Stockholm, Sweden, [4]ENT department Uppsala Academic Hospital, Uppsala University

Learning Objectives: Patients with chronic inflammatory middle ear diseases can experience taste disturbance before surgery due to the degenerative capacity of the inflammatory process.

Background: The important nerve of taste, the chorda tympani nerve, runs uncovered through the middle ear. This location predisposes it to become affected by bacterial toxins, enzymes and mechanical damage in various forms of middle ear pathology, such as chronic otitis media and cholesteatoma. A difference between inflammatory diseases, such as chronic suppurative otitis media and cholesteatoma, and noninflammatory diseases, such as otosclerosis, regarding taste disturbance preoperatively and symptoms postoperatively have been noticed. The present study aims to investigate ultrastructural changes of chorda tympani in inflammatory middle ear disease as compared with normal.

Methods: Five chorda tympani specimens were collected from healthy middle ears of patients subjected to surgery for acoustic neuroma to be used as normal controls, and five from middle ears with chronic otitis media or cholesteatoma where the nerve could not be saved during the operation. Light microscopy and electron microscopy were used to identify signs of pathological processes.

Results: Ultrastructural changes that implicate inflammatory changes and degeneration were found in all five nerves from ears with chronic otitis media and cholesteatoma. There were signs of proliferation of connective tissue of the endoneurium, disorganization and demyelination of axons, vacuolar degeneration of the axons, myelin sheath disintegration and edema. As a sign of regeneration capacity there was occurrence of sprouting in CTN from ears with inflammatory diseases.

Conclusion: Chorda tympani nerves from ears with chronic inflammatory middle ear disease exhibit structural signs of deterioration that correlates well to taste disturbances.

There were signs of nerve regeneration that could explain the ability of taste recovery.

doi:10.1017/S0022215116005120

ID: IP016

Use of Bioactive glass S53P4 in mastoid and epitympanic obliteration: our experience in 74 cases

Presenting Author: **Daniele Bernardeschi**

Daniele Bernardeschi, Olivier Sterkers

Pitié-Salpêtrière Hospital

Learning Objectives:

Objective: to present our experience with the use of Bioactive glass S53P4 in ear surgery

Material and Methods: Seventy-four cases (72 adult patients, 2 operated bilaterally) operated from May 2013 to December 2015 in a tertiary referral center. All but 10 cases were revision surgeries (mean previous operation = 2). The mean pre-operative hearing threshold was 57 ± 18 and 29 ± 15 dB for air conduction and bone conduction respectively. All patients underwent mastoid and epitympanic obliteration in a single stage CWD (n = 60) or CWU (n = 14) tympanomastoidectomy. Intraoperative bacteriological test was performed for all patients. Anatomical and functional results were evaluated 3 months and 1 year after surgery, and a CT scan ± MRI was performed 1 year after surgery. Quality of life measured with the GBI and specific questionnaire was performed 1 year after surgery.

Results: Cholesteatoma was found in 48 cases; Bacteriological tests showed some bacteria and/or fungus in 43 cases. At 3 months all but 2 patients had a well-healed EAC and intact tympanic drum. Two cases of uncovered granules in the EAC underwent revision surgery for recovering of the granules with cartilage. At 1 year (n = 41), anatomical results remained stable with no cases of recurrent cholesteatoma. Regarding the hearing, one year after surgery (n = 41) the mean hearing threshold was 46 ± 22 and 27 ± 17 dB for air conduction and bone conduction respectively. CT scan (n = 41) and MRI (n = 17) showed no residual cholesteatoma inside or near the obliteration. GBI and specific questionnaire (n = 41) showed an improvement in the QOL (mean total score = 28).

Conclusion: The bioactive glass S53P4 is a well-tolerated biomaterial for primary or revision chronic otitis surgery, as shown by the absence of revision surgery for removal of the granules even in case of surgery in infected ears. Hearing results depend mainly on the number of previous surgeries, and the patient's quality of life is improved after operation.

doi:10.1017/S0022215116005132

ID: IP017

A systematic review of the epidemiological relationship of mucosal otitis media, tympanic retraction, and cholesteatoma

Presenting Author: **Mahmood Bhutta**
Mahmood Bhutta

Royal National Throat Nose and Ear Hospital

Learning Objectives: To better understand the relationship of squamous forms of otitis media to mucosal disease, based upon a systematic review of longitudinal epidemiological studies. To use these data to create a map of disease relationships.

Introduction: Clinical experience suggests that cholesteatoma often arises in individuals with a history of prior mucosal otitis media, or a history of tympanic retraction. I set out to exploit existing longitudinal studies to ascertain the relation of these disease entities, specifically to assess the relation of mucosal disease to tympanic retraction and cholesteatoma.

https://doi.org/10.1017/S0022215116005120 Published online by Cambridge University Press