up process were documented.

RESULTS

The fracture originated from a midline mucosal defect of the hard palate and extended to the orbit via the nasolacrimal system, resulting in regurgitation of ingested food through the eye.

CONCLUSIONS

Although pediatric palatal fractures typically occur after high-energy trauma and are commonly associated with craniofacial bone fractures, clinicians should be aware that isolated hard palate fractures may rarely develop and can fistulize to the orbit through the nasolacrimal system.

KEYWORDS

Hard palate fracture, Pediatric facial trauma, Orbital fistula, Nasolacrimal fistula, Food regurgitation from the eye,

PP-698

A RARE CASE REPORT OF INTRANASAL MASS: GIANT CONCHA BULLOSA IN AN ADULT PATIENT

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BACKGROUND & AIM

Concha bullosa is a condition called pneumatization of the turbinates in the nasal passage. The most common cases of concha bullosa are seen due to pneumatization of the middle turbinate. The most common complaints experienced by patients are nasal obstruction,difficulty breathing through the nose. Advanced examinations can be requested for patients presenting with these complaints, contributing to the differential diagnosis. The first examination that should be requested should be CT. This report,case of an adult patient who was thought to have a mass lesion during examination and had a giant middle turbinate bullosa on computed tomography scan was presented.

MATERIAL & METHODS

Endoscopic nasal examination and paranasal sinus computed tomography were performed. The lesion was evaluated radiologically and surgically treated with endoscopic approach. Histopathological examination was carried out following excision.

RESULTS

A 50-year-old female presented with a 6-year history of right-sided nasal obstruction, nasal discharge, dyspnea, and sneezing attacks. Despite prolonged intranasal steroid therapy, her symptoms persisted. Paranasal sinus computed tomography revealed a giant concha bullosa causing significant septal deviation to the left. Endoscopic examination demonstrated a smooth-surfaced mass originating from the middle turbinate and associated polypoid tissue. The patient initially refused surgery, but due to persistent symptoms, functional endoscopic sinus surgery and septoplasty were later performed. The lateral lamella and part of the medial lamella of the concha bullosa were excised, and the polypoid tissue was removed for pathological evaluation. No perioperative or postoperative complications occurred. Postoperatively, the patient experienced significant symptomatic relief and improvement in quality of life. Regular endoscopic follow-up showed no recurrence. This case highlights the importance of considering giant concha bullosa in patients with chronic unilateral nasal obstruction resistant to medical treatment.

CONCLUSIONS

Unilateral giant concha bullosa is a rare middle concha pathology. Unilateral nasal masses should also be considered in the differential diagnosis. As in our case, unilateral mass lesions can be incidentally identified as giant middle concha bullosa. It presents with non-specific obstructive symptoms such as difficulty smelling, recurrent rhinosinusitis attacks, nasal congestion, and headache. Diagnosis is often made incidentally with paranasal sinus computed tomography. Treatment is surgical. After treatment, a near-complete improvement in quality of life is observed with symptom relief.

KEYWORDS

Nasal Neoplasms, Nasal Concha, Pneumatization, Nasal Obstruction

PP-699

FUNGUS BALL AND ECTOPIC TOOTH IN MAXILLARY SINUS

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BACKGROUND & AIM

An ectopic tooth is defined as a tooth that develops or is positioned outside the normal dental arch and is a rare clinical condition. Location within the maxillary sinus is extremely rare and usually follows an asymptomatic course. However, in some cases, it may lead to non-specific symptoms such as chronic rhinosinusitis, facial pain, nasal discharge, and nasal obstruction. Fungal sinusitis is a chronic infection, particularly seen in the maxillary sinus, often characterized by a fungal mass (fungus ball). The coexistence of these two rare conditions has been reported in a very limited number of cases in the literature.

MATERIAL & METHODS

76-year-old male presented with a three-day history of binocular diplopia localized to the left side. The patient has left maxillary fungal sinusitis and left lateral maxillary ectopic tooth. Patient treated surgically.

RESULTS

76-year-old male presented with a three-day history of binocular diplopia localized to the left side. Neurology evaluation included a Cranial MRI and Paranasal Sinus CT for binocular diplopia confirmed the fungus ball with suspected minimal protrusion into the inferior wall of the left orbit and ectopic tooth. Physical Examination: Nasal endoscopy revealed a patent left middle meatus without active purulent discharge. However, a distinct expansion of the left medial maxillary wall toward the nasal cavity was observed. Ophthalmological consultation and examination confirmed binocular diplopia. Ocular mobility was found to be full in all directions of gaze. The patient treated surgically by prelacrimal approach. A fungus ball and an ectopic tooth were observed in the left maxillary sinus. At the end of the operation, a defect was observed in the left maxillary lateral wall at the location of the ectopic tooth.

CONCLUSIONS

Coexistence of an ectopic tooth and fungus ball in the maxillary sinus is quite rare and can be successfully treated with early diagnosis and an appropriate surgical approach.

KEYWORDS
fungal sinusitis; fungus ball; maxillary; ectopic tooth; prelacrimal; fungus

SIALENDOSCOPY

Poster / E-Poster Presentations · PP-700 – PP-701 · 2 abstracts

PP-700

USE OF THE BASKET FOR SALIVARY STONES IN SIALOENDOSCOPY: 10-YEAR RETROSPECTIVE STUDY

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BACKGROUND & AIM

Sialolithiasis is the main cause of obstructive salivary gland disease, occurring in 80% of cases in the submandibular gland and 20% in the parotid gland. The treatment of sialolithiasis has evolved with the introduction of sialendoscopy and microinstruments such as baskets and balloons, allowing intraductal manipulations. Currently, sialendoscopy is the main treatment option with high efficacy and improved quality of life. Objective: To demonstrate the effectiveness of using a basket in obstructive salivary calculi in sialoendoscopy in a 10-year study.

MATERIAL & METHODS

Retrospective study over 10 years, with a consecutive series of patients with obstructive submandibular and parotid sialolithiasis undergoing sialendoscopy, with successful complete removal using only a basket. The procedure was conducted according to the literature, with interventions for diagnosis and treatment, using a semi-rigid modular sialendoscope (1.3/1.7 mm diameter), support material, and following established standards.

RESULTS

A total of 224 sialoendoscopies were performed for obstructive disease, 189 (84.4%) for sialolithiasis. In 132 (69.9%) the calculus was removed with pure Sialendoscopy and Basket (SP), 105 (79.5%) women, mean age 44.8 years, 65.9% single calculi, 73.5% in the main duct, 100% mobile, 68.9% in the submandibular region, mean size of 4.3 mm, Retrograde Basket technique: 55.3%, mean procedure duration of 62 min, 0% complications and extraction rate with basket 100%.

CONCLUSIONS

Sialoendoscopy using a basket for the removal of obstructive sialolithiasis is safe and effective, with complete resolution of symptoms and a high success rate.

KEYWORDS

Sialadenitis, Endoscopic Surgery through Natural Orifice, Parotitis, Salivary Duct Stones, surgical procedures

PP-701

USE OF BALLOON FOR STENOSIS IN SIALOENDOSCOPY: 10-YEAR RETROSPECTIVE STUDY

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BACKGROUND & AIM

Stenoses comprise 40% of salivary gland obstructions, prevalent in 1-2% of the population, with multifactorial etiology: autoimmune, actinic (radioiodine-RIT) and sialolithiasis. Symptoms include recurrent episodes of pain and swelling, with imaging studies for diagnosis. Sialoendoscopy is the gold standard of treatment, being both diagnostic and therapeutic with balloon dilation of stenoses, corticosteroid instillation and stent placement, resulting in improved quality of life. Objective: To demonstrate the efficacy of balloon sialoendoscopy in the treatment of salivary stenoses in a 10-year study.

MATERIAL & METHODS

Series of patients with obstructive sialadenitis due to salivary stenosis undergoing sialoendoscopy for dilation over 10 years. The procedure used a 1.1/1.3 mm modular sialoendoscope and support material. The stenoses were located, dilated with a balloon, corticosteroids were instilled, and a stent was placed, without complications.

RESULTS

224 sialoendoscopies were performed for obstructive disease, 35 (15.6%) only for stenoses with symptoms of swelling (96%) and pain (88%), with an average of 4.5/week. Thirty (13.4%) patients had RIT and 5 (2.2%) sialolithiasis. Women (80%), 44.8 years old, and 10 (29%) in the parotid gland. Balloon dilation and corticosteroid instillation were performed in 100%, stenting in 91.4%, with a duration of 62 min. Stent loss occurred in 7 (20%), without serious complications. Symptom recurrence occurred in 11 (31.4%) after a period of 3.2 years.

CONCLUSIONS

Balloon sialoendoscopy for stenosis dilation is safe and effective, with complete resolution of symptoms, but has a high recurrence rate over time.

KEYWORDS

Sialadenitis, Endoscopic Surgery through Natural Orifice, Parotitis, Salivary Duct Stones, surgical procedures

SLEEP MEDICINE

Poster / E-Poster Presentations · PP-702 – PP-722 · 21 abstracts

PP-702

The Role Of Functional Endoscopic Sinus Surgery In Sleep Quality Improvement

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BACKGROUND & AIM

Introduction: Chronic rhinosinusitis (CRS) is a highly prevalent inflammatory condition of the paranasal sinuses that significantly impairs patients' quality of life. Beyond nasal obstruction, facial pressure, and olfactory dysfunction, sleep disturbance is increasingly recognized as a major comorbidity. Poor sleep quality in CRS patients is multifactorial, involving nasal blockage, inflammatory mediators, and possible interactions with sleep-disordered breathing. Functional Endoscopic Sinus Surgery (FESS) has been established as an effective treatment for medically refractory CRS, primarily improving sinonasal symptoms. However, its impact on sleep quality remains an area of growing scientific interest.

MATERIAL & METHODS

Materials and Methods: A prospective cohort study was conducted including adult patients with medically refractory CRS who underwent FESS. Sleep quality was assessed preoperatively and three months postoperatively using validated questionnaires, including the Pittsburgh Sleep Quality Index (PSQI) , the Epworth Sleepiness Scale (ESS) and the Sinonasal Outcome Test-22 (SNOT-22), focusing on sleep-related items. Statistical analysis compared pre- and postoperative scores and examined correlations between symptom improvement and sleep quality changes.

RESULTS

Results: Postoperative analysis demonstrated a statistically significant improvement in global PSQI scores (mean reduction: 4.1 points, $p<0.001$) and ESS scores (mean reduction: 3.2 points, $p<0.01$). Improvements in sleep quality correlated positively with reductions in SNOT-22 scores. Patients with higher preoperative disease burden showed greater postoperative sleep improvement.

CONCLUSIONS

Conclusions: Patients demonstrated statistically significant improvement in overall PSQI and SNOT-22 sleep-related scores following FESS. Improvements in nasal obstruction and overall inflammatory burden were strongly associated with better sleep outcomes. FESS appears to significantly enhance sleep quality in CRS patients, highlighting the importance of addressing sleep disturbances as part of comprehensive CRS management. Further randomized studies are warranted to confirm long-term outcomes.

KEYWORDS

Sleep, FESS, Chronic rhinosinusitis

PP-703

Sleep Disorders In Renal Patients: A Comparative Analysis Of Dialysis And Post-Renal Transplant Outcomes

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BACKGROUND & AIM

Sleep disorders are common in patients with end-stage renal disease (ESRD) on dialysis and may persist after renal transplantation. Dialysis-related factors contribute to poor sleep quality, insomnia, obstructive sleep apnea (OSA), and restless legs syndrome (RLS), all associated with increased morbidity and mortality. Although renal transplantation improves several sleep parameters, sleep disorders remain frequent post-transplant, with poor sleep quality and insomnia affecting a substantial proportion of recipients, exceeding rates seen in the general population. We aim to compare the association of sleep disorders between matched cohorts of patients with ESRD on dialysis and renal transplant recipients.

MATERIAL & METHODS

In this cross-sectional study (N = 386; 227 ESRDOD, 159 renal transplant recipients), sleep symptoms and disorders were assessed using validated questionnaires to assess sleep quality (PSQI), risk for sleep apnoea (STOP-BANG, Berlin questionnaires (BQ)), insomnia (ICSD-2), and excessive daytime sleepiness (EDS) using the Epworth sleepiness scale and restless legs syndrom(RLS). Group comparisons used chi-square and t-tests. A multivariate logistic regression model estimated adjusted odds ratios (OR) for poor sleep quality. Variables included demographics, anthropometrics, comorbidities, and sleep-specific indicators.

RESULTS

Poor sleep quality was observed in 57.8% overall, markedly higher in ESRDOD patients versus transplant recipients (68.7% vs 42.1%, P < 0.001). In bivariate analyses, insomnia symptoms (difficulty initiating/maintaining sleep, early awakening), RLS, EDS, high STOP-BANG, and high BQ risk were strongly associated with poor sleep (all P < 0.001). In the adjusted model, renal transplant status was independently protective (OR 0.321, 95% CI 0.193–0.534, P < 0.001). Strong independent risk factors included insomnia (OR 8.44), high STOP-BANG risk (OR 5.68), EDS (OR 5.47), RLS (OR 3.45), and high Berlin risk for OSA (OR 2.17). Age, gender, BMI, HTN, and diabetes were not significant in the multivariate model.

CONCLUSIONS

ESRDOD patients carry a substantially higher burden of poor sleep and insomnia than renal transplant recipients.

KEYWORDS

End-stage renal disease, Sleep Quality, Obstructive Sleep Apnoea, Restless Legs Syndrome, Berlin questionnaires

PP-704

“Efficacy Of GLP-1 Receptor Agonists For Obstructive Sleep Apnea: A Systematic Review And Network Meta-Analysis Of Randomized Controlled Trials”

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BACKGROUND & AIM

Background: Obstructive sleep apnea (OSA) is strongly associated with obesity and cardiometabolic dysfunction. Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) have emerged as effective weight-loss therapies with potential benefits in OSA; however, their comparative efficacy across available agents and against continuous positive airway pressure (CPAP) remains uncertain.

MATERIAL & METHODS

Methods: Following PRISMA 2020 guidelines, we systematically searched PubMed, Scopus, Web of Science, Cochrane Library, and Google Scholar from inception to January 24, 2025. Randomized controlled trials (RCTs) evaluating GLP-1 RAs in adults with confirmed OSA were included. Random-effects pairwise and network meta-analyses were performed. The primary outcome was change in apnea-hypopnea index (AHI). Secondary outcomes included body weight, Epworth Sleepiness Scale (ESS), inflammatory markers, blood pressure, and cardiometabolic parameters.

RESULTS

Results: Ten reports from seven unique RCTs comprising 1,069 participants were included. Compared with placebo, GLP-1 RAs significantly reduced AHI (mean difference [MD]: −14.4 events/hour; 95% confidence interval [CI]: −23.3 to −5.6; P<0.001). Subgroup analysis demonstrated superior efficacy with tirzepatide versus liraglutide (−21.8 vs −6.6 events/hour; P for interaction<0.001). GLP-1 RAs also significantly improved body weight (−13.0%), ESS (MD: −1.95 points), hs-CRP (−38.9%), systolic blood pressure (−4.1 mmHg), HDL-cholesterol (+7.8%), and triglycerides (−19.0%). Network meta-analysis ranked liraglutide plus CPAP highest for AHI reduction (SUCRA 93.9%), followed by tirzepatide (67.9%) and CPAP alone (62.9%). Direct

comparisons showed CPAP remained superior to GLP-1 RAs alone for AHI reduction (MD: 18.6 events/hour favoring CPAP; 95% CI: 13.6–23.6). Treatment duration significantly predicted AHI improvement on meta-regression (β=−0.66 events/hour/week; P<0.001).

CONCLUSIONS

Conclusions: GLP-1 RAs significantly improve OSA severity, sleep-related symptoms, weight, and cardiometabolic outcomes in patients with obesity-related OSA. Tirzepatide demonstrated substantially greater efficacy than liraglutide, while combination therapy with CPAP yielded the greatest overall benefit. Although CPAP remains the most effective standalone therapy for AHI reduction, GLP-1 RAs represent a promising adjunctive or alternative therapeutic strategy, particularly in patients with obesity and cardiometabolic comorbidities.

KEYWORDS

Keywords: Obstructive sleep apnea; Tirzepatide; GLP-1 receptor agonists; Continuous positive airway pressure; Obesity; Apnea-hypopnea index

PP-705

ANTI-IGLON5 DISEASE PRESENTING WITH RECURRENT VOCAL CORD PARALYSIS & SLEEP APNEA

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BACKGROUND & AIM

Anti-IgLON5 disease is a rare neurological disorder characterized by antibodies against the neuronal cell-surface protein IgLON5, combining autoimmune and neurodegenerative mechanisms. Clinical manifestations are heterogeneous and frequently include sleep disorders, bulbar dysfunction, movement abnormalities, and respiratory compromise, often leading to delayed diagnosis. We present a case initially evaluated as a laryngeal and neuromuscular disorder that ultimately fulfilled diagnostic criteria for anti-IgLON5 disease.

MATERIAL & METHODS

A patient with chronic obstructive pulmonary disease (COPD) and obstructive sleep apnea treated with continuous positive airway pressure (CPAP) was admitted in December 2025 with stridor, dysarthria, dysphagia, excessive daytime sleepiness, confusion, and respiratory symptoms. Family members reported progressive somnolence, nocturnal disorientation, generalized spasm-like movements, and noisy breathing preceding admission. Neurological examination demonstrated severe dysarthria, dysphagia, transient anisocoria, persistent horizontal nystagmus, and symmetric hyperreflexia without focal motor deficits. Brain magnetic resonance imaging and angiography excluded acute ischemia. Chest computed tomography showed bilateral aspiration-related bronchopneumonia, while neck imaging revealed glottic narrowing and laryngeal paralysis. Tracheostomy was performed because of respiratory compromise.

RESULTS

Following tracheostomy, the patient showed marked improvement in respiratory status, somnolence, and neurological manifestations. During hospitalization, fluctuating dysphagia, fatigable dysarthria, intermittent diplopia, and generalized fatigue raised suspicion for myasthenia gravis; however, electromyography including single-fiber studies and fatigability testing were normal. Clinical improvement occurred without specific immunotherapy, and the patient was discharged with outpatient follow-up. In February 2026, recurrent dyspnea and bilateral vocal cord paralysis required repeat tracheostomy. Additional symptoms included nocturnal visual and auditory hallucinations. Serum anti-IgLON5 antibodies tested positive by indirect immunofluorescence with a titer of 1:320, confirming the diagnosis. Persistent sleep-related manifestations and airway symptoms required continued multidisciplinary follow-up.

