

factors including age, location of the defect, and surgeon's preference. In this case-based presentation, the challenges of diagnosing and managing CSF leaks and encephaloceles will be discussed. Advantages and disadvantages of imaging modalities will be compared. Finally, surgical approaches including middle fossa craniotomy, transmastoid, and combination approaches will be examined.

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### Management of difficult cases (R861)

**ID: 861.4**

#### The surgical management of temporal bone cholesteatoma involving into jugular foramen

Presenting Author: **Chunfu Dai**

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*Learning Objectives:* To share surgical experiences on management of temporal bone cholesteatoma involving into jugular foramen.

Cholesteatoma involving into jugular foramen are rare. Clinical findings such as symptoms, signs, and preoperative hearing are frequently nonspecific in cases of temporal bone cholesteatoma, the surgical removal of cholesteatoma in this region is great challenge for the skull base surgeons. Eighteen cases with temporal bone cholesteatoma involving into jugular foramen were operated, the surgical approaches, intraoperative findings, surgical outcomes were retrospectively reviewed in the present study.

Eight cases are female, 10 cases are male, 8 cases in the left side, 10 in the right. The age ranges from 26-68 years old. The symptoms included hearing loss (17/18), otorrhea (8/18), pulsatile tinnitus (7/18), headache (2/18). Ten patients complained of facial paralysis, no patients suffered from the dysfunction of lower cranial nerves. All patients were undergone infratemporal fossa approach with facial fallopian canal bridge technique, Jugular foramen was erosion in all 18 cases, horizontal segment of ICA was encroached in 6 cases, sigmoid sinus and posterior fossa were compressed in 17 case. The clivus was destructed in 2 cases.

Facial nerve intact was remained in 6 patients, cable graft was conducted in 2 patients, facial hypoglossal nerve anastomosis was performed in two patients. Intraoperatively CSF leakage was incurred in 9 patients, sigmoid sinus or jugular bulb erupted in 3 cases, and sigmoid sinus occlusion with jugular vein ligation was undertaken. Eustachian tube was packed with temporal muscle and bone wax, the surgical cavity was packed with abdominal fat, blind sac closure was conducted in all patients. No major complications was observed.

Infratemporal fossa approach with facial nerve canal bridge technique is good option for patients with cholesteatoma involving into jugular foramen, which is sufficient to remove the lesion and control the vessels, as well to preserve facial nerve function.

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### Free Papers (F862)

**ID: 862.1**

#### Smoking does not influence the take rate of transcanal endoscopic tympanoplasty

Presenting Author: **Wu-Po Chao**

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*Learning Objectives:* To evaluate the anatomical and audiological outcomes of transcanal endoscopic tympanoplasty with patient who has smoking habit, and to those who do not.

Smoking does not influence the take rate of transcanal endoscopic tympanoplasty.

*Objective:* This study is aimed to evaluate the anatomical and audiological outcomes of transcanal endoscopic tympanoplasty with patient who has smoking habit, and to those who do not.

*Material and method:* We had retrospectively reviewed the patients who had tympanic membrane perforation and underwent transcanal endoscopic tympanoplasty in Chang-Gung Memorial Hospital. After the surgery, the follow-up reperforation rate and audiological test will be used to evaluate the take rate of the surgery between smoking and non-smoking group. All calculation were performed with a commercial statistical software package (SPSS 12.0 for windows).

*Results:* The result showed the take rate of transcanal endoscopic tympanoplasty between smoking and non-smoking group was 89% and 86% respectively.

*Conclusion:* It seems that smoking maybe an important factor to the patient with otitis media. However, it may not influence the outcome of take rate post-operatively. We will present our data and discuss on the conference.

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### Free Papers (F862)

**ID: 862.2**

#### Preliminary outcomes of endoscopic middle ear surgery, our UK experience

Presenting Author: **Constantina Yiannakis**

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*Learning Objectives:*

- Review the indications for endoscopic middle ear surgery.
- Compare the short-term outcomes of endoscopic with conventional middle ear surgery.
- Discuss the application of endoscopic techniques within the UK patient population.

