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**Free Papers (F763)****ID: 763.4****Surgical treatment of cholesteatoma: Criteria for the selection of the surgical technique**Presenting Author: **Alejandro Harguindey Antolí-Candela**Alejandro Harguindey Antolí-Candela<sup>1</sup>,  
Francisco J. Olarieta Soto<sup>2</sup>, Francisco Antolí-Candela Cano<sup>2</sup><sup>1</sup>*Instituto Otorrinolaringológico De Madrid (IOM)*, <sup>2</sup>*Instituto Otorrinolaringológico de Madrid (IOM)**Learning Objectives:**Introduction:* The surgical technique in cholesteatoma is decided on the bases of the following criteria:

- 1.- Anatomical characteristics of the mastoid.
- 2.- Clinical type of cholesteatoma:
  - Congenital.
  - Primary acquired.
  - Secondary acquired.
- 3.- Surgical type of cholesteatoma:
  - Encapsulated and non-encapsulated.
- 4.- The estate of the mucose membrane.
  - Absent, cholesterol granuloma, polyps in the middle ear, etc....
- 5.- Extension of the cholesteatoma.

*Material and method:* The above described criteria is revised in 380 consecutively operated. The different techniques and their results are described.

At present the most frequent technique is Intact Canal Wall tympanoplasty (210 ICW, 60%) followed by different types of Canal Wall Down (140 CWD 40%) tympanoplasties. In 350 (92%) a tympanoplasty was performed.

The incidence of Radical Mastoidectomies (RM), middle ear exclusion (MEE) and Subtotal petrosectomies (STP) are very infrequent (8%) and are performed mostly in revision surgery in cases with a failure of CWD tympanoplasty.

*Results:* The failures are subdivided in recurrent and residual cholesteatoma:

- We have five percent of recurrent cholesteatoma in the adult and eight percent in children.
- In 20% of the cases there is a residual cholesteatoma. Only 2% of them in CWD tympanoplasty, RM, MEE or STP.

The hearing results can be summarized saying that in 60% of the patients there is useful hearing without the need for a hearing aid. These results are closely related to the technique used for surgery.

*Conclusions:* Adequate selection of the surgical technique for each individual case is the first goal to obtain best

results both to minimize recurrences and to obtain the best possible hearing results.

There is not a surgical technique that is best for all cases.

Diffusion MRI is very useful to follow cases of MEE and STP and has made us to indicate these techniques more often.

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**Free Papers (F763)****ID: 763.5****Functional results and quality of life in patients undergoing surgery for cholesteatoma: Canal Wall Down versus Canal Wall Up technique**Presenting Author: **Bruno Sergi**

Bruno Sergi, Daniela Lucidi

*Catholic University School of Medicine and Surgery, Rome, Italy**Learning Objectives:* Canal Wall Down Mastoidectomy has traditionally been associated with a poorer Quality of Life, based on the limitations and restrictions resulting from the wide neo-mastoid cavity. However, according to our results, a substantial difference in the subjective perception of the post-operative outcomes between CWD and CWU should not be taken for granted.*Introduction:* The benefits and disadvantages of Canal Wall Up (CWU) versus Canal Wall Down (CWD) mastoidectomy in cholesteatoma surgery have been debated for decades: comparison is mostly based on auditory results and recurrence rate. However, the most common complaint among cholesteatoma patients is daily social impediment (ear discharge, water restriction, pain, doctor visits). The aim of our study was to assess the quality of life (QOL) and hearing function in CWD vs. CWU technique.*Methods:* We enrolled 81 patients subjected to mastoidectomy for cholesteatoma, at Department of Head and Neck Surgery, Catholic University, Rome (Jan 2010-Dec 2013). In 50 patients a CWD technique, without "obliteration" of the mastoid cavity, was performed (Group A) whereas 31 patients underwent a CWU technique. Pure tone audiometry (PTA) was performed 24 hours pre- and 12 months post-operatively. Chronic Ear Survey (CES) was administered 3 months after surgery. Twelve months after surgery patients were subjected to re-administration of CES together with a second questionnaire: Chronic Otitis Media Outcome Test-15 (COMOT-15).*Results:* The difference between mean postoperative PTA in Group A and Group B was statistically significant (respectively 72 dB vs. 45 dB;  $p < 0.05$ ). The mean CES scores were not significantly different between groups ( $p < 0.05$ ), except for the subscale "Symptoms". Also, mean COMOT-15 results didn't not significantly

differ between groups ( $p < 0.05$ ), except for the subscale "Hearing function". Partial association was found between questionnaire scores and objective parameters, such as age, PTA and sex.