CONCLUSIONS

Anti-IgLON5 disease should be considered in patients presenting with unexplained stridor, bilateral vocal cord paralysis, dysphagia, sleep disturbances, and fluctuating neurological symptoms. Early recognition is essential because the disorder may mimic neuromuscular junction disease or neurodegenerative conditions, while prompt diagnosis may facilitate earlier immunotherapy and improve outcomes.

KEYWORDS

IgLON5 disease, sleep apnea, traqueostomy, vocal cord paralysis

PP-706

Surgical Management Of Palatal Adhesions Using A Fashioned Silastic Sheet Stent: A Case Series.

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BACKGROUND & AIM

Adhesions of the soft palate and posterior tonsillar pillars to the posterior pharyngeal wall, causing nasopharyngeal stenosis, are uncommon. They lead to nasal obstruction and obstructive sleep apnea, in addition to affecting speech, smell, and taste. In our practice, this condition was encountered in patients with a history of khat consumption, excessive cauterization during adenotonsillectomy, and in the cicatricial stage of rhinoscleroma. Restoration of nasal breathing is challenging due to the high rate of postoperative re-adhesions. In this study we aim to introduce a modified surgical technique and stent designed to prevent re-adhesions and improve nasal breathing.

MATERIAL & METHODS

Ten patients with adhesions between the soft palate, tonsillar pillars, and posterior pharyngeal wall causing nasal obstruction were included in this study. Six patients developed adhesions due to khat consumption, three following excessive cauterizations during a previous adenotonsillectomy and one due to rhinoscleroma. Surgical Technique: Dissection and division of adhesions and excision of scar tissue were performed under general anesthesia (GA). In post-adenotonsillectomy cases, a suture was placed in the posterior pillar and suspended to the pterygomandibular raphe to achieve lateral expansion of the pharynx. A specially tailored stent made of silastic (or plastic) sheet with a quadrangular piece placed between the palate and posterior pharyngeal wall with two long lateral arms placed in both nasal cavities and sutured together outside the nasal cavity anterior to the columella. The stent was removed after 1-2 months to allow healing and new mucosal lining. Postoperative follow-up ranged from 6 to 12 months.

RESULTS

Good postoperative healing with subjective improvement of nasal breathing was observed in all patients. Two cases developed mild lateral palatal adhesions which were easily released under GA without stenting and without recurrence. No cases of nasal regurgitation were observed.

CONCLUSIONS

The use of a specially fashioned silastic sheet stent after surgical dissection of palatal adhesions allows normal mucous membrane healing and prevents recurrence.

KEYWORDS

palatal adhesions, nasopharyngeal stenosis, pharyngeal stenosis

PP-707

OROPHARYNGEAL FLORA IN OBSTRUCTIVE SLEEP APNEA PATIENTS

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BACKGROUND & AIM

The aim of this study is to investigate whether the oropharyngeal flora changes in patients with Obstructive Sleep Apnea Syndrome (OSAS).

MATERIAL & METHODS

The study included 53 patients diagnosed with OSAS by Standard Polysomnography (PSG) and 65 patients without suspected OSAS. Oropharyngeal cultures were obtained from the patient and control groups included in the study. A fully automated device was used to identify bacteria. The patient group and control group were compared statistically for bacteria and species diversity obtained from culture.

RESULTS

The most common bacteria detected in the patient group and control group were Streptococcus oralis (37.5%) and Streptococcus mitis (37.7%), respectively. When the distribution of microorganisms across the patient and control groups was examined, no significant difference was observed between the two groups in the incidence of each species (P=0.198). When the two groups were compared across various Alpha Diversity measures, which indicate species richness or diversity, 6 of these measures were significantly higher in the OSAS group. Based on this result, species richness is higher in the OSAS group.

CONCLUSIONS

The oropharyngeal flora is significantly higher in terms of species diversity in patients with OSAS.

KEYWORDS

Oropharyngeal Flora, OSAS, Microbiome Diversity, Polysomnography, Sleep Apnea Research

PP-708

Nasoseptal Flap Reconstruction For Nasopharyngeal Stenosis: A Two-Case Series

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BACKGROUND & AIM

Acquired nasopharyngeal stenosis is a rare but challenging condition characterized by partial or complete obstruction of the communication between the nasopharynx and oropharynx, most commonly following adenotonsillectomy or uvulopalatopharyngoplasty. Multiple surgical techniques have been described, including scar excision, laser lysis, stenting, and regional or free flaps; however, restenosis and prolonged stent dependence remain significant concerns. The nasoseptal flap is a well-vascularized pedicled mucosal flap widely used in skull base reconstruction. We hypothesized that nasoseptal flap reconstruction may provide durable patency without routine stenting in refractory nasopharyngeal stenosis.

MATERIAL & METHODS

This prospective observational case series included two patients with severe acquired nasopharyngeal stenosis treated at a tertiary referral center. Both had undergone multiple prior unsuccessful interventions. Surgical management consisted of complete scar release followed by nasoseptal flap reconstruction without routine long-term stenting. Primary outcome was endoscopic patency during follow-up. Secondary outcome was change in Apnea-Hypopnea Index (AHI) in the patient with obstructive sleep apnea. Statistical analysis was not performed due to the small sample size.

RESULTS

Case 1 (16-year-old female) developed total stenosis after adenotonsillectomy and prior pharyngeal flap surgery. Reverse-based nasoseptal flap reconstruction achieved satisfactory patency, maintained at 6-month follow-up without stenting.

Case 2 (69-year-old male) had refractory stenosis after six prior coblation procedures and multiple failed reconstructive attempts. Following nasoseptal flap reconstruction, stable patency was maintained at 8 months. Preoperative AHI was 41.8 events/hour and improved to 6.6 events/hour postoperatively. No restenosis occurred during follow-up. Velopharyngeal insufficiency developed in one patient and was managed with a prosthetic obturator.

CONCLUSIONS

Nasoseptal flap reconstruction may provide effective anatomical restoration in refractory nasopharyngeal stenosis without routine stenting. In selected patients, functional improvement in obstructive sleep apnea may also be observed. Larger studies are required to validate these findings.

KEYWORDS

Nasopharyngeal stenosis, Nasoseptal flap ,Endoscopic reconstruction, Pedicled mucosal flap

PP-709

Office-Based Coblation Soft Palate Reduction For Obstructive Sleep Apnea: A Case Series

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BACKGROUND & AIM

Retropalatal obstruction is a major contributor to snoring and obstructive sleep apnea (OSA). Conventional surgical management may require general anesthesia, prolonged recovery, and significant postoperative discomfort. Office-based coblation soft palate reduction under local anesthesia may offer a minimally invasive alternative with rapid recovery, minimal morbidity, and favorable patient tolerance.

MATERIAL & METHODS

This case series included patients who underwent office-based coblation soft palate reduction between September 2025 and August 2026 in Qassim, Kingdom of Saudi Arabia. Procedures were performed under local lidocaine anesthesia without sedation. Operative time, patient tolerance, postoperative pain, complications, symptom improvement, Epworth Sleepiness Scale (ESS), apnea-hypopnea index (AHI), oxygen saturation, and follow-up sleep study results were evaluated.

Some patients underwent a second coblation session approximately six months after the initial procedure based on symptom recurrence or residual OSA findings.

RESULTS

32 patients underwent office-based coblation soft palate reduction for snoring and OSA related to retropalatal obstruction. The mean operative time was less than 30 minutes. The procedure was well tolerated in nearly all patients under local anesthesia.

No significant intraoperative or postoperative complications were identified. Patients reported minimal to no postoperative pain, and no major bleeding, airway compromise, dysphagia, velopharyngeal insufficiency, or long-term complications were observed.

Most patients reported significant reduction in snoring and improvement in sleep quality within 1–3 days following the procedure. Follow-up sleep studies demonstrated a reduction in AHI in patients with available postoperative studies.

Clinical improvement was maintained for approximately four months in most patients. A subset of patients underwent a second coblation session after approximately six months, resulting in further symptomatic improvement and superior postoperative sleep study outcomes compared with the first procedure. Early follow-up after the second session demonstrated sustained patient satisfaction without significant complaints.

CONCLUSIONS

Office-based coblation soft palate reduction under local anesthesia appears to be a safe, rapid, and well-tolerated minimally invasive option for selected patients with OSA related to retropalatal obstruction. The procedure demonstrated promising symptomatic and objective sleep improvements with minimal morbidity and high patient satisfaction. Repeat coblation sessions may provide additional benefit and prolonged clinical improvement in selected patients.

KEYWORDS

Coblation, Obstructive sleep apnea, Soft palate reduction, Office-based procedure, Snoring, Local anesthesia, Sleep surgery

PP-710

LIPOMA-LIKE HIBERNOMA- THE SURPRISING ETHIOLOGY BEHIND THE OBSTRUCTIVE SLEEP APNEA SYNDROME

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BACKGROUND & AIM

Hibernomas are benign, lipomatous tumours derived from the brown fat tissue.With less than 200 cases reported in the current literature (<1% of all benign adipocytic tumours), they are considered a rare entity. The lipoma-like variant represents the most uncommon histologic subtype. Rarely discovered in young adults, hibernomas typically arise in regions adjacent to the axial skeleton, corresponding to sites of fetal brown adipose tissue that have persisted into adulthood. Due to its localisation, this cluster of tumours can induce numerous non-distinctive symptoms that may result in delayed diagnosis.

MATERIAL & METHODS

We have analyzed the case of a 40 year old female patient, with no significant medical history, presented with sleep apnea and deglutition difficulties aggravated in supine position. The patient underwent a prior nocturnal polygraphy that revealed a high apnea-hypopnea index (AHI=87,4). The fibroscopy revealed a well-rounded tumoral mass located in the retro-pharyngeal space, bulging anteriorly. The imaging (CT and MRI) were correlated with the clinical data and a biopsy confirmed the presence of a lipoma-like hibernoma.

RESULTS

Endoscopic trans-oral surgery was performed in order to excise the tumor and reestablish the physiological pharyngeal passage.The excised tumoral mass was characterized by a soft consistency, organized in small lobules. No post-operative residual mass was identified imagistically. Furthermore, recurrence was not present during the later monitorization. A significant improvement in deglutition and breathing was reported .

CONCLUSIONS

Lipoma-like hibernomas are exceptionally rare, with a small number of reported cases in the literature. The associated symptomatology can be non-specific, consequently a significant number of cases can pass underdiagnosed. A multidisciplinary approach is necessary in order to diagnose and document this pathology including: imaging, functional tests and an optimal surgical approach to ensure complete resection and full remission of the symptomatology.

KEYWORDS

lipoma-like hibernoma, obstructive sleep apnea syndrome, transoral surgery, pharyngeal surgery

PP-711

Identifying Risk Factors Of Eustachian Tube Dysfunction Among Patients With Obstructive Sleep Apnoea

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BACKGROUND & AIM

Eustachian tube dysfunction (ETD) affects the function of middle ear to equalize pressure and protect against pathogens. Obstructive sleep apnoea (OSA), characterized by repeated airway obstruction during sleep, has an increased risk of ETD, possibly due to Eustachian tube blockage and delayed nasopharyngeal openings. However, the risk factors of ETD among patients with OSA remains unclear. This study aimed to identify the risk factors of ETD among OSA patients and to determine the ETD proportion in this population. Additionally, to compare the nasoendoscopic characteristics and airway collapse among OSA patients with and without ETD.

MATERIAL & METHODS

A cross-sectional study was conducted involving 101 adult OSA patients. All subjects completed ETDQ-7 and reflux symptom index (RSI) questionnaire, clinical examination including otoscopy, nasoendoscopy, oropharyngeal evaluation followed by audiological assessments. The subjects are divided into ETD and non-ETD groups based on the screening. Endoscopic

assessment of soft palate and lateral pharyngeal wall collapse was performed as part of routine OSA airway evaluation. The Eustachian tube (3ET) score, modified Müller manoeuvre findings, and reflux finding score (RFS) were recorded and compared between groups.

RESULTS

Among the 101 adult OSA patients analyzed, 43 (42.6%) were diagnosed with ETD. Patients with ETD demonstrated a significant higher severity score for the nasoendoscopic parameters compared to non-ETD group. There was no statistically significant difference of severity and pattern of airway collapsibility and among patient with ETD and without ETD. Both RSI-M (p=0.01) and RFS(p=0.009) are statistically significant higher in ETD group than non-ETD group.

CONCLUSIONS

Eustachian tube dysfunction is more common in patients with obstructive sleep apnoea. Tubal tonsil hypertrophy and laryngopharyngeal reflux are significant risk factors, whereas the severity and pattern of airway collapse do not appear to influence ETD occurrence.

KEYWORDS

Obstructive sleep apnea; Eustachian tube; Laryngopharyngeal reflux; Nasal airway

PP-712

Syndrome Of Obstructive Sleep Apnea And Snoring In Patients With Vestibular Deficiencies

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BACKGROUND & AIM

The Syndrome of Obstructive sleep apnea and snoring (SOSAS) is the most widely spread sleep disorder of the present century. Comorbidity, associated with the syndrome, severely diminishes quality of life of patients affected. SOSAS has negative implications on most anatomical systems of the human organism.

MATERIAL & METHODS

30 patients (20 male and 10 female, aged between 55 and 70) were tested on the premises of University medical and dental center, Medical University - Varna in the time period May-October 2025. All patients had their sleep quality and quantity assessed utilizing specialized sleep questionnaires (Berlin, ESS, STOP-BANG) and polygraphic sleep study (HSAT). Vestibular and balance status was studied through static and dynamic computer posturography, vHIT and VNG tests. Specialized vestibular, sleep and general health status questionnaires, and signed written informed consent forms were filled by all participating patients. The study received approval by University's Ethic committee. The study is financed by the European Union-NextGenerationEU, through the National Recovery and Resilience Plan of the Republic of Bulgaria, Project No. BG-RRP-2.004-0009.

RESULTS

Male patients were predominantly affected by moderate and severe forms of SOSAS, compared to female ones. In male patients with SOSAS, expressed symptoms of vestibular deficiencies were more often diagnosed. Female patients coped with vestibular symptoms better than male ones.

CONCLUSIONS

Poor sleep quality and intermittent hypoxia affect vestibular capabilities and balance in patients affected. Treating SOSAS alleviated vestibular symptomatology and improved balance significantly. Vestibular rehabilitation programs should be regularly implemented in the treatment process of SOSAS if symptoms of disbalance are present.

KEYWORDS

obstructive sleep apnea, vestibular defficiencies, vertigo, dizziness, hypoxia, excessive daytime sleepiness

PP-713

Lingual Tonsil Resection As A Possibility To Improve The Life Quality Of Patients With Severe Obstructive Sleep Apnea (OSA)

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BACKGROUND & AIM

The safest and the most effective treatment for severe OSA is CPAP. However, some patients refuse to use it. Our aim is to improve the life quality by such patients vie surgical treatment.

MATERIAL & METHODS

14 patients were included in our study. The apnea/hypopnea index was between 42 and 61 per hour (average 47.5). There were 9 men and 5 women. The median age was 44.5 years. All patients included in the study underwent drug induced sleep endoscopy (DISE) and CT of the neck. The severity of OSA was detected by cardiorespiratory monitoring or polysomnography.

The inclusion criteria were as follows: severe SOAS (apnea/hypopnea index more than 30 per hour), lingual tonsil enlargement (detected in endoscopy and neck CT scan) and patient's refusal to use CPAP. The patients with body mass index (BMI) greater than 35 and persons without lingual tonsil hypertrophy were excluded. The lingual tonsil resection was performed using a coblation with 70° endoscope visualization. If the intervention was supplemented with pharyngoplasty, it was performed using the standard technique.

RESULTS

Control cardiorespiratory monitoring was performed in 45-60 days after surgery. By all patients apnea/hypopnea index was improved. Medium improvement was 36 score. Most of patients (8) reach light degree of OSA and 6 have recovered completely.

CONCLUSIONS

It can be noted that the lingual tonsil resection is a promising treatment method for patients with severe OSA, who for any reasons refuse to use CPAP therapy.

KEYWORDS

Obstructive sleep apnea, OSA, lingual tonsil resection

PP-714

Prevalence And Factors Associated With Oxygen Desaturation In Patients At A Tertiary Hospital: A Cross-Sectional Study

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BACKGROUND & AIM

Obstructive Sleep Apnea (OSA) is a respiratory disorder associated with cardiovascular and neurological morbidity. An elevated Oxygen Desaturation Index (ODI) indicates greater OSA severity and is particularly relevant in hospitalized patients, where sleep disorders are often underrecognized. Since standard polysomnography is rarely feasible during hospitalization, screening tools such as the STOP-BANG questionnaire and the Epworth Sleepiness Scale (ESS) may help identify at-risk patients. However, the association between these tools and objective sleep-related parameters in hospitalized patients remains insufficiently explored. This study evaluated the prevalence of elevated ODI in hospitalized patients and its association with comorbidities and validated screening questionnaires.

MATERIAL & METHODS

A cross-sectional study was conducted between 2022 and 2024 at a tertiary hospital in Brazil, including adult hospitalized patients without a previous diagnosis of OSA. STOP-BANG, ESS, sleep quality self-assessment, and overnight pulse oximetry data were obtained. The ODI was considered elevated when ≥ 5 oxygen desaturation events per hour; STOP-BANG scores > 3 indicated OSA risk, and ESS scores > 8 indicated excessive daytime sleepiness. Parametric and nonparametric tests were used, with a significance level of 5%.

RESULTS

Seventy-eight patients were included. The mean age was 54 years, and the mean body mass index was 25.5 kg/m². The mean STOP-BANG score was 3.5 (± 3), indicating intermediate OSA risk, while the mean ESS was 8.59 points (± 4.11). Mean minimum oxygen saturation during sleep was 87%, with a mean saturation of approximately 95%. The mean number of oxygen desaturation events was 31, and the mean ODI was 4.6 events per hour. Time spent with oxygen saturation below 90% and total sleep time with snoring were low on average, with substantial interindividual variability.

CONCLUSIONS

The prevalence of elevated ODI in hospitalized patients highlights the importance of OSA screening, as its association with screening questionnaires may support earlier identification and appropriate clinical management, potentially reducing OSA-related complications.

KEYWORDS

Epworth Sleepiness Scale. Obstructive Sleep Apnea. Oxygen Desaturation Index. Polysomnography. STOP-Bang Questionnaire.

