

# درخت زنده زمین پاینده



مسرو قامت افراشته ایرانی

# سومین کنگره اتولوژی، نورواتولوژی و قاعده جمجمه ایران 3rd PONS Persian Otology, Neurotology and Skull base congress



## سومین کنگره اتولوژی، نورواتولوژی و قاعده جمجمه ایران

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Dr. Masoud Motasaddi Zarandi



Dr. Behrooz Amirzargar



Dr. Pedram Borghei



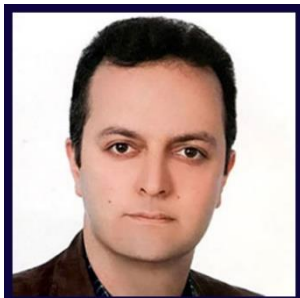
Dr. Sasan Dabiri Satri



Dr. Hamed Emami



Dr. Zahra Eslamipناه



Dr. Ali Kouhi



Dr. Mahtab Rabbani Anari



Dr. Nasrin Yazdani



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## Speakers List

1. Zahra Abbasi
2. Hamidreza Abtahi
3. Mohsen Ahadi
4. Mohammad Ajalleuyian
5. Mehrdad Amir Abadi
6. Behrooz Amirzargar
7. Maryam Amizadeh
8. Ali Mohammad Asghari
9. Leila Azadeh Ranjbar
10. Pedram Borghei
11. Sasan Dabiri
12. Ali Eftekharian
13. Hesamaldin Emamdjomeh
14. Hamed Emami
15. Zahra Eslamipannah
16. Farhad Farahani
17. Saeed Farahani
18. Mohammad Faramarzi
19. Ensieh Ghanbarpur
20. Mohammad Ghasemi
21. Seyyed Basir Hashemi
22. Mohammad Hossein Hekmatara
23. Mehdi Hormozipur
24. Yalda Jabbari Moghaddam
25. Armin Jafari
26. Fatemeh Jafari
27. Mir mohammad Jalali
28. Alireza Karimi Yazdi
29. Mohammad Ali Kazemi
30. Ali Kouhi
31. Saeed Mahmoudian
32. Mohammad Mandegari
33. Farzad Mobed Shahi
34. Mojtaba Mohammadi Ardahali
35. Mohammad Mohseni
36. Farhad Mokhtarinezhad
37. Masoud Motasaddi Zarandy
38. Ali Naeim
39. Mohtaram Najafi
40. Ahmadreza Nazeri
41. Ehsan Negin
42. Shadman Nemati
43. Mohammad Nezhad Kazem
44. Mahtab Rabbani Anari
45. Sohrab Rabiei
46. Mohsen Rajati
47. Alireza Rezaei
48. Saman Rezaeian
49. Nima Rezazadeh
50. Imaneh Roshan Zamir
51. Hooshang Saberi
52. Maryam Sadeghi Jam
53. Masoumeh Saeidi
54. Alireza Safaei
55. Nader Saki
56. Mohamamd Samadian
57. Jalal Sameni
58. Ehsan Saraei
59. Maral Seyyed Ahadi
60. Moslem Shabani
61. Elnaz Shariat Panahi
61. Guive Sharifi
62. Hashem Sharifian
63. Mahmoud Shishehgar
64. Saeed Sohrabpur
65. Mohammad Taghi Khorsandi Ashtiani
66. Mansoureh Togha
67. Maryam Yaghubi
68. Nasrin Yazdani
69. Ehsan Negin

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### 3<sup>rd</sup> PONS program template

#### Day 1

Time	Description	Speaker
7:30-8:00	Reception & Registration	
Chairmen	Mohammad T. Khorsandi, Basir Hashemi, Alimohammad Asghari	
8:00-8:15	How to reduce recurrence and residue of cholesteatoma	Mirmohammad Jalali
8:15-8:30	Obliteration technique in cholesteatoma	Mohammad Faramarzi
8:30-8:45	Management of petrous apex cholesteatoma	Mahtab Rabbani
8:45-9:00	Ossiculoplasty: technology, technique, and art	Pedram Borghei
9:00-9:15	Managing tinnitus: a collaborative approach between audiologists and ENT specialists	Maryam Sadeghi Jam
9:15-9:30	Updates in skull base osteomyelitis	Nasrin Yazdani
9:30-10:30	Opening and welcome	
10:30-11:00	Coffee Break	
11:00-12:30	Round table Discussion: Hearing restoration in challenging cases	Masoud Motasaddi  -Seyyed Basir Hashemi -Alimohammad Asghari -Hamidreza Abtahi -Pedram Borghei -Nima Rezazadeh -Ehsan Negin
12:30-12:45	Keynote Lecture and appreciation to Prof. Borghei	Failures of stapes surgery and revision Mohammad Taghi Khorsandi
12:45-13:00	Keynote Lecture and appreciation to Prof. Zadan Farrokh	XII to VII anastomosis Ali Mohammad Asghari
13:00-14:00	Lunch Break	
14:00-15:30	Round Table Discussion: Geriatric Otolaryngology	Mahtab Rabbani  -Mohammad Nezhad Kazem -Maryam Amizadeh -Mohammad Mandegari -Alireza Karimi Yazdi -Jalal Sameni
15:30-16:00	Coffee Break	
16:00-17:30	Panel Discussion: Imaging in Otolaryngology Moderator: Mirmohammad Jalali	CBCT Elnaz Shariat Panahi
		MRI in Cholesteatoma Zahra Abbasi
		Imaging in balance Mohammad Ali Kazemi
		Vestibular Schwannoma: Inner ear and brainstem Hooshang Saberi

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## 3rd PONS

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### 3rd PONS program template

#### Day 2

Time	Description		Speaker
7:30-8:00	Reception & Registration		
Chairmen	Mohammad H. Hekmatara, Alireza Karimi Yazdi, Ali Eftekharian		
8:00-8:15	Facial reinnervation: V-VII anastomosis		Saeed Sohrabpur
8:15-8:30	Decision making in facial nerve problems		Masoumeh Saeidi
8:30-8:45	Cognitive and central auditory processing issues in hearing impaired elderlies		Ahmadreza Nazeri
8:45-9:00	Temporal paraganglioma: art of teamwork		Mohsen Rajati
9:00-9:15	Radiosurgery in Temporal benign neoplasms		Ehsan Saraei
9:15-9:30	Registry session: Meniere's disease		Shadman Nemati
9:30-9:40	Registry session: A community-based registry for hearing loss in Iran		Nader Saki
9:40-9:50	Registry session: Sudden SNHL		Imaneh Roshan Zamir
9:50-10:00	Registry session: Tinnitus		Saeed Mahmoudian
10:00-10:30	Coffee break		
10:30-12:00	Panel: Management of Hearing in Vestibular Schwannoma		Ali Eftekharian -Mohammad Hossein Hekmatara -Ali Kouhi -Mohamamd Samadian -Ali Naeim -Guive Sharifi - Fatemeh Jafari -Leila Azadeh Ranjbar (audiologist)
12:00-12:15	Keynote Lecture and appreciation to Prof. Khalesi		Organ preservation in Glomus Tumors Masoud Motasaddi
12:15-12:30	Keynote Lecture and appreciation to Prof. Amiridavan		Endoscopic approach for congenital CSF otorrhea Hamed Emami
12:30-13:30	Lunch Break		
13:30-13:40	How I do it?	Tympanoplasty failures	Management of Eustachian tube Zahra Eslamipناه
13:40-13:50			Endoscopic vs. Microscopic approach Shadman Nemati
			Graft material Mohammad Mohseni
14:00-14:10			Cartilage application Yalda Jabbari Moghaddam
14:10-14:20			Rehabilitation of post- tympanoplasty dead ear Farzad Mobed Shahi
14:20-14:30			Nerve monitoring during ENT and skull base surgeries Hesamaldin Emamdjomeh
14:30-14:40			Medial canal fibrosis Behrooz Amirzargar
14:40-14:50			 Ehsan Negin
14:50-15:00			Meatoplasty Alireza Rezaei
15:00-15:30	Coffee Break		
15:30-17:00	Panel: Young Neurotologist  Alireza Safaei	How to set up a new practice	Saman Rezaeian
		How to apply for visiting positions	Sasan Dabiri
		How to enhance neurotology Business	Farhad Mokhtarinezhad
		How to stay up to date	Ensieh Ghanbarpur

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### 3<sup>rd</sup> PONS program template

#### Day 3

Time	Description	Speaker
7:30-8:00	Reception & Registration	
Chairmen	Mohammad Ajalleuyian, Nader Saki, Sohrab Rabiei	
8:00-8:15	Updates in Sudden SNHL	Farhad Farahani
8:15-8:30	Migraine treatment in Sudden SNHL	Mohammad Ghasemi
8:30-8:45	Complications of otoplasty	Mojtaba Mohammadi Ardahali
8:45-9:00	Hearing preservation in Vestibular Schwannoma	Armin Jafari (neurosurgeon)
9:00-9:15	Outcomes of audiologic evaluation in children with ANSD: Case report	Saeed Farahani
9:15-9:30	Vestibular test panel: When to ask for	Mohtaram Najafi
9:30-9:45	PPPD: challenging diagnosis or treatment?	Mehrdad Amir Abadi
9:45-10:00	Vertigo in Neurology: Red flags and what not to miss	Maral Seyyed Ahadi (neurologist)
10:00-10:30	Coffee Break	
10:30-12:00	Panel Discussion: Vestibular Migraine	Definition & background
		Diagnosis
		Psychosomatic aspects
		Treatments
		Sohrab Rabiei - Hamed Emami - Mohammad Ajalleuyian - Mansoureh Togha (neurologist) - Mehdi Hormozipour (psychologist) - Moslem Shabani (audiologist)
12:00-12:15	Keynote Lecture and appreciation to Prof. Modarres Mousavi	Resurfacing results for temporal bone venous dehiscence causing pulsatile tinnitus Ali Kouhi
12:15-12:30	Keynote Lecture and appreciation to Prof Karimaneh	Auditory brain stem implants Ali Eftekharian
12:30-13:30	Lunch Break	
13:30-15:00	Panel: 3 <sup>rd</sup> Window	Behrooz Amirzargar - Mahmoud Shishehgar - Nasrin Yazdani - Maryam Yaghubi - Hashem Sharifian (radiologist) - Mohsen Ahadi (audiologist)
15:00-15:30	Closing session	



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## خلاصه مقالات

**سومین کنگره اتولوژی،  
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Abstract of  
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## MRI in Cholesteatoma

Zahra Abbasi

Conventional non-contrast MR imaging with diffusion-weighted imaging is recommended in all patients with suspected cholesteatoma. An MRI should be performed especially in patients with previous surgery for cholesteatoma since recurrence or residual tumour can be detected with great accuracy, whereas appearances on CT can be non-specific. If negative, it can obviate "second look" surgery. Ideally, patients should be prepared for the examination (clear the external auditory canal or the postoperative cavity) to avoid a false-positive diagnosis.

