primarily due to operating one-handed, but also adjusting to the different view achieved with the endoscope.

Methods: This study shows a preliminary retrospective overview of a consecutive series of all endoscopic ear surgery cases performed by one ENT-surgeon since starting his EES practice two years ago.

Results: Hundred and five consecutive patients were included in the study group, including 46 cholesteatoma cases, 52 type 1 tympanoplasties and 7 PORP ossiculoplasties. No major adverse events or incidences were noted. In 3 cases the endoscopic approach had to be converted to a microscopic post auricular approach for complete removal of cholesteatoma. Overall, 9 out of the 105 surgeries (8.6%) resulted in a postoperative residual perforation. In one case recurrence of cholesteatoma was noted 21 months post operatively. Overall average follow-up time was 6.4 months (range 1–20 months).

Conclusions: Results demonstrate that a surgeon can pick up the necessary skills relatively quickly and achieve acceptable success rates while delivering the reduced morbidity associated with EES.

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Retraction Pocket (N863)

ID: 863.1

The role of endoscopy in retraction pockets

Presenting Author: **Presutti Livio**

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Background: It is well known that Eustachian Tube (ET) plays a crucial role in maintaining middle ear aeration and atmospheric pressure. Usually inflammatory middle ear chronic disease is related to ET dysfunction due to poor tympanic ventilation. Although middle ear aeration is certainly related to ET function, other anatomic factors play an important role in ventilation of these spaces. Actually epitympanum aeration is strictly dependent to the ventilation pathways; if the tensor fold and the lateral incudo-malleal fold are complete the only ventilation pathway to the epitympanum is through the tympanic isthmus. In such cases when an isthmus blockage occurs the ventilation of epitympanum may be impaired and the only gas exchange would comes from the mucosa of mastoid cells. This scenario describe a selective epitympanic disventilative syndrome, possibly not related to ET impairment.

With introduction of the endoscope in middle ear surgery, anatomy of middle ear spaces has become wider and clearer due to a better magnification and to the possibility to look "behind the corner" and to better understand the ventilation pathways, particularly in patients with retraction pockets.

Materials and methods: From December 2008 to December 2015, 470 tympanoplasty were performed with exclusive endoscopic approach; All patients candidate to ear surgery underwent to high resolution CT-scan, audiometric and impedenzometric evaluations. Inclusion criteria in our study were patients affected by not-self cleansing attic retraction pocket. Subjects affected by a disease of the epitympanic compartments (not self cleansing retraction pockets of the attic; epitympanic cholesteatoma) and with type A tympanogram were included in present study.

Exclusion criteria: subjects affected by a disease involving the protympanic, the mesotympanic and the retrotympanic region, or patients who previously underwent middle ear surgery.

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Retraction Pocket (N863)

ID: 863.2

Paediatric retraction pocket: prevention and treatment

Presenting Author: **Nicola Quaranta**

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Learning Objectives: To discuss the classification, preventio and treatment of pediatric retraction pockets.

Tympanic membrane retraction pocket (RP) is defined as an inward displacement of the TM from its normal position. It is characterized by partial collapse of the meso or epitympanic spaces, which correspond clinically to a retraction of a portion of the TM in its pars tensa (PT) or pars flaccida (PF). Even if several classification have been proposed, there is not a consensus in the treatment of this condition. The available classification systems will be reviewed as well as the medical and surgical treatment proposed.

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Retraction Pocket (N863)

ID: 863.3

Retraction Pockets: Overview and Randomized Study

Presenting Author: **Maurizio Barbara**

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Background: The attitude of treatment of retraction pockets (RP) depends on several factors that include age of the patient, stage of the disease and patient's compliance. Silent forms usually do not need any surgery, although the presence of predisposing factors (craniofacial malformations, for example) and/or the young age could indicate a preventive surgical procedure. For the advanced stages, where periodical cumulation of debris occurs, surgery would seem to be mandatory.

Material and Methods: A randomized, longitudinal study took into consideration the Stage II RP that were either treated by a surgical procedure or simply observed for a period of two years. Surgery consisted in an endaural approach epitympanectomy with scutum reconstruction (tragal cartilage).

Results: All the operated cases showed a permanent healing condition with stable hearing function. Nearly half of the "observation group" showed instead deepening of the pocket that in one case even ended up with perforation. In none of the study patients a real cholesteatoma was observed.

Conclusions: A preventive surgery is to be preferred in all Stage II RP. In fact, even if in some of the patients it could remain stable over the time taken into consideration (2 years), the possibility of occurrence of a more severe stage, ending up potentially to cholesteatoma, would represent a reasonable choice in order to avoid in the future more complex surgical procedures and all related possible complications.

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Labyrinthine problem in chronic ear diseases (R864)

ID: 864.1

Cholesteatoma with canal fistula and the third mobile window

Presenting Author: **Tadashi Kitahara**

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Learning Objectives: The better bone conduction threshold at low-tone frequencies immediately after tympanoplasty with mastoidectomy and no preoperative fistula symptoms might imply the third mobile window theory. The worse bone conduction threshold in high-tone frequencies with spontaneous nystagmus after surgery might indicate inner ear damage.

Objective: To understand the third mobile window effect of chronic otitis media with cholesteatoma with inner ear fistula on the bone conduction threshold, we examined changes in the bone conduction audiogram after tympanoplasty with mastoidectomy for chronic otitis media with cholesteatoma with canal fistula.

Study Design: Retrospective case review.

Patients: According to the intraoperative classification of Dornhoffer and Milewski, we focused especially on type IIa (anatomical bony fistula with no perilymph leak). We checked the bone conduction threshold at least three times: just before, just after, and 6 months after surgery in 20 ears with type IIa lateral semicircular canal fistula.

Results: Compared with the preoperative bone conduction threshold, six cases were better, 12 cases were unchanged, and two cases were worse within the first postoperative week. Finally, one case was better, 15 cases were unchanged, and four cases were worse at the sixth postoperative month. Patients with a better bone conduction threshold in the low-tone frequencies immediately after surgery had a tendency to show no preoperative fistula symptoms. Postoperative spontaneous nystagmus had a tendency to be observed in patients with a worse bone conduction threshold in the high-tone frequencies.

Conclusion: The better bone conduction threshold at low-tone frequencies immediately after tympanoplasty with mastoidectomy and no preoperative fistula symptoms might imply the third mobile window theory. The worse bone conduction threshold in high-tone frequencies with spontaneous nystagmus after surgery might indicate inner ear damage.

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Labyrinthine problem in chronic ear diseases (R864)

ID: 864.2

The surgical management of labyrinthine fistula in chronic ears

Presenting Author: **Neil Donnelly**

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Cambridge University Hospitals

Learning Objectives: This presentation will explore the identification, surgical management and outcome of labyrinthine fistula in the presence of chronic ear disease. The format will use real patient scenarios and intra-operative video to illustrate the learning points.

This presentation will explore the identification, surgical management and outcome of labyrinthine fistula in the presence of chronic ear disease. The format will use real