PP-715

Risk Factors For Nasal Airway Obstruction And Sleep-Disordered Breathing In Children With Mandibular Deformities

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BACKGROUND & AIM

The study of pathogenesis with consideration of risk factors for combined involvement of ENT organs and internal system diseases in children with mandibular deformities is of significant scientific and practical importance.

Improvement of comprehensive diagnostics of risk factors for nasal and nocturnal breathing disorders caused by ENT pathology and contributing to the persistence of inflammatory and hypoxic conditions in children with mandibular deformities.

MATERIAL & METHODS

Sixty-five children aged 3 to 18 years with mandibular deformities were examined. Health assessments were conducted based on an interdisciplinary approach to the diagnosis of internal organ diseases in children with mandibular deformities. Standard endoscopic methods were used to evaluate the condition of the ENT organs. Radiological diagnostics were performed using multislice computed tomography of the paranasal sinuses, facial bones, and skull with the assistance of the RadiAnt DICOM Viewer program.

RESULTS

The following conditions were identified, which directly or indirectly affect the development of nasal and nocturnal breathing disorders. In 51 patients (78%), radiological and clinical signs of nasal septum deviation were observed, and adenoid vegetations were found in 57 patients (88%). Analysis of structural and functional changes in the maxillofacial region revealed that the children had more pronounced retro-micrognathia, narrowing of the nasopharyngeal airway at the isthmus of the naso- and oropharynx, as well as deformation of the bony and cartilaginous structures of the nasal cavity, leading to impaired breathing. Enlargement of the nasopharyngeal and palatine tonsils, along with narrowing in the area of the nasopharyngeal isthmus and lower jaw, underlies the disruption of nasal breathing. Combined with local structural and functional abnormalities associated with retro-micrognathia, this condition is exacerbated by tissue hypoxia, which increases the risk of systemic inflammation and contributes to the progression of the primary disease.

CONCLUSIONS

ENT disorders (rhinitis, nasal septum deviation, hypertrophy of the nasopharyngeal tonsil) and retro-micrognathia, accompanied by structural and functional abnormalities of the nasal and pharyngeal cavities, increase the risk of respiratory insufficiency and chronic progression of the pathological process. Impaired nasal breathing contributes to changes in blood parameters and autonomic nervous system function, reflects the nature of local microcirculatory disturbances, hypoxia, and acidosis, and leads to the progression of clinical, functional, and metabolic alterations. This underscores the need for the development and implementation of comprehensive diagnostic and therapeutic interventions targeting the ENT organs in children with mandibular deformities.

KEYWORDS

nasopharyngeal tonsil, deviated nasal septum, hypoxia, rhinitis, mandible, temporomandibular joint

PP-716

Obstructive Sleep Apnea .... 2026 Update

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BACKGROUND & AIM

To let my colleagues know the newest information on such complicated disese, as OSA is one of the most common sleep disorders. It is one of the most challenging diseases encountered in otolaryngology because its diagnosis and management necessitates cooperation of many specialties. Therefore, the development and progress in this field are great.

MATERIAL & METHODS

This work is devoted to focusing, briefly yet comprehensively, on the most recent trends in definitions, pathophysiology, and management of OSA.

RESULTS

The development in OSA is incredible and tremendous, so following the updates is crucial.

CONCLUSIONS

All physicians must continually follow up on the latest periodicals and research. Therefore, the Ministry of Health must support and provide this information by all means, and these conferences are one of the most important sources for that.

KEYWORDS

SLEEP DISORDERS, OBESITY, BMI, APNEA HYPOAPNEA INDEX

PP-717

Comparative Value Of Neck Circumference, Body Mass Index, And The Epworth Sleepiness Scale For Identifying Moderate-To-Severe Obstructive Sleep Apnea

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BACKGROUND & AIM

Obstructive sleep apnea (OSA) is highly prevalent and linked to cardiovascular morbidity and reduced quality of life, yet remains widely underdiagnosed. Early identification of patients at risk for clinically significant disease is crucial to guide diagnostic testing and treatment. Common screening tools, such as the Epworth Sleepiness Scale (ESS), rely on subjective symptoms and may inadequately detect moderate-to-severe OSA. Objective anthropometric measures, particularly neck circumference, may better represent upper airway structural risk. We hypothesized that neck circumference would demonstrate superior diagnostic accuracy compared with ESS and body mass index (BMI) for identifying moderate-to-severe OSA defined by the apnea–hypopnea index (AHI).

MATERIAL & METHODS

A retrospective observational study included adult patients from a tertiary referral hospital with available AHI data from sleep studies. Clinical, demographic, and anthropometric variables were obtained from a standardized database. Neck circumference, BMI, and ESS were analyzed as independent variables. Moderate-to-severe OSA was defined as AHI ≥15 events/hour. Diagnostic performance was evaluated using receiver operating characteristic (ROC) curve analysis with area under the curve (AUC) estimation and optimal cutoffs determined by the Youden Index. Univariable and multivariable binomial logistic regression models estimated odds ratios (OR) with 95% confidence intervals (CI).

RESULTS

Seventy-seven patients had complete AHI data, of whom 49 had moderate-to-severe OSA. Neck circumference demonstrated the highest discriminative ability (AUC ≈ 0.66), outperforming BMI and the ESS. In logistic regression, neck circumference was significantly associated with moderate-to-severe OSA (OR ≈ 1.14 per cm; $p < 0.05$), while BMI and ESS were not. In the multivariable model, neck circumference remained the only independent predictor, with modest improvement in model fit.

CONCLUSIONS

Neck circumference demonstrated superior performance compared with BMI and the ESS for identifying moderate-to-severe OSA, as defined by the AHI. Although its discriminatory ability was moderate, neck circumference emerged as the most informative independent clinical marker among the variables studied. These findings support the value of simple, objective anthropometric measures in OSA risk stratification and highlight the limitations of subjective sleepiness assessment.

KEYWORDS

Body Mass Index. Epworth Sleepiness Scale. Neck Circumference. Obstructive Sleep Apnea.

PP-718

Relationship Between Active Bruxism, Anxiety And Serum Micronutrient Levels: A Controlled Cross-Sectional Study

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BACKGROUND & AIM

Bruxism is a multifactorial parafunctional activity involving clenching and/or grinding of the teeth during sleep or wakefulness. Current evidence indicates that bruxism is a complex neurobehavioral condition associated with psychological stress, autonomic dysregulation, sleep-related factors, and central neuromuscular mechanisms. Micronutrients and trace elements may influence neuromuscular excitability, oxidative stress, neurotransmitter balance, and psychiatric comorbidities. Zinc, magnesium, and vitamin D have been proposed as potential modulators in bruxism pathophysiology, although current evidence remains limited and heterogeneous. This study aimed to evaluate the relationship between active bruxism, anxiety levels, and serum micronutrient profiles.

MATERIAL & METHODS

This controlled cross-sectional study included patients with active bruxism and an age-matched healthy control group. Active bruxism was diagnosed clinically by an experienced oral and maxillofacial surgeon based on clenching/grinding history, dental wear, masseter hypertrophy, and related symptoms. All participants underwent Beck Anxiety Inventory (BAI) assessment and serum micronutrient analysis, including zinc and vitamin D measurements. Groups were demographically comparable. Statistical significance was accepted as $p<0.05$.

RESULTS

Anxiety scores were significantly higher in the active bruxism group compared with controls: BAI score: 18.05 vs 6.96 ($p < 0.001$) Serum zinc levels were significantly lower in the bruxism group: Zinc: 81.75 vs 86.90 ($p = 0.029$) No statistically significant difference was observed in vitamin D levels or other measured micronutrient parameters.

CONCLUSIONS

Active bruxism was significantly associated with increased anxiety levels and reduced serum zinc concentrations. These findings support the concept that bruxism is a multidimensional neurobehavioral disorder involving psychological, neurobiological, and biochemical mechanisms rather than only a mechanical parafunctional activity. The association between anxiety and bruxism highlights the potential role of psychosocial stress, emotional dysregulation, and neurochemical imbalance in disease pathophysiology. Further prospective studies with larger sample sizes are required to clarify the causal relationship between micronutrient alterations and bruxism.

KEYWORDS

Bruxism; Anxiety; Zinc; Vitamin D; Trace Elements; Neurobehavioral Disorder

PP-719

The Role Of Shear Wave Elastography In The Diagnosis And Treatment Monitoring Of Bruxism: A Prospective Clinical Study

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BACKGROUND & AIM

To assess the diagnostic performance of two-dimensional shear wave elastography (2D-SWE) in detecting bruxism and evaluating treatment response following botulinum toxin injection into the masseter muscle.

MATERIAL & METHODS

This prospective study included 41 female patients with clinically diagnosed bruxism and 20 healthy controls. Bilateral masseter and temporalis muscle stiffness values were measured using 2D-SWE at rest, while masseter stiffness was additionally assessed during contraction. Bruxism patients received 20 U botulinum toxin type A per masseter, and elastography was repeated at three weeks. Diagnostic cut-off values were determined using ROC analysis.

RESULTS

Masseter stiffness during contraction was significantly higher in bruxism patients than controls (right: 54.29±27.32 vs. 34.15±15.49 kPa; left: 54.15±29.44 vs. 32.81±19.98 kPa; $p=0.003$). Post-treatment measurements demonstrated a significant decrease in stiffness ($p=0.001$). ROC analyses identified optimal diagnostic cut-offs of 34.65 kPa (right masseter; sensitivity 75%, specificity 70%) and 59.85 kPa (left masseter; sensitivity 40%, specificity 90%).

CONCLUSIONS

2D-SWE is a reliable, objective, and reproducible tool for diagnosing bruxism and monitoring treatment response following botulinum toxin injection.

KEYWORDS

Bruxizm, Botulinum Toxins, Type A, Elasticity Imaging Techniques, Masseter Muscle

PP-720

Log-Transformed Hypoxic Burden Improves Prediction Of CPAP Utilization

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BACKGROUND & AIM

Obstructive sleep apnea (OSA) is a heterogeneous disorder, and traditional severity metrics such as the apnea–hypopnea index do not fully capture the physiological impact of intermittent hypoxia. Hypoxic burden has emerged as a physiology-based biomarker reflecting cumulative hypoxic exposure. This study aimed to evaluate the association between hypoxic burden proxy and CPAP utilization in OSA and to determine whether log transformation improves predictive performance.

MATERIAL & METHODS

This retrospective observational study included 403 patients who underwent sleep study evaluation for suspected obstructive sleep apnea. Demographic data, comorbidities, and polysomnographic parameters including apnea–hypopnea index, T90, mean oxygen saturation, and nadir oxygen saturation were collected.

A hypoxic burden proxy was calculated from oxygen desaturation parameters. Due to right-skewed distribution, log transformation was applied prior to analysis. CPAP utilization was defined as the clinical outcome.

Statistical analysis included non-parametric comparison, logistic regression modeling, and receiver operating characteristic curve analysis. Cases with missing covariate data were excluded using listwise deletion.

RESULTS

A total of 403 patients were included in the analysis. Hypoxic burden proxy demonstrated a markedly right-skewed distribution, and log transformation improved data distribution and model stability. Patients with higher hypoxic burden were more likely to utilize CPAP therapy.

In logistic regression analysis, log-transformed hypoxic burden was significantly associated with CPAP utilization (OR approximately 1.5 per log unit increase, p<0.001).

Receiver operating characteristic analysis demonstrated modest discrimination. The area under the curve was approximately 0.61 for raw hypoxic burden and improved to approximately 0.63 after log transformation. Predictive performance was comparable to conventional severity metrics including AHI, supporting its potential role in clinical risk stratification.

CONCLUSIONS

Log-transformed hypoxic burden is associated with CPAP utilization and demonstrates modest predictive performance comparable to conventional severity metrics such as AHI. As a physiology-based metric reflecting cumulative hypoxic exposure, hypoxic burden may provide additional information for risk stratification and individualized treatment planning in patients with obstructive sleep apnea.

KEYWORDS

Obstructive sleep apnea, hypoxic burden, CPAP utilization, precision medicine

PP-721

Periodic Limb Movements, Associated Arousals, And Systemic Arterial Hypertension: Is There A Link?

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BACKGROUND & AIM

Purpose: This study investigated the prevalence of periodic limb movement during sleep (PLMS), their related clinical and polysomnographic characteristics, and the association between periodic limb movement index (PLMI), periodic limb movement arousal index (PLMAI), and hypertension.

MATERIAL & METHODS

Methods: A total of 1,718 adult patients who underwent polysomnography were analyzed and grouped according to PLMI >15 or ≤15, and PLMAI ≥1 or <1. Age, comorbidities, and medication use were obtained from medical records.

RESULTS

Results: Patients with PLMAI ≥1 (14.2% of the sample) were older, had lower body mass index (BMI), lower apnea-hypopnea (AHI), and higher prevalence of diabetes and use of antidepressants. Patients with PLMI >15 were also older, had lower BMI, and higher prevalence of diabetes, antidepressant use, hypertension, and arrhythmia; however, no significant difference in AHI was observed. In multivariate regression analysis, PLMI >15 was associated with a 1.83-fold increased risk of hypertension (95% CI, 1.26–2.64; p = 0.001), independent of AHI, diabetes, smoking, hypothyroidism, and asthma. However, this association was not independent of age (p = 0.344), suggesting that age may be a confounding factor.

CONCLUSIONS

Conclusion: The prevalence of PLMI >15 (9%) was consistent with the literature (7.6%). We conclude that patients with PLMI >15 have a higher risk of hypertension, independent of AHI, diabetes, smoking, hypothyroidism, and asthma, but not independent of age. PLMAI ≥1, in contrast, was not associated with a higher prevalence of HTN.

KEYWORDS

Periodic limb movement; hypertension; periodic limb movement index; periodic limb movement arousal index.

PP-722

Discrepancies In Subjective Sleep Quality Between Home And Hospital Settings: Insights Of Hypnotic Agents Use With Post-Polysomnography Questionnaire

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BACKGROUND & AIM

Polysomnography (PSG) is the gold standard for diagnosing sleep-disordered breathing (SDB). However, in a hospital testing setting, it may produce the first-night effect, viz., prolonged sleep latency, lower sleep efficiency, and uncertain apnea–hypopnea index (AHI). Here, we aim to determine the influences of hypnotic agents and gender.

MATERIAL & METHODS

In this retrospective study, we reviewed the post-PSG questionnaires and electronic medical records of patients aged ≥20 years receiving overnight PSG for the diagnosis of SDB at Taichung Veterans General Hospital in a period between April 2024 and March 2025.

RESULTS

We studied a total of 1053 patients, aged 47.0 ± 14.7 years old. Compared to sleeping at home, 42.2% of patients reported worse perceived sleep quality (PSQ) with hypnotic agents, and 53.0%, without, before PSG testing in the hospital. For those without taking hypnotic agents, men had an odds ratio (OR) of 1.570 (95% CI: 1.127-2.189) for worsening PSQ compared to women ($p = 0.008$). Also, per increasing 1 Epworth Sleepiness Scale (ESS) score, the risk of worsening PSQ was reduced by OR of 0.963 (95% CI: 0.933-0.994) ($p = 0.021$). Once male patients had ESS < 10, as many as 57.3% of them reported the worse PSQ.

CONCLUSIONS

Our study suggests a potentially more patient-centric approach to diagnosing sleep-disordered breathing. In some male patients with ESS scores < 10, short-acting hypnotics might be considered during in-lab PSG to improve subjective comfort, thereby potentially enhancing study reliability. Meanwhile, home sleep apnea testing can serve as a practical initial tool for selected patients-offering convenience, mitigating the first-night effect, and potentially reducing long wait times. However, its use in individuals with comorbid insomnia requires careful clinical judgment to avoid false-negative results, often making in-lab assessment the preferred option in such cases.

KEYWORDS

first-night effect; home sleep apnea testing; perceived sleep quality; polysomnography; sleep-disordered breathing.

SWALLOWING

Poster / E-Poster Presentations · PP-723 – PP-737 · 15 abstracts

PP-723

Persistent Unilateral Throat Pain Caused By An Elongated Styloid Process: A Case Report

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BACKGROUND & AIM

Eagle syndrome is a rare but clinically significant condition that is associated with elongation or abnormal angulation of the styloid process or calcification of the styloid ligament complex. Most common symptoms include cervicofacial pain, dysphagia, foreign body sensation and oropharengeal discomfort. This case report aims to present the diagnostic evaluation and surgical management in a young adult patient with persistent unilateral pharyngeal pain following an upper respiratory tract infection.

MATERIAL & METHODS

A 23-year-old patient presented with a two-month history of right-sided pharyngeal pain that developed after an upper respiratory tract infection. The patient described associated foreign body sensation and tenderness near the lower pole of the right tonsil. Clinical examination revealed no inflammatory or structural abnormalities of the tonsils and pharynx. However, manual palpation lateral to the palatoglossal arch identified the styloid process and provoked the patient's characteristic pain. Additional findings such as poor oral hygiene and extensive dental decay were observed. Computer tomography examination demonstrated an elongated right styloid process characterized by pronounced anterior angulation and approximately 0,7 cm greater length than the left side. A transoral surgical approach was chosen. Access was achieved through an incision superior to the palatopharyngeal muscle followed by a blunt dissection through the prestyloid adipose tissue. Approximately 2,5 cm of the elongated styloid process was removed and the operative site was closed with sutures.

RESULTS

Postoperative recovery showed significant clinical improvement with total symptom resolution. Although the sutures were partially compromised due to frequent digital palpation by the patient, complete mucosal healing was observed.

CONCLUSIONS

This case demonstrated the diagnostic value of manual palpation and Computed tomography in identifying symptomatic styloid process elongation. Early recognition and appropriate surgical management can result in complete symptom resolution and favorable postoperative outcomes.

KEYWORDS

Eagle syndrome, elongated styloid process, case report, cervicofacial pain, transoral approach, foreign body sensation, computed tomography

PP-724

Evaluation Of Clinical, Metabolic, And Hematological Parameters In Patients With Diffuse Idiopathic Skeletal Hyperostosis

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BACKGROUND & AIM

Diffuse idiopathic skeletal hyperostosis (DISH) is a systemic disease characterized by widespread ossification in the spine and peripheral entheses, associated with metabolic disorders. This study aimed to evaluate the demographic characteristics, presenting complaints, comorbidities, and selected hematological and metabolic parameters of patients diagnosed with DISH.

