

$\chi^2 = 1.8$, $p > .05$. Chi square test detected no significant difference among subgroups of stenotic EAC for cholesteatoma formation, $\chi^2 = 2.5$, $p > .05$. Postoperative ABG less than 30 dB occurred in 77.3% (99/128) of the patients, and there was no significant difference between cholesteatoma and no cholesteatoma groups, $p > .05$. The complication rate of CAS was 13.8% (20/144), cholesteatoma group had a higher rate of complications, $\chi^2 = 5.49$, $p < .05$.

Conclusions: Our results indicate that meatoplasty was an effective surgical intervention for CAS, there was a stability hearing outcome with prolonged follow-up. Jahrsdoerfer score was one factor which affected the postoperative hearing, but age was not the crucial factor in surgical indication. There was no significant difference among subgroups of stenotic EAC for cholesteatoma formation, and no significant difference between cholesteatoma and no cholesteatoma groups for hearing outcomes. But cholesteatoma group had a higher rate of complications.

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Free Papers (F762)

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Middle cranial fossa approach to repair of temporal bone encephaloceles and CSF leaks with over 18 years experience with future implications on driving regulations in the UK

Presenting Author: **Jeyanthi Kulasegarah**

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Learning Objectives: Good hearing outcomes. Minimal risk of epilepsy. DVLA should reconsider band on driving for these patients.

Introduction: This paper details our experience in the management of 40 patients with temporal bone encephaloceles and cerebrospinal fluid (CSF) leaks, with the majority of patients managed via a middle cranial fossa approach (MCF) with bone graft, temporalis fascia and tisseal. DVLA imposes a driving band for 6 months for cars and 2 years for HGV on all patients undergoing craniotomy regardless of indication.

Objective: To investigate the long-term follow-up of patients who had CSF leak repair: looking at effectiveness of repair, intracranial complications specifically seizures and hearing outcomes.

Method: A retrospective chart review of 40 patients undergone middle cranial fossa craniotomy for the treatment tegmen defect in a tertiary referral center from 1997 to 2015 was performed.

Results: Forty patients were identified who had undergone surgical repair of the dural defects through a middle cranial fossa approach. The mean age was 52 years (range 16 to 74) with male to female ratio of 2:3. Defects were

almost equally right and left sided with over 80% were spontaneous leaks. Nearly 90% of patients were treated with MCF approach and 10% with a combination of MCF and transmastoid as the defect also involved the posterior fossa. Majority of patients exhibited an improvement in hearing. A patient developed epilepsy post-operatively with MRI confirmation of temporal lobe inflammation. One other patient with pre-operative epilepsy continued to have seizures.

Conclusion: The MCF approach is an excellent route to effectively repair CSF leaks and encephaloceles due to tegmen tympani and dural defect. It carries an extremely small risk of epilepsy. Therefore, the band on driving enforced by DVLA for patients with no preoperative epilepsy undergoing craniotomy for CSF leak repair should be reconsidered.

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Subtotal Petrosectomy With Blind Sac Closure of the External Auditory Canal – Indications and Results

Presenting Author: **Udi Katzenell**

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Learning Objectives:

Introduction: Subtotal petrosectomy and blind sac closure of the auditory canal (STP) includes a canal wall down mastoidectomy with exenteration of all air cells, obliteration of the middle ear cleft with fat or temporalis muscle or a biocompatible material and closure of the external auditory canal. The indications for STP are weeping mastoid cavities, temporal bone malignancies, CSF leak and lateral base of skull surgeries. Hearing rehabilitation with a bone conduction hearing device or a cochlear implant can be offered. The aim of this study is to review the indications, results and hearing rehabilitation of the patients who underwent STP in our department.

Methods: All charts of patients who underwent STP between October 2011 and December 2015 were reviewed and analyzed.

