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**Learning Objectives:** A high jugular bulb is a common vascular anomaly and the possibility of dehiscence should always be anticipated when pre-operative imaging is not available. If it is accidentally damaged and bleeding occurs, the ear should be packed and the procedure abandoned.

**Introduction:** Anatomic variations of the venous sinuses of the dura mater, however infrequent, may present puzzling diagnostic and operative problems. A high dehiscent jugular bulb is one of the most common and if not anticipated can present a hazard when performing middle ear surgery.

**Method:** We report the case a 10 year old girl with bilateral dry central tympanic membrane perforations who was admitted for right tympanoplasty. Through a post-aural approach temporalis fascia was harvested and the edges of the perforation freshened. A tympano-meatal flap was raised and as the annulus was lifted a sudden gush of blood ensued. A dehiscent jugular bulb was recognised. Instead of simply packing the ear and abandoning the procedure a decision was made to explore the mastoid in an attempt to control bleeding by compressing the sigmoid sinus so that the procedure could be completed. This greatly worsened the problem as the sigmoid sinus was huge, dehiscent and totally filling the mastoid. This started to bleed even more profusely. Telephone advice was sought from an eminent skull base surgeon who warned that an attempt to occlude the sigmoid sinus could compromise cerebral venous drainage if the contralateral sinus was vestigial. He advised the use of Floseal, Sugicel, crushed temporalis muscle and bone wax. Haemostasis was rapidly achieved and the tympanoplasty completed.

**Result:** Post-operative recovery was uneventful. Successful closure of the perforation and improved hearing was achieved. Subsequent CT scanning showed good venous flow bilaterally (images).

**Conclusion:** A high jugular bulb is a common vascular anomaly and the possibility of dehiscence should always be considered when pre-operative imaging is not available. The decision to open the mastoid instead of simply packing the ear canal and abandoning the procedure was misguided and could easily have resulted in serious complications. It should not have been considered in the absence of pre-operative imaging.

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#### **ID: IP045**

### **The Role of Surgery in the Management of Malignant (Necrotising) Otitis Externa**

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**Learning Objectives:** To highlight the role of surgery in the management of malignant (necrotising) otitis externa.

**Introduction:** Malignant (Necrotising) Otitis Externa (MOE) was first described in 1959 as a pseudomonas osteomyelitis of the temporal bone in an elderly diabetic. Subsequent single case reports appeared in the literature. It was said to be an extremely rare condition. Although a number of early publications reported surgical intervention, the prognosis was very poor and the mortality high. By the time the senior author was in training, the standard teaching was that surgery had no role to play in the management of MOE.

Over the past 20 years our experience has been that the incidence of MOE has increased dramatically. The role of fungal infection in conjunction with pseudomonas may make successful treatment more difficult.

In a small but significant number of our patients surgery has been used as an adjunct to medical therapy.

**Methods:** We report a series of 4 patients with MOE who all had tympanomastoid surgery as part of their treatment. All had had uncontrolled pain and in two cases facial palsy was an indication. In one the palsy had been present for over three months.

**Results:** Following surgery all four patients had significant and rapid control of their pain. The two patients who had had facial palsies both recovered, one completely and rapidly and the other to a House-Brackmann grade II after 9 months.

**Conclusions:** We are seeing far more patients with MOE than ever before. We postulate why this might be.

While aggressive medical therapy is vital, surgery should be considered in the management of patients with MOE when the symptoms and clinical signs are progressing despite adequate medical treatment. Facial palsy should be considered as an indication for early surgery in MOE just as it would be in other inflammatory diseases of the temporal bone.

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#### **ID: IP046**

### **Transmastoid middle fossa craniectomy for the supralabyrinthine lesion**

Presenting Author: **Masashi Hamada**

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**Learning Objectives:**

**Introduction:** For a petrous apex lesion with serviceable hearing, the middle fossa (MF) craniotomy combined with transmastoid approach (TMA) is usually selected to preserve the labyrinth. However, this combination seems too invasive if the pathology is localized rather laterally. We have made a technical modification on TMA so that we can access a supralabyrinthine lesion more easily with an addition of partial MF craniectomy.