MATERIAL & METHODS

Nine patients with radiologically diagnosed DISH were retrospectively examined. The patients' ages, presenting complaints, and comorbidities were recorded. In laboratory evaluation, hemoglobin, white blood cell count (WBC), neutrophil/lymphocyte ratio (NLR), triglycerides, fasting glucose, triglyceride-glucose (TyG) index, vitamin B12, and 25-hydroxyvitamin D levels were assessed.

RESULTS

The patients were in the elderly age group, and the most frequent presenting complaints were dysphagia, back and neck pain, and limited mobility. Metabolic comorbidities, particularly glucose and lipid metabolism disorders, were frequently detected. Hemoglobin, WBC, and NLR values were within normal limits in most patients. However, some patients showed elevated triglyceride levels and TyG index. Vitamin D deficiency was common, while vitamin B12 levels varied among patients.

CONCLUSIONS

This small case series supports the idea that DISH is a disease associated with metabolic disorders rather than systemic inflammation. Easily accessible parameters such as triglycerides, glucose, and TyG index may be useful in the clinical evaluation of DISH patients. Keywords: Diffuse idiopathic skeletal hyperostosis, DISH, metabolic syndrome, TyG index

KEYWORDS

DİSH, TyG Index, Dysphagia, Metabolic Syndrome

PP-725

Beyond Dysphagia : ENT Approach To Cervical Tuberculous Spondylitis – A Case Report

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BACKGROUND & AIM

Cervical spinal tuberculosis (TB), also known as cervical Pott's disease, is a rare but potentially life-threatening form of osteoarticular tuberculosis. It accounts for only 2–5% of spinal TB cases and may lead to severe neurological complications. Oropharyngeal manifestations revealing cervical tuberculosis remain exceptional.

Our objective is to highlight the diagnostic and therapeutic role of ENT management in an unusual presentation of cervical tuberculous spondylitis.

MATERIAL & METHODS

We report the case of a 32-year-old woman admitted to the ENT department for progressive dysphagia associated with cervical pain and paresthesia of the upper limbs. Clinical examination, including nasofibroscopy, radiological investigations, surgical management, and cytobacteriological analysis were performed.

RESULTS

Nasofibroscopic examination revealed a marked bulging of the posterior oropharyngeal wall causing significant narrowing of the pharyngeal lumen. Given these findings, cervical MRI was performed, demonstrating extensive tuberculous spondylitis extending from C2 to T1, associated with multiple abscess collections, the largest of which measured 118 mm in height and caused marked compression of the pharyngeal lumen; associated multilevel spondylitic and neuritic involvement.

The patient underwent transoral surgical drainage with needle aspiration and incision of the posterior oropharyngeal wall, allowing evacuation of the abscess and collection of samples for cytobacteriological analysis.

Direct smear examination revealed acid-fast bacilli, and mycobacterial culture on Löwenstein–Jensen medium confirmed the diagnosis of tuberculosis.

The patient was referred to the Infectious Diseases Department and was started on antituberculous therapy consisting of 2 months of RHZE followed by 10 months of RH, resulting in favorable clinical improvement.

CONCLUSIONS

Cervical tuberculous spondylitis may present with atypical oropharyngeal symptoms such as dysphagia. ENT evaluation plays a key role in early diagnosis, airway assessment, and surgical management, particularly in cases requiring transoral drainage of compressive collections

KEYWORDS
Cervical tuberculosis, Cervical Pott's disease, Oropharyngeal dysphagia, Prevertebral abscess, Transoral drainage

PP-726

Idiopathic Reversible Combined Cranial Nerve X And XII Palsy Following Upper Respiratory Tract Infection: A Rare Case Report

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BACKGROUND & AIM

Lower cranial nerve palsies are rare, typically arising from neoplastic, vascular, or traumatic causes. However, post-infectious mechanisms are increasingly recognized, especially following upper respiratory tract infections. While isolated hypoglossal nerve palsy is uncommon—linked to Epstein-Barr virus, COVID-19 vaccination, or tonsillitis—combined involvement of the glossopharyngeal, vagus, and hypoglossal nerves can occur. These idiopathic cases often present with normal neuroimaging and a favorable prognosis, pointing toward post-viral inflammatory neuropathy. Consequently, clinicians should consider post-infectious etiologies in the differential diagnosis for patients presenting with acute dysarthria, dysphagia, and tongue deviation following recent systemic or respiratory infections.

MATERIAL & METHODS

A 52-year-old male presented with acute hoarseness, dysphagia, and slurred speech following an upper respiratory tract infection. Otorhinolaryngological examination revealed leftward tongue deviation with ipsilateral hemiatrophy and dysarthria, indicating left hypoglossal nerve dysfunction. Flexible laryngoscopy confirmed left vocal cord paralysis. While the uvula remained midline, the left soft palate exhibited significant hypotonia; however, bilateral gag reflexes were preserved.

Neuroimaging, including brain MRI, showed only chronic microvascular ischemic changes, with no evidence of malignancy or compression in the neck, temporal bone, or thorax. Laboratory investigations for infectious and vasculitis markers were unremarkable. Given the preceding viral prodrome and negative imaging for structural lesions, a diagnosis of post-infectious inflammatory neuropathy was established. Following multidisciplinary consultation, conservative management was initiated. This case highlights the importance of considering post-viral etiologies in multi-cranial nerve palsies, where unremarkable imaging and a favorable clinical history often suggest a benign, inflammatory process.

RESULTS

At the 1-week follow-up, significant improvement in tongue mobility and partial regression of atrophy were observed. Vocal cord functions returned to normal bilaterally, and soft palate symmetry was restored. The patient reported marked improvement in swallowing functions, though a mild residual difficulty in suction (negative pressure generation) persisted. At the 2-month follow-up, complete resolution of all symptoms was observed.

CONCLUSIONS

Post-infectious lower cranial nerve palsies are rare but clinically significant conditions. While hypoglossal nerve involvement is typically isolated, the literature indicates that adjacent cranial nerves—particularly IX and X—may be affected as part of a broader neuropathic spectrum (3–4).

The absence of structural pathology on imaging and the favorable clinical course support a post-viral or immune-mediated mechanism. Recognizing this condition is crucial to avoid unnecessary invasive diagnostic procedures and to guide appropriate conservative management. Most cases demonstrate spontaneous or treatment-assisted recovery, indicating a generally benign and self-limiting course (1–4).

KEYWORDS
Hypoglossal nerve paralysis , vocal cord paralysis, dysphagia, Idiopathic cranial neuropathy

PP-727

Superior Thyroid Cornu Syndrome Mimicking Post-Stroke Dysphagia

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BACKGROUND & AIM

Superior thyroid cornu syndrome (STCS) is a rare structural abnormality caused by elongation or medial displacement of the superior thyroid cornu, causing dysphagia and throat discomfort. Because symptoms may overlap with neurologic or gastrointestinal disorders, diagnosis can be delayed. We present a case of STCS initially attributed to neurogenic dysphagia following ischemic stroke.

MATERIAL & METHODS

A 49-year-old male patient presented with persistent dysphagia and right-sided throat sticking sensation following a right lateral medullary ischemic stroke in 2022. The patient also had a history of surgery for mediastinal ectopic parathyroid

adenoma and hemigastrectomy for perforated peptic ulcer disease. Symptoms consisted of persistent, non-progressive solid-food dysphagia localized to the right side of the neck without liquid dysphagia, odynophagia, or weight loss. Upper gastrointestinal endoscopy showed post-hemigastrectomy anatomy and alkaline reflux gastritis without esophageal pathology. Flexible endoscopic examination demonstrated an elongated right superior thyroid cornu causing right lateral hypopharyngeal wall protrusion with intact mucosa. CT and MRI excluded a mass lesion and supported the diagnosis of superior thyroid cornu syndrome. The elongated portion of the right superior thyroid cornu was excised transorally using a CO_2 laser. The mucosa was sutured primarily and reinforced with fibrin glue to achieve a watertight seal.

RESULTS

No postoperative complications occurred. Oral intake was resumed on postoperative day 1 without nasogastric tube placement. At 10-week follow-up, the patient reported marked improvement in dysphagia with complete resolution of the right-sided throat sticking sensation.

CONCLUSIONS

Persistent solid-food dysphagia following stroke should not be attributed solely to neurogenic causes. Although rare, superior thyroid cornu syndrome should be considered in patients with localized mechanical swallowing symptoms and compatible endoscopic and radiologic findings. Surgical excision may provide significant symptomatic improvement in appropriately selected patients.

KEYWORDS

Superior thyroid cornu syndrome; Dysphagia; Stroke; Hypopharynx; CO_2 laser surgery

PP-728

PERSISTENT DYSPHAGIA AND HYPOPHONIA ASSOCIATED WITH OSMOTIC DEMYELINATION SYNDROME: A CASE REPORT

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BACKGROUND & AIM

Osmotic demyelination syndrome (ODS) is a severe neurological disorder most commonly occurring as a complication of the treatment of profound hyponatremia. Excessively rapid correction of serum sodium leads to an abrupt increase in extracellular tonicity without sufficient time for cerebral osmotic adaptation, promoting water efflux from brain cells and resulting in oligodendrocyte injury and demyelination. The central pons is most frequently affected, accounting for the characteristic clinical manifestations. Patients may present with altered mental status, progressive lethargy, dysarthria, dysphagia, hypophonia, and quadriplegia. Isolated bulbar manifestations without additional neurological deficits are uncommon.

MATERIAL & METHODS

This case report describes a 62-year-old man admitted following cranioencephalic trauma with a 20-day history of dysarthria, productive cough, and asthenia. Laboratory evaluation revealed severe hyponatremia (serum sodium 100 mmol/L), likely related to thiazide use and dehydration, and sodium correction was initiated. Within 24 hours, the patient developed altered mental status requiring invasive mechanical ventilation, raising suspicion of ODS. After extubation on day five, severe dysphagia was observed, necessitating enteral feeding initially via orogastric tube and subsequently by percutaneous endoscopic gastrostomy.

RESULTS

Brain magnetic resonance imaging performed 25 days after admission demonstrated a symmetrical central pontine T2-weighted hyperintense lesion consistent with central pontine myelinolysis. Serial neurological examinations and fiberoptic endoscopic evaluation of swallowing revealed severe dysphagia with gradual improvement, associated with hypophonia. Approximately six months after admission, the patient tolerated a fractionated oral diet with selected consistencies. Hypophonia also progressively improved. No other significant neurological sequelae were identified.

CONCLUSIONS

ODS is associated with considerable morbidity and often results in significant neurological deficits that pose substantial rehabilitation challenges. We describe an atypical presentation in which altered mental status was the primary acute manifestation and persistent deficits were limited to dysphagia and hypophonia. Although uncommon, this clinical pattern should prompt consideration of ODS in the setting of corrected electrolyte disturbances and early magnetic resonance imaging. With appropriate multidisciplinary rehabilitation, patients with ODS-related dysphagia may achieve meaningful recovery.

KEYWORDS
Dysphagia; Swallowing; Osmotic demyelination syndrome; Central pontine myelinolysis; Neurogenic dysphagia

PP-729

A Simple Four-Grade Vallecular Jelly Clearance Scale In Video Endoscopic Evaluation Of Swallowing: Reliability And Validity For Diet Selection

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BACKGROUND & AIM

Evaluation of pharyngeal clearance in video-endoscopic evaluation of swallowing (VEES) is valuable not only for diagnosing dysphagia but also for selecting appropriate food textures. Conventional residue rating scales rely on the amount and location of post-swallow residue, which are often complex and require considerable expertise, particularly for assessing pyriform sinus residue. We developed a simple method focusing on the number of swallows required to clear vallecular jelly residue and investigated its reliability and validity.

MATERIAL & METHODS

A 3-g jelly bolus was administered, and vallecular clearance was graded on four levels: 0 = cleared in one swallow, 1 = cleared with one additional swallow, 2 = cleared with two to three additional swallows, and 3 = residue remaining after three swallows. For reliability, VEES recordings of 45 patients (May–June 2023) were independently assessed by three otolaryngologists (two with >15 years, one with 3 years' experience) and one speech–language pathologist (10 years' experience). Two senior otolaryngologists performed re-assessments, and weighted kappa coefficients were calculated. For validity, VEES data from 488 patients (July 2022–June 2023) were analyzed to examine correlations with the Hyodo score subitems and diet levels.

RESULTS

Weighted kappa coefficients demonstrated substantial inter- and intra-rater agreement, confirming the reliability of this method. The correlation coefficient between vallecular jelly clearance and diet level was 0.375, which was higher than that of the Hyodo subitems "sensitivity" and "reflex" and comparable to "pharyngeal clearance." The correlation between diet level and the total Hyodo score was 0.519, whereas the combination of the Hyodo score plus this new clearance scale improved the correlation to 0.552.

CONCLUSIONS

The proposed four-grade vallecular jelly clearance scale is simple, reliable, and valid. It provides a practical tool for evaluating swallowing function and may contribute to more accurate food texture selection in patients with dysphagia.

KEYWORDS
videoendoscopic evaluation of swallowing, jelly residue, epiglottic vallecula, reliability, Hyodo Score

PP-730

OUTCOME ANALYSIS OF ASPIRATION PREVENTION SURGERY: A 10-YEAR RETROSPECTIVE STUDY

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BACKGROUND & AIM

Aspiration prevention surgery separates the airway from the digestive tract at the larynx or cervical trachea to prevent aspiration. Since many patients can resume oral intake after surgery, it is expected to improve their quality of life(QOL). However, as many candidates are in poor general condition, ensuring surgical safety is essential.

In this study, we examined factors affecting perioperative eating status and risk factors for postoperative complications in patients who underwent aspiration prevention surgery in our department.

MATERIAL & METHODS

The study included 55 cases of aspiration prevention surgery performed at our department over a 10-year period (January 2014 to December 2023). Data were retrospectively collected from medical records to analyze factors influencing postoperative nutritional intake and risk factors for surgical complications.

RESULTS

Postoperative swallowing rehabilitation was the only factor significantly associated with improved nutritional intake.

Postoperative complications included wound dehiscence, wound infection, tracheal stoma stenosis, hematoma, and skin flap necrosis. Cerebral palsy was the only factor significantly associated with wound dehiscence, while trauma was the only factor associated with wound infection. No significant factors were identified for tracheal stoma stenosis, hematoma, or skin flap necrosis.

CONCLUSIONS

Postoperative swallowing rehabilitation contributes to improved nutritional intake, suggesting that active rehabilitation is important even after aspiration prevention surgery.

No significant correlation was found between nutritional status or radiation history and postoperative complications. These results suggest that aspiration prevention surgery can be performed relatively safely, even in patients in poor general condition, by selecting the appropriate surgical procedure for each case.

KEYWORDS

Aspiration prevention surgery, Laryngeal closure, Separation of the larynx from the trachea

PP-731

Coexistence Of Stylohyoid Ligament Calcification And Ankylosing Spondylitis: A Rare Case Report

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BACKGROUND & AIM

Eagle syndrome is a rare condition caused by styloid process elongation or stylohyoid ligament calcification, presenting with cervicofacial pain and dysphagia. Although its etiopatogenesis is debated, chronic inflammatory rheumatologic diseases like ankylosing spondylitis (AS), characterized by generalized enthesopathy and ligamentous ossification may potentially trigger or accelerate this mineralization. While rarely reported, Eagle syndrome can coexist in patients with AS. This report aims to present a rare case of Eagle syndrome in an AS patient, exploring the pathophysiological link between syndesmophyte formation and stylohyoid ligament calcification, while emphasizing its successful conservative medical management.

MATERIAL & METHODS

A 33-year-old male presented with a several-year history of a foreign body sensation on the left side of his throat during deglutition and intermittent pain, which had intensified over the past year. His medical history was notable for seasonal allergic rhinitis, septoplasti, cholecystectomy, and ankylosing spondylitis (AS) presenting with recurrent sacroiliitis attacks. The patient was taking indomethacin 50 mg/day for AS. There was no history of previous head and neck trauma. Familial history revealed AS in multiple maternal relatives. Complete otolaryngological and endoscopic examinations were unremarkable. Tonsils were bilaterally symmetrical and Brodsky grade 1. Palpation of the left tonsillar fossa successfully reproduced the patient's foreign body sensation and localized pain.

RESULTS

Laboratory investigations revealed no significant pathology. Lateral cervical radiography and three-dimensional (3D) reconstructed non-contrast neck computed tomography (CT) demonstrated a loss of cervical lordosis, along with bilateral styloid process elongation and extensive calcification of the stylohyoid ligaments. Notably, the calcification along the left stylohyoid ligament was longer and in direct anatomical contact with the hyoid bone. Based on these definitive clinical and radiological findings, the patient was diagnosed with left-sided Eagle syndrome. Given the patient’s active rheumatologic background and inflammatory profile, conservative management was favored over surgical intervention, and the daily indomethacin dose was titrated up to 100 mg.

CONCLUSIONS

This case highlights that Eagle syndrome should be considered in the differential diagnosis of rheumatology patients presenting with persistent globus sensation and dysphagia. Palpation of the tonsillar fossa plays a key role in clinical evaluation, while three-dimensional CT reconstruction is valuable for demonstrating anatomical relationships. Although limited data exist regarding the coexistence of Ankylosing Spondylitis and Eagle syndrome, their association remains controversial. In selected patients, considering the underlying rheumatologic condition, medical and conservative management may provide effective symptom control and represent a successful alternative to invasive surgical intervention, potentially reducing treatment-related morbidity.

KEYWORDS

Eagle syndrome; stylohyoid ligament calcification; ankylosing spondylitis; dysphagia; elongated stylohyoid ligament; stylohyoid ligament calcification; conservative treatment.

PP-732

Swallowing Disorders In Patients Surgically Treated For Early Laryngeal Cancer

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BACKGROUND & AIM

The goal of this study was to analyze patients, which had early stages laryngeal cancer (T1–T2N0M0; I, II st.) treated by partial laryngectomy, swallowing function in late postoperative period.

MATERIAL & METHODS

65 male patients (mean age – 64.9 ± 8.9 yrs) treated in LUHS Otorhinolaryngology clinic from 2011 to 2018 data of flexible endoscopic evaluation of swallowing were analyzed. According to the type of surgery the patients were divided into 2 groups: 54 had partial laryngectomy (partial laryngectomy (PL) group), and 11 had endolaryngeal IV-VI type cordectomy with surgical CO2 laser (endoscopic laser cordectomy group). During the study, 4 food substances of different texture were used: drinking water, yogurt, pudding, and cookie. Four signs of impaired swallowing were assessed: liquids and food penetration, aspiration, residual food in the pharynx and esophagopharyngeal reflux.