A typical examination comprises T2-weighted series in the coronal and axial planes and a non-echo planar DWI series (b-values 0, 1000). On T2-weighted images they appear hyperintense. On the b= 1000 images, cholesteatomas appear hyperintense with low values on ADC map similar to that of brain parenchyma (note, the signal characteristics are the same as intracranial epidermoid cysts).

With these findings, recurrent cholesteatomas as small as a few millimetres can be detected with near 100% specificity



## **Audiologic findings in third mobile window anomalies of the inner ear**

**Mohsen Ahadi, Ph.D.**

Associate Professor of Audiology

Department of Audiology; Rehabilitation Research Center;

Iran University of Medical Sciences

[ahadi.m@iums.ac.ir](mailto:ahadi.m@iums.ac.ir)

### **Abstract**

Third mobile window anomalies refer to a group of vestibular and auditory symptoms resulting from defects in the bony structure of the inner ear. They were first described by Minor et al in 1998. This condition can be caused by various factors, including congenital abnormalities, head or barotraumas, or as a result of surgical procedures on the ear. Specific anatomic defects associated with third window abnormalities include semicircular canal dehiscence, perilyabyrinthine fistula, enlarged vestibular aqueduct, dehiscence of the scala vestibuli side of the cochlea, X-linked stapes gusher, and bone dyscrasias. Common symptoms include: Increased air-bone gap for low frequencies, hyperacusis for bone-conducted sounds, fullness, pulsatile tinnitus, autophony, pressure and sound-induced vertigo, oscillopsia, dizziness/ vertigo/ chronic disequilibrium, and pulse-related eye movements often described as blurriness. Audiologic tests such as pure-tone audiometry, immittance testing, and vestibular evoked myogenic potentials (VEMP) play a crucial role in detecting 3rd window syndromes. In this presentation, audiologic findings in several 3<sup>rd</sup> window syndromes will be discussed.



### **Panel of Vestibular Migraine**

**As panelist: Mohammad Ajalleuyian**

The history and clinical symptoms of patients with vestibular vertigo overlap to a large extent with other diseases that cause vertigo, and therefore the doctor must always keep other differential diagnoses in mind when dealing with these patients.

The most important and common differential diagnoses including:

Meniere's disease, benign positional vertigo, vestibular neuritis, motion sickness, tumors of the balance nerve pathway and dozens of other diagnoses. Unfortunately, there are no accurate and proven tests that can easily separate the diagnoses, and sometimes the progression of the disease and the passage of time may lead us from one diagnosis to another.





### **PPPD: challenging diagnosis or treatment?**

**Mehrdad Amir Abadi**

Persistent postural-perceptual dizziness (PPPD) is a chronic functional vestibular disorder, not a structural or psychiatric condition. 3pd presented by one or more of the symptoms of dizziness, unsteadiness, or non-spinning vertigo. These symptoms will worsen with upright posture, movements, and exposure to complex visual stimuli. PPDD may be precipitated by disorders that impair balance or induce vestibular symptoms, such as peripheral or central vestibular diseases, other medical conditions and or psychological illnesses. The exact pathophysiological mechanism is unknown, and it might result from functional adjustments to the postural control systems-alterations in the way multisensory information are processed or the Integration of spatial orientation and danger perception in the cortex. It has some subtypes such as; phobic postural vertigo, space and motion discomfort, visual vertigo, and chronic subjective dizziness. Physical examination and diagnostic investigation are not pathognomic to PPPD. Treatment approaches include patient counseling, vestibular rehabilitation therapy, cognitive behavioral therapy, and medications.



## **Medial Canal Fibrosis**

### **Behrooz Amirzargar M.D.**

Assistant Professor of Otology and Neurotology

Department of Otorhinolaryngology - Head and Neck Surgery, Imam Khomeini Hospital Complex, Tehran University of Medical Sciences

Medial canal fibrosis involves the soft tissue in the external auditory canal, which results in the obliteration of the ear canal. The segment between the meatus and the tympanic membrane usually consists of fibrous tissue. Chronic otitis externa is the most common cause. The typical findings are a foreshortened ear canal, the absence of tympanic membrane landmarks, and soft tissue in the medial one-third of the canal that cannot be separated from the tympanic membrane. There is no erosion or enlargement of the bony canal, and the middle ear and mastoid are not affected. Preoperative CT scanning will confirm the presence of soft tissue atresia and the crescent sign. Conservative medical management, including proper ear cleaning and the application of ototopical steroids and antibiotics, is important to control any underlying infection and minimize the development of granulation tissue in the early inflammatory phase of the disease. Once the fibrous tissue has fully formed, the main concern is conductive hearing loss. The goals of surgery are to remove the fibrous tissue in the external auditory canal, expose the tympanic membrane, re-epithelialize the ear canal with a split-thickness skin graft, and, most importantly, improve hearing.

### **Hypoglossal to facial nerve anastomosis** **Alimohamad Asghari MD**

Hypoglossal nerve to facial nerve anastomosis, is a surgical procedure used to reinnervate facial nerve in patients with facial paralysis. There are three types of 12 to 7 nerve anastomosis. End to end procedure use the entire bundle of hypoglossal nerve, it doesn't need any interposition graft with just one anastomosis cite but it has tongue movement deficit on the same side. The other two techniques are end to side with or without jump graft. In this presentation I explain the techniques in detail.

The main indication for hypoglossal nerve to facial nerve anastomosis is facial paralysis resulting from tumor or damage to the facial nerve in CP angle or IAC. In this case the proximal part of facial nerve is not suitable for anastomosis or is not accessible at all. The facial muscles should be alive and non-atrophic. Complete and non-reversible facial nerve paralysis due to vestibular schwannoma surgery is one of the well-known indications of this procedure.

After the surgery, patients undergo a period of rehabilitation to regain control of the facial muscles. While the procedure can lead to improvement in facial movement, it may also result in some weakness or altered movement of the tongue on the side of the anastomosis.

Overall, hypoglossal nerve to facial nerve anastomosis is a valuable option for restoring facial movement in patients with facial paralysis, and can significantly improve their quality of life.

Key words: Facial paralysis, facial reinnervation, nerve anastomosis

**Professor of Otolaryngology, head and neck surgery. Skull base research center and department. Rasoul Akram Hospital. Iran University of Medical Sciences.**

**3<sup>rd</sup> Persian Otolaryngology, Neurotology, and Skull Base (PONS) Congress**  
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**Young Neurotologist: How to apply for visiting positions.**

**Sasan Dabiri**

Otolaryngologist-Head and Neck Surgeon  
Fellowship in Otolaryngology and Neurotology

Visiting positions provide invaluable opportunities for aspiring healthcare professionals to gain firsthand insights into the dynamics of medical practice. It could be a significant milestone for young physicians eager to broaden their horizons and earn diverse clinical experiences. Typically, clinical observerships offer individuals a chance to shadow experienced healthcare practitioners, observe medical procedures, and immerse themselves in the day-to-day activities of a medical setting. Whether you are a recent graduate or seeking to enhance your clinical skills and knowledge, the application process for a clinical observership can be a pivotal step in your professional journey.

Although the process might seem challenging, being familiar with the steps can aid in navigating the application. Researching potential clinical observership opportunities and exploring various healthcare institutions and hospitals that offer such programs to identify suitable options, tailoring your resume to emphasize relevant educational and professional experiences while ensuring that your cover letter clearly articulates your reasons for seeking the observership, and meticulously adhering to the application instructions provided by the institution are crucial aspects of any application process. While there may be some differences in applying for a clinical research fellowship or a visiting professorship compared to a clinical observership, they all adhere to the same fundamental principles.

By conducting thorough research, preparing a solid application package, and maintaining proactive communication with program coordinators, you enhance your chances of securing a valuable position that can significantly contribute to your professional development in healthcare.



### **Auditory Brainstem Implant** **Ali Eftekharian**

Neural hearing pathway begins from cochlea pass through cochlear nucleus and several upper centers to reach the hearing cortex of the brain.

When the problem of hearing is the sensory hair cells of the cochlea, cochlear implantation works well.

When the cochlea is severely malformed or damaged, or do not exist, or when there is no cochlear nerve, cochlear implantation is useless.

For hearing restoration of these conditions the second site suitable for electric stimulation of the auditory pathway is cochlear nucleus in brainstem which nowadays is possible with an auditory brainstem implant (ABI).

Each device has two components; External and Internal. External and internal components are similar to the cochlear implant. Their difference is in their stimulating electrodes. ABI has a pad of electrodes which in Cochlear Corporation type consist of 21 electrodes and in MED-EL Corporation type 12 ones.

ABI candidates can be categorized to the patients with tumors (mainly neurofibromatosis type 2; NF2) and nontumor patients. Nontumor candidates may further divided into the two categories; the patients with severe congenital anomaly of the inner ear or cochlear nerve, and the patients with damaged inner ear or the cochlear nerve.

ABI program of Loghman Hospital of Shahid Beheshti University of medical sciences started at 2012. Since then, we have implanted 43 patients; 29 NF2s, 12 congenital inner ear or nerve anomaly and two patients with post-meningitis hearing loss.



## **Nerve monitoring during ENT and skull base surgeries**

**Presenter: H.Emamdjomeh**

### **Summary :**

Although the history of intraoperative neuro monitoring (IONM) dates back to the 19th century, until recently, the expected level of evolution in methods and accuracy in distinguishing neural behavior had not been met. Only with the development of continuous intraoperative neuro monitoring (cIONM) has it become possible to provide uninterrupted analysis of stimulation range and wave latency throughout the surgical stages.

In the field of ear, nose, and throat, particularly since the use of implantable auditory prostheses, monitoring has made significant progress in assessing the correct placement of the prosthesis and its neural performance, such as NRT, EABR, ENoGVII, and impedance telemetry. Especially in performing ABI procedures, it is not possible without monitoring.

This article aims to present novel active (acIONM) and passive (paIONM) monitoring methods that enable continuous monitoring of nerves during thyroid surgeries (where the recurrent laryngeal nerve is continuously stimulated) and skull base and ABI surgeries (where the VII and VIII nerves are continuously stimulated). This monitoring is crucial for preserving the anatomical and functional integrity of the neural structures at risk, preventing short-term and long-term paralysis after surgery, and identifying nerve function.

