inclusion criterion was a radiologically normal temporal bone CT scan. 3D-reconstructed images were obtained using high-resolution axial temporal bone CT scans. IAM, semicircular canal (SCC), cochlea, tympanic segment of the facial nerve (FN), geniculate ganglion (GG), and malleus were reconstructed. The length and angle among these structures was measured.

**Results:** The mean lengths between the center of IAM and bony surface of middle cranial fossa at the Porus level was 7.7 mm (±1.0). The mean length between the superior of point of IAM of porus and GG was 15.4 mm (±1.5). The mean length between superior of point of IAM of porus and medial end of cochlear basal turn 9.9 mm (±0.9). Angle between the axis of SCC and the axis of tympanic segments of FN was 105.9° (±5.4). The mean angle between the axis of SCC and axis of IAM was 47.2° (±6.5) The mean angle between the axis of IAM and axis of tympanic segments of FN 59.6° (±10.9). The mean angle of 3-point malleus handle, GG, superior point of IAM of porus level was 113.8° (±9.8).

**Conclusions:** The understanding of the 3D relationship in the microsurgical structure will help decide the drilling point for the IAM in case of lack of bony landmarks.

**Total Vestibular Ablation and VEMPs after Intratympanic Gentamicine in Patients with Intractable Vertigo**

Erika Celis-Aguilar, MD (presenter); Ramón Hinojosa-González, MD; Olivia Vales-Hidalgo, MD; Heloisa Coutinho-Toledo, MD

**Objectives:** Even today, treatment of intractable vertigo remains a challenge. The objective of this study was to control intractable vertigo through complete vestibular ablation with intratympanic gentamicin treatment. Complete vestibular ablation was confirmed by zero response on ice water (ENG) and an absent response on vestibular evoked myogenic potentials (VEMP).

**Methods:** Retrospective case study design in a tertiary care center. Subjects were patients with refractory episodic vertigo. The inclusion criteria were unilateral ear disease, moderate to profound sensorineural hearing loss, and failure to respond to other treatments. Included patients underwent 0.5-0.8 mL of gentamicin intratympanic application at a 30 mg/mL concentration. Audiometry, electroneystagmography with ice water, and vestibular evoked myogenic potentials were performed in all patients. Outcome measurements: VEMP response and vertigo control.

**Results:** Ten patients were included; 9 patients with Ménière’s disease and 1 patient with delayed endolymphatic hydrops. Nine patients showed an absent response on VEMPs. The only patient with low amplitude on VEMPs had vertigo recurrence. Vertigo control was achieved in 90% of the patients. One patient developed hearing loss >30 dB.

**Conclusions:** VEMP confirmed complete vestibular ablation. High-grade vertigo control was due to total vestibular ablation.

**Transcanal Micro-osteotome Technique for Excision of Exostoses**

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**Objectives:** This study was conducted to evaluate the outcomes and complications of transcanal excision of exostoses using micro-osteotomes without a post-auricular incision or the use of the drill.

**Methods:** A retrospective chart review of patients undergoing exostoses excision by the senior author from January 2007 to January 2014 was carried out. All patients underwent surgical removal of the exostoses using a 1 or 2 mm micro-osteotome. Patients were followed postoperatively and complications were evaluated.

**Results:** One-hundred-thirty-eight ears in 106 patients were treated for exostosis. Average age of patients was 43 ± 16 year old. Of these, 99 were males (93%) and 7 were females (7%). A majority of the patients had 90% to 100% obstruction of the ear canal. Complete ear canal healing was seen in 80% of patients by 3 weeks. All but one patient had healed by 6 weeks postoperatively. There were 9 (6.5%) slit tympanic membrane perforations that all healed. One patient had an anterior canal mobilization which required Xeroform packing for 3 weeks for stabilization. There was no postoperative vertigo, facial paresis, conductive/sensorineural hearing loss, soft tissue stenoses, and no skin grafting was required.

**Conclusions:** A transcanal approach using micro-osteotomes for removing exostoses is feasible. The transcanal approach afforded shorter healing times than the post-auricular approach as reported in the literature. Patients with 100% obstruction can have this procedure performed with no significant increase in morbidity.