Middle ear implants in chronic ears (R774)

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Middle ear implants in chronic ears (R774)

Presenting Author: Joachim Mueller

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Learning Objectives: To learn how active middle ear implants can contribute to hearing restoration in reconstructive middle ear surgery, especially in chronic ears and mastoid cavities. The RT discusses the coupling strategies to deliver vibrations to the cochlea, compares different coupling methods and reprints on the experience in different countries. Also experience with Revision Surgeries, and strategies how to avoid complications are discussed.

During the round table the panelists comment and discuss in a structured waxy with the audience, how active middle ear implants can contribute to hearing restoration in reconstructive middle ear surgery, especially in chronic ears and mastoid cavities. The RT discusses the coupling strategies to deliver vibrations to the cochlea, compares different coupling methods and reports on the experience in different countries. Also experience with Revision Surgeries, and strategies how to avoid complications are discussed.

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Basic research on the otological fields (N775)

ID: 775.2

N775 (Basic Research on the Otological Fields), Middle Ear Mucosal Regeneration by Nasal Mucosal Epithelial Cell Sheets Transplantation

Presenting Author: Hiromi Kojima

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Learning Objectives: Postoperative regeneration of the middle ear mucosa and pneumatization of the middle ear cavity are of great importance after middle ear surgery. This study developed a new method to transplant autologous nasal mucosal epithelial cell-sheets into the damaged middle ear cavity. The aim of this study was to evaluate postoperative healing after the transplantation of the cell sheets in rabbits. Rabbit nasal mucosal epithelial cell-sheets were fabricated from a temperature-responsive culture dish and transplanted into the damaged middle ear of rabbit, which was surgically created. The healing of middle ears was evaluated with histological methods and computed tomography findings at 8 weeks after transplantation. Functional evaluation was performed by measuring the maximum middle ear total pressure reflecting a trans-mucosal gas exchange function. Two control groups were used: the normal control group and the mucosa-eliminated control group. Transplantation of nasal mucosal epithelial cell-sheets...
ABSTRACTS

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Basic research on the otological fields (N775)

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Novel biomarker to detect perilymph leakage, CTP (Cochlin tomo-protein, an isoform of Cochlin)

Presenting Author: Tetsuo Ikezono

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Learning Objectives: Perilymphatic fistula (PLF) is an abnormal connection between the inner and middle ear. A procedure for obtaining definite proof of a PLF remains elusive, and methods of diagnosis remain controversial. CTP is a novel biochemical marker that allows a definitive diagnosis of the etiology of PLF-related hearing loss and vestibular disorders. The science of PLF will be discussed in this talk.

Introduction: Numerous biomarkers for dizziness and hearing loss have been suggested including autoantibodies, inflammatory cytokines, CRP. Among these, CTP (Cochlin tomo-protein, an isoform of Cochlin), perilymph specific protein, is a novel and unique biomarker. We have reported a biochemical test for perilymph leakage detecting CTP in middle ear lavage (MEL, lavaging the middle ear cavity using 0.3 ml saline).

Methods: 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.

Diagnostic Accuracy of the test is very high. 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: The pattern of hearing loss of CTP positive PLF cases varies, including sudden onset, progressive, fluctuating or recurrent. In some patients with positive CTP test, dizziness is their chief complaint not hearing loss.

Conclusions: What We Could Learn from the CTP Test in hearing loss and/or dizzy patients. We believe CTP test will give the answer to the long-standing debate about the existence of PLF.

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Basic research on the otological fields (N775)

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Molecular mechanisms and fundamental therapies for a mouse model of Gjb2-related deafness

Presenting Author: Katsuhisa Ikeda

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