RESULTS

Our result showed that signs of impaired swallowing were registered in more than half (64.6%) of the patients. In patients after PL impaired swallowing was identified in 68.5% of cases, and after endolaryngeal laser operations - in 45.5% of cases ($p < 0.05$). The most frequent finding in both groups was residual food in the pharynx: 44.4% and 36.4%, respectively. Penetration, aspiration, and esophagopharyngeal reflux were rare. The last 2 signs were only detected in patients after PL.

CONCLUSIONS

The study found that mild swallowing disorders predominated in the late period after surgical treatment of early-stage laryngeal cancer, an average of 4.1 years. The most frequent impaired swallowing sign was residual food in the pharynx. Swallowing disorders are registered significantly more often in patients after partial laryngectomy than in patients after endolaryngeal laser cordectomy.

KEYWORDS

swallowing disorders, laryngeal cancer, partial laryngectomy, cordectomy, flexible endoscopic evaluation of swallowing

PP-733

SWALLOWING REHABILITATION AFTER PARTIAL GLOSSECTOMY AND RADIAL FOREARM FREE FLAP RECONSTRUCTION IN ADVANCED ORAL CAVITY CANCER: A CASE REPORT

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BACKGROUND & AIM

Advanced-stage oral cavity squamous cell carcinomas with mandibular and floor-of-mouth invasion often require extensive surgical resection and complex reconstruction. Preservation and rehabilitation of swallowing function following tongue and floor-of-mouth defects remain among the most challenging aspects of postoperative management. In this case report, we aimed to present the surgical management and postoperative swallowing rehabilitation process of a patient with advanced oral cavity squamous cell carcinoma reconstructed with a radial forearm free flap.

MATERIAL & METHODS

A 79-year-old male presented with a non-healing ulcerative tongue lesion persisting for one year. Examination and imaging revealed squamous cell carcinoma involving the ventral tongue, floor of mouth, mandibular corpus, and bilateral cervical lymph nodes. (Figure 1) The tumor was clinically staged as T4aN2cM0. The patient underwent tumor excision with marginal mandibulectomy, bilateral neck dissection (levels I–IV), and reconstruction using a radial forearm free flap. (Figure 2)

Postoperatively, enteral feeding via nasogastric tube was maintained for 15 days. Fiberoptic Endoscopic Evaluation of Swallowing (FEES) demonstrated adequate swallowing function, and oral feeding was initiated. Despite the absence of structural or functional abnormalities, the patient later developed dysphagia symptoms and poor oral intake tolerance. Gastrointestinal evaluation was unremarkable, and psychiatric consultation led to a diagnosis of anxiety-related psychogenic dysphagia. Following psychiatric treatment, oral intake gradually improved.

Final pathology demonstrated T4aN3b disease with extranodal extension. Adjuvant chemoradiotherapy and long-term swallowing rehabilitation were planned.

RESULTS

Swallowing dysfunction following partial glossectomy may result from both structural and functional mechanisms. In this case, postoperative Fiberoptic Endoscopic Evaluation of Swallowing (FEES) demonstrated preserved oral and pharyngeal swallowing function without aspiration despite extensive anterior tongue and floor-of-mouth resection reconstructed with a radial forearm free flap. However, the patient experienced persistent dysphagia symptoms and inability to tolerate oral intake. Gastroenterological evaluation revealed no organic pathology, while rapid clinical improvement following psychiatric treatment suggested a psychogenic component of dysphagia.

Early FEES-guided swallowing assessment and rehabilitation enabled controlled reintroduction of oral feeding and supported long-term functional recovery. At approximately 40 days postoperatively, the patient achieved full oral intake without nutritional support or aspiration. This case highlights the importance of multidisciplinary swallowing evaluation after glossectomy and demonstrates that postoperative dysphagia may occur even in the absence of objective swallowing impairment.

CONCLUSIONS

Radial forearm free flap reconstruction is a reliable and effective reconstructive option for complex defects following extensive tongue and floor-of-mouth resections in advanced oral cavity cancers, providing satisfactory functional outcomes. Early restoration of oral feeding despite partial loss of the anterior tongue highlights the importance of appropriate reconstruction and multidisciplinary rehabilitation. Postoperative dysphagia may not always be related to structural or neurological causes, and psychogenic factors should also be considered in the differential diagnosis. Therefore, swallowing rehabilitation, psychiatric evaluation, and close postoperative follow-up should be integrated into the multidisciplinary management of patients undergoing advanced oral cavity surgery.

KEYWORDS

Oral cavity squamous cell carcinoma, partial glossectomy, radial forearm free flap, swallowing rehabilitation, dysphagia, FEES, oral cavity reconstruction, psychogenic dysphagia, head and neck cancer, multidisciplinary rehabilitation

PP-734

Effect Of Physiotherapy On Dysphagia In Head And Neck Cancer Patients Following Oncological Treatment

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BACKGROUND & AIM

Dysphagia is a frequent and clinically significant complication following oncological treatment for head and neck cancer, substantially affecting nutritional status, swallowing safety, and quality of life. Early rehabilitation may play a crucial role in functional recovery; however, evidence supporting the benefit of targeted physiotherapy remains limited.

MATERIAL & METHODS

A prospective cohort of 20 patients following oncological treatment for head and neck cancer was evaluated. Inclusion criteria required completion of radiotherapy within the preceding three months. Patients were divided into two groups: an intervention group (n = 11) undergoing targeted physiotherapy focused on cervical soft tissue mobilization, scar release techniques, and home-based self-therapy, and a control group (n = 9) without physiotherapy intervention. The physiotherapy program consisted of 8–10 sessions. All patients underwent Flexible Endoscopic Evaluation of Swallowing (FEES) and completed the EAT-10 and SWAL-QOL questionnaires at baseline and at a three-month follow-up.

RESULTS

Twenty patients treated for oropharyngeal cancer with RT/CHRT, with or without surgery, were included; disease stage was comparable between groups. Eleven patients underwent targeted physiotherapy focused on cervical soft tissue therapy and scar mobilization, while nine received no physiotherapy intervention. FEES findings remained stable in all but one patient. The only discordant case occurred in the non-physiotherapy group, where subjective improvement on EAT-10 was accompanied by objective deterioration on FEES, with worsening from PAS 4 to PAS 8. In the physiotherapy group, mean EAT-10 scores improved from 19 at baseline to 10 at follow-up, whereas no change was observed in the control group (12 to 12). SWAL-QOL results indicated improved tolerance of food consistency and partial improvement in liquid tolerance in the physiotherapy group, while the control group showed no improvement in food tolerance and worsening of liquid tolerance.

CONCLUSIONS

Targeted physiotherapy focused on manual cervical soft tissue mobilization and scar release techniques may positively influence subjective swallowing outcomes and dysphagia-related quality of life in patients following radiotherapy-based treatment for head and neck cancer. Early rehabilitation may therefore represent an important component of multidisciplinary dysphagia management.

KEYWORDS

Dysphagia; Head and Neck Cancer; Physiotherapy; FEES; Quality of Life

PP-735

Accidentally Ingested Foreign Body Lodged In Thyroid Lobe: A Rare Presentation

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BACKGROUND & AIM

This case report is a testament to the wonder that is the human body, where a sharp metal wire pierced through the esophageal wall and got lodged in the thyroid gland, with the esophagus completely healed following the trauma. Thus, it proved to be a challenging case in terms of diagnosis and management for the team of otolaryngologists.

MATERIAL & METHODS

A 60-year-old female patient reported to the ENT outpatient department with presenting complaints of foreign body sensation in the throat since the last 15 days. Videolaryngoscopy of the patient showed a normal glottis with bilateral normal vocal cords and mobility. The patient was taken for cricopharyngoscopy and esophagoscopy with the aim of visualizing the foreign body and its removal under general anesthesia, which was normal. Computed tomography (CT) scan of the neck showed the foreign body, which was then removed from behind the right superior thyroid pole under C-arm guidance.

RESULTS

This case proves that both clinical correlation and radiological investigation go hand in hand in the management of foreign body ingestion, and one is incomplete without the other.

CONCLUSIONS

The confounding nature of the case is what makes it novel. The unusual migration of the foreign body, along with the atypical symptoms, proved to be a challenge for the treating surgeons.

KEYWORDS

Case report, Esophageal foreign bodies, Foreign body esophagus, Ingested foreign body.

PP-736

Management Of Pharyngeal Pouch - A Retrospective Review Over 27 Years In A Single Tertiary Centre

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BACKGROUND & AIM

Pharyngeal pouch, also known as Zenker's diverticulum, is an acquired pulsion diverticulum arising through Killian's dehiscence and predominantly affects the elderly population. Surgical management has evolved considerably over the past three decades, with a shift from open transcervical approaches to minimally invasive endoscopic techniques. This study presents a 27-year retrospective review of pharyngeal pouch management at a tertiary ENT centre, evaluating trends in surgical practice and clinical outcomes.

MATERIAL & METHODS

A retrospective review was conducted of all patients treated for pharyngeal pouch between 1998 and 2025. Data collected included patient demographics, surgical technique (open vs endoscopic), length of hospital stay, recurrence rates, and perioperative complications. Statistical comparisons were performed between operative approaches using SPSS.

RESULTS

A total of 267 patients were identified (male:female ratio 1.8:1), with a mean age of 74.6 years (range 48–92). Endoscopic stapling or laser diverticulotomy was performed in 187 cases (75.7%), while 80 patients (24.3%) underwent open transcervical diverticulectomy with cricopharyngeal myotomy. The use of endoscopic techniques increased from 42% of cases in the first decade of the study period to 88% in the most recent decade.

Overall complication rates were significantly lower in the endoscopic group compared with the open group (6.2% vs 17.3%, p=0.018). Major complications (including mediastinitis, fistula formation, or return to theatre) occurred in 1.9% of procedures. The mean length of hospital stay was 1.8 days for endoscopic surgery compared to 3.1 days for open surgery. Symptom recurrence requiring revision surgery occurred in 8.6% of endoscopic cases and 5.8% of open cases over a median follow-up of 4.2 years.

CONCLUSIONS

Over a 27-year period at our tertiary centre, endoscopic management of pharyngeal pouch has become the predominant surgical approach. Endoscopic techniques were associated with shorter hospital stay and lower overall complication rates compared to open surgery, with acceptable recurrence rates. These findings support the continued preferential use of endoscopic approaches in appropriately selected patients.

KEYWORDS

Pharyngeal pouch, zenkers, diverticulum, swallowing, dysphagia, endoscopy

PP-737

Classification Of Dysphagia Based On Acoustic Analysis Of Swallowing

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BACKGROUND & AIM

Objective: To systematize classification proposals for swallowing disorders based on acoustic and vibratory parameters obtained using instrumental techniques.

MATERIAL & METHODS

Methods: A narrative review was conducted to identify studies that propose specific taxonomies or correlations between acoustic/vibratory signal parameters and the pathophysiology of dysphagia.

RESULTS

Results: The authors have proposed classifications based on changes in parameters extracted from the digitized signal. For the oral phase, a significant increase in total event duration and sound fragmentation correlate with deficits in lingual propulsion. In the pharyngeal phase, the following stand out: 1) hypofunction pattern: characterized by a reduction in the amplitude (intensity) of the laryngeal “click” and the bolus sweep, associated with pharyngeal weakness. 2) residual pattern: identified by the presence of gurgling sounds following the main sweep and a slow decline in the signal, linked to residual fluid in the vallecula or pyriform sinuses. 3) Aspiration/penetration pattern: suggested by the detection of high-frequency vibrations (“bubbling”) or wet inspiratory sounds immediately following the swallowing event in the synchronized audio channel.Some attempts use machine learning algorithms to classify these patterns

CONCLUSIONS

Discussion: These classifications represent a step toward objective and quantifiable evaluation. However, the main limitation is methodological heterogeneity (types of sensors, location, test foods), which makes it difficult to establish a single, universally accepted taxonomy. These acoustic classifications do not replace etiological diagnosis, but rather describe the functional phenotype of dysphagia. Conclusion: Efforts are underway to classify subtypes of dysphagia based on acoustic patterns. These allow for an objective description of the dysfunction, guiding therapeutic intervention toward the impaired component (propulsion, force, clearance). Standardizing protocols is the next step toward validating and expanding the clinical use of these acoustic classifications.

KEYWORDS

dysphagia, acoustic analysis, classification

TRANSVERSE ACTIVITIES (INNOVATION, BASIC RESEARCH, EDUCATION)

Poster / E-Poster Presentations · PP-738 – PP-755 · 18 abstracts

PP-738

Teacher Professional Development And Instructional Media For Hearing Health Promotion And Safe Listening Behavior Program For Elementary School Students.

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BACKGROUND & AIM

Raising awareness is important to promote hearing health and decrease preventable noise-induced hearing loss. Teachers play a significant role in this initiative, requiring professional development and instructional media to effectively promote safe listening behaviors.

This study aims to present a teacher professional development program focused on hearing health promotion and safe listening behavior, and to present the instructional media created and used to enhance awareness of hearing health and safe listening practices in elementary schools.

MATERIAL & METHODS

Retrospective data was collected during the 2023 academic year. Teachers in three Chiang Mai Provincial Administrative Organization affiliated schools were recruited and enrolled in a full-day teacher workshop on hearing health, hearing screening, instructional media development, and educational assessment. Following the workshop, teachers independently designed and implemented hearing health lessons using various instructional media.

RESULTS

Forty-four teachers participated in the workshop, with a mean age of 37.4 years. Post-test scores showed a significant improvement in teachers' knowledge of hearing health. The overall satisfaction score for the workshop was 4.51 out of 5. The program engaged 735 students through classroom activities, including experiments, posters, board games, and social media campaigns. Teachers integrated hearing health education into core subjects such as Health Education, Science, and Music.

CONCLUSIONS

The program demonstrated that teacher professional development and instructional media effectively enhance hearing health promotion in elementary schools. Teachers showed improved knowledge and confidence in delivering hearing health education. However, for sustainability, institutional support and curriculum integration are essential. Future research should explore long-term impacts on student behavior and policy development for hearing health education in schools.

KEYWORDS
safe listening, hearing health promotion, instructional media, elementary school

PP-739

Comparison Of Postoperative Pain And Hemorrhage Rates In Thermal Vs. Cold Dissection Tonsillectomy: A Multi- Center, Prospective, Randomized, Patient-Blinded Study

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BACKGROUND & AIM

Tonsillectomy represents one of the most common surgical procedures in otolaryngology. Although various surgical techniques have been used to remove the palatine tonsils, postoperative pain, leading to difficulty in swallowing and subsequently higher likelihood of bleeding, continues to be documented. This study aims to compare postoperative pain and hemorrhage rates in adult patients undergoing thermal or cold dissection tonsillectomy.

MATERIAL & METHODS

This is a prospective, multi- center, randomized, patient-blinded study. Adult patients that were scheduled to undergo tonsillectomy, regardless of indication, were randomly allocated to either the thermal (bipolar cautery) or cold dissection group using a computer-generated randomization sequence. Allocation was revealed only to the surgeon on the operation day. Patients with coagulation disorders were excluded from the study. Both groups received the same standardized perioperative and postoperative analgesia protocol. Patients were asked to complete a 7-day Visual Analog Scale (VAS) pain score, and occurrence of hemorrhage was recorded. Statistical analysis was performed using Mann-Whitney U and Fisher's exact tests (significance set at $p < 0.05$).

RESULTS

In total, 36 patients participated in this study, 18 in each group, with 1 drop-out from the cold group. Mean age was 26.49 ±9.32, and the cohort consisted of 20 females and 15 males. There was no significant difference in age and sex distribution between the two groups (p=0.493 & p=0.176 respectively). Patients in the thermal group experienced significantly lower pain during the first 48 hours (p=0.012 & p=0.038 respectively), whereas, by day seven the cold group reported significantly less pain (p=0.043). Postoperative hemorrhage occurred in 16.7% (n=3) of the thermal group compared to 0% in the cold group (p=0.229).

CONCLUSIONS

In this study, thermal dissection provided significantly reduced pain in the immediate 48h postoperative period. However, cold dissection was associated with significantly favorable recovery profile by day seven and a lower, though not statistically significant, incidence of secondary hemorrhage. Although our study was limited by a small sample size, the observed results align with current literature.

KEYWORDS
Tonsillectomy, surgical technique, postoperative pain, postoperative hemorrhage,

PP-740

Oxidative Stress In Chronic Suppurative Otitis Media

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BACKGROUND & AIM

Total antioxidant capacity (TAC) is a global indication of the level of oxidative stress, reflecting the reaction capacity of the antioxidant reserve. TAC measurement has become particularly important in assessing oxidative stress at the plasma, or organ level. Its values can be used to assess an organism's ability to combat oxidative stress. In general, TAC is low under conditions that generate oxidative stress. Chronic otitis media is associated with a perforation of the tympanic membrane accompanied by inflammation of the mucosa lining the tympanic cavity and the air cells of the temporal bone that persists for more than three months

MATERIAL & METHODS

We conducted a prospective study was conducted on a group of 60 patients aged between 9 and 58 years diagnosed with chronic suppurative otitis media (CSOM) with and without cholesteatoma, admitted for surgery at the Clinical Rehabilitation Hospital from Iași, Romania.

RESULTS

In the present study, analyzing the values obtained by us through TAC measurement, we found that in the cholesteatoma group, TAC ranged between 26.908 mmol/µL and 28.608 mmol/µL, in the cholesteatoma recurrence group between 25.902

mmol/µL and 28.411 mmol/µL, and in the group with OMCS, between 25.815 mmol/µL and 39.313 mmol/µL, which were lower values compared to the control group, where the values ranged between 27.834 mmol/µL and 31.185 mmol/µL. Thus, in all patient groups, serum TAC levels were statistically significantly lower compared to the group of healthy individuals.

CONCLUSIONS

Chronic suppurative otitis media is associated with high levels of oxidative stress, playing a key role in the pathogenesis and tissue damage.

KEYWORDS

Total antioxidant capacity , Cholesteatoma, Chronic suppurative otitis media

PP-741

Construction Of A Cluster Nursing Protocol For Perioperative Oral Implantation Under The Enhanced Recovery After Surgery Framework And Its Effects On Psychological Stress And Rehabilitation Quality

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BACKGROUND & AIM

Enhanced Recovery After Surgery (ERAS) is a multimodal, evidence-based perioperative management philosophy demonstrated effective across multiple surgical disciplines. However, its systematic application to oral implant surgery through structured cluster nursing protocols remains insufficiently explored.

