

*Boichemistry & Molecular Biology, Nippon Medical School, <sup>4</sup>Department of Otorhinolaryngology, Saitama Medical University Faculty Of Medicine*

**Learning Objectives:** In order to better understand the inner ear damage in chronic inflammatory ears, the diagnosis and treatment of cholesteatoma induced fistulae is very important. Here in this talk, new staging method of fistulae using a biomarker is introduced and discussed with the previous methods.

**Introduction:** Previously proposed staging methods of labyrinthine fistulae include; A) the depth or severity of labyrinthine structure involvement (Dornhoffer et al. Palva et al.) B) Diameter of the fistula (Gacek). In this presentation I will introduce a novel method of staging using a biochemical marker.

**Methods:** CTP (Cochlin tomo-protein, an isoform of Cochlin), perilymph specific protein, is a novel and unique biomarker. We reported a biochemical test for perilymph leakage detecting CTP in middle ear lavage (MEL, lavaging the middle ear cavity using 0.3 ml saline). Recently we could establish a highly reliable ELISA-kit to detect CTP. The Japanese PLF diagnosis criterion is now based on the visual identification of the fistula (not a leakage) and/or detecting CTP. With a help of private clinical test enterprise (SRL inc.) in Japan, CTP test is widely available nationwide, in 170 hospitals.

If there is 2ul of leaked perilymph in the MEL, the test is positive. The diagnostic performance of the test has a high reliability, and the AUC in ROC analysis was greater than 0.90.

**Results:** We have tested fistulae and suspected fistulae induced by cholesteatoma. If the diameter of the fistula is more than 2 mm, there is more chance to detect CTP.

**Conclusions:** CTP test is a objective biochemical test to detect PL leakage. The visual judgment of “the depth or severity” of the fistula propped previously is a subjective judgment. The detection of CTP correlated better with the diameter of the fistulae.

doi:10.1017/S0022215116004849

## Labyrinthine problem in chronic ear diseases (R864)

**ID: 864.4**

### Panel Discussion: Labyrinthine Problems in Chronic Ear Disease

Presenting Author: **Joel Goebel**

Joel Goebel

*Washington University School of Medicine*

**Learning Objectives:** 1. Understand the causes of vestibular dysfunction in chronic ear disease. 2. Appreciate the available vestibular function tests to assess function in the setting of middle ear/mastoid disease. 3. Recognize the

causes, symptoms and treatment for labyrinthine fistulae and third window phenomena.

Patients with chronic ear disease and cholesteatoma frequently present with symptoms of dizziness and vertigo that may represent labyrinthine dysfunction in the involved ear or dizziness from unrelated causes. The challenge for the otologist is to recognize specific signs of vestibular involvement on the physical exam and order appropriate vestibular function testing. This panel will explore various examination and laboratory signs of labyrinthine involvement in patients presenting with dizziness. Of particular interest on examination are the presence of the Halmagyi head impulse sign, presence of nystagmus with pressure or air caloric stimulation, and the postural responses on foam posturography. In the laboratory, responses to rotation, centrifugation, evoked responses to sound stimulation and computerized dynamic posturography are of particular utility to diagnose and treat labyrinthine dysfunction in patients with active chronic ear disease.

doi:10.1017/S0022215116004850

## Various aspects of cholesteatoma surgery (N865)

**ID: 865.1**

### Long-term Results of Troublesome CWD Cavity Reconstruction by Mastoid and Epitympanic Bony Obliteration (CWR-BOT) in Adults

Presenting Author: **Jean-Philippe Vercruyse**

Jean-Philippe Vercruyse<sup>1</sup>, Joost van Dinther<sup>2</sup>, Bert De Foer<sup>3</sup>, Jan Casselman<sup>3</sup>, Thomas Somers<sup>2</sup>, Andrzej Zarowski<sup>2</sup>, Cor Cremers<sup>4</sup>, Erwin Offeciers<sup>2</sup>

<sup>1</sup>European Institute of ORL, <sup>2</sup>European institute of ORL, Antwerp, <sup>3</sup>Department of radiology, Sint-Augustine Hospital, Antwerp, <sup>4</sup>Department of Otorhinolaryngology – Head and Neck Surgery, Radboud University Medical Centre, Radboud University Nijmegen, Nijmegen

**Learning Objectives:** To present the long-term surgical outcome of the bony mastoid and epitympanic obliteration technique with canal wall reconstruction (CWR-BOT) in adults with an unstable cavity after prior canal wall-down surgery (CWD) for extensive cholesteatoma Study Design: Retrospective study Interventions: Therapeutic Setting: Tertiary referral center Patients: Fifty consecutive adult patients undergoing a CWR-BOT between 1998 and 2009. Main Outcome Measure(s): (A) Recurrence and residual rates of cholesteatoma, (B) postoperative hygienic status of the ear, including postoperative aspect of the tympanic membrane (TM) and external ear canal integrity (EAC), (C) functional outcome and (D) long-term safety issues. Results: (A) The percentage of ears remaining safe without recurrent or residual disease after CWR-BOT was 96% after a mean follow-up time of 101,8 months. Recurrent cholesteatoma occurred in 2% (n = 1) and a residual cholesteatoma was detected in 2% (n = 1) of the cases. (B) A safe dry, and trouble-free graft and self-cleaning EAC was achieved in 94%. (C)