

cholesteatoma can be potentially improved. Conventional canal wall up tympanoplasty often results in a lack of mucosal regeneration in the resected area of the mastoid cavity. We developed a novel method combining canal wall up tympanoplasty and autologous epithelial cell sheet transplantation for postoperative regeneration of the middle ear mucosa.

Methods: We obtained the approval of the ethics committee of our institution and the Ministry of Health, Labor, and Welfare. We endoscopically removed an approximately $10 \times 10\text{-mm}^2$ nasal mucosal tissue from her inferior concha. Tissue-engineered autologous nasal mucosal epithelial cell sheets were fabricated by culturing the harvested cells using temperature-responsive culture dishes for 26 days in an aseptic environment in a good manufacturing practice (GMP)-compliant cell processing center (CPC). The cultivated cell sheets were transplanted, during canal wall up tympanoplasty, onto the exposed bony surface of the attic of the tympanic and mastoid cavities where the mucosa was lost.

Results: During the cultivation, the sterile environment in the CPC was confirmed. Autologous cell sheets were successfully transplanted to human middle ear. We have already clinically applied cell sheets to treat 5 patients of middle ear cholesteatoma. All patients showed a favorable postoperative course, with no adverse events or complications.

Conclusion: This is a first-in-man study in the world that the cultured cells were transplanted to the human ear. This novel technology of transplantation might be an effective alternative to the surgical operation on intractable otitis media in the near future.

doi:10.1017/S0022215116007301

ID: IP234

Practicality Analysis of JOS Staging System for Cholesteatoma Secondary to a Pars tensa Perforation: Japan Multicenter Study (2009–2010)

Presenting Author: **Yutaka Yamamoto**

Yutaka Yamamoto¹, Tustuya Tono², Hiromi Kojima¹, Yuka Morita³, Masafumi Sakagami⁴, Yasuo Mishiro⁴, Taeko Okuno⁵, Yasuyuki Hinohira⁶, Keiji Matsuda², Sho Hashimoto⁷

¹Jikei University School of Medicine, ²Miyazaki University, ³Niigata University, ⁴Hyogo College of Medicine, ⁵Mitsui Memorial Hospital,

⁶Kamio Memorial Hospital / Syowa University,

⁷National Sendai Medical Center

Learning Objectives:

Introduction: Primary cholesteatoma generally arises from retraction of the squamous epithelium of the tympanic membrane (TM). However, in rare cases, epithelial invasion occurs from the edge of the TM perforation and migrates to the medial surface of the TM. In such cases, a thick

TM, blunt perforation edge, and discharge of debris from the medial side of the TM are often observed. In this paper, the clinical features of the cholesteatoma secondary to a pars tensa perforation were evaluated and the pathogenesis of the disease was discussed.

Methods: A total of 599 ears that underwent surgery for fresh cholesteatoma between 2009 and 2010 at 6 institutions in Japan were recruited and cases with cholesteatoma secondary to a pars tensa perforation were selected. The criteria of the disease were defined as follows; a TM perforation in the pars tensa, continuous epithelial invasion from the perforation edge to the back side of the TM, and no adhesive lesion directly between the TM and promontrium. Incidence of the disease and clinical characteristics were evaluated retrospectively.

Results: Twenty-three ears of 23 patients with cholesteatoma secondary to a pars tensa perforation were identified. Incidence of the disease was 4.1 % of all of the cholesteatoma cases or 5.2 % of all of the acquired cholesteatoma cases. Characteristics of the disease were represented as following; high incidence in elder women, low rate of undeveloped mastoid air cell system, severe destruction of the stapes, and complex extension pathway.

Conclusions: The pathogenesis of cholesteatoma secondary to a pars tensa perforation is very different from that of other types of cholesteatoma. This disease should be clearly categorized as a different type of cholesteatoma and we need to recognize the nature and behavior of this disease. Additional storage of the data and detailed analysis by the multicenter study should be continued.

doi:10.1017/S0022215116007313

ID: IP235

Auditory test battery for the ear surgery and the postoperative evaluation

Presenting Author: **Youko Yamazaki**

Youko Yamazaki, Taeko Okuno, Yuko Hata
Mitsui Memorial Hospital

Learning Objectives: Auditory test battery.

Hearing result of the ear surgery is important for the quality of life of the patients. Pure tone audiometry, speech audiometry, and the Eustachian tube function test are done for cholesteatoma patients and chronic otitis media ear patients in our hospital.

We studied the preoperative and postoperative hearing result of the patients from the view point of quality of life.

Case: 75 year-old female. She had the drained ear on both side from her childhood. She noticed hearing impairment when she was 74 years old. She also had discharge of the ear and visited ENT doctor. She was diagnosed that she had chronic otitis media ear on both side and ENT doctor recommended her surgical intervention.

She visited our hospital. She had large perforation on both side and the pure tone audiometry showed mixed hearing