FGF) as a regulatory factor to the newly opened mastoid cavity and assessed whether these promote regeneration of MACs or not.

Material and Method: In this study, 10 cases with severe chronic otitis media(n = 3), cholesteatoma(n = 5), and adhesive otitis media(n = 2) were selected. At the 1st stage of operation, before mastoidectomy, cortex bone lid was harvested. Harvested autologous bone fragments with gelatin sponge soaked in b-FGF were implanted into the newly opened mastoid cavity and they were fixed by fibrin glue. Cortex bone lid was returned to the original position and was fixed by autologous bone pate.

By the images of high resolution computed tomography (HRCT), whether MACs were regenerated or not were estimated. The Eustachian tube function were measured before and 9 to 12 months after the 1st stage operation.

Results: Regeneration of MACs was observed 7 out of 10 cases (70%). In 6 out of 7 cases (86%) in the successful cases of regeneration of MACs in both group, Eustachian tube functions were improved. On the other hand, in the failure cases of regeneration of MACs, Eustachian tube functions were not improved.

Conclusions: Implanted autologous bone fragments and gelatin sponge soaked in b-FGF to the newly opened mastoid cavity contribute to regeneration of MACs in both HRCT images and gas exchange function.

doi:10.1017/S0022215116004217

Free Papers (F833)

ID: 833.1

Transcochlear approach for temporal bone cholestetoma with facial weakness

Presenting Author: **Zhaoyan Wang**

Zhaoyan Wang, Hao Wu

Shanghai Jiaotong University School of Medicine

Learning Objectives:

Objective: To evaluate the application of transcochlear approach for temporal bone cholestetoma with facial weakness.

Methods: We reviewed our institutional experience in the management of patients with temporal bone cholestetoma .The surgical approaches and techniques were discussed.

Results: 6 temporal bone cholestetoma patients with facial weakness were reviewed. Transcochlear approach was used for these patients. Immediately post-operative facial function was as the same level as pre-operatively. During follow-up, facial function was recovered in 4 cases and no recurrence was detected by annually MRI scan.

Conclusion: adequate explosion is important for total removal of the temporal bone cholesteatoma. recurrence can be avoid with eliminate all the debris and matrix of cholesteatoma. in case with facial nerve involved, transcochlear approach with facial nerve rerouting can got enough vision of lesion.

Key words: temporal bone cholestetoma, treatment strategy, transcochlear approach

doi:10.1017/S0022215116004229

Free Papers (F833)

ID: 833.2

Diagnosis and surgical management of 23 cases of petrous bone cholesteatoma

Presenting Author: **Haibo Wang**

Haibo Wang, Yuechen Han, Pengcheng Sun, Dong Chen, Li Li, Zhaomin fan

Eye & Ear Infirmary of Shandong Provincial Hospital Group

Learning Objectives:

Objective: To report the experience on the diagnosis and treatment of petrous bone cholesteatoma (PBC) in our clinic.

Methods: The medical records of 23 patients with PBC who underwent surgery between 2013 and 2015 in our department were retrospectively analyzed with respect to the classification, surgical approach, facial nerve function and its management, auditory function, and recurrence.

Results: The median age of these patients was 32 years old. Otorrhea, hearing loss and facial nerve palsy were the most common symptoms. All of these patients presented with hearing loss and 16 patients with facial nerve palsy. 18 cases were supralabyrinthine, 1was infralabyrinthine-apical, 2were massive and 2were apical. Three patients had undergone previous mastoid surgery. The surgical approaches varied according to the classification, and transchochlear approach was chosen for 15 cases(one patients operated with the endoscope assistance), transmastoid approach was chosen for 7 cases, combination of middle cranial fossa and translabyrinth approach was chosen for 1case. The median follow-up was 14months. Postoperatively, 17 patients were total deafness. Recurrence of cholesteatoma was found in 2 cases, and revision surgery was performed.

Conclusion: The surgical approach should be decided according to the classification, extent of the lesion , hearing level ,and facial nerve function. Complete removal of cholesteatoma should be prioritized over the preservation of residual hearing level and facial nerve function.

doi:10.1017/S0022215116004230

Free Papers (F833)

ID: 833.3

Where is it safe to leave residual Vestibular Schwannoma during surgery?

Presenting Author: **Anand Kasbekar**

Anand Kasbekar[1], Guleed Adan[2], Alaina Beacall[2], Ahmed Youssef[2], Catherine Gilkes[2], Tristram Lesser[2]

[1]Cambridge University Hospitals NHS Foundation Trust, [2]Aintree University Hospital, Liverpool, UK

Learning Objectives:

Objectives: To identify whether certain locations at the cerebellopontine angle (CPA) and internal auditory meatus (IAM) predispose to growth of medium and large unilateral Vestibular Schwannoma (VS) residual tumour left behind at surgery.