*Introduction:* Totally Endoscopic Ear Surgery (TEES) and Endoscopic Assisted Microsurgery (EAMS) is still a new concept. Endoscopic techniques for the treatment of pathological conditions of the middle ear have been gradually introduced since 1990. However, relatively few centres in the UK are performing them. Advantages over standard techniques include better visualisation of difficult to reach areas, such as the sinus tympani, and limited external incisions<sup>(1,2)</sup>.

Here we report our short-term outcomes for endoscopic middle ear surgery.

*Methods:* We performed a prospective review of the first 97 consecutive patients undergoing TEES or EAMS in Monklands District General Hospital undertaken by one operator. Outcomes assessed were: tympanic membrane healing, audiological data and complications.

*Results:* 23 patients underwent EAMS while 74 had TEES. Operations performed included: cholesteatoma surgery, stapedectomy and myringoplasty. We had no reported cases of dead ear or permanent facial nerve palsy. Average air-bone gap following stapedectomy was 6.49 dB. The tympanic membrane healing rate was 87%.

*Conclusion:* Our results confirm that endoscopic middle ear surgery is safe with short-term outcomes that are comparable with conventional surgery. We feel that it offers an exciting way of improving the management of middle ear pathology through improved access and visualisation. This in turn has implications for teaching and training.

**References**

1. Tarabichi M, Ayache S, Nogueira JF, Al Qahtani M, Pothier DD. (2013) Endoscopic management of chronic otitis media and tympanoplasty. *Otolaryngol Clin North Am.* **46**(2):155–63.
2. Tarabichi M. (2010) Transcanal endoscopic management of cholesteatoma, *Otol Neurotol.* **31**(4):580–8.

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**Free Papers (F862)**

**ID: 862.3**

**Endoscopic Stapes Surgery: Our Experience**

Presenting Author: **Rhona Sproat**

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*Learning Objectives:* To report our experience with the use of endoscopes in stapes surgery in terms of complication rates and hearing outcomes.

*Introduction:* Endoscopic ear surgery is a rapidly developing area in otology. The endoscope can provide a unique view of middle ear anatomy and is being utilised to facilitate ever more surgical procedures. We aim to report our experience with use of the endoscope in stapedectomy.

*Methods:* Data was collected prospectively for all stapedectomy operations carried out in NHS Lanarkshire by a single surgeon from August 2009 to December 2015, using the Common Otology Audit, a UK wide data collection tool. Outcome measures were pure tone audiometry pre- and post-operatively at 0 and 3 months; and complication rates at 3 month follow up.

*Results:* 83 operations were carried out for otosclerosis with stapes fixation during this time period. 78 of these were primary operations, and 5 were revision procedures. 27 of these were carried out endoscopically or endoscopic-assisted, and 56 were performed using an operating microscope. Average total pre-operative air-bone gap was 29 dBHL; 28 dBHL for endoscopic operations; and 29 dBHL for open operations. 70 patients were followed up in clinic at 3 months. Two were lost to follow-up from the endoscopic group and 11 from the open group. Average post-operative air-bone gap was 7.9 dBHL in the open group and 7.6 dBHL in the endoscopic group. 84% of patients achieved reduction in air-bone gap to less than 10dBHL in the open group and 88% in the endoscopic group. 100% of both groups achieved less than 20 dBHL. No patients had a facial nerve palsy, vertigo or complained of taste dysfunction. One patient complained of tinnitus at 3 months from the endoscopic ear surgery group.

*Conclusions:* Our results demonstrate that the endoscopic approach to ear surgery has comparable outcomes to microscopic approaches, both in respect to our own unit, and to published literature, in terms of hearing gain and complication rates. Our experience suggests that endoscopic approach to ear surgery is safe and effective.

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**Free Papers (F862)**

**ID: 862.4**

**Surgery for cholesteatoma of the facial recess and sinus tympani: retrotympanotomy from anterior, mobilizing and using chorda tympani for guidance - Farrior's principle rediscovered and modified**

Presenting Author: **James Look**

James Look

*University of Stellenbosch*

*Learning Objectives:* To describe an operation to access the retrotympanum using the operating microscope and removing bone over the facial recess and sinus tympani safely by mobilizing and utilizing the chorda tympani as an indicator of the position of the facial nerve.