MATERIAL & METHODS

A prospective randomized controlled trial enrolled 120 patients scheduled for dental implant surgery, randomly allocated to an ERAS cluster nursing group (n = 60) or a conventional nursing group (n = 60). The protocol was developed through systematic literature review and Delphi expert consultation. Primary outcomes included perioperative anxiety (State-Trait Anxiety Inventory), pain intensity (Numerical Rating Scale), and salivary cortisol levels. Secondary outcomes comprised postoperative swelling scores, functional recovery time, patient satisfaction, and complication rates at 12 weeks.

RESULTS

Compared with controls, the ERAS group demonstrated significantly lower anxiety scores ($P < 0.001$), reduced salivary cortisol concentrations at 24 h postoperatively ($P = 0.003$), decreased pain scores on days 1 and 3 ($P < 0.05$), shorter functional recovery time ($P = 0.012$), and higher patient satisfaction ($P < 0.001$). No significant between-group difference in complication rates was observed ($P = 0.218$).

CONCLUSIONS

The ERAS-based cluster nursing protocol effectively attenuates perioperative psychological stress, accelerates postoperative rehabilitation, and enhances patient satisfaction in oral implant surgery, warranting broader clinical implementation.

KEYWORDS

Rehabilitation Quality Nursing Psychological Stress

PP-742

How To Spot The Eagle? An Atypical Presentation Of Eagle's Syndrome

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BACKGROUND & AIM

Eagle's syndrome has historically been known as a phenomenon where the elongated styloid process or ossified stylohyoid ligament compresses on surrounding vessels or neurological structures, giving rise to common presentations such as dysphagia, foreign body sensation and pain.

MATERIAL & METHODS

It is important to note that another variant of the complications is known as Eagle Jugular Syndrome, where the internal jugular vein is compressed. The most common presentation includes headache and ipsilateral neck pain. We describe a case in which a 42-year-old lady first presented with left orbital pain for 6 months. Shortly, in the following months, she developed left eye blurry vision and diplopia upon left lateral gaze.

RESULTS

Subsequent CT Brain scan revealed a left orbital roof meningoencephalocele, while the CT venogram also showed narrowing of the right IJV caused by the styloid process and the C1 transverse process. With an elevated lumbar puncture opening pressure of 38cm H2O, it was postulated that she has venopathic intracranial hypertension due to styloid process compression on the IJV, which causes the orbitomeningocele. Styloidectomy and reduction of the C1 process were done under general anesthesia along with neurosurgeons. Her lumbar puncture opening pressure dropped to 23cm H2O on Post-op day 1. Her symptoms, including left orbital pain and diplopia, were greatly resolved almost immediately after the surgery.

CONCLUSIONS

This case illustrates the importance of fostering clinical awareness on atypical presentations of Eagle's syndrome.

KEYWORDS

Eagle's syndrome, Eagle Jugular syndrome, Styloid Process, Styloidectomy

PP-743

Exploring Implicit Bias Among ENT Surgeons: An Analysis Of The Implicit Association Test

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BACKGROUND & AIM

This study aimed to investigate the presence of implicit bias among ENT surgeons and explore the impact of the results of the Implicit Association Test on the surgeons' behaviour towards patients.

MATERIAL & METHODS

Seven ENT surgeons who were not black, Asian or minority ethnic were asked to complete the Race Implicit Association Test. The surgeons also completed a survey about their perceptions of their implicit biases and the impact of the Race Implicit Association Test results on their behaviour towards patients.

RESULTS

The mean Race Implicit Association Test score for the ENT surgeons suggested a slight bias that favoured white over black people. Furthermore, 42 per cent of the surgeons thought that they had hidden or unconscious racial bias, 42 per cent said they would change their behaviour towards patients after receiving these results and 85 per cent thought that the Race Implicit Association Test was helpful for appraisal purposes.

CONCLUSIONS

The results suggest that ENT surgeons who are not black, Asian or minority ethnic may have implicit biases towards black patients. These findings highlight the need for interventions to reduce implicit bias among ENT surgeons and improve healthcare outcomes for marginalised populations.

KEYWORDS

bias, surgeons, survey, implicit

PP-744

Vestibular Paroxysmia: Are Giant Auditory Brainstem Response Waves a Marker of Central Nervous System Excitation?

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BACKGROUND & AIM

Vestibular paroxysmia (VP) is a rare disorder (<1/2,000) caused by neurovascular cross-compression of the eighth cranial nerve, characterized by brief, recurrent episodes of rotatory vertigo lasting less than a minute (Brandt et al., 2016; Shi et al., 2022).

Auditory Brainstem Response (ABR)

testing has demonstrated retrocochlear findings in VP, particularly prolonged wave III latency (>4.0 ms) and interpeak latency I–III (>2.3 ms) (Sun et al., 2022; Møller et al., 1986).

This case introduces a novel finding:

markedly elevated ABR waveform amplitudes — "giant" responses —contralateral to the site of neurovascular compression, in the absence of latency prolongation.

MATERIAL & METHODS

Patient: 41-year-old female presenting with recurrent episodic rotatory vertigo (predominantly morning onset) with tinnitus and transient aural fullness.

Audiological: Normal audiometry and tympanometry; BPPV excluded.

ELECTROPHYSIOLOGICAL FINDINGS (ABR):

Right ear: Wave I: 1.40 ms · Wave III: 3.60 ms · Wave V: 5.60 ms · IPL I–III: 2.20 ms — all within normal limits. Left ear: Wave I: 1.27 ms · Wave III: 3.53 ms · Wave V: 5.67 ms · IPL I–III: 2.27 ms — normal latencies. Left ear display scale expanded to +300 nV (vs. standard +200 nV) to accommodate giant waveforms — not amenable to precise amplitude quantification.

Vestibular: Left-sided caloric deficit with normal video head impulse test (vHIT) bilaterally, a caloric/vHIT dissociation indicating retrocochlear rather than end-organ involvement. MRI: Tortuous vertebro-basilar artery causing a slight impression on the right side of the medulla (see Figure 2). Diagnosis: Vestibular paroxysmia secondary to neurovascular compression.

RESULTS

ABR testing revealed prolonged latencies of waves III and V on the right side. In contrast, the left side demonstrated unusually large-amplitude ("giant") ABR waves with normal latencies, representing an uncommon electrophysiological finding. Magnetic resonance imaging showed vascular contact between the vertebral artery and the ventral aspect of the pons, consistent with neurovascular compression.

CONCLUSIONS

► Giant ABR waveforms represent a novel, previously unreported electrophysiological finding in vestibular paroxysmia.

► Their contralateral occurrence suggests neuronal hyperexcitability rather than conduction block as the underlying mechanism.

► ABR amplitude analysis may serve as an additional diagnostic marker for neurovascular compression syndrome.

► Future studies should investigate whether giant waveforms normalize following MVD or pharmacological treatment.

KEYWORDS

Neurovascular Compression Syndrome; Vestibular Paroxysmia; Auditory Brainstem Response; Vertigo; Vertebral Artery Compression; Giant ABR Waves

PP-745

Reported Outcome Direction In Endoscopic Sinus Surgery Literature: A Cross-Sectional Analysis

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BACKGROUND & AIM

Scientific studies are often interpreted according to whether their findings support the original hypothesis. In endoscopic sinus surgery (ESS) literature, the direction of reported outcomes may be shaped not only by scientific merit, but also by journal prestige and methodological study characteristics. We aimed to evaluate the frequency of positive outcome reporting in ESS studies and to examine its association with journal quartile, comparator status, study design, sample size, and publication period, including pre-Coronavirus disease 2019 (COVID-19), COVID-era, and artificial intelligence (AI)-era trends.

MATERIAL & METHODS

This was a cross-sectional bibliographic analysis of ESS studies published between 2015 and 2025. PubMed was searched in February 2026 using predefined terms related to ESS and treatment outcomes, with publication-type filters for clinical studies. Reviews, editorials, letters, and case reports were excluded. Journal quartiles were assigned according to the year of publication using SCImago Journal Rank data rather than current rankings. Outcome direction was initially classified as positive, neutral, or negative; because negative studies were rare, primary analyses used a dichotomous outcome of positive versus non-positive. Independent variables included quartile group, comparator status, study design, publication period, and sample size. Statistical analyses included chi-square or Fisher's exact tests, odds ratios with 95% confidence intervals (CIs), and multivariable logistic regression.

RESULTS

A total of 264 studies were included; 165 (62.5%) were positive, 95 (36.0%) neutral, and 4 (1.5%) negative. Higher-impact journals (Q1-Q2) showed a numerically greater proportion of positive studies than lower-impact journals (Q3-Q4) (64.5% vs 50.0%), but this difference was not statistically significant (p=0.096). Comparator-free studies were significantly more likely to report positive outcomes than studies with a comparator (82.4% vs 59.6%; odds ratio 3.17, 95% CI 1.26-7.95; p=0.010). Era analysis showed positive rates of 63.4% in the pre-COVID period (2015-2019), 52.1% during the COVID era (2020-2022), and 68.7% in the AI era (2023-2025), with no statistically significant overall difference, although the COVID-versus-AI comparison approached significance (p=0.071). Study design and sample size were not significantly associated with outcome direction. In multivariable analysis, comparator status remained the only independent predictor of positive outcome reporting.

CONCLUSIONS

Positive findings predominated in the ESS literature. Journal impact was not significantly associated with positive outcome reporting, whereas comparator-free studies were significantly more likely to report positive results. In addition, a non-significant decline in positive reporting during the COVID era followed by a rebound in the AI era was observed. These findings suggest that methodological characteristics may influence reported outcome direction more strongly than journal quartile, while temporal shifts in publication patterns may also warrant further investigation. The relatively small number of Q3-Q4 studies may have limited the power of quartile-based comparisons.

KEYWORDS

Endoscopic sinus surgery; Outcome reporting; Journal impact; Publication patterns

PP-746

Developing A Sustainable Blended Training Framework To Enhance Audiologist Expertise In Hearing Implant Technology

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BACKGROUND & AIM

The widespread adoption of Tele-Audiology and online learning in recent years has transformed how hearing healthcare practitioners access education and professional development. What began as a response to limited in-person training opportunities has evolved into a sustainable model that enhances accessibility, affordability, and inclusivity in Audiology education. E-learning and blended learning approaches are now integral to both pre-service and continuing professional development, particularly for clinicians in rural and remote areas. However, challenges remain in translating traditional, hands-on training methods into engaging, effective online formats that support skill development and clinical competence.

MATERIAL & METHODS

A qualitative research design was employed to describe the development of an blended training program on hearing implants for Audiologists in Malaysia and Sub-Saharan Africa. A phenomenological case study captured the experiences of training developers and subject matter experts in adapting conventional instructional content into e-learning and blended learning modules. Learning science principles and learning experience design (LxD) frameworks were integrated into the development process. Feedback from Audiologists participating in the pilot program was collected through an online questionnaire to assess usability, engagement, and perceived learning outcomes.

RESULTS

Findings highlight that the design and delivery of blended training — including interactivity, feedback mechanisms, and communication channels — significantly influence learner engagement and perceived effectiveness. Adult learning preferences, such as self-paced exploration, contextual relevance, and opportunities for collaboration, emerged as critical factors in successful online training design.

CONCLUSIONS

Post-pandemic developments in online education present a unique opportunity to reimagine Audiology training as both sustainable and scalable. Incorporating evidence-based e-learning strategies can help bridge geographic and resource gaps, ensuring equitable access to high-quality training for hearing healthcare practitioners worldwide. Ongoing research into digital pedagogy and learner experience will be essential to refine and sustain this evolving model of training Audiologists.

KEYWORDS

Education, Training, Hearing Implants, Audiology

PP-747

Readability Of AI-Generated Postoperative Instructions In Otolaryngology: A Prompt-Based Comparative

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BACKGROUND & AIM

Postoperative instructions play a critical role in patient understanding and adherence following otolaryngologic surgery. However, written medical materials are frequently produced at reading levels exceeding patients' health literacy. Artificial intelligence (AI) tools such as ChatGPT are increasingly used to generate patient-facing information, yet the readability of AI-generated postoperative instructions remains inadequately explored.

To compare the readability of AI-generated postoperative instructions created using a sixth-grade–targeted prompt with those generated using a standard prompt across common otolaryngologic surgical procedures.

MATERIAL & METHODS

Postoperative instructions for common otolaryngologic surgeries were generated using ChatGPT with two different prompts: (1) a sixth-grade reading level–targeted prompt and (2) a standard, non-specified prompt. Readability was assessed using the Flesch–Kincaid Grade Level (FKGL), Flesch Reading Ease Score (FRES), Gunning Fog Index (GFI), Simple Measure of Gobbledygook (SMOG) Index, and Coleman–Liau Index (CLI). Normality was evaluated using the Shapiro–Wilk test. Paired samples t-tests were performed to compare readability scores between the two prompt strategies.

RESULTS

Sixth-grade–targeted AI-generated postoperative instructions demonstrated significantly improved readability across all assessed metrics. Compared with standard prompts, sixth-grade–targeted prompts produced lower Flesch–Kincaid Grade Level scores (mean difference = 3.24, $p < 0.001$), Gunning Fog Index scores (mean difference = 1.65, $p < 0.001$), SMOG Index scores (mean difference = 1.42, $p < 0.001$), and Coleman–Liau Index scores (mean difference = 3.82, $p < 0.001$). Additionally, Flesch Reading Ease Scores were significantly higher in sixth-grade–targeted instructions (mean difference = −27.60, $p < 0.001$).

CONCLUSIONS

Prompt engineering targeting a sixth-grade reading level significantly enhances the readability of AI-generated postoperative instructions in otolaryngology. These findings suggest that targeted AI prompting may serve as a practical strategy to improve patient education materials and support health literacy in surgical care.

KEYWORDS

Artificial intelligence, Health literacy, Otolaryngology, Postoperative instructions, Readability, ChatGPT

PP-748

Physicians' Perspectives On Artificial Intelligence In Clinical Practice In Kuwait: A Survey Study

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BACKGROUND & AIM

Artificial intelligence (AI) is a transformative technology that is reshaping many aspects of professional practice, with healthcare being one of the most affected fields. Therefore, this study aimed to assess physicians' knowledge, attitudes, acceptance, concerns, and perspectives on the future directions of AI use in clinical practice in Kuwait.

MATERIAL & METHODS

A cross-sectional survey was conducted among all trainees and trainers enrolled in the Kuwait Institute for Medical Specialization (KIMS) across 5 public hospitals in Kuwait. A total of 4,109 physicians affiliated with KIMS, representing 43 specialties across residency and fellowship programs, were invited to participate through email and WhatsApp groups. The data were collected using an online questionnaire from February 2025 to September 2025, covering demographics, knowledge of AI, practical exposure, attitudes and acceptance toward its use in clinical practice, perceived benefits and risks of AI replacing doctors' roles, concerns, and future directions for AI training in clinical practice.

RESULTS

A total of 505 physicians participated in the survey, including 202 trainees (≤5 years) and 303 trainers (≥6 years) from 37 specialties. Of these, 105 were from surgical specialties, 264 from medical specialties, 33 from diagnostic and support specialties, and 103 from dentistry. Self-rated awareness of artificial intelligence (AI) was high in both groups, reported by 93 trainees and 141 trainers, while practical exposure to AI remained limited (99 trainees and 144 trainers). Positive attitudes and acceptance toward AI were observed in 149 trainees and 230 trainers. Perceived high benefits of AI were reported by 152 trainees and 264 trainers. Most participants perceived a moderate risk of AI replacing physicians' roles (63% of trainees and 65% of trainers), whereas high concern and low trust were reported by 28% of trainees and 33% of trainers. Willingness to receive AI training was high, reported by 72% of trainees and 80% of trainers.

CONCLUSIONS

This study demonstrates that physicians in Kuwait have generally positive perceptions and acceptance of artificial intelligence in clinical practice, with moderate awareness and limited practical exposure. Despite some concerns and perceived risks, most participants recognize the potential benefits of AI and express a strong willingness to receive further training.

KEYWORDS

Artificial Intelligence, Digital Health, Healthcare Innovation, Physicians' Perspectives.

PP-749

The Transformative Role Of Artificial Intelligence In Otorhinolaryngology-Head And Neck Surgery: Current Applications And Future Horizons

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BACKGROUND & AIM

The rapid evolution of Artificial Intelligence (AI) is catalyzing a paradigm shift in modern medicine. Otolaryngology (ENT), being a data-intensive specialty reliant on complex imaging, acoustics, and endoscopic evaluations, stands at the forefront of this digital transformation. We hypothesize that integrating AI as a "decision-support tool" rather than a replacement for clinical judgment is essential for the future of ENT to enhance diagnostic precision and personalized patient care.

MATERIAL & METHODS

This study design involves a comprehensive analysis of current AI-driven protocols across various settings in the ENT field. The subjects of our evaluation include: (1) Computer vision systems for automated audiometry and otoscopic image classification; (2) Advanced CT and MRI image segmentation for chronic rhinosinusitis and skull base procedures; (3) Convolutional Neural

Networks (CNNs) for detecting vocal fold paralysis and laryngeal malignancies via endoscopy; and (4) AI integration in Transoral Robotic Surgery (TORS)

RESULTS

Our analysis indicates that AI technologies effectively improve haptic feedback and surgical precision in TORS. Furthermore, CNNs demonstrate high accuracy in early malignancy detection through voice signal analysis and endoscopic imaging. While these outcomes offer unprecedented opportunities to reduce human error and provider burnout, the results also highlight significant independent variables that may hinder clinical adoption, such as data privacy concerns, algorithmic bias, and the "black box" nature of Deep Learning (DL)

CONCLUSIONS

The findings support that AI offers a transformative potential for the ENT specialty by optimizing diagnostic and surgical outcomes. However, to address both positive and negative results, it is concluded that future implementation must be supported by ethical frameworks that ensure algorithmic transparency. Integrating AI to augment clinical judgment remains the most viable path forward for the field.

KEYWORDS

Artificial Intelligence, Machine Learning, Otolaryngology, Robotic Surgery, Diagnostic Precision

PP-750

Inflammatory Status In Chronic Suppurative Otitis Media

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BACKGROUND & AIM

The pathophysiology of cholesteatoma is not fully understood, with research focusing on various areas, including predisposing factors and immunological, inflammatory, and genetic mechanisms. The recurrence rate and degree of middle ear involvement have been correlated with the presence of inflammatory cytokines in the middle ear mucosa. The most common studies have been conducted on serous otitis media or chronic mucous otitis media in children and adults or in animal models.