Methods: A retrospective review of case notes and radiology scans was undertaken at the Liverpool Skull Base unit. Measurements conformed to the 2003 Consensus meeting on VS reporting.

Results: 67 unilateral sporadic VS were surgically treated between the years 2006 and 2010 of which 52 had residual tumour left behind available for analysis, Of these, 20 grew [these had previous excisions which were 4 near-total excisions (less than 5% residual tumour left), and 16 sub-total excisions (more than 5% residual tumour left)]. Follow-up was for a median of 6.4 years (6.4 to 8.1 years). Residuum was left at various locations: the CPA had 48 residuals, 21 grew (44%); the IAM had 47 residuals, 14 grew (30%). Within the IAM the porus had 47 residuals, 11 grew (23%); and the fundus had 12 residuals, 2 grew (14%). Time to growth varied between 1.75 years and 5.5 years (average 3.1 years). Of the 20 growing residuum, 17 required treatment (13 had radiotherapy, 3 had surgery followed by radiotherapy, 1 had just surgery).

Conclusions: Along with other patient, tumour, and surgical factors, the less than 95% excision of VS predisposes to regrowth of the residual tumour, and such patients should be monitored closely for at least 10 years. The data suggests that the CPA is the most likely site for residual tumour to grow and that the IAM is a safer site to leave tumour behind, if necessary. The larger the VS, the greater the size of the residual tumour left at surgery and thus the greater the chance of regrowth. These factors should be borne in mind when deciding on when to intervene in patients with growing tumours. There is a need for standardised reporting of residual tumour outcomes, which will allow accurate comparison, and pooling of data.

doi:10.1017/S0022215116004242

Free Papers (F833)

ID: 833.4

Reconstruction of tegmen defect by transmastoid approach

Presenting Author: **Rie Kanai**

Rie Kanai, Shin-ichi Kanemaru

Medical Research Institute, Kitano Hospital

Learning Objectives: To discuss about the procedure of reconstruction of tegmen defect by transmastoid approach to prevent meningo-encephalocele.

Objective: Tegmen defect is caused by progression of middle ear disease. Sometimes, meningo−encephalocele (MEC) occur into the middle ear through tegmen defect, which can cause serious complications: meningitis, cerebro spinal fluid (CSF) leakage, epilepsy. Hearing loss also can cause by MEC pressing ossicular chain. We discuss about the procedure of reconstruction of tegmen defect by transmastoid approach to prevent MEC.

Design: Retrospective study

Subjects and method: Seven cases (2 male 5 female, mean age 65.2) with large tegmen defect or with tegmen defect and CSF leakage were enrolled in this study. These patients underwent tympanomastoidectomy with reconstruction of the tegmen defects by transmastoid approach.

The kinds of diseases were cholesteatoma in 3 cases, cholesterol granuloma in 2 cases and MEC after previous middle ear surgery in 2 cases.

We analyzed the size of the defect, the materials for reconstruction and the complications; MEC, CSF leakage, the reccurence of the diseases.

Results: The size of defects were about 8 mm in 1 cases, more than 10 mm in 3cases and more than 20 mm in 3 cases. The tegmen defects were reconstructed by cortical bony plate with or without bone putty in all cases. In 2 cases, a part of dura was resected because lesion adhered to dura severely, then CSF leak occurred. We reconstructed also the dural defects by temporal fascia. In 2 cases with MEC, the lesion were resected by cauterization before the reconstruction of tegmen defect. We confirmed that bony tissue of tegmen was regenerated in all cases by postoperative CT scan. In 4 cases, they was confirmed during 2nd stage surgery. Although the recurrence of cholesteatoma was found distant from tegmen in one case, no patient have developed MEC, CSF leakage and other serous complication.

Conclusion: Tegmen defect can be reconstructed by transmastoid approach. Reconstruction of tegmen defect by cortical bone will be helpful to prevent MEC and CSF leakage.

doi:10.1017/S0022215116004254

Free Papers (F833)

ID: 833.5

Recent Strategies in the Management of Traumatic Facial Nerve Paralysis

Presenting Author: **Naohito Hato**

Naohito Hato

Ehime Univrsity

Learning Objectives: In total, 66 patients with facial nerve paralysis after temporal bone trauma were studied retrospectively. The rate of good recovery in patients undergoing