### Endoscopic Approach for Congenital CSF Otorrhea

Dr Hamed Emami

Cerebrospinal fluid otorrhea is significant clinically because of the life-threatening meningitis which may result from an infection in the middle ear space.

Congenital forms of CSF otorrhea are more common than acquired types.

Congenital cerebrospinal fluid otorrhea usually presents as a delayed form of otorrhea.

Usually there is an abnormal communication between the subarachnoid space and the external space that can result from congenital dysplasia of the inner ear.

When a patient presents with a severe hearing impairment and repeated attacks of meningitis congenital inner ear dysplasia should be suspected. Some patients do not have meningitis symptoms, and when performing tympanostomy, watery fluid persistently leaks from the perforation.

The diagnosis depends on the detection of symptoms by high-resolution computed tomography (HRCT) .

Dysplasia of the inner ear is often associated with an abnormal otic capsule, resulting in congenital weakness or fistula formation in the stapes footplate or annular ligament. In addition, pressure

fluctuations in CSF may cause thinning of the stapes footplate or cracks in the annular ligament.

We had three patients with repeated meningitis and hearing impairments that we detected congenital

inner ear deformities in CT scan. We manage all of them with endoscopic approach. All three cases had

leakage from oval window area and our technique was successful in blocking the leakage.

## Outcomes of Audiologic Evaluations in Children with Auditory Neuropathy Spectrum Disorder; Case report

Dr.Saeid Farahani\*

\*Department of Audiology, School of Rehabilitation, Tehran University of Medical Sciences

The management of Auditory Neuropathy Spectrum Disorder (ANSD) in children involves a multidisciplinary approach that includes audiologists, otolaryngologists, speech-language pathologists, and sometimes other specialists depending on the specific needs of the child. In this article an outline of the typical audiologic management of ANSD in children based on case reports and clinical guidelines.

**Comprehensive Audiological Assessment:** This involves a battery of tests to confirm ANSD, including Otoacoustic emissions (OAEs), Auditory brainstem response (ABR), Acoustic immittance, Electrocochleography (ECoG), and Behavioral audiometry.

**Medical Evaluation:** To rule out any underlying medical conditions contributing to ANSD, an otolaryngologist may be involved.

**Hearing Aid Trial or Fitting:** Hearing aids might be trialed to determine if the child benefits from amplification. However, due to the nature of ANSD, some children may not receive significant benefit from traditional hearing aids.

**Assistive Listening Devices (ALDs):** In some cases, ALDs like frequency modulation (FM) systems or cochlear implants might be considered to enhance speech understanding in noise or challenging listening situations.

**Auditory-Verbal Therapy or Auditory-Oral Therapy:** Early intervention with speech-language pathologists or therapists who specialize in auditory-verbal or auditory-oral approaches can help children maximize their listening and spoken language development.

**Regular Audiological Monitoring:** Periodic evaluations are necessary to assess the child's progress and adjust management strategies accordingly.

**Consideration of Cochlear Implantation:** For children who do not benefit from hearing aids or show limited progress with other interventions, cochlear implantation might be considered to bypass the affected auditory pathway and directly stimulate the auditory nerve.

**Family Support and Education:** Providing information and support to the family is crucial. Parents should be educated about ANSD, the available management options, and strategies to support their child's communication and development.

It's important to note that each child with ANSD is unique, and the management plan should be individualized based on their specific needs, audiologic profile, and family preferences.

Case reports often provide valuable insights into the challenges and successes of managing ANSD in children, offering guidance to clinicians and researchers in refining treatment approaches for this complex condition.



Mohammad Faramarzi, MD

Professor of Otolaryngology-Head & Neck Surgery  
Fellowship of Otolaryngology-Neurotology  
Fellowship of Rhinology & Endoscopic Sinus Surgery

Shiraz University of Medical Sciences

Email: [mfaramarzi11@gmail.com](mailto:mfaramarzi11@gmail.com)

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### Mastoid obliteration and external auditory canal reconstruction with silicone block in canal wall down mastoidectomy

**Objective:** To prevent cavity problems in canal wall down mastoidectomy, silicone block for mastoid obliteration was used.

**Methods:** In this retrospective cohort study, 39 patients (21 males and 18 females) underwent canal wall down mastoidectomy and mastoid obliteration using silicone block. We evaluated the postoperative outcome, the time until epithelialization of the cavity, graft success rate, and the hearing outcome.

**Results:** The time until complete epithelialization of the mastoid cavity was  $35.5 \pm 5.4$  days. We had a graft success rate of 100% during the follow-ups. The postoperative evaluation revealed 36 dry ears (92.3%) patients without any cavity problems. However, one ear developed granulation tissue, and two ears had partially exposed silicone block, which required revision mastoidectomy. Regarding hearing outcomes, a complication such as deaf ear was not reported.

**Conclusion:** Silicone block is safe and suitable for mastoid obliteration and external auditory canal reconstruction in canal wall down mastoidectomy.

### Comparison of hearing outcomes in stapedotomy with fat and Hyaluronic acid gel as a sealing material

**Purpose:** In the literature on stapes surgery, various materials have been used to seal the vestibulotomy. To date, there are only a few published randomized clinical trials with focus on hearing outcomes, using different sealing materials. Hence, the aim of this study was to compare hearing outcomes when using fat or Hyaluronic acid gel (HAG) to seal the stapedotomy.

**Methods:** The present double-blind, prospective, randomized clinical trial was conducted on ears undergoing stapedotomy in Dasthgheib Hospital, a referral otology center in Southern Iran, and Dena private hospital, Shiraz Iran. A total of 150 primary stapedotomies were evaluated, and sealing material was fat in 77 ears and HAG in 73.

**Results:** 60 (77.9%) of the fat group ears and 63 (86.3%) of the HAG group ears obtained postoperative air–bone gap (ABG) within 20 dB, but the difference was not significant ( $p = 0.182$ ).

**Conclusion:** As a sealing material in stapedotomy, HAG is comparable with fat in terms of hearing outcomes. Therefore, HAG is recommended as a safe sealing material in stapedotomy.

### Application of Amniotic Membrane for Covering Mastoid Cavity in Canal Wall Down Mastoidectomy

**Objective:** Prevention of granulation tissue formation and acceleration of epithelialization of the mastoid cavity in canal wall down (CWD) mastoidectomy by use of amniotic membrane (AM) as a biologic dressing.

**Study Design:** Prospective and randomized study.

**Methods:** During CWD mastoidectomy, an inferiorly base musculoperiosteal flap was rotated into the cavity. In order to coverage of this flap, the AM (75 ears) or the temporalis fascia (control group, 73 ears) was used. The times for mastoid cavity epithelialization were compared in both groups.

**Results:** In the AM group, duration of complete epithelialization of the cavity was  $41.4 \pm 7.7$  days, whereas in the control group it was  $59.2 \pm 9.1$  days. Duration of time for complete epithelialization in the AM group was shorter than in the control group, which was significant ( $P < 0.0001$ ).

**Conclusion:** The use of AM in CWD mastoidectomy is beneficial in minimizing postoperative epithelialization time.

### **How to stay up to date** **Ensieh Ghanbarpur**

Staying up to date in neurotology, as in any medical field, requires a commitment to ongoing learning and professional development. Here are some specific steps you can take to stay current in neurotology: Continuing Medical Education (CME), subscription to Medical Journals, Specialized Training, Participation in Conferences and Meeting. Compared to traditional methods of education, electronic education (e-learning) is making significant progress. E-learning platforms can provide ongoing opportunities for practicing otolaryngologists to stay updated on the latest research, guidelines, and clinical practices in the field. The availability of high-quality online courses, interactive learning platforms, and virtual simulations has greatly enhanced the effectiveness of electronic education. Furthermore, the global reach of electronic education allows learners to access resources and expertise from around the world, fostering a collaborative and diverse learning environment. Overall, the progress of electronic education in comparison to traditional methods is evident in its ability to offer flexible, personalized, and engaging learning experiences that cater to the needs of modern learners.

By leveraging these electronic resources, educators and professionals can stay informed about the latest advancements, best practices, and professional development opportunities in the field of electronic education. In this topic, the most up-to-date electronic resources including electronic medical libraries, virtual webinars, teleconferences, etc. will be introduced.



## Migraine is a risk factor for sudden sensorineural hearing loss Mohammad Ghasemi

The pathophysiology of idiopathic sudden sensorineural hearing loss (SSNHL) is poorly understood. Up to 85% of the cases are idiopathic. Few case reports have proposed a possible link between migraine and SSNHL. Sudden sensorineural hearing loss (SSNHL) is a frightening symptom characterized by rapid deterioration of hearing within a very short period of time. It is one of the most common emergencies in the daily practice of otorhinolaryngologists. The incidence is estimated at 20 per 100,000 person-years, but may vary from five to 160 per 100,000 person-years. Of the 61 idiopathic SSNHL patients, 34 were women (55.74%); and 24 (39.34%) had migraine, according to the criteria of the International Headache Society (IHS). SSNHL is usually defined as an unexplained sensorineural hearing loss greater than 30 decibels (dB).

In three consecutive audiometric frequencies occurring over a 72-hour period. The peak incidence occurs in the fifth or sixth decade of life, and there is an equal gender distribution. The hearing impairment is mostly unilateral, with bilateral involvement in less than 5% of cases. Approximately half of the patients completely or partially recover; however, those who present with severe or profound hearing loss have a particularly poor prognosis regardless of the type of treatment.

Permanent hearing loss due to SSNHL, though unilateral and having a variable degree, is usually an incapacitating event that greatly impacts the quality of life and the ability to interact socially and causes severe morbidity.

Previous studies have suggested numerous possible pathophysiological mechanisms for SSNHL, including viral infections, ischemic insults, and autoimmune diseases.

Vascular etiology has gradually gained popularity because of the abrupt onset of the clinical presentation and the correlation between SSNHL and certain vascular events.

One population-based study demonstrated that patients hospitalized because of SSNHL were 1.6 times more likely to develop stroke in the following five years.

Migraine, especially migraine with aura, has been shown to be a risk factor for cardiovascular events. Recently, a few case reports have suggested a possible link between migraine and SSNHL. Therefore, it is necessary to investigate the risk of idiopathic SSNHL in migraine patients.

### Main Outcome Measures:

Cases with inflammation in the middle or inner ear; a retro cochlear tumor; autoimmune, infectious, functional, (Functional hearing loss or psychogenic hearing loss such as synaptopathy), metabolic, neoplastic, traumatic, toxic, or vascular causes; Meniere's disease; otosclerosis; multiple sclerosis; and/or cerebrovascular diseases were excluded.