MATERIAL & METHODS

The prospective study was conducted on a group of 60 patients aged between 9 and 58 years diagnosed with chronic suppurative otitis media (CSOM) with and without cholesteatoma, admitted for surgery at the Clinical Rehabilitation Hospital from Iași, Romania. Of these, 28 patients had CSOM, 22 had CSOM with cholesteatoma, and 11 had recurrent cholesteatoma. Serum levels of IL-1 alpha, IL-6, C-reactive protein, and fibrinogen were measured in patient serum.

RESULTS

In the present study, serum CRP and fibrinogen did not show statistically significant differences between patient groups, being in the normal range (0-1 mg/dl). Regarding the values obtained for IL-1α, it can be observed that in patients with cholesteatoma and CSOM, significantly lower values were recorded compared to those with recurrence cholesteatoma. The serum IL-6 values obtained in the present study were statistically significantly higher compared to the control group, with the highest values being found in patients with CSOM

CONCLUSIONS

IL-1α and IL-6 showed statistically significant higher values (the highest in patients with simple chronic suppurative otitis media) compared to the control group. Inflammatory mediators play a central role in the pathogenesis of CSOM and cholesteatoma by maintaining a systemic and local inflammatory response.

KEYWORDS

chronic suppurative otitis media , interleukines, inflammation

PP-751

How Safe Is Tonsillectomy In A Day-Surgery Setting? Evidence From A 10-Year Multicenter Cohort

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BACKGROUND & AIM

Post-tonsillectomy hemorrhage (PTH) represents the most severe complication of this procedure and significantly influences decision-making regarding discharge within a day-surgery setting. The aim of this study was to evaluate the feasibility of tonsillectomy in a day-surgery setting and to identify risk factors for postoperative hemorrhage, its timing, and its severity.

MATERIAL & METHODS

This multicenter retrospective cohort study included 2,612 patients aged ≥16 years over a 10-year period (2015–2025) across five university hospitals in Slovakia (Bratislava, Trnava, Nitra, Nové Zámky, Trenčín). Early (<24 hours), late (>24 hours), and total postoperative hemorrhage were evaluated, as well as its severity (hospitalization, surgical revision under general anesthesia, recurrent bleeding) and timing. Statistical analysis included chi-square tests, non-parametric tests, and multivariate logistic regression.

RESULTS

Total hemorrhage occurred in 22.8% of patients (early: 2.4%, late: 20.4%). Median age was 28.2 years; 58.1% were female. Most were non-smokers (63.6%), 10.0% had hypertension, and 94.0% were without anticoagulation. Male sex consistently predicted higher risk of early (OR=2.19, p=0.005), late (OR=1.45, p<0.001), and total hemorrhage (OR=1.55, p<0.001). Anticoagulation correlated with early bleeding, especially LMWH bridging (OR=4.01, p=0.017), while antiplatelet therapy increased total hemorrhage risk (OR=3.66, p=0.015). Higher age slightly reduced late and total bleeding risk (1.5–2% annually). Smoking, tonsil size, and surgery duration showed no associations. Among bleeding cases, 69.1% required hospitalization, 23.9% experienced recurrence, and 12.8% underwent surgical revision. Hypertension predicted hospitalization (OR=3.13, p=0.026) due to severity. No predictors for revision or recurrence were identified. Bleeding occurred earlier in men than women (5.34 vs. 5.91 days, p=0.011); other factors did not affect timing.

CONCLUSIONS

Postoperative hemorrhage after tonsillectomy remains a clinically significant complication, the occurrence of which could not be reliably predicted based on the monitored factors in most cases. Early hemorrhage was rare and primarily associated with male sex and anticoagulation therapy. The results support the feasibility of tonsillectomy in a day-surgery setting in selected patients.

KEYWORDS

Tonsillectomy, Post-tonsillectomy hemorrhage, Anticoagulants, Day surgery, Risk factors

PP-752

Educational Impact Of Augmented Reality-Based 3D Visualization In Head And Neck Anatomy: A Randomized Study Using Hololens 2

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BACKGROUND & AIM

Head and neck anatomy is highly complex, and understanding the spatial relationships between anatomical structures remains challenging for medical students. Traditional two-dimensional atlases are limited in supporting spatial thinking. Mixed reality (MR) technologies, such as the HoloLens 2 in combination with VSI HoloMedicine®, may enhance learning by enabling interactive 3D visualization. This study aimed to investigate whether MR-based teaching improves anatomical understanding compared with conventional 2D methods.

MATERIAL & METHODS

Medical students were divided into two groups. Group A (n=30) used traditional 2D anatomical atlases, while Group B (n=32) studied CT datasets using the HoloLens 2 and VSI HoloMedicine® software. Both groups answered ten questions on head and neck anatomy, with particular focus on spatial anatomical relationships. Before and after testing, participants completed feedback questionnaires regarding their learning experience.

RESULTS

Students in the MR group (Group B) achieved higher scores than those in the 2D group (Group A) across all questions. Significant differences were observed in 7 out of 10 questions, especially in tasks requiring spatial orientation and anatomical correlation. Feedback analysis indicated that students in Group B rated the MR-based learning approach as more effective in improving their understanding of head and neck anatomy. Both groups required familiarization, with Group B needing an initial adaptation phase to handle the MR system.

CONCLUSIONS

This pilot study demonstrates that mixed-reality–based 3D visualization offers superior educational value compared to traditional 2D atlases for learning complex head and neck anatomy. MR technology enhances spatial understanding and may represent a valuable addition to future medical teaching curricula. Further research is needed to evaluate its integration into larger-scale anatomy education.

KEYWORDS

Mixed reality; 3D visualization; HoloLens 2; Medical education; Head and neck anatomy

PP-753

Factors Associated With Non-Attendance In Otolaryngology Outpatient Clinics: A Systematic Review Of The Literature

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BACKGROUND & AIM

Patient no-show in outpatient clinics represents a significant challenge for healthcare systems, as it compromises care efficiency, increases waiting times, and limits access for other patients. The aim of this systematic review was to analyze the available evidence on factors associated with no-show in otolaryngology (ENT) outpatient settings.

MATERIAL & METHODS

A systematic review with narrative synthesis was conducted in accordance with the PRISMA 2020 guidelines. A structured search was performed in MEDLINE/PubMed and Web of Science up to March 2026. Original studies conducted in face-to-face ENT outpatient clinics that evaluated no-show rates or their associated factors in adult or pediatric populations were included. Methodological quality and risk of bias were assessed using the Joanna Briggs Institute critical appraisal tools.

RESULTS

A total of 20 studies were included, most of which were retrospective and conducted in university-based settings. No-show rates ranged from 8% to 40%, depending on the context and population studied. The factors most consistently associated with higher no-show rates were younger age, lower socioeconomic status, and public health insurance coverage. Among organizational factors, longer waiting times and the absence of reminder systems were associated with a higher likelihood of non-attendance.

CONCLUSIONS

No-show in ENT outpatient clinics is a frequent and multifactorial phenomenon. Our findings suggest a potential influence of sociodemographic and organizational factors. Organizational interventions, such as schedule optimization, reduction of waiting times, and implementation of reminder systems, may help reduce no-show rates and improve healthcare system efficiency.

KEYWORDS

No-show patients; Appointments and Schedules; Ambulatory Care; Patient Compliance; Otorhinolaryngologic; Health Services Accessibility.

PP-754

Comparison Of Two Techniques In Tonsillectomy: Coblation And Thermal Welding Techniques

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BACKGROUND & AIM

Various tonsillectomy techniques have been developed to improve operative efficiency and reduce postoperative morbidity. This study evaluates coblation and thermal welding techniques in terms of operative time, postoperative Visual Analog Scale (VAS), and postoperative hemorrhage.

MATERIAL & METHODS

This study included patients who underwent tonsillectomy at the Department of Otorhinolaryngology, Yeditepe University Faculty of Medicine, Istanbul, Türkiye, between 2013 and 2025. Patients were divided into two groups according to the surgical technique used: coblation tonsillectomy and thermal welding tonsillectomy. Operative time was defined as the duration from mucosal incision to completion of hemostasis. Postoperative pain was assessed using the VAS score at the 6th and 12th postoperative hours. Postoperative hemorrhage was categorized as primary (within 24 hours) or secondary (>24 hours) and further classified as absent, minor (self-limited bleeding), or major (requiringsurgical intervention). The collected data were analyzed statistically.

RESULTS

A total of 137 patients were included (coblation: n=65; thermal: n=72). Sex distribution(31M/34F vs 41M/31F) and mean age (19.4 ± 13.0 vs 15.4 ± 12.9 years) were similar between groups ($p>0.05$). The mean operative time was significantly shorter in the coblation group compared with the thermal welding group (50.0 ± 20.2 minutes vs 68.4 ± 31.2 minutes, $p<0.001$), corresponding to an average reduction of approximately 18.5 minutes. VAS scores at the 6th and 12th postoperative hours showed no significant difference between groups (6.85 ± 1.25 vs 6.99 ± 1.35; 3.22 ± 1.23 vs 3.46 ± 1.30; $p>0.05$). Postoperative hemorrhage occurred in one patient in each group. In the coblation group, one patient developed secondary minor hemorrhage requiring observation, whereas in the thermal group, one patient developed primary major hemorrhage requiring reoperation; nostatistically significant difference was observed between groups ($p>0.05$).

CONCLUSIONS

Coblation tonsillectomy provides a shorter operative time compared with thermal welding. No statistically significant differences were observed in VAS scores or postoperative hemorrhage frequency between the groups.

KEYWORDS

Tonsillectomy; Coblation; Thermal welding; Operative time; Postoperative pain; Postoperative hemorrhage

PP-755

Chloride Intracellular Channel 2 May Function As A Tumor Promoting Factor In Head And Neck Squamous Cell Carcinoma

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BACKGROUND & AIM

Head and neck squamous cell carcinoma (HNSCC) has a poor prognosis in recurrent or metastatic cases, and actionable therapeutic targets remain limited despite the widespread use of comprehensive genomic profiling. Chloride intracellular channel 2 (CLIC2) is a protein whose biological function has not been fully elucidated. Recent database analyses have suggested an association with prognosis in several malignancies, but its role in HNSCC has not been reported. This study aimed to clarify the functional significance of CLIC2 in HNSCC and to evaluate its potential as a novel therapeutic target.

MATERIAL & METHODS

CLIC2 expression was assessed in the highly metastatic HNSCC cell line SAS-L1m. CLIC2-overexpressing cells were established and subjected to phenotypic analyses, including xenograft tumor formation, proliferation assays, and co-culture assays with natural killer (NK) cells. Molecular mechanisms were explored using qPCR, western blotting, and comprehensive genomic profiling. In addition, CLIC2 expression was evaluated by immunohistochemistry in clinical specimens, and its association with malignant potential and prognosis was analyzed.

RESULTS

CLIC2 expression was marginal in SAS-L1m cells. Its overexpression significantly enhanced tumorigenicity in xenograft models, increased proliferation, and suppressed NK cell mediated antitumor immunity. Molecular analyses revealed upregulation of MMP mRNA and increased expression of LOXL2 and NHE1 proteins. Comprehensive genomic profiling revealed tumor-promoting expression changes associated with the downregulation of innate immune response related genes, among other alterations. In clinical specimens, CLIC2-positive tumors were frequently observed in advanced stage and recurrent cases and were associated with poor prognosis.

CONCLUSIONS

CLIC2 promotes malignant phenotypes in HNSCC, including enhanced proliferation, tumorigenicity, suppression of NK cell mediated antitumor immunity, and is associated with poor clinical outcomes. These findings indicate that CLIC2 functions as a tumor-promoting factor and may represent a novel therapeutic target in HNSCC.

KEYWORDS

Chloride intracellular channel 2, Head and neck squamous cell carcinoma, Tumor immunity, Comprehensive genome profiling

YO-IFOS (YOUNG IFOS)

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PP-756

CASE REPORT: PARAPHARYNGEAL PLEOMORPHIC ADENOMA CAUSING OBSTRUCTIVE SLEEP APNEAV

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BACKGROUND & AIM

In this case report, we aimed to present the diagnostic and therapeutic approach to a pleomorphic adenoma located in the parapharyngeal space.

MATERIAL & METHODS

A 30-year-old male with a history of obstructive sleep apnea presented with a two-week history of sore throat without dysphagia. Cranial nerve examination was normal. Physical examination demonstrated bulging of the left nasopharyngeal and peritonsillar regions with rightward uvular deviation. Neck CT revealed a 54 × 33 mm mass in the left parapharyngeal space causing marked airway narrowing and suspected to arise from the deep lobe of the parotid gland. MRI showed a well-circumscribed, contrast-enhancing solid lesion measuring 33 × 51 × 59 mm, displacing major vascular structures posterolaterally. Fine-needle aspiration cytology was consistent with pleomorphic adenoma. The patient underwent complete transcervical-transparotid excision of the tumor. Intraoperative capsule rupture occurred, but the lesion and capsule were completely removed, followed by extensive irrigation.

RESULTS

Histopathological and immunohistochemical evaluation confirmed cellular pleomorphic adenoma. Postoperatively, cranial nerve function remained intact, House–Brackmann grade I facial nerve function was preserved, and sleep apnea symptoms improved significantly.

CONCLUSIONS

Pleomorphic adenomas of the parapharyngeal space are rare; however, due to their deep anatomical location, they require careful evaluation in terms of both diagnosis and surgical management. In large prestyloid masses, the transcervical-transparotid approach provides adequate exposure, allowing preservation of neurovascular structures and enabling safe total excision. In the present case, the absence of postoperative neurological complications and the marked improvement in the patient's obstructive sleep apnea symptoms suggest that PPS masses may contribute to upper airway obstruction. Therefore, parapharyngeal space pathologies should be considered in the differential diagnosis, particularly in patients with unexplained obstructive sleep apnea.

KEYWORDS

Pleomorphic adenomas, parapharyngeal space, obstructive sleep apnea.

PP-757

Atypical Sinonasal Angiofibroma In A Middle-Aged Male With Predominant Sphenopalatine Arterial Supply: A Rare Case Report

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BACKGROUND & AIM

Angiofibroma is a benign tumor with aggressive clinical behavior due to its rich vascularity. It most commonly affects adolescent males (1,2).

Histologically, it consists of fibrous stroma with numerous vascular channels. It typically originates near the sphenopalatine foramen and is supplied by branches of the internal maxillary artery (3).

Patients commonly present with nasal obstruction and epistaxis. Radiological findings include intense contrast enhancement and bone remodeling (4).

Occurrence in middle-aged patients is rare (3).

MATERIAL & METHODS

Case Presentation

A 46-year-old male presented with progressive unilateral nasal obstruction.

Contrast-enhanced MRI revealed a 6.5 × 5.5 × 6.5 cm mass completely occupying the left maxillary sinus and extending into the nasal cavities (Figure 1).

Surgical excision was performed via a lateral rhinotomy approach. The tumor was removed piecemeal due to its high vascularity.

Intraoperatively, the tumor was found to be supplied predominantly by branches of the sphenopalatine artery, which were ligated and cauterized.

Postoperative imaging confirmed complete removal with no residual tumor (Figure 2).

Histopathological examination confirmed sinonasal angiofibroma.

RESULTS

Although histologically benign, angiofibromas may behave aggressively due to their vascular nature (1).

They are typically seen in adolescent males, likely due to hormonal influences (1,2). Occurrence in older patients is rare (3).

In this case, both the age and vascular supply represent atypical features.

Radiological imaging plays a crucial role in diagnosis and surgical planning (4).

Surgical excision remains the gold standard treatment (2).

CONCLUSIONS

Sinonasal angiofibroma should be considered even in middle-aged patients. Atypical vascular supply patterns may be present.

KEYWORDS

Sinonasal Angiofibroma, Middle-Aged Male with Predominant, Sphenopalatine Arter, endoscopik surgery

PP-758

Predictors Of Treatment Escalation In Patients With Epistaxis: A Retrospective Cohort Study From A Tertiary Center

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BACKGROUND & AIM

Epistaxis is one of the most common acute otorhinolaryngologic emergencies. While most cases can be managed with local outpatient treatment, some require escalation to posterior packing, hospitalization, or surgical treatment under general anesthesia. Early identification of patients at increased risk of treatment escalation may improve triage and management. The aim of this study was to identify predictors of treatment escalation in patients presenting with epistaxis at a tertiary ENT center.

MATERIAL & METHODS

We conducted a retrospective cohort study including 687 patients evaluated on an outpatient basis for epistaxis between January 2022 and December 2024. Treatment escalation was defined as the need for balloon nasal catheter and/or surgical treatment under general anesthesia. Secondary analyses assessed recurrence after initial treatment. Bivariate analyses were performed using the chi-square test, Fisher's exact test, and Mann–Whitney U test. Independent predictors were evaluated using multivariable logistic regression

RESULTS

The cohort comprised 358 men (52.1%) and 329 women (47.9%), with a median age of 68.1 years (IQR 52.7–77.8). In bivariate analyses, treatment escalation was more frequent in men (5.0% vs. 1.8%, p = 0.022) and in patients with more than one bleeding episode within a single day (23.3% vs. 3.5%, p < 0.001). Age, systolic blood pressure, and diastolic blood pressure were not associated with escalation. In multivariable analysis, repeated same-day bleeding remained independently associated with treatment escalation (OR 5.70, 95% CI 1.74–18.69; p = 0.004). Non-anterior bleeding location was also a strong independent predictor of escalation, including posterior bleeding (OR 140.36, 95% CI 13.44–1465.77; p < 0.001). As a secondary finding, recurrence after initial treatment was independently associated with lower diastolic blood pressure, septal deviation, and non-anterior bleeding location.

CONCLUSIONS

In this tertiary epistaxis cohort, treatment escalation was primarily associated with repeated bleeding within a single day and with non-anterior bleeding location. These findings may help identify patients at increased risk of requiring more intensive management.

KEYWORDS

epistaxis; treatment escalation; posterior bleeding; recurrence; hospitalization

PP-759

Anatomical Landmarks Of The Lateral Nasal Wall And Their Clinical Significance

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BACKGROUND & AIM

The lateral nasal wall is a complex anatomical region with significant clinical relevance in daily otorhinolaryngology practice. It includes essential structures such as the inferior, middle, and superior turbinates, the nasal meatuses, the ostiomeatal complex, the uncinate process, and the ethmoidal bulla. Because of its rich vascular supply and close relationship with the paranasal sinuses, this area is commonly involved in inflammatory and obstructive nasal disorders. A solid understanding of these anatomical landmarks is crucial for accurate clinical examination and diagnosis. This study aims to review the principal components of the lateral nasal wall and highlight their clinical importance.