*Conclusions:* A unanimous consensus on indications and limits of CWD versus CWU technique has not yet been established. We demonstrated in our study the absence of a significant difference in terms of QOL in CWU vs. CWD.

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### Free Papers (F763)

#### ID: 763.6

#### The new technique of Reconstruction of Posterior Canal Wall by using Skin-Musculo-periosteal Flap on Canal Wall Down Tympanomastoidectomy

Presenting Author: **Soekirman Soekin**

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*Learning Objectives:*

*Introduction:* most of large cholesteatomas have been done by Canal Wall Down (CWD) Tympano mastoidectomy. The problem is wet ear, a large ear canal or mastoid cavity, hearing gain, recurrency or recidief problems.

*Objective:* to introduce a new technique of Posterior Canal Wall(PCW) have been reconstructed by using skin musculo periosteal flap on CWD Tympano-mastoidectomy. Normal ear canal size, dry , less recurrency or recidief and hearing gain be achieved.

*Method:* during 2010–2014(5 years) among 752 ear surgery has been done reconconstruction PCW on 67 ears during CWD Tympano-mastoidectomy as simultaneously surgery . The age of patient among 5- 73 years old, most among 20–40 years old . Soft connective tissue that is skin musculo periosteum have been use as material of PCW.

The middle ear such as ossiiculoplasty be done by cartilage autograft or polymers teflon prostheses. This technique be classified as closed technique on management of cholesteatomas Chronic Otitis Media.

*Result:* most cases dry ear 3–4 weeks after surgery, ear canal on normal size , depends of the foot plate stapes movement and the audiogram pre- operative, hearing gain was 0–30 dB.

*Complication:* infection be founded 2 cases and can be cure by oral antibiotic untill 4 month after surgery. Recurrent 2 cases be revisioned by endoscopic middle ear surgery.

*Conclusion:* Reconstruction PCW by using skin musculo periosteum is better as an new technique surgery for to get normal ear on CWD tympano mastoidectomy.

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### Bone conduction hearing devices in CSOM (R764)

#### ID: 764.1

#### The place of Bonebridge in the management of hearing loss in CSOM

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*Learning Objectives:* The Bonebridge is viable and popular alternative to conventional hearing aids and other implantable devices in suitable patients.

*Introduction:* The Bonebridge is a semi-implantable transcutaneous bone conducting device that was introduced in 2012. The device consists of an internal Bone Conducting Implant device, consisting of a magnet, receiver coil, demodulator and Bone Conducting – Floating Mass Transducer (BC-FMT), and the external Samba sound processor. It is suitable for conductive and mixed hearing losses or for single-sided deafness (SSD). The manufacturers recommend BC thresholds no greater than 45 dB in conductive or mixed hearing loss.

*Methods:* Since the first surgery was carried out in Tayside in 2012 we have now carried out 16 implantations on 15 patients for a range of indications including ear canal atresia and stenosis, SSD and following CSOM surgery. The procedure requires pre-operative planning on CT due to the size of the BC-FMT, as the dura, ear canal and sigmoid sinus must be avoided or managed. Due to the amount of drilling required and the length of the procedure all cases in Tayside have been carried out under general anaesthesia.

We are able to offer suitable patients the choice between Bone Anchored Hearing Aids (BAHAs) from both manufacturers, BAHA Attract and Bonebridge. The majority choose Bonebridge. Due to the limited gain we recommend BAHA Attract rarely.

*Results and Conclusions:* The patients who have chosen Bonebridge generally do so because of cosmetic reasons and because of the avoidance of feedback. Hearing outcomes for BAHA and Bonebridge appear similar. Local patient satisfaction surveys have demonstrated a high level of satisfaction with Bonebridge.

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### Bone conduction hearing devices in CSOM (R764)

#### ID: 764.2

#### Technique and long-term results of the semi-implantable transcutaneous bone conduction hearing device Sophono

Presenting Author: **Ralf Siegert**