The groups did not significantly differ in terms of age, sex, or SSNHL recovery rates according to the Siegel criteria ( $p > 0.05$ ). Ten of the migraine patients experienced visual

aura, and the recovery rates of this group were higher. The pure tone in the vestibular migraine (VM) group showed higher thresholds at lower frequencies (250, 500, 1,000, 2,000 Hz) than the control group, with statistical differences observed.

The migraine cohort had a greater risk of developing SSNHL than the matched cohort( per 100,000 person-years) .

SSNHL patients had a higher prevalence of migraine. Although those with migraine had higher recovery rates, the differences were not statistically significant.

Not only the peripheral, but also the central auditory system was involved in patients with migraine and vestibular migraine (VM).

Traumatic stapediostibular dislocation without any cochleovestibular symptoms

Dr Yalda Izadparast ,Otolologist ,Shiraz

#### INTRODUCTION

Stapediostibular dislocation is a rare condition most commonly caused by direct penetrating trauma to external ear canal causing progressive SNHL tinnitus and vestibular symptoms.

The objective of this presentation is considering this lesion in other pictures and review of literature on this topic

#### CASE REPORT

A 19 years old boy with left pure moderate conductive hearing loss without any vestibular syndrome

Patient had previous history of tympanoplasty and MEE after trauma due to unsuccessful trying to remove of foreign body stone in his left ear 10years ago when he was referred to us with sever ear pain and CHL after manipulation of his ear to remove of foreign body in other center

Under G/A stone was removed and posterior perforation with hematoma over the edematous tympanic membrane was detected. After elevating flap surprisingly completely normal stapes was detached of its place and found in floor of middle ear cavity. No leak of perilymph was detected at that moment. We sealed the oval window with a piece of perichondrium. Incus was loose but had attachment to malleus .Cartilage tympanoplasty was done for patient .Post operation he had only 40 to45 gap in left ear without any cochleovestibular symptom .HRCT showed no pneumolabyrinth.10years later MEE was done and in completely normal middle ear cavity without any fibrous band over the oval window membrane, Teflon piston prosthesis inserted and sealed with fat and air bone gap completely closed postoperatively.

#### CONCLUSION

Stapediostibular dislocation should be considered as a differential diagnosis of post traumatic CHL even without vestibular syndrome.



**Tympanoplasty failures: cartilage application**

**Dr. Jabbari Moghaddam Professor of Otolaryngology Otolaryngology Fellowship, Tabriz Medical University, IRAN**

Email: yj\_moghaddam@yahoo.com

Tympanoplasty is a surgical procedure not only for eradication of infection of the middle ear but also for restoring of the function if possible. The graft take rate in tympanoplasty surgery varies. Reasons for this surgery failure has classified into: 1- factors related to the perforation, 2- the patient factors 3- the surgical technique. Some studies show the initial success rate of 94% declined to 92% in longer-term. The instability of the temporalis fascia in patients with Eustachian tube dysfunction, sclerotic mastoid, retraction pockets, middle ear adhesions, atelectatic tympanic membrane and marginal perforations without residual TM, has been considered factors affecting the graft take. Nowadays many otologists to overcome these issues, routinely use cartilage as graft material. In continuous Eustachian tube dysfunction the cartilage maintains its firmness and resists resorption and retraction and if it thinned out and used in the palisades form the vibration characteristics of cartilage are similar to fascia.

### **Resurfacing results for temporal bone venous dehiscence causing pulsatile tinnitus**

**Ali Kouhi**

Associate professor of otorhinolaryngology, Fellowship of otology & neurotology, Amir-Alam Hospital, Tehran university of Medical Sciences

**Introduction.** Pulsatile tinnitus is a frustrating symptom leading to significant decrease in quality of life and psychological burden. Arterial pulsatile tinnitus although may be due to important pathologies such as temporal paraganglioma, or vascular anomalies, but is a rare finding. However, venous pulsatile tinnitus is significantly more common, and usually overlooked. Here we present our result on treating venous pulsatile tinnitus with resurfacing procedure.

**Method.** Patients with pulsatile tinnitus with venous hum, were included. All of patients underwent hearing evaluation, imaging study by temporal bone CT scan and MRV. MRV was done to rule out any intra luminal pathology in venous system causing turbulent flow.

Patients were evaluated for any underlying disease such as hypothyroidism, anemia, and migraines. The underlying disease was treated and patient was re-evaluated after 3 month to see if the symptoms persist. Only patients with residual tinnitus, with significant effect on quality of life were scheduled for surgery.

**Results.** Among 124 patients with venous pulsatile tinnitus 13 underwent resurfacing. Significant number of patients symptoms were minimal after reassurance and migraine treatment. 12 patient were primary cases and one had previous resurfacing.

All had improvement of symptoms. 11 had complete resolution of tinnitus and 2 had partial resolution.

**Conclusion.** Resurfacing technique for temporal bone venous dehiscence can be a good option for patients hearing venous hum with significant severity and persistent after treatment of underlying disease.



### **Rehabilitation of post tympanoplasty dead ear** **Farzad Mobedshahi**

An inherent risk of surgery for chronic middle ear disease is that it may cause permanent SNHL. Several causes maybe involved at once. RW or OW may be damaged while removing cholesteatoma or granulation tissues, ossicles may dislocate or fracture as a result of manipulation.

The exposure to high level of sound along with vibrations due to drill might affect the internal organs of inner ear resulting into permanent threshold shift.

Rehabilitation proceedings are several techniques related to quantity and quality of hearing damages. Reconstruction surgeries, hearing amplification via hearing aids (AC or BC hearing aids), implantable hearing aids and finally Cochlear Implant as a last and complicated alternatives. This article introduces the cases who received CI due to deafness after middle ear surgery.

### **Function preservation in Glomus tumor Surgery**

**Dr. Masoud Motasaddi Zarandy**

**Tehran University of Medical Sciences**

Glomus tumors, which develop from neural crest tissue, may arise sporadically, as a part of an inherited syndrome or in association with other tumors like MEN2, NF1, etc.

Managing this tumor especially in temporal bone is a challenging matter. Among many different modalities like watch and see, radiotherapy-combined approach, etc. surgery is still treatment of choice.

In order to have a good and reasonable outcome and preserving the functions of involved organs, some points play important roles. In this presentation based on more than two decades of experience I will try to highlight some of these tips and tricks.

Preoperative embolization, preserving ant. med. wall of jugular vein inside the jugular foramen if possible, and avoiding over packing of the inf. petrosal sinuses orifices are among these points which will be explained with video clips.

Team approach and consulting with other subspecialists (interventional radiologist-vascular surgeon) can help the surgeon choose the best option and have a delicate imagination of tumor extension in order to have fewer complications.

Growing number of patients in my country due to unknown reasons led us to have a look on the genetic properties of said patients. Recently we have observed that genetic evaluation of the patients and exposing the genetic mutation like (SDHA-C-D-C) will predict the multiple tumors and recurrence rate as well as malignancies among the patients.

And finally restoring hearing primarily or with some devices such as BAHA or Bone Bridge will satisfy the patients and diminish the morbidities.



## **COGNITIVE AND CENTRAL PROCESSING ISSUES IN HEARING IMPAIRED ELDERLIES**

**Dr Ahmadreza Nazeri**

Associate Professor of Audiology

Shahid Beheshti University of Medical Sciences

Aging is growing up rapidly. Cognitive abilities are reduced as a consequence of aging. There are some risk factors that facilitates the development of cognitive decline issues. Hearing loss is one of these potential risk factors. In addition, observational studies have shown that the severity of hearing impairment is associated with a risk of accelerated cognitive decline.

Central auditory processing abilities are necessary for some vital communication abilities in elderly people. Understanding speech in noisy places is One of the most important part of these abilities. Temporal processing, Binaural Hearing, spatial processing and Dichotic listening are some of the critical central auditory abilities which are reported to be declined at aged people.

With respect to above mentioned issues Otologists and Audiologists have to look to this subject from a new window. Ordering a routing audiology evaluation is not enough. We have to measure the whole communication ability. We have to do it “beyond the Audiogram”. Speech in Noise understanding, temporal processing & Dichotic listening must be added to our routine portfolio. Valid AND Reliable cognitive screening tools also must be utilized. Adult rehabilitation programs are necessary also to be added to our usual hearing aid/cochlear implantation approaches.

3

**سومین کنگره اتولوژی،  
نورواتولوژی و قاعده جمجمه ایران**  
**rd PONS**  
Persian Otolaryngology,  
Neurotology  
and Skull base congress

### Iranian National program on Meniere's Disease Registry

**By: Shadman Nemati, Professor, Neurotologist, Otorhinolaryngology Research Center; Guilan University of Medical Sciences; Faculty of Medicine; Rasht-Iran**

Meniere's disease (MD) is defined as a symptom complex associated with tinnitus, sensorineural hearing loss, vertigo, and aural fullness. It is one of the most fascinating and vexing of all clinical conditions encountered by the otolaryngologists.

A registry is a collection of information about individuals, usually focused around a specific diagnosis or condition. Registries can provide health care professionals and researchers with first-hand information about people with certain conditions, and over time, to increase our understanding of that condition. Registry program is a virtual cohort study with numerous objectives and stakeholders in treatment, research and education domains.

Iranian National Program of Meniere's Disease Registry Site (meniereiran) established in Sep. 2019 by Iranian Neuro-otology Board, as a national scientific program. The secretariat of the program is located at Otorhinolaryngology Research Center of Guilan University of Medical Sciences, and 17 regional Registry teams, composed of regional master neurotologists, audiologists, and one Information technologist from all over Iran (i.e. central, south-east, south-west, west, east, and north of Iran) involved in this program.



The site address is [www.meniereiran.ir](http://www.meniereiran.ir) and the information sheath of each patient consist of 3 sections: demographic information that can be filled by the patients (self-registration), part 2 MD criteria that are based on the last version of Barany criteria (2016), and the last part a patient-oriented Quality of life standard questionnaire specific for MD cases (MDPOSI). The last 2 sections must be filled out by registry team.

This is among rare registry programs in the field, worldwide; and until now, nearly 400 definite MD cases from different parts of IRAN have been registered. We hope by a comprehensive-conscious teamwork, more and more MD cases been registered in IRAN.



### **Tympanoplasty Failures: Endoscopic vs. microscopic Approach**

**By: Shadman Nemati, Professor, Neurotologist, Otorhinolaryngology Research Center;  
Guilan University of Medical Sciences; Faculty of Medicine; Rasht-Iran**

Tympanoplasty was conventionally performed using a microscope for decades. However, the endoscope began to be used in middle ear surgery in the 1970s. The endoscope provides improved visualization, high resolution, and magnification and is minimally invasive compared with the microscope and allows surgeons to look around corners to identify and remove middle ear disease.

