of view. Subsequently, we identified several key molecular biomarkers, CHRM1, EPO, SOS1, ESR1, CD4, and IFNA1.

Conclusions: In conclusion, our results might ascertain related cell process and signaling interacted genes underlying DEP exposure and its effects. Moreover, the discovered biomarkers can be recognized as potential candidates for developing early diagnosis and effective treatment strategies of DEP-mediated disorders.

Learning Objectives: We discovered potential molecular biomarkers and pathways triggered by DEP exposure in rodent model.

doi:10.1017/S002221511600596X

ID: IP100

Do we always need gelfoam packing in the middle ear cavity during tympanoplasty?

Presenting Author: **Woo Jin Kim**

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Learning Objectives:

Objectives: A modified overlay tympanoplasty, also known as a lift and repositioning tympanoplasty, has been developed to overcome the disadvantages of the conventional technique. Since fascia is placed over the annulus in this technique, a novel hypothesis that a support of gelfoam in the middle ear cavity would not be necessary has been formed.

Methods: We retrospectively analyzed the surgical outcomes of our modified overlay tympanoplasty to prove whether the outcomes depend on middle ear gelfoam packing during the surgery. A total of 227 chronic otitis media patients who underwent modified overlay tympanoplasty (Type I) with sandwich technique by a single surgeon were included in this study.

Results: The mean age was 49.0 years and the male: female ratio was 76:151. The mean follow up period was 26.3 months (6–94 months). Patients were divided into two groups according to whether or not gelfoam packing was performed in the middle ear cavity; the gelfoam (GG, N = 105) and no-gelfoam groups (NG, N = 122). Graft uptake rates, postoperative hearing levels, and complication rates were compared as the measures of surgical outcomes. The graft uptake rates of each group were up to 99.1% in GG (104/105) and 99.2% in NG (121/122). The air-bone gap significantly decreased after surgery without statistical difference between the groups. Postoperative complications such as epithelial cyst and lateralization occurred very rarely in both groups, and the rates showed no significant differences between two groups.

Conclusions: In conclusion, we suggest that gelfoam packing in the middle ear is not a mandatory procedure during a modified overlay tympanoplasty. Further investigation to find the clinical advantages of no-gelfoam technique during tympanoplasty is needed in a prospectively designed clinical trial.

doi:10.1017/S0022215116005971

ID: IP101

Paediatric transcanal endoscopic ear surgery

Presenting Author: **Taisuke Kobayashi**

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Kochi Medical School

Learning Objectives: TEES is safe and effective for treating children with middle ear disease.

Introduction: Recent advances in endoscopy have led to the development of transcanal endoscopic ear surgery (TEES). In the last decade, TEES usage has increased dramatically worldwide as a minimally invasive surgery with excellent middle ear visualisation and optical surgical manipulation. TEES may be suitable for treating children with middle ear disease. In this study, clinical futures and postoperative results in paediatric TEES cases were investigated to understand the feasibility of TEES in children with middle ear disease.

Materials and Methods: Medical records of 28 paediatric patients (age:

Results: f the 16 male and 12 female patients (mean age: 7.3 years; range: 1–17 years), 8 had left ear disease, 19 had right ear disease, and 1 had bilateral congenital cholesteatoma. They included 20 cholesteatoma, 5 ossicular disruptions, 2 chronic otitis media, and 1 perilymphatic fistula. Tympanoplasty types included 18 type I, 3 type III, and 6 type IV. For three cholesteatoma cases, staged-operations were performed. In an ossicular disruption case, re-operation was needed because of remaining air-bone gap. There was no recurrence of cholesteatoma until now. The diameter of narrowest portion of ear canal (anterior-posterior) on the axial computed tomography was 5.6 mm (mean). Postoperative hearing results were acceptable, with no surgical complications.

Conclusions: Our results suggest TEES as a safe, effective treatment for children with middle ear disease, notably, paediatric chronic otitis media without a mastoid lesion, ossicular disruption, or early-stage congenital cholesteatoma.

doi:10.1017/S0022215116005995

ID: IP103

Usefullness of Anterior-Based Periosteal(Palva) Flap for Obliteration of Mastoid Cavity in Canal Wall Down Mastoidectomy

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Soo-Keun Kong

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Learning Objectives:

Objectives/Hypothesis: To observe the usefulness of anterior based periosteal (Palva) flap for mastoid cavity obliteration in canal wall down tympanomastoidectomy and review its efficacy in producing a dry, low-maintenance, small mastoid cavity.

