SUCCESSFUL TREATMENT OF DYSGEUSIA AFTER MIDDLE-EAR SURGERY WITH AMITRIPTYLINE: CASE REPORT AND ANATOMY REVIEW

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ABSTRACT
Introduction. The chorda tympani branches off of the facial nerve within the petrous portion of the temporal bone, and is responsible for controlling the taste in the anterior two-thirds of the tongue. Due to its location, it is commonly injured during middle ear surgery resulting in dysgeusia. Materials and Methods. A case of a 59-year-old male had recurrent otitis media resulting in tympanic membrane perforation. Patient subsequently underwent lateral graft tympanoplasty. Shortly after surgery, patient reported loss of taste dysgeusia consisting of metallic taste at the tip of the tongue and salty taste on the left side of the tongue. Result. Treatment with Amitriptyline 50 mg each night significantly improved the patient’s symptoms of dysgeusia. Conclusion. Amitriptyline can be an effective treatment for dysgeusia following middle-ear surgery.

Fig. 2 – Illustration of the three common locations where chorda tympani (green color) is encountered during middle-ear surgery. This diagram is reproduced with the permission of the author and the Journal of International Advanced Otology [9]. (A) Chorda tympani behind the annulus of the post-erior-anterior quadrant. (B) Chorda tympani in front of the malleus neck. (C) Chorda tympani after branchion from the descending portion of the facial nerve.

INTRODUCTION
The nerve traveling through the chorda tympani is responsible for controlling the taste in the anterior two-thirds of the tongue on each side. The chorda tympani runs close to the annulus of the tympanic membrane, crossing the tympanic cavity between the mucus and the malleus, and is initially encountered at this location when elevating the annulus [1]. If iatrogenic injury or damage to the chorda tympani is a well-documented complication resulting from middle-ear surgery [2-5]. McManus et al. [6] reported the overall prevalence of related symptoms after such injury to be between 15% and 22%, consisting of mostly changes in taste (dysgeusia) and dryness of the mouth. On occasions, the dysgeusia can be refractory to treatment, with patients seeking opinions from multiple providers without relief. We present a report on successful management of the taste dysgeusia after tympanoplasty using amitriptyline.

CASE REPORT
Patient is a 59-year-old white man evaluated in November, 2012 for abnormal taste sensation since January of 2012 following a left lateral graft tympanoplasty. His past medical history is significant for chronic left otitis media, diabetes mellitus, diabetic retinopathy, hypertension, ericle dysreflexia, cervical spondylosis with C7 anterior cervical curvictum and fusion, and no known drug allergies. On the initial encounter, he was able to taste with stable and good autonomic function for electrical examination. Patient was initially seen by otolaryngology for left otitis externa and recurrent otitis media. He subsequently developed mixed hearing loss documented on audiogram, and was noted to have a perforated left tympanic membrane. In January, 2012 patient underwent left lateral graft tympanoplasty with temporal fascia autograft harvesting under general endotracheal anesthesia. The intubation was difficult, requiring fiberoptic assistance. After the postauricular region was injected with local anesthetic, the intraoperative microscope was brought into the field, and the external auditory canal (EAC) was also infiltrated with local anesthetic. The canal walls were made along the tympanosquamous and tympanomastoid surfaces, with care taken to avoid damage to the temporalis fascia, which was then harvested. The muscular perilobal flap was split vertically until the bony posterior EAC was encountered. The vascular split was identified, and elevated towards the tympanic membrane. After the bony cartilaginous junction was identified, the anterior canal was incised to separate it from the annulus. The remaining epithelial layer of the tympanic membrane was removed in the common part of the anterior canal wall. The canal wall was performed, and the spine of H聆 was removed. The tympanosquamous and the tympanomastoid surfaces, and the overhanging anterior bony EAC wall were removed. Treatment with Gelfoam 50 mg each night significantly improved the patient’s symptoms of dysgeusia. Conclusion. Amitriptyline can be an effective treatment for dysgeusia following middle-ear surgery.

REFERENCES

CONCLUSION
Amitriptyline can effectively treat dysgeusia occurring after middle ear surgery with excellent patient satisfaction.

Fig. 1 – Illustration of the course of the chorda tympani from its facial nerve to the lingual nerve. This diagram is reproduced with the permission of the authors and the Journal of Laryngology and Otologyrology [8]. The arrow denotes an anterior-posterior vertical slit through the posterior part of the temporal bone. The anterior two-thirds of the tongue is a lighter shade to represent the area innervated by the chorda tympani.