There is a plenty of studies, both primary original comparative ones and secondary systematic reviews and meta-analysis, comparing results of endoscopic and microscopic tympanoplasties; and almost all of them confirm good, comparable results between two techniques in terms of graft uptake rate, postoperative hearing results and operation time. Patients receiving endoscopic tympanoplasty have a lower canaloplasty rate and more desirable cosmetic results than do those receiving microscopic tympanoplasty. Also, there are many evidences in the literature in favor of endoscopic assisted microsurgery of the ear.

There are studies that showed resident feedback on endoscopic myringoplasty was positive. Also, one study suggested that the learning curve for the endoscopic tympanoplasty was 10 cases, much smaller than the 60 to 80 cases for conventional microscopic surgery; hence the surgeons must not be reluctant to change to the endoscope due to probable longer operation time and learning curve issues!



### **Management of petrous apex cholesteatoma** **Mahtab Rabbani Anari**

Associate professor of otorhinolaryngology, Fellowship of otology & neurotology, Amir-Alam Hospital, Tehran university of Medical Sciences

[M\\_rabbani@sina.tums.ac.ir](mailto:M_rabbani@sina.tums.ac.ir)

Petrous bone cholesteatoma (PBC) is a rare lesion commonly found incidentally but during the time it can grow aggressively and with local erosion of surrounding organs causes symptoms like hearing loss and/or facial paralysis.

The mainstay of treatment of PBC is radical resection. According to the location and extension of the disease and its relation to labyrinthine block, different surgical approaches can be applied. We use Sanna's classification for PBC including: Supralabyrinthine, Infralabyrinthine, Infralabyrinthine—Apical, Massive, Apical. The surgeon will try his/her best to preserve the anatomy of inner ear and also hearing and facial function along with complete debridement of cholesteatoma. Cochlear preservation is crucial for possible cochlear implantation in the future. Some of surgical approaches applied to remove PBC are transotic, transcochlear, translabyrinthine, subtotal petrosectomy, middle fossa and etc. Nowadays use of endoscope for the lesions of petrous apex can assist the surgeon for more precise surgical debridement and reduction of recurrence with less complications. We have reviewed the various surgical managements of PBC in our patients and had an emphasis on close follow up of these patients with both physical examination and imaging especially with Diffusion-weighted of MR imaging.



**Round Table Discussion:**

**Geriatric Otolaryngology**

**Moderator: Mahtab Rabbani Anari**

**Panelists: A. Karimi Yazdi, M. Nezhad Kazem, M. Amizadeh, M. Mandegari, J. Sameni**

With changing demographics in Iranian society and aging of our population, we need more attention and focus on medical conditions and quality of life in older individuals. One of the most disabling problems in older adults is age-related hearing loss. Bilateral weakness of the vestibular function can be related to presbyvertigo and must be considered in aged persons. The panelists address presbycusis, presbyvertigo, imbalance and social effects of these morbidities and discuss on different topics of geriatric otology to reach a consensus. The main topics of the panel including:

- Definition of Age-Related hearing loss and its risk factors.
- Pattern of audiogram and cochlear pathologies.
- Cognitive and social effects of presbycusis.
- The role and considerations of hearing aids.
- The role of surgery in geriatric conductive and sensorineural hearing loss
- Clinical approach to presbyvertigo, imbalance and subjective tinnitus.



**Temporal paraganglioma: art of teamwork**  
**Mohsen Rajati**

Glomus Jugular tumors, also known as paragangliomas, are rare, slow-growing soft tissue tumors originating in neural crest cells at the skull base. Despite their typically benign nature, these tumors exhibit local invasiveness, posing a threat to surrounding vital structures. Surgical removal constitutes the primary management approach, with radiation recommended in specific cases. The challenges inherent in accessing the deep-seated tumor within the skull base, coupled with the intricacies of dealing with highly vascular tissues during surgery, make this procedure one of the most extensive and demanding in medicine. Optimal patient outcomes hinge on collaborative efforts, emphasizing a multidisciplinary team comprising ENT surgeons (including an Otolaryngologist and a head & neck surgeon), a skilled vascular interventionist (preferably a neurosurgeon), and a neurosurgeon addressing intracranial extensions. This presentation explores refined techniques and teamwork to enhance the efficiency and effectiveness of Glomus Jugular tumor surgeries.





**Meatoplasty**  
**Alireza Rezaei**

Meatoplasty is a procedure that is performed for cases such as cholesteatoma or ear tumors or cases such as canal atresia and other surgeries that require a periodic evaluation of the surgical site so that the surgeon can easily see the eardrum and the external ear cavity and intervene if necessary. . The removal of waste material is done and the possible recurrence of the pathology is known. In these techniques, different methods are usually used, the purpose of which is to create a cavity without creating an apparent deformity and an important complication such as perichondritis

## Surgical Neuroanatomy and Approaches of Vestibular Schwannomas

Hooshang Saberi, M.D., PhD.<sup>1\*</sup>

Nazi Derakhshanrad, M.D., PhD.<sup>1</sup>

<sup>1</sup>Department of Neurosurgery, Imam Khomeini Hospital Complex, Tehran University of Medical Sciences, Tehran, Iran

\*Address correspondence to Hooshang Saberi, M.D., MPH., Department of Neurosurgery, Imam Khomeini Hospital Complex, Keshavarz Boulevard, Tehran, Iran. Postal code:1449614535; E-mail:hgsaberi@yahoo.com

### Abstract

Vestibular schwannomas (VS) are benign tumors originating from myelinating Schwann cells in the vestibulocochlear nerve that account for 8% of all intracranial tumors and are the most common neoplasm of the cerebellopontine angle in adults. Recent epidemiologic trends reveal a lifetime prevalence exceeding 1 case among 500 persons. Sporadic unilateral VS account for more than 95% of cases, and less commonly, VS develop in the context of tumor-predisposing genetic disorders such as neurofibromatosis type 2 and schwannomatosis. We review the literature regarding surgical neuroanatomy and structures affected by VS, neurosurgical approaches and post-operative complications. Various surgical techniques exist for removing VS, the most common of which are translabyrinthine, retrosigmoid, and middle fossa microsurgical approaches. Also, stereotactic radiosurgery (gamma knife) used for the treatment of VS. Due to surgical risks such as hearing loss, facial nerve dysfunction, post-operative headache, and cerebrospinal fluid leakage, a "watch and rescan" approach is adopted for most patients. Radiotherapy is a useful alternative, and emerging biologic therapies are promising potential treatments.

**Key words:** Vestibular schwannomas; Neurosurgical approaches; Brain stem anatomy; Postoperative complications.

## Decision making in facial nerve problems

Masoumeh Saeidi

Facial nerve palsies are a common and significant presentation specifically to ear, nose, and throat (ENT) surgeons but also in general medical practice. The facial nerve is a fundamental structure both for communication and emotion, and as such, functional impairment can lead to a significant deterioration in the quality of life.

A key element in the initial assessment of a patient presenting with facial weakness is distinguishing between a lower motor neuron (LMN) versus an upper motor neuron (UMN) palsy, as the likely causes and, therefore, treatment for these vary significantly. Applying anatomy to clinical history and examination, a clinician can identify the probable cause of facial nerve palsy and subsequently direct management appropriately.

There are some interprofessional team strategies for improving care coordination and communication to advance care for patients with facial nerve palsies and improve outcomes.

Posttraumatic FNP still remains controversial given the lack of consensus on the best management option, as well as the considerable variability in the management approaches reported in the literature (Vajpayee et al., 2018)

The two main approaches for the management of FNP include surgical decompression and conservative management with steroid therapy (Lee et al., 2018). A review of the recent literature revealed that combining function-based clinical evaluation, such as The House-Brackmann grading scale (HBGS), and electrodiagnostic testing, particularly electroneurography (ENoG) and electromyography effective in determining the surgical candidates (Guntinas-Lichius et al., 2020). However, controversy still remains regarding the indications, timing, and most suitable approach for surgical decompression (Yadav et al., 2018).

Clinically, facial nerve paralysis is considered chronic when its onset or the time of injury dates back more than 1 year. Two types of procedures are used in the surgical treatment of chronic facial nerve paralysis: dynamic and static reanimative procedures. When considering surgical intervention in chronic facial paralysis, carefully evaluate the patient's remaining potential for spontaneous recovery by electromyography (EMG), MST, and ENog.

## **A community-based registry for hearing loss in Iran**

**Prof. Nader Saki**

**Ahvaz Jundishapur University of Medical Sciences**

Well-designed and implemented registry systems play a crucial role in enhancing health outcomes and reducing care costs. They provide an accurate representation of clinical practice, disease outcomes, safety, and efficacy. The systematic collection of data in registries serves as an infrastructure for informed decision-making and facilitates the expansion of research efforts.

Building patient registries is an interdisciplinary activity that includes databases, data management, knowledge structures, interfaces, etc. Typically, medical staff provide the data, and computer scientists develop the software system. Both of them are experts in their respective fields. Software evaluation is a fundamental process to ensure its quality, identify the technical reasons for existing deficiencies and limitations, observe user performance, and confirm the parts of the system that should be available to improve the software before making changes. The evaluation of this software improves the management and increases the efficiency and effectiveness of these systems.

At Ahvaz Jundishapur University of Medical Sciences, three big data registries were designed for research: the Hearing Cohort Study, Cochlear Implant Registry, and Newborn Hearing Screening Program. The Hearing Cohort Study is a subcategory of the Persian Cohort Project, which involved enrolling a cohort of 10,009 Iranian adults from southwest Iran aged between 35 to 70 years. The study comprises both enrollment and follow-up phases. During the pilot stage of the Hearing Cohort Study, 1,845 participants were enrolled.

Individuals who undergo cochlear implantation (CI) represent a substantial population in Iran. This demographic requires ongoing monitoring of their long-term outcomes, educational placements, and overall quality of life. Currently, there is no national or regional registry in Iran dedicated to tracking the long-term outcomes of CI recipients. This study aims to present the design and implementation of a national patient outcomes registry for individuals with cochlear implants in Iran, known as the Iranian Cochlear Implant Registry (ICIR). The ICIR serves as an integrated platform for data collection, sharing, scientific communication, and collaboration in cochlear implant research. Over the course of this study, we conducted follow-ups on 1,264 cases of cochlear implant recipients.

The third program is the Newborn Hearing Screening (NHS) program. The objective of this study was to present the results of universal newborn NHS in a cohort of children born in the southwestern region of Iran, as part of a national screening program established by the Iranian National Health System. A total of 92,521 newborns underwent screening in both urban ( $n = 67,780$ ) and rural ( $n = 24,741$ ) regions. Hearing impairment was confirmed in 223 (2.41 per 1000) newborns.

## **Radiosurgery in Temporal benign neoplasms** **Ehsan Saraei**

Gamma-knife is a sophisticated radiotherapy device to treat brain tumors with extraordinary precision. It consists of 192 cobalt-60 sources, and each of these sources creates a photon beam, which is adjustable with multiple diameters for tumors with different widths and shapes. To maximize the treatment delivery accuracy, Gamma-knife uses two main methods of patient fixation. The most accurate one is a fixation by a G-Frame. 4 titanium pins will be placed on the skull with local anesthesia during treatment. This fixation method provides the treatment accuracy of about 0.5 mm. The second one is fixation by a thermoplastic mask. Patients with tumors in close contact with critical locations (like optic pathway apparatus or brainstem) or ones with large tumors (larger than 10cc) , are better to be treated in fractionated schedules. For this reason, the medical team creates a thermoplastic mask, and the patient's movements will be monitored during treatment by a dedicated HDMM (High Definition Motion Management) camera.

One of the main indications of Gamma-knife radiosurgery is vestibular schwannoma (VS). Patients with VS have three available management options, surgery, radiotherapy (conventional fractionation or stereotactic radiotherapy/radiosurgery), and follow-up. One of the main downsides of surgery is the high rates of facial palsy occurrence, which is about 20 to 30 percent based on the tumor size and location. On the contrary, radiosurgery of VS patients has a low and acceptable risk of facial palsy (about 3 to 5%), and 50% percent of the complications will resolve over time. Patients' local control (LC) is the same as the surgical approach and is about 95 percent (ten-year LC).

The other group of patients who will benefit from gamma-knife radiosurgery are the ones with glomus-jugulare pathologies. These are highly vascular tumors, and complete resection of them is rarely possible, even with preoperative embolization. Almost always, resection of such tumors will cause patients with severe cranial nerve complications. Radiosurgical management of glomus-jugulare patients can cease tumor progression, meanwhile resolving cranial nerve damage caused by tumor. Local control of tumors is about 90 percent in 5 years, and tumor shrinkage take place one year after treatment.

### **Vertigo in Neurology: Red flags and what not to miss** **Maral Seyed Ahadi**

Vertigo is a common symptom that can occur at all ages but specially in patients between 41-70 years. Over-reliance of a patient's description of the dizziness may lead to misdiagnosis, however, different aspects of history and physical examination can help to distinguish peripheral vs. central types of vertigo and the probable etiology. Ischemic stroke and ICH are important causes of central vertigo that are potentially life threatening and should be carefully ruled out in patients with risk factors. Multiple Sclerosis is another cause of vertigo which can present both acutely and chronically, especially in younger adults. Dizziness and bilateral vestibulopathy can sometimes occur with chronic meningitis. Moreover, a certain type of encephalitis, Rhombencephalitis, can present with vertigo as a result of cerebellar or brainstem involvement leading to diplopia, headache and altered awareness. Another cause of episodic vertigo is Arnold Chiari malformation, usually induced by position change such as neck extension. Autoimmune vestibulocerebellar disorders are another variety of syndromes characterized by mostly subacute symptoms such as dizziness and ataxia that can progress rather quickly. The diagnostic workup centers on testing for specific autoantibodies after a clinical syndrome is suspected.

To conclude, Vertigo and dizziness can be challenging symptoms to address, in part because a description of these symptoms is often difficult for patients. The process of determining whether vertigo has a central etiology begins with detailed history taking followed by examination with particular attention to eye movements, coordination, gait, and speech. Careful examination skills are paramount in diagnosing central vertigo, as brain imaging has limitations in certain etiologies.



### **Cone Beam CT scan in Otolaryngology**

**Shariatpanahi Elnaz. Department of Otolaryngology, School of Medicine, Hamadan University of Medical Sciences & Health Services, Hamadan, Iran.**

Cone-beam imaging is an X-ray based volume acquisition method providing 3D images of the head. The reconstructed volume is “isotropic”; spatial resolution varies according to material, equaling or exceeding that of CT but with much lower radiation intensity. The drawbacks comprise a reduced signal-to-noise ratio and poor density resolution precluding soft-tissue exploration, notably of tumoral processes. This technique is very effective for the study of inflammatory and infectious processes of the head.

CBCT's advantages in terms of spatial resolution and radiation levels could make it the most efficient means of exploring the fine structures of the ear and cranial base. The possibility of using fields of varying size on the same apparatus optimizes exploration of regions of interest. According to the above this technique, at least using the most powerful apparatuses, seems very promising in ear pathology exploration. First applications in chronic otitis, dysplasia, deformity and trauma have been encouraging. Its low sensitivity to metallic artifacts makes it the technique of choice in the follow-up of cochlear implants.



#### **ABSTRACT**

#### **THIRD MOBILE WINDOW SURGERY**

**Dr Mahmood Shishegar MD**

**Otorhinolaryngologist**

**Fellowship of otology and neurotology**

TMWS (third mobile window syndrome) disorders represent a novel era in vestibular diseases. It represent of auditory and vestibular symptoms and anatomic defect on CT scan . but they often represent a vestibular problem with a concrete identifiable surgical solution. So when discussing treatment of a TMWS, the first phase is assessing the severity of disease and disability. There is no definitive formula for this appraisal. While there have been attempts to establish criteria for diagnosis. There are no studies published on criteria for who is a surgical candidate. we select a patient for surgery after determind the syptoms and signs match the diagnosis and physiologic tests were positive and Ct scan shows a defect labyrinth system.there are many techniques for this problem that include occlusion and pluggig.capping and resurfacing.These procedure were done through transmastoid and trans middle cranial fossa .

### **Vestibular migraine (diagnosis and differential diagnosis)**

**Mansoureh Togha,**

**Profesor of Neurology, Tehran University of Medical Sciences**

Migraine and vertigo are two common disorders in the general population that tend to occur together. Dizziness or vertigo is reported in 30-50% of migraine sufferers in different studies. Although it is not clear whether the central or peripheral vestibular system is involved in migraine, bouts of vertigo may accompany migraine attacks due to synapses between the vestibular neurons and the trigeminovascular system.

Vertigo could be the aura of migraine headache and occur in a time frame of 5-60 minute. Benign positional vertigo is more prevalent in migraine headache subjects. Vestibular migraine and migraine with brainstem aura are two principal clinical syndromes that are associated with vertigo.

The pathophysiology of vestibular migraine has not been established yet. Eye movement Studies during the attacks and in the interictal phase are in favor of central vestibular abnormalities, but peripheral causes are also mentioned.

In this type of migraine, which may occur at any age, attacks of vertigo may last for 5 minutes to 72 hours and is of moderate to severe intensity. As the diagnostic criteria, the patient has a present or past history of migraine headaches and episodes of vertigo accompanies one or more of these 3 characteristics:

- headaches with migraines features,
- photophobia and phonophobia,
- visual aura

Moreover, the bouts of vertigo should accompany at least 50% of the headache attacks.

According to the literature, calcium channel blockers and lamotrigine may be more effective for vestibular migraine prophylaxis compared to other drugs.

### **Predictive factors in treatment response of malignant external otitis**

Alireza Zonnour , Abolfazl Jamshidi , Sasan Dabiri , Mehrdad Hasibi , Ardavan Tajdini ,  
Narges Karrabi , **Nasrin Yazdani**

**Purpose:** To evaluate the prevalence and impact of various predictive factors including diabetes control in malignant external otitis (MEO) treatment response.

**Methods:** In a cross-sectional study on MEO patients, we defined treatment response with three indices; ESR level decrease, hospitalization period, and systemic antifungal drug usage. The impact of diabetes control and other predictive factors on these indices have been evaluated.

**Results:** Overall, 164 patients with a mean age of  $67.8 \pm 9.7$  years were included. Cranial nerve involvement was present in 56 patients. Nine patients had immunodeficiency. 19.5% of cases had leukocytosis. Diabetes mellitus was present in 156 patients, suffering for an average of  $13.9 \pm 8.6$  years. The overall mean hemoglobin A1C (HbA1c) level was 8.3% (4.4-12.8%), and the mean fasting blood sugar was 146.4 mg/dl (63-292 mg/dl). 29.3% of patients had good diabetes control before admission ( $\text{HbA1c} < 7\%$ ), 54.9% had poor control ( $7\% < \text{HbA1c} < 10\%$ ) and 15.9% had very poor glycemic control ( $\text{HbA1c} > 10\%$ ). The predictive role for the following factors were not statistically significant: age, gender, comorbidities, diabetes, diabetes management method used before and during hospitalization, diabetes duration, leukocytosis, immunodeficiency, fasting blood sugar level, HbA1c level, glycemic control index, and insulin amount. However, CRP level with a mean value of 34.3 mg/L showed a significant correlation with ESR decrease, hospitalization period, and antifungal drug usage.

**Conclusion:** CRP level could be used as a predictor for the hospitalization period, the need for systemic antifungal and ESR level decrease. It would be helpful to check the CRP level at the time of diagnosis to predict the hospitalization period and the necessity of systemic antifungal management to adjust the treatment strategy.

### The impact of otosclerosis surgery on tinnitus

Samane Zand, Mehdi Khajavi, Farhad Mokhtarnejad, Narges Bazgir

#### Abstract

**Background:** Tinnitus is the perception of sound within the ear without external sound. It's common in patients with otosclerosis and can compromise surgical results. Stapedectomy or stapedotomy can relieve tinnitus.

**Aim:** we aimed to gather data on tinnitus by using a validated tinnitus severity instrument over a period of time after surgery.

#### Method:

We conducted a retrospective study on patients with otosclerosis who underwent stapedectomy or stapedotomy and suffered from tinnitus. Diagnosis was done through physical examination and pure tone audiometry. The surgical procedure involved a stapedotomy, and Teflon piston prosthesis insertion. We used The Tinnitus Handicap Inventory to evaluate tinnitus severity before and after surgery.

**Result:** In this study, 30 patients were included, with a mean age of  $35 \pm 10.62$ . Each question showed a significant difference pre- and post-operatively. A paired t-test was conducted to assess the effect of stapedotomy on each subcategory of THI, which found a significant difference in tinnitus severity for each subscale. The total THI score was also significantly different ( $p\text{-value}=0.000$ ).