MATERIAL & METHODS

This paper is based on a narrative review of anatomical literature and standard ENT clinical references. The main anatomical landmarks of the lateral nasal wall were analyzed in correlation with common clinical conditions such as rhinosinusitis, nasal obstruction, epistaxis, and allergic rhinitis. Emphasis was placed on their identification during anterior rhinoscopy and nasal endoscopy.

RESULTS

The inferior turbinate plays a significant role in regulating airflow and humidifying inspired air, and its hypertrophy is a frequent cause of nasal obstruction. The middle turbinate is an important reference structure during clinical examination, closely related to the ostiomeatal complex, which represents a key area in the pathophysiology of chronic rhinosinusitis. The uncinate process and ethmoidal bulla form part of the drainage pathway of the anterior paranasal sinuses. Anatomical variations such as concha bullosa or septal deviation may alter normal airflow and predispose patients to recurrent sinus infections. The lateral nasal wall is also involved in anterior epistaxis due to its vascular supply and mucosal fragility.

CONCLUSIONS

A thorough understanding of the anatomical landmarks of the lateral nasal wall is fundamental for proper clinical evaluation in ENT practice. Recognizing normal anatomy and common variations facilitates accurate diagnosis and supports appropriate therapeutic decision-making in patients presenting with nasal symptoms.

KEYWORDS

lateral nasal wall; nasal anatomy; rhinosinusitis; nasal obstruction

PP-760

Etiological Factors Of Pediatric Epistaxis: Clinical Considerations And Diagnostic Approach

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BACKGROUND & AIM

Epistaxis is one of the most frequent otorhinolaryngological emergencies in the pediatric population. Although most cases are benign and self-limiting, recurrent or severe epistaxis may raise concern for underlying local or systemic pathology. In children, nasal bleeding most commonly originates from Kiesselbach's plexus, located in the anterior nasal septum, due to the rich vascular supply and increased mucosal fragility. Understanding the etiological spectrum is essential for establishing an

appropriate diagnostic and therapeutic strategy. The aim of this study is to review the main causes of pediatric epistaxis and to emphasize their clinical relevance in daily ENT practice.

MATERIAL & METHODS

This paper is based on a narrative review of current literature regarding pediatric epistaxis, focusing on etiological classification and clinical assessment. Causes were grouped into local and systemic factors, and their diagnostic implications were analyzed in relation to patient age, recurrence pattern, and associated symptoms.

RESULTS

Local factors represent the most common cause of epistaxis in children. These include digital trauma (nose picking), mucosal dryness, allergic rhinitis, upper respiratory infections, septal deviation, and foreign bodies. Inflammatory processes increase mucosal vascular fragility, predisposing to bleeding. Less frequently, benign vascular lesions such as hemangiomas or, in adolescent males, juvenile nasopharyngeal angiofibroma should be considered in cases of recurrent or unilateral epistaxis. Systemic causes include coagulation disorders (e.g., von Willebrand disease), thrombocytopenia, platelet dysfunction, and the use of anticoagulant medication. Hypertension is rarely a primary cause in children but may contribute in specific contexts. Proper history taking and anterior rhinoscopy are essential in identifying the source of bleeding and determining the need for further hematological evaluation.

CONCLUSIONS

Pediatric epistaxis is usually benign and related to local factors; however, recurrent or severe episodes require careful assessment to exclude underlying systemic disease. A structured clinical approach enables accurate diagnosis, prevents unnecessary investigations, and ensures appropriate management in pediatric ENT patients.

KEYWORDS

pediatric epistaxis; nasal bleeding; Kiesselbach's plexus; pediatric ENT

PP-761

Pediatric Nasal Obstruction: Etiology, Clinical Evaluation, And Therapeutic Considerations

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BACKGROUND & AIM

Nasal obstruction is a common complaint in the pediatric population and represents a frequent reason for referral to the otorhinolaryngology department. It may significantly affect quality of life, sleep, feeding (especially in infants), speech development, and facial growth. Unlike adults, children present age-specific causes of nasal obstruction, ranging from congenital anomalies to inflammatory and hypertrophic conditions. Early recognition of the underlying etiology is essential to prevent long-term functional and developmental complications. The aim of this study is to review the principal causes of nasal obstruction in children and to outline a structured clinical evaluation.

MATERIAL & METHODS

This paper is based on a narrative review of pediatric ENT literature focusing on the etiology, clinical presentation, and diagnostic approach to nasal obstruction in children. Causes were categorized as congenital, inflammatory, infectious, and structural. Emphasis was placed on correlating symptoms with age-specific pathologies and endoscopic findings.

RESULTS

In neonates and infants, congenital causes such as choanal atresia or congenital nasal pyriform aperture stenosis must be considered, especially in cases of respiratory distress or feeding difficulties. In toddlers and young children, adenoid hypertrophy represents the most frequent cause of chronic nasal obstruction, often associated with mouth breathing, snoring, and recurrent otitis media. Allergic rhinitis and recurrent upper respiratory infections are common inflammatory contributors. Structural abnormalities such as septal deviation or turbinate hypertrophy may further aggravate symptoms. Foreign bodies should always be suspected in cases of unilateral obstruction with foul-smelling discharge. Nasal endoscopy plays a central role in confirming diagnosis and guiding management.

CONCLUSIONS

Pediatric nasal obstruction has a broad etiological spectrum that varies according to age. A systematic clinical assessment, including detailed history and endoscopic examination, is crucial for accurate diagnosis and appropriate treatment. Early intervention may prevent complications related to sleep, growth, and craniofacial development.

KEYWORDS

pediatric nasal obstruction; allergic rhinitis; nasal endoscopy; upper airway obstruction

PP-762

A Rare Case Of Masseter Pyomyositis

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BACKGROUND & AIM

Masseter pyomyositis is a rare condition in adults and can mimic odontogenic or parotid infections. We report a case of unilateral masseter pyomyositis in an adult male, describing its clinical features and underscoring the need for a high index of suspicion to ensure early diagnosis and prevent complications.

MATERIAL & METHODS

We report a case of a male patient who was hospitalized in 2026 in our ENT department for unilateral masseter swelling and underwent clinical evaluation and appropriate management.

RESULTS

A 62-year-old male with type 2 diabetes mellitus, with no reported history of dental pain or previous dental treatment, presented with left jugal swelling, trismus, and mild dyspnea. The swelling had developed two weeks prior, gradually worsening, and was associated with severe trismus.

On examination, trismus limited oropharyngeal assessment. The swelling involved the jugal region and extended to the lateral cervical area without torticollis.

CT imaging revealed a 3-cm collection within the left masseter muscle, marked surrounding soft tissue edema, and heterogeneous enlargement of the left parotid gland. Inflammatory infiltration caused mass effect on the oropharynx and supraglottic laryngeal structures. Laboratory tests showed elevated inflammatory markers

The patient was treated with intravenous amoxicillin–clavulanic acid, analgesics, and intramuscular muscle relaxants. Within 48 hours, trismus, swelling, dysphagia, and dyspnea improved markedly. Symptoms resolved gradually, and the patient was discharged on day 9. At follow-up two weeks later, he had full clinical recovery.

CONCLUSIONS

Masseter pyomyositis is rare but potentially serious. It should be considered in any patient with painful facial swelling and trismus to ensure prompt recognition, early treatment, and prevention of airway compromise.

KEYWORDS

Pyomyositis, cervical, Masseter Muscle

PP-763

Squamous Cell Carcinoma Presenting With Temporal Lobe Abscess On A Background Of Cholesteatoma: A Rare Case Report

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BACKGROUND & AIM

Cholesteatoma is a benign but locally destructive lesion of the middle ear, and malignant transformation is exceedingly rare. Intracranial complications may occur in advanced disease; however, they only rarely reveal an underlying malignancy. We report a rare case of squamous cell carcinoma (SCC) arising from cholesteatoma, presenting with intracranial complications.

CASE PRESENTATION

A 68-year-old female with a history of childhood mastoid surgery presented with a two-month history of persistent right-sided otorrhea, severe otalgia, vertigo, and recent-onset absence seizures. Imaging demonstrated extensive soft tissue opacification in the right mastoid cavity, a temporal lobe abscess, and thrombosis of the sigmoid and transverse sinuses. Diffusion-restricting foci within the mastoid air cells raised suspicion for cholesteatoma.

The patient underwent temporal lobe abscess drainage and revision canal wall down mastoidectomy. Intraoperatively, keratinous debris and granulation tissue were observed. Although frozen section analysis suggested benign reactive changes, definitive histopathological examination revealed invasive squamous cell carcinoma. Postoperative PET-CT showed no evidence of distant disease, and the patient was referred for oncologic management.

RESULTS

Malignant transformation of cholesteatoma, although rare, should be suspected in atypical or refractory presentations.This case underscores the importance of considering malignancy as a differantial diagnosis in patients with chronic ear disease, especially when complicated by intracranial involvement.

CONCLUSIONS

This case highlights the importance of considering malignant transformation in patients with chronic ear disease, particularly in the presence of atypical clinical progression or intracranial complications. Although rare, SCC arising from cholesteatoma should be included in the differential diagnosis, and histopathological evaluation remains essential for accurate diagnosis and timely management.

KEYWORDS
Cholesteatoma, squamous cell carcinoma, temporal abscess, venous sinus thrombosis, mastoidectomy, malignant transformation

PP-764

Atypical Presentation Of Maxillary Osteonecrosis With Ethmoidal Extension In An Immunocompromised Oncologic Patient: A Multidisciplinary Surgical Approach

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BACKGROUND & AIM

Maxillary osteonecrosis in immunocompromised oncology patients often presents with atypical sinonasal symptoms masquerading as chronic rhinosinusitis. This diagnostic ambiguity can delay treatment and increase the risk of severe regional complications. This paper presents a rare case of maxillary osteonecrosis with extensive ethmoidal involvement in a metastatic breast cancer patient. We aim to highlight these diagnostic challenges and emphasize the critical role of a coordinated, multidisciplinary surgical strategy to eradicate infection, prevent further midface morbidity, and achieve a successful clinical outcome.

MATERIAL & METHODS

We detail the management of a stage IV breast cancer patient undergoing chemotherapy and immunotherapy. Following dental procedures, she developed right alveolar maxillary osteonecrosis. She presented to the ENT department with right palpebral edema, chronic nasal obstruction, and cacosmia, atypically lacking overt frank suppuration. Computed tomography confirmed extensive osteonecrosis involving the maxillary and ethmoidal sinuses. Our surgical methodology required a collaborative intervention by ENT and Oral Maxillofacial Surgery teams. We utilized a modified Caldwell-Luc approach to facilitate comprehensive trans-maxillary drainage of the ethmoid sinus. This was combined with meticulous radical debridement of necrotic bone and immediate local defect reconstruction utilizing a robust vascularized pedicled buccal mucosal flap.

RESULTS

The postoperative clinical course was highly favorable and uneventful. Following the multidisciplinary surgical intervention, the patient experienced a rapid and complete resolution of her presenting symptoms, including the right facial edema, severe nasal obstruction, and distressing cacosmia. Regular follow-up examinations revealed excellent local mucosal integration of the pedicled buccal flap. We observed complete healing of the surgical site without signs of dehiscence, fistula formation, or graft failure. Importantly, there was a total absence of postoperative infectious complications or regional disease recurrence during the observation period. This successful healing allowed the patient to safely resume her critical systemic oncological treatments without further delay or sinonasal morbidity.

CONCLUSIONS

In immunocompromised oncology patients, maxillary osteonecrosis demands a high index of suspicion, frequently presenting with atypical symptoms mimicking routine sinus disease. Delayed diagnosis risks severe orbital or cranial complications. Optimal management requires a prompt, multidisciplinary approach between ENT and maxillofacial surgeons. This case demonstrates that radical surgical debridement via a Caldwell-Luc approach, trans-maxillary ethmoidal drainage, and robust buccal flap reconstruction is highly efficacious. This combined strategy reliably eradicates infection, prevents further midface morbidity, and successfully restores sinonasal function in this vulnerable patient population.

KEYWORDS

Immunocompromised Patient Caldwell-Luc Procedure Multidisciplinary Surgical Approach Sinonasal Complications Local Flap Reconstruction Ethmoidal Sinusitis

PP-765

Deep Cervical Infection And Cervicomediastinitis After Tonsillar Infection: Case Report

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BACKGROUND & AIM

Deep Neck Infections (DNI) represent a heterogeneous group of severe infections involving the deep fascial spaces of the cervical region.To present a rare case of deep cervical infection with cervicomediastinitis following tonsillar infection and to highlight the importance of early diagnosis and multidisciplinary management to prevent life-threatening complications.

MATERIAL & METHODS

We present the clinical case of a 53-year-old male patient, M.G., from an urban area, admitted with the following clinical presentation: septic status, odynophagia, dysphagia, cervical swelling, and trismus. Based on medical history and the clinical

examination of organ systems, the patient was known to have the following associated comorbidities: heart failure and chronic alcoholism.

RESULTS

The patient was admitted to the Intensive Care Unit, and a multidisciplinary team consisting of ENT and thoracic surgery specialists managed the case. Cervicotomy and cervico-mediastinotomy were performed, ensuring drainage of both cervical and thoracic collections.

CONCLUSIONS

The possibility of lethal complications, as well as the associated morbidity and mortality, outlines this clinical entity as an important public health concern. The management of patients with oropharyngeal infections must be prompt and effective in order to prevent these potentially fatal complications.

KEYWORDS

case report, deep cervical infection, cervico-mediastinitis, oropharyngeal infection, sepsis

PP-766

Nasopharyngeal Carcinoma Presenting With Breast Metastasis: A Rare Case In A Male Patient

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BACKGROUND & AIM

Nasopharyngeal carcinoma (NPC) is strongly associated with Epstein-Barr virus (EBV) and most commonly metastasizes to bone, lung, and liver. Breast metastasis is exceptionally rare, especially in male patients, and may mimic an unknown primary neck mass, posing significant diagnostic challenges. This case report aims to present a rare male patient with NPC presenting with breast metastasis, and to highlight the critical role of immunohistochemical markers in achieving the correct diagnosis.

MATERIAL & METHODS

A 45-year-old male patient who presented with a progressively enlarging neck and cheek mass was evaluated. Physical examination, laboratory tests, and imaging studies were performed. Biopsy specimens were obtained from cervical and axillary lymph nodes, and subsequently from the posterior wall of the nasopharynx. Histopathological examination was conducted on all biopsy materials. Immunohistochemical analysis included p63, EBER (in situ hybridization), GATA-3, and mammaglobin markers. Staging was performed according to the TNM classification based on radiological findings including PET-CT and MRI. Following multidisciplinary tumor board evaluation, the patient was treated with cisplatin and gemcitabine-based systemic chemotherapy. Treatment response was assessed by follow-up imaging according to RECIST criteria.

RESULTS

A 45-year-old male presented with a 15×15 cm fixed cervical mass and bilateral lymphadenopathies. A 4 cm hard mass was also palpated in the retroareolar region of the left breast. Biopsy specimens from cervical and axillary lymph nodes revealed non-keratinizing squamous cell carcinoma. Immunohistochemical analysis demonstrated positivity for EBER and p63, while GATA-3 and mammaglobin were negative, favoring a nasopharyngeal origin. Subsequent nasopharyngeal biopsy confirmed the diagnosis of non-keratinizing squamous cell carcinoma. Imaging studies revealed widespread metastatic involvement of the nasopharynx, cervical and axillary lymph nodes, left breast, and bone structures. The patient was staged as Stage IVC metastatic nasopharyngeal carcinoma. Cisplatin and gemcitabine-based chemotherapy was initiated, and follow-up imaging demonstrated significant regression of lesions with a partial response achieved.

CONCLUSIONS

Nasopharyngeal carcinoma may rarely present with breast metastasis, posing significant diagnostic challenges, particularly in male patients. In cases initially evaluated as unknown primary neck masses, a systematic diagnostic approach is essential. Immunohistochemical markers, especially EBER positivity, play a pivotal role in identifying the nasopharyngeal origin and guiding targeted biopsy. The absence of mammaglobin and GATA-3 effectively excludes primary breast carcinoma. Platinum-based chemotherapy remains the cornerstone of treatment in advanced-stage disease, with partial responses achievable. Awareness of unusual metastatic patterns in NPC is critical for timely and accurate diagnosis.

KEYWORDS

Nasopharyngeal carcinoma; Breast metastasis; Epstein-Barr virus; EBER; ;mmunohistochemistry; Male breast; Squamous cell carcinoma

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Risk–Benefit Stratification For Immune Checkpoint Inhibitor Therapy In Head And Neck Cancer Using Routine Clinical Indicators

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BACKGROUND & AIM

Immune checkpoint inhibitors (ICIs) have improved outcomes in recurrent or metastatic head and neck squamous cell carcinoma (R/M HNSCC), but immune-related adverse events (irAEs) can lead to treatment interruption, underscoring the need for risk-benefit stratification. This study sought to predict ICI efficacy and toxicity using simple, combined positive score (CPS)-independent clinical indicators obtainable from routine laboratory tests.

MATERIAL & METHODS

A total of 179 patients with R/M HNSCC treated with anti–PD-1 therapy were retrospectively analyzed. Several routine clinical parameters, including the lumbar skeletal muscle index (LSMI) derived from pretreatment CT images, were collected and subjected to multivariable analyses to identify predictors of irAEs development and permanent ICI discontinuation. Based on significant variables, we attempted to stratify patients into those likely to derive clinical benefit from ICI therapy and those at increased risk of permanent ICI discontinuation.

RESULTS

IrAEs occurred in 35.2% of patients and were associated with significantly better survival, with high LSMI independently predicting irAE development. In contrast, low LSMI patients showed fewer irAEs and poorer survival. Within this subgroup, advanced age (≥77 years) and elevated lactate dehydrogenase (LDH) (≥240 U/L) independently predicted permanent ICI discontinuation (AUC = 0.87). This simple two-point score using these factors effectively identified low-LSMI patients at highest risk for treatment discontinuation.

CONCLUSIONS

Integrating routine indicators—LSMI, age, and LDH—provides a practical tool for identify patients who are likely to derive substantial benefit or experience irAE-related harm from ICIs, enabling optimized patient selection beyond PD-L1 expression in daily clinical practice.

KEYWORDS

Head and Neck Cancer, Immune Checkpoint Inhibitors, Immune-related Adverse Events, Lumbar Skeletal Muscle Mass, Treatment Discontinuation, Risk Stratification, PD-L1 Independent Biomarkers

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