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*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.

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### Free Papers (F833)

**ID: 833.4**

#### Reconstruction of tegmen defect by transmastoid approach

Presenting Author: **Rie Kanai**

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*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 recurrence of the diseases.

*Results:* The size of defects were about 8 mm in 1 cases, more than 10 mm in 3 cases 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 2<sup>nd</sup> 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.

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### Free Papers (F833)

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#### Recent Strategies in the Management of Traumatic Facial Nerve Paralysis

Presenting Author: **Naohito Hato**

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Ehime University

*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