**Discussion:** Studies have shown that stapedectomy or stapedotomy improves hearing loss and reduces tinnitus symptoms. Although fewer studies have focused on tinnitus, the available studies indicate reduced symptoms following surgery. Most studies show that the primary effect of stapedectomy on tinnitus is within the first month after surgery. The surgery also improves emotional, cognitive, and mental burden, intrusiveness, hearing problems, somatic ailments, and sleep disturbances.

**Conclusion:** stapedectomy or stapedotomy in otosclerotic patients who suffer from tinnitus significantly decreases tinnitus severity.

**Auditory Processing and conductive Hearing loss; Interactions, effects, and solutions.**

**Ehsan Negin**

Ph.D. (C) in Audiology, Tehran University of Medical Sciences

Conductive hearing loss involves external or middle ear pathologies that impede the transmission of sound to the inner ear. Common causes include cerumen impaction, otitis media, otosclerosis, and physical malformations. Conductive losses can be temporary or permanent and result in increased hearing thresholds across frequencies. However, speech frequencies are often disproportionately impacted.

Early identification and treatment of conductive loss is crucial to prevent speech, language, and learning deficits in children. Conductive hearing loss, if it remains untreated or unamplified, could be the origin of auditory processing disorders. Careful monitoring of hearing status ensures successful intervention. Conductive loss requires a targeted therapeutic approach based on etiology. Multidisciplinary collaboration optimizes conductive hearing rehabilitation.



**عنوان: نقش سمعک و ملاحظات آن در افراد سالمند**

**سخنران: دکتر سید جلال ثامنی**

کم شنوایی شایع ترین نقص حسی در سالمندان بوده و می تواند به ارتباط آسیب برساند و باعث تنهایی، انزوا، وابستگی، نا امیدی و حتی اختلالات ارتباطی گردد و چنانچه درمان نشود می تواند به کیفیت زندگی آسیب برساند. علاوه بر پیروگوشی دلایل پزشکی دیگری نیز برای کم شنوایی وجود دارد که می توان به عفونت، بیماری های خود ایمنی، تاثیرات ناشی از درمان و برخی شرایط دیگر اشاره نمود. این دلایل همیشه باید توسط پزشک گوش و حلق و بینی ارزیابی شده و علل پزشکی آسیب های شنوایی به طور توانمند با توانبخشی شنوایی و تجویز سمعک در هر فرد مدیریت شود.

سمعک ها و کمک افزارهای شنوایی ممکن است برای سالمندان کم شنوا و بهبود ارتباط شان مفید باشند. سمعک یک سیستم تقویت کننده فردی قابل حمل است که برای جبران کم شنوایی مورد استفاده قرار می گیرد. تقریباً همه افراد کم شنوا کاندید استفاده از سمعک هستند، اگرچه برخی از این افراد ممکن است نسبت به دیگران بهره بیشتری از سمعک ببرند. هر فردی که راغب به استفاده از سمعک باشد، باید با استفاده از یک دستگاه ادیومترمناوب مورد ارزیابی شنوایی قرار گیرد. کمک افزارهای شنوایی نیز شامل تلفن های تقویت شده، تقویت کننده های تلویزیونی و سایر وسایلی هستند که می توانند شدت سیگنال را برای شنونده افزایش دهند. انتخاب سمعک برای هر بیمار مستلزم ملاحظات دقیق از فاکتورهای مختلفی است که بویژه حین فیتینگ آن در جمعیت سالمندان حیاتی است. اختلالات حسی و مواردی از جمله فاکتورهای شناختی، حافظه و حرکت سالمندان نیازمند توجه بیشتر ادیولوژیست و خانواده یا پرستاران در کل پروسه فیتینگ و پس از آن می باشد. مشاوره به ویژه بسیار مهم می باشد، چراکه فاکتورهای روانشناختی متعددی بخاطر کم شنوایی وجود داشته که علاوه بر خود نقص شنوایی بر آن تاثیر می گذارد. برای اطمینان از توجه به همه نیازهای فردی، باید یک برنامه اختصاصی تربیت شنوایی خاص برای هر فرد نیز طراحی شود.

## How to reduce recurrence and residue of cholesteatoma

میر محمد جلالی

کلستاتوم می تواند سبب کاهش شنوایی، اتوره و عوارضی مانند عفونت، فلج عصب صورتی و آبسه مغزی شود. Recidivism در کلستاتوم به معنای عود (recurrence) یا باقی ماندن بیماری پس از جراحی بیمار (residual) می باشد Recidivism شایع بوده و معضلی برای متخصصین اتولوژی می باشد. چون می تواند سبب بروز کاهش شنوایی و عوارض بیشتر گردد. میزان این عارضه بسته به روش جراحی استفاده شده، دوره فالوآپ و تعریف صورت گرفته برای recurrence یا residual متفاوت گزارش شده است و در مطالعات مختلف از ۱۰ درصد تا ۷۰ درصد ذکر شده است. یکی از اهداف اصلی در عمل جراحی گوش کاهش میزان Recidivism در کلستاتوم می باشد. بعضی از اقداماتی که می تواند به کاهش این عارضه کمک کند عبارتند از:

- ۱- تشخیص و درمان زودهنگام کلستاتوم، قبل از اینکه کلستاتوم سبب آسیب وسیع به ساختار گوش میانی و ماستوئید
- ۲- برداشتن دقیق تمام ماتریکس و اپی تلیوم به ویژه از نواحی مخفی مانند رسس سوپراتوبال، سینوس تمپانی و رسس فاسیال
- ۳- پیگیری و نظارت منظم بیماران پس از عمل، با استفاده از تصویربرداری مانند CT scan یا MRI
- ۴- جراحی تجدید نظر در موارد مشکل مانند کودکان، بیماران با نقص بزرگ در دیواره مجرای خارجی گوش
- ۵- استفاده از درمان های کمکی مانند استروئیدهای موضعی، آنتی بیوتیک ها یا عوامل بیولوژیکی برای کاهش التهاب، عفونت و تکثیر اپیتلیال در گوش میانی

**جراحی مجدد در بیماران مبتلا به اوتواسکلروزیس  
دکتر محمد تقی خورسندی آشتیانی**

رویشن استاپدکتومی می تواند یکی از چالش برانگیزترین جراحی ها برای یک جراح گوش باشد. به حداکثر رساندن موفقیت مستلزم ارزیابی کافی قبل از عمل و اطلاع کامل از شرح عمل قبلی و توضیح کامل به بیمار و اطلاع از میزان توقع بیمار می باشد . آماده شدن برای تمام سناریوهای احتمالی حین عمل همراه با تجهیزات مناسبو پروتزهای موجود و نیز شناخت کافی از تجربه جراح و شناسایی توانایی او نیز الزامی است. همچنین مهم است که جراح همیشه به یاد داشته باشد در طول این عمل ،حتی با یک شنوایی انتقالی شدید با یک سمعک مناسب نتیجه بی نهایت بهتر از دست دادن ناشی از آسیب یاتروژنیک گوش با شنوایی حسی عصبی عمیق است.

## Panel of Management of Hearing in Vestibular Schwannoma:

### Audiology part

لیلا آزاده رنجبر

هدف اصلی از جراحی آکوستیک نورنیوم خارج سازی کامل تومور و جلوگیری از به وجود آمدن درگیری های نورولوژیک شخص و significant در آینده و در حین جراحی است. در مواردی که قبل از جراحی بیمار شنوایی قابل قبولی در گوش متاثر از تومور دارد

(AAO-HNSF) یکی از اهداف جراحی می تواند Hearing preserve یا حفظ شنوایی در حین جراحی باشد. گرچه اغلب هدف در درجه اول حفظ عصب صورت Facial Nerve است. در جراحی تومور با Approach حفظ شنوایی می بایست هر عصب VIII با ابزار و ABR/ECOG مانیتور شود. در این Approach قبل از عمل می بایست بررسی کامل ادیولوژیک (تست PTA، ایمپاناس ادیومتری، Acoustic Reflex، تست های گفتاری SRT، SDS، SINT، ABR، OAE و ECOG برای بررسی کامل عصب و کوکلتا و سیستم شنوایی انجام گیرد. وجود ECOG و OAE نرمال، تصمیم برای حفظ شنوایی را قوی تر می کند چون نشان دهنده سلامت کوکلتا می باشد و احتمال حفظ شنوایی را حین جراحی بالاتر می برد. بهتر است از آخرین تست های شنوایی بیش از ۲ تا ۳ ماه نگذشته باشد. برای مانیتورینگ ABR/ECOG در حین عمل، محرک Click باشد تا ۸۵-۹۵ dbnHL استفاده شود. اما بسته به نوع کم شنوایی و تست های قبل از عمل ممکن است از محرکات (Tone burst فرکانس های خاص و اختصاصی) نیز استفاده شود که البته بسیار نادر است. یک مورد خاص و بسیار نادر دیگر استفاده از محرک و ثبت Direct عصب VIII در حین جراحی علاوه بر ABR/ECOG روتین است. بهترین نوع الکترود گذاری برای ثبت ECOG الکترود نزدیک به TM است که بهتر است قبل از جراحی از این روش استفاده شود. الکترود Non-investing در For head و الکترود Ground در Low for head برای ثبت ECOG قرار گیرد. الکترود Reference یا Investing هم در تست ABR در Anterior to Tragus قرار گیرد. اگر بخواهیم Contra lateral ABR هم ثبت کنیم الکترود Reference کامل Contra lateral هم در An. Tragus و یا ماستوئید سمت مقابل قرار می گیرد. به خصوص در مواردی که تومور بسیار بزرگ است و موجب جابجایی و یا فشار روی Brain stem شده و یا ABR سمت مقابل را متاثر کرده است این مورد یعنی ثبت Contra Lateral ABR کاربرد دارد. اغلب ABR و ECOG با عوامل بیهوشی تحت تأثیر قرار نمیگیرند. نکته مهم در ثبت ABR و ECOG خوب، Reliable و Stable در حین عمل، کیفیت خوب و ثبات Preparation تست قبل از شروع جراحی می باشد. در پروسه جراحی بسیار مهم است که تغییرات در عصب VIII سریعاً گزارش شود تا قبل از اینکه این تغییرات Permanent شود بتوان آن را مدیریت کرد.

در تست ABR برای هدف مانیتورینگ عصب یک فیدبک از مسیر عصب شنوایی به شرح ذیل به دست می آید:

I&II ==> Cochlear function

Cochlear nerve junction (C)

III ==> Cochlear Nuclei (CN)

IV ==> Superior olivary complex (SOC)

V ==> Lateral meniscus (L. M)

در ثبت ECoG این بررسی منحصرًا مربوط به Cochlear Nerve & Cochlear Nuclei می‌گردد.