Results: During this period 20 patients underwent STP. The average age was 46.9(13–81). 6 patients had cholesteatoma of them 5 were deaf in the operated ear. 1 patient had an encephalocele in a previously operated ear. 13 patients had a weeping mastoid cavity with no cholesteatoma. 4 patients had a Bone Anchored Hearing Aid and One patient had a Bonebridge implanted. 2 patients had a cochlear implant in a deaf ear. 1 patient had surgery for external auditory canal carcinoma. One patient with a weeping

cavity had a recurrent infection in the mastoid cavity, the miatus opened and discharge persisted. All other operated patients ears stopped discharging therefore the success rate in this series is 95%. There were no major complications after surgeries. All patients who had a bone anchored hearing device or a cochlear implant presented benefit from their devices.

Conclusion: Patients with weeping cavities are debilitated due to water precautions, vestibular effect, the reduced hearing and the discharge that can be extremely disturbing. A debilitating weeping cavity which does not respond to medical treatment is a surgical disease. In such patients STP with hearing rehabilitation should be suggested.

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Outcomes following trans-mastoid occlusion surgery for superior semicircular canal dehiscence

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Learning Objectives:

Introduction: Semicircular canal dehiscence syndrome (SCDS) is caused by a bony defect of the superior semicircular canal, resulting in autophony, bone conduction of bodily sounds and pseudo conductive hearing loss. Vestibular manifestations include sound or pressure evoked vertigo. Occluding the dehiscence canal was originally described via the middle cranial fossa approach however, an alternative transmastoid approach has been used to avoid the morbidity associated with the former. The aim of this project was to determine clinical and audiological outcomes for those undergoing the transmastoid approach.

Methods: All patients suggestive of SCDS underwent CT scanning, cVEMP testing. All those with positive findings for both (dehiscent superior canal and cVEMP thresholds >35%) underwent surgery. Audiometric data were obtained and patients were sent questionnaires retrospectively regarding their symptoms.

Results: Twenty patients, with 22 affected ears underwent surgical occlusion. The commonest reported symptoms pre-operatively were hearing internal sounds, tinnitus, and fullness sensation (95%, 95%, and 82% respectively.) The symptoms most likely to show partial or complete improvement post operatively were hearing internal sounds, vertigo to loud sounds and imbalance (91%, 88% and 87% respectively.) Symptom deterioration occurred in two ears with respect to fullness. 9 patients developed new symptoms post operatively (of 'mild nature'), the most common being imbalance (3) and fullness (2). Overall, 15 ears (68%) showed partial or complete symptom improvement, 6 showed no change and 1 was worse. The mean Dizziness Handicap Inventory Scores improved from 43 pre-op to 24 post op ($p = 0.001$). The mean air conduction (Fletcher's index) improved from 13.2 dB to 11.1 dB.

Conclusion: The transmastoid approach to the superior canal appears to be well tolerated and is associated with low risk to hearing. Symptom improvement is seen in two thirds, but temporary imbalance post op is common.

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The Hong Kong Vascularized Temporalis Fascia Flap and its role in Cholesteatoma Surgery revisited

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Learning Objectives: When reconstructing large mastoid cavities, the surgeon's repertoire should include a technique that uses a vascularized lining to optimize patient outcomes.

Introduction: Complications following open cholesteatoma surgery arise when mastoid cavities fail to epithelialize. The Hong Kong flap is a fertile substrate of vascularized temporalis fascia lining that facilitates rapid epithelial lining. We have studied the long term outcome of this technique and reviewed its role in cholesteatoma surgery.

Methods: We analyzed data obtained from records of patients who have had cholesteatoma surgery in the Prince of Wales group of hospitals through the period from 1987 to 2015. The outcome measures included relevant clinical parameters such as time to achieve a dry ear, requirement for a second look procedure and the primary surgeon's level of experience.

Results: The Hong Kong flap reconstruction was not utilized in all of cholesteatoma operations over this period. In patients reconstructed with the Hong Kong flap, the median time to dry ear was 2 months. 20% needed a second look or more and 8% were found to have recurrent or residual cholesteatoma. Surgeons with varying levels of surgical experience successfully performed the procedure.

Conclusions: The Hong Kong vascularized temporalis fascia flap is a technique within the capability of average otologists. The post-operative course is categorized by rapid healing and long term healthy, trouble free cavities. The requirement for second look procedures is significantly reduced.

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Otology Questionnaire Amsterdam (OQUA); preliminary results on the development of a general otologic questionnaire