Study design: Retrospective study of a consecutive series of procedures from 2012 to 2014.

Methods: Sixty one consecutive procedures for active chronic otitis media with a minimum follow-up of 6 months (mean, 21 mo; range, 6–40 mo).

Results: 45 ears of cholesteatoma and 11 ears of adhesive otitis media were enrolled this study, and others were chronic otitis media(4 ears), adenoma of middle ear(1 ear). 52 ears (85.2 %) maintained a small, dry, healthy mastoid cavity. 3 ears (4.9 %) had intermittent otorrhea easily controlled by topical treatment, 2 ears (3.2 %) had persistent otorrhea. 3 ears (4.9 %) had showed reperforation of tympanic membrane. There were 1 ears of residual or recurrent cholesteatomas. Outcomes remained stable over progressively longer follow-up, up to 40 months.

Conclusion: Obliteration of a canal wall down mastoid cavity by a postauricular periosteal flap is a reliable and effective technique that results in a dry, trouble-free mastoid cavity in 85.2 % of patients with active chronic otitis media.

doi:10.1017/S0022215116006009

ID: IP104

Reliability and comparison of gain values with occurrence of saccades in the video head impulse test (vHIT)

Presenting Author: **Leise Hviid Korsager**

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Learning Objectives:

Introduction: The vHIT investigates the vestibular function in two ways: a VOR (vestibulo-ocular reflex) gain value and a graphical representation of VOR. Interpreting patient's vestibular function based on vHIT depends on both parameters, but more information about the reliability of the two parameters is needed.

The objective was to investigate the reliability of vHIT by comparing gain values between examiners on the same subjects and to see how differences affected the occurrence of saccades.

Method: Thirty subjects who had undergone cochlear implant (CI) surgery, were tested with video head impulse test (EyeSeeCam from Interacoustics). Four different examiners, all experienced with vHIT, tested the subjects.

Two judges interpreted the graphical representation of VOR according to occurrence of saccades or not.

Results: Differences in gain values amongst examiners varied from 0.2–0.58 with an average of 0.14 (95% CI 0.12–0.16) on the right ear and 0.17 (95% CI 0.15–0.19) on the left ear. Occurrences of saccades on the same patient were reproduced in 93% of the cases by all examiners. Interclass correlation coefficient (ICC) of the gain values between two examiners was 0.62. Kappa's coefficient was calculated upon the interpretation of the graphical outcome to 0.83.

Conclusion: The gain value seems to be less reliable than the graphical occurrence of saccades in the judgement of VOR. Interpretation of vHIT results should therefore not depend on the gain value alone but should depend on both gain value and the occurrence of saccades.

doi:10.1017/S0022215116006010

ID: IP105

Vestibular findings after cochlear implant surgery measured by video head impulse test (vHIT): A double blinded, randomised clinical trial

Presenting Author: Leise Hviid Korsager

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Learning Objectives:

Introduction: Dizziness is a common side effect to cochlear implant (CI) surgery. Regarding the CI surgical technique, there is no clear evidence if one approach (round window approach) leads to less dizziness than another approach (cochleostomy).

The main objective to this study is to investigate any difference between the two surgical approaches measured by video head impulse test (vHIT). Secondly we compare the objective findings with the subjective dizziness perceived by the patient.

Method: Fifty patients who will undergo CI surgery at OUH will be examined with vHIT prior to their surgery, the day after their surgery and one month after. They will fill out a Dizziness Handicap Inventory (DHI) scheme and VAS score according to their dizziness.

Subjects are randomized to either the round window approach or the cochleostomy approach. Subjects are stratified according to age (+/− 60), hearing rest and gain prior to surgery (+/-0,68). The randomization is blinded for investigator and subject.

Inclusion period ends at 1st of April 2016.

Results: Results will be revealed at the conference.

Conclusion: The results of this study could have influence on the future choice of approach of electrode insertion in cochlear implant surgery.