*Case presentations:* Case 1 was a 31-year-old female with right conductive hearing loss and no episodes of facial paralysis. CT/MRIs revealed a facial neuroma located in the genu through the tympanic segment. During the TMA the tumor was found to involve the labyrinthine segment, and thereby supralabyrinthine MF plate was drilled out to search the normal facial nerve proximally. This addition of partial craniectomy facilitated successful removal and cable graft.

Case 2 was a 42-year-old male with right conductive hearing loss. CT scans showed an epitympanic cholesteatoma extending to supralabyrinthine cells. Since the pathology was intraoperatively found to extend over the labyrinth and to invade the superior semicircular canal, tentative removal of the MF plate was decided during the TMA to achieve the complete removal without damaging the labyrinth.

*Discussion:* MF craniotomy usually needs an assistance of neurosurgeons, and therefore this approach seems difficult to add to TMA in a single operation depending on the intraoperative findings. Supralabyrinthine lesions still have a chance to be removed via TMA alone. If the pathology is found to extend more medially than expected during the TMA, an additional removal of the MF plate enables us to treat the lesions more easily under the more familiar surgical view.

*Conclusion:* Transmastoid MF craniectomy provides ear surgeons with better surgical access for laterally localized lesions in the petrous apex, and is indicated into supralabyrinthine cholesteatomas and facial neuromas.

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#### **ID: IP047**

### **The Natural History of Advanced Pars Tensa Retraction Pockets**

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*Learning Objectives:*

*Intro:* The limited evidence available to guide management has rendered very controversial the management of pars tensa retraction pockets.

Since 2003, we have adopted a policy of minimal intervention for pars tensa retraction pockets and this has allowed us to monitor the natural behaviour of this disorder.

*Method:* Successive patients with pars tensa retraction pockets that a) contacted the promontory yet b) were not accumulating keratin (“advanced retraction pockets”) have been monitored at least once a year and followed either until surgery was required, the patient was lost to follow-up or some other pathology intervened. Follow-up was censored at five years.

*Results:* 95 cases were enlisted and followed up.

25% ears advanced to need surgery.

40% ears remained advanced without further progression.

38% ears returned to normal.

4% ears developed pars tensa perforation.

3% ears developed attic cholesteatoma.

*Conclusions:* Only a minority of advanced pars tensa retraction pockets progress to require surgery.

More advanced pars tensa retraction pockets return spontaneously to normal than progress to require surgery.

Some ears that present with a retracted pars tensa progress to develop attic retraction and then attic cholesteatoma, without developing cholesteatoma via the pars tensa.

*Learning Points:* It is not correct to consider an advanced pars tensa retraction pocket as necessarily pre-cholesteatoma.

Because most advanced pars tensa retraction pockets do not progress to become cholesteatoma, surgery on advanced pars tensa retraction pockets cannot be justified on the grounds that it is prophylaxis against the development of cholesteatoma.

Attic and pars tensa retraction disease sometimes have a common aetiology.

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#### **ID: IP048**

### **Posterior ear canal reconstruction as a simple alternative to mastoid obliteration**

Presenting Author: **Andrew Beynon-Phillips**

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*Learning Objectives:*

*Intro:* The treatment of discharging mastoid cavities is hampered by long-term deterioration of the surgical reconstruction.

We hypothesised that it would be optimal to use a graft that would become incorporated into, and indistinguishable from the skull bone.

We developed a simplified technique of posterior canal wall reconstruction using a free cortical bone graft in patients who have discharging mastoid cavities.

*Method:* Technique: Reconstruction of the posterior canal wall with a free cortical bone graft harvested from the cortex of the mastoid process.

*Patients:* 40 patients with discharging mastoid cavities.

The following were assessed at one year following surgery:

1. Integrity of the barrier formed by the cortical bone graft.
2. Integrity of the keratinising epithelium of the ear canal.
3. Patient report of ear discharge.

*Results:* Adequate bone grafts were obtainable in all cases.

An intact barrier between the mastoid cavity and a new, physiological ear canal were maintained at one year in all cases, bar one, when a recurrent cholesteatoma developed through a defect between the graft and facial ridge, whereafter the technique was modified.