محدودیت ABR نیاز به Overaging حداقل 500 Sweep برای دریافت یک پاسخ قابل اعتماد می باشد که احتیاج به حداقل ۲۰ ثانیه زمان دارد.

از مزایای ثبت ECoG نیاز به تعداد Sweep کمتر برای ثبت پاسخ (AP) Action Potential است. موارد غیر جراحی Nonsurgical که بر پاسخ اثری گذارد هم باید مد نظر باشد مثل:

- Hypothermia
- Oxygen Supply (Hypoxemia)
- Anoxia

**Title: Managing Tinnitus: A Collaborative Approach Between Audiologists and ENT Specialists**

**عنوان : مدیریت وزوز گوش: رویکردی مبتنی بر همکاری شنوایی شناسان و متخصصین گوش و حلق و بینی**

**دکتر مریم صادقی جم، استادیار دانشگاه علوم پزشکی ایران**

وزوز درک صدایی در گوش ها و یا سر است. بر طبق آخرین آمارهای جهانی حدود ۱۵ تا ۲۰ درصد مردم جهان از وزوز رنج میبرند. تاکنون تحقیقات بسیار گسترده ای در رابطه با سازوکارهای ایجاد وزوز گوش و روش های درمانی و مدیریتی آن انجام شده و گایدلاین ها و پروتکل های متعدد بین المللی حاکی از عدم قطعیت تمامی درمانها و روش های مدیریتی مطرح شده برای آن است. اما آنچه که مطرح و مسلم است توجه به این نکته می باشد که با بکارگیری روش های توانبخشی متناسب برای هر فرد، میتوان تا حد بسیار زیادی عوارض و پیامدهای این اختلال را کاهش و کیفیت زندگی افراد را بهبود بخشید. برای رسیدن به این هدف، دو عامل بسیار مهم و حیاتی مطرح است: تشکیل تیم درمان توانبخشی با همکاری دو جانبه شنوایی شناس و متخصصان گوش حلق و بینی و آشنایی همه اعضای تیم با انواع روش های مدیریتی ارائه شده توسط شنوایی شناس. لذا هدف این سخنرانی بررسی پروتکل درمانی وزوز گوش و روشن نمودن جایگاه و نقش شنوایی شناس و متخصصین گوش و حلق و بینی در پروتکل مدیریتی وزوز گوش و تاکید بر همکاری دو جانبه و کیس محور بین متخصصان مطرح در این حوزه است.



برنامه ملی ثبت اطلاعات بیماران وزوز گوش در ایران

National Program on Registration of Tinnitus

**دکتر سعید محمودیان: دانشیار دانشگاه علوم پزشکی ایران، مرکز تحقیقات گوش، گلو، بینی و  
سروگردن-پژوهشکده سلامت حواس**

### چکیده فارسی:

برنامه ثبت وزوز گوش و کم شنوایی، نظام اطلاعاتی بمنظور گردآوری، مدیریت و تحلیل داده های مربوط به وزوز و کم شنوایی و ناتوانی ناشی از آنها می باشد. وظیفه اصلی ثبت، نگهداری و تحلیل اطلاعات تمام داده های مربوط به وزوز و کم شنوایی بوده که باید بطور مستمر و منظم انجام شود. بررسی های سیستماتیک جامع در مورد شیوع و بروز وزوز گوش نشان می دهد که بیش از ۷۴۰ میلیون بزرگسال در سراسر جهان را تحت تاثیر وزوز گوش قرار داشته و بیش از ۱۲۰ میلیون نفر از آنها بشدت متاثر از آن هستند. نتایج مطالعه کشوری حاضر حاکی از شیوع وزوز گوش در ۱۷/۳ درصد از افراد بالای ۱۵ سال در کشور می باشد که اکثر آنها در سنین ۶۵ سال یا بالاتر قرار دارند. میزان شیوع کم شنوایی ناتوان کننده (DHI) در کشور ۶/۸ درصد بوده که بیشتر از برآورد قبلی (حدود ۴ درصد) می باشد. از هر ۳ بزرگسال بالای ۶۰ سال در کشور، یک نفر دچار DHI و وزوز گوش می باشد. بالغ بر ۴۰ درصد از جمعیت عمومی کشور در مورد کم شنوایی و مشکلات مربوط به آن آگاهی نداشتند. ۰/۸ درصد از افراد نیز دارای کم شنوایی یک طرفه بودند. ۲۶/۶ درصد حداقل یکی از عوامل مواجهه با اصوات پرخطر برای شنوایی را همراه داشتند. بار کم شنوایی و وزوز گوش ناشی از صوت در افراد با سابقه فعالیت در محیط های نظامی و کار در محیط های پر سر و صدای شغلی به ترتیب ۱۷ و ۱۵ درصد را شامل می شود. حدود ۱۴/۲ درصد از جمعیت عمومی کشور بطور روزمره از انواع هدفون ها و یا هندزفری ها و ۲۱/۶ درصد از افراد تقریباً بطور مساوی از هر دو وسیله صوتی برای شنیدن موسیقی و فیلم و... در سطوح شدتی بالا استفاده می کردند. حدود ۱۴/۲ درصد از مردم کشور، نشانه هایی از آسیب شنوایی ناشی از سروصدا بر روی ادیوگرام خود در ناحیه فرکانسی ۴ کیلوهرتز شنوایی نشان داده اند. بالغ بر ۲۰ درصد از جمعیت عمومی کشور آگاهی های اولیه در مورد احتمال خطر آسیب به دستگاه شنوایی توسط موسیقی های بلند و یا اصوات بلند را نداشتند. عوامل خطر متناسب به بار کم شنوایی از جمله ناهنجاری های گوش، سرومن مسدود کننده مجرا، جسم خارجی، التهابات گوش میانی و خارجی بترتیب در ۱/۵، ۷/۶، ۰/۹، ۱۰/۸ درصد را شامل شد. از میان افراد دارای آسیب شنوایی، ۴۵/۶ درصد نوع حسی عصبی، ۵۳/۶ درصد آسیب نوع انتقالی و ۰/۸ درصد از نوع آمیخته بودند.

تا کنون نتایج حاکی از بار جهانی بالای وزوز گوش هم تراز با میگرن و درد بوده و فقدان گزینه های درمانی موثر سرمایه گذاری عمده در تحقیقات در این زمینه را توجیه می کند. سیاست گذاران سلامت باید بار جهانی وزوز گوش را در نظر بگیرند و تلاش بیشتری برای تقویت بستر های نظامند تحقیقاتی در مورد پیشگیری در سطوح مختلف ارجاع وزوز گوش انجام شود.

#### **English Abstract:**

The National Program on Registration of Tinnitus and Hearing Impairment is an information system to collect, manage, and analyze data related to tinnitus and hearing loss and disability caused by them. The main task is to record, maintain, and analyze all data related to tinnitus and hearing loss, which must be done continuously and regularly. Comprehensive systematic reviews on the prevalence and incidence of tinnitus show that more than 740 million adults worldwide are affected by tinnitus, and more than 120 million of them are severely affected by it. The results of the current national study indicate the prevalence of tinnitus in 17.3% of people over 15 years old in the country, most of whom are 65 years old or older. The prevalence of disabling hearing loss (DHI) in the country is 6.8%, which is higher than the previous estimate (about 4%). Out of every 3 adults over 60 years old in the country, one person has DHI and tinnitus. More than 40% of the Iranian population did not know about hearing loss and related problems. 0.8% of people had unilateral hearing loss. 26.6% had at least one of the factors of exposure to high-risk sounds for hearing. The burden of hearing loss and tinnitus caused by sound in people with a history of working in military environments and working in noisy occupational environments includes 17 and 15 percent, respectively. About 14.2 percent of the general population of the country used headphones or hands-free devices daily, and 21.6 percent of people used both audio devices almost equally to listen to music and movies, etc. at high-intensity levels. About 14.2% of the country's people have shown signs of hearing damage caused by noise on their audiogram in the frequency range of 4 kHz. More than 20% of the Iranian population did not have basic knowledge about the possibility of damage to the hearing system by loud music or loud sounds. Risk factors attributed to the burden of hearing loss including ear abnormalities, cerumen blocking the duct, foreign body, and middle and outer ear inflammations were included in 1.5%, 7.6%, 0.9%, and 10.8% respectively. Among the people with hearing impairment, 45.6% had a sensorineural type, 53.6% had a conductive type and 0.8% had a mixed type.

So far, the results indicate a high global burden of tinnitus on par with migraine and pain, and the lack of effective treatment options justifies major investment in research in this field. Health policymakers should consider the global burden of tinnitus, and more efforts should be made to strengthen the research base on prevention at different levels of tinnitus referral.

## جنبه های روانپزشکی Vestibular Migraine

دکتر مهدی هرمزپور

متخصص روانپزشکی- فلوشیپ روان تنی

M.hormozpour@gmail.com

بیش از نیمی از افراد مبتلا به vestibular migraine واجد علائم روانپزشکی از جمله اضطراب و افسردگی هستند. همچنین ثابت شده اضطراب و افسردگی در مبتلایان به میگرن وستیبولار بیش از سایر انواع سرگیجه های محیطی مانند vestibular neuritis است. اضطراب در پاره ای از موارد ممکن است باعث بدتر شدن سرگیجه شود. همچنین نورویتیسزم بعنوان یک ویژگی شخصیتی مهم در این افراد مشخص شده است. نورویتیسزم به معنای آستانه تحمل پایین فرد در برابر عوامل استرس زا هست. به عبارتی این افراد در برابر کوچکترین عامل استرس زا قادر به کنترل کردن احساسات منفی خود نیستند. در مطالعات مشخص شده است که این ویژگی شخصیتی می تواند زمینه ساز تشدید این وضعیت و ایجاد سرگیجه های پایدار باشد. از آنجا که سروتونین و نوراپی نفرین در تنظیم فعالیت نورون های مرکزی و محیطی وستیبولار نقش اساسی دارند بنابراین کاملاً محتمل است که نقش پررنگی در شکل گیری وستیبولار میگرن داشته باشند. بنابراین داروهای موثر بر سروتونین و نوراپی نفرین مانند ونلافاکسین می تواند در جلوگیری از حملات میگرن و همچنین وستیبولار میگرن موثر باشد بنابراین ونلافاکسین در موارد vestibular migraine بخصوص هر گاه همراهی با اختلالات روانپزشکی وجود داشته باشد گزینه مناسبی است. طول دوره درمان می تواند بین ۶ ماه تا یکسال متغیر باشد.