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**Objectives:** Peripheral facial palsy (PFP) is a disorder of common neural causes that are still unknown. Other possible causes include vascular disorders, inflammatory and immunological factors, and possibly viral infections. According to the literature there is an association between the incidence of PFP and diabetes mellitus (DM), a disease which is known to cause neuropathies. The objective of this study is to evaluate the outcome of patients with concomitant DM and PFP, as well as to compare the evolution of these patients compared to patients without DM and PFP through clinical, laboratory, and electrophysiological tests.

**Methods:** An observational case-control study. Outpatient follow-up between 2011–2012 of 50 patients according to the presence or absence of PFP and DM that were divided into 4 groups and matched. All patients underwent the following tests: tearing (Schirmer's test), tonal and speech audiometry, tympanometry with reflex of the stapedius muscle, Test Hilger, and glucose analysis.

**Results:** The rate of complete recovery considered grade I or II of the House-Brackman classification at the end of 6 months of follow-up showed that 58.4% of diabetic patients presented a good evolution in contrast to 80% of nondiabetics.

**Conclusions:** In our findings we concluded that diabetic patients had a slower recovery time and poor degree of facial paralysis when compared to nondiabetics.

### The Exclusive Endoscopic Traspromontorial Approach and Its Pilot Clinical Experiences

Matteo Alicandri-Ciuffelli, MD (presenter); Daniele Marchioni, MD; Livio Presutti, MD

**Objectives:** Describe a minimally invasive transcanal endoscopic approach, starting from the external auditory canal and reaching the internal auditory canal, used to treat inner ear pathology.

**Methods:** Three patients, affected respectively by cochlear schwannoma, acoustic neuroma, and temporal bone cholesteatoma, were treated by an exclusive endoscopic approach without external incisions. Surgical steps and useful landmarks were reviewed and described.

**Results:** The operation provided a direct transcochlear intradural approach from lateral to medial and from external to internal auditory canal, without any external incision. The pathology was totally removed in all patients. Results regarding facial nerve were very satisfying. Hospital stay was markedly reduced compared to traditional approaches.

**Conclusions:** The transcanal exclusive endoscopic approach proved successful for pathology removal involving the fundus, internal auditory canal, and cochlea. Potential future application of this kind of approach in lateral skull base surgery will depend on the development of technology and surgical and anatomical refinements.

### Expression of Angiogenic Molecules in Cochlear Vasculature

Sungsu Lee, MD, PhD (presenter); Hyong-Ho Cho, MD, PhD

**Objectives:** (1) Three-dimensionally (3D) visualize the cochlear vessels and blood-labyrinth barrier. (2) Analyze the expression of angiogenic molecules in cochlear vessels.

**Methods:** Postnatal day 5 and 8-week old mice were used. After obtaining the cochlea, bony shell was removed. Whole mount immunostaining was done with endothelial cell marker PECAM-1 and VE-cadherin. NG2 and demins were used for pericyte marker. aSMA was used as vascular smooth muscle cell and S100 was used as fibrocyte marker. 3D reconstruction was done to visualize the blood-labyrinth barrier components. VEGFR2, VEGFR3, Sox17, angiopoietin-2, Dll4 were used for angiogenic markers. Claudin-5 was used to visualize the tight junction.

**Results:** We could visualize the cochlear vasculature in overall, from precapillary arteriole, stria vascularis, and postcapillary venule. The relationship between components of blood-labyrinth barrier also could be visualized from basal turn to apical turn of the cochlea. Cochlear vessels well expressed VEGFR3, VEGFR2, Sox17 in the endothelial cell showing that cochlea is in active state, not static. Claudin-5 was robustly expressed suggesting its important role in blood-labyrinth barrier. aSMA was well expressed demonstrating its need for vessel contraction.

**Conclusions:** A vessel is not merely a conduit for blood flow. It is newly made and is also regressed. It permits or limits many molecules on crossing over to the tissue. The cochlear vessel is an active vessel. We suggest that visualizing the cochlear vessel and checking the expression of angiogenic molecules could help understand the pathophysiology in hearing loss models.

### Fat Myringoplasty: Better Patient Selection for Better Results

Hani F. El Garem, MS (presenter)

**Objectives:** (1) Evaluate the outcome of fat myringoplasty in relation to the perforation size. (2) Compare the outcome in relation to 2 fat sources (ear lobule and abdominal wall).

**Methods:** This study was conducted between May 2012 and April 2013 in the ENT department, University of Alexandria, Egypt. It was carried out on 30 patients with tympanic membrane perforations <30% of its surface (20 patients with perforations equal or less than 2 mm and 10 patients with perforations exceeding 2 mm in diameter), and with a maximum air bone gap of 20 dB. There were 2 randomized groups. Group A: 15 patients who had myringoplasty with ear lobule fat. Group B: 15 patients operated on using abdominal wall fat. Patients were followed for 6 months postoperatively.

**Results:** Among the 20 patients with a perforation size  $\leq 2$  mm, 18 patients (90%) succeeded and 2 (10%) failed. Among the 10 patients with a perforation exceeding 2 mm, 5 patients (50%) succeeded and 5 (50%) failed. There was a significant statistical difference between perforation size and success rate. In group A, 12 patients (80%) had successful operations and 3 patients (20%) failed. In group B, 11 patients (73.3%) were successful and 4 patients (26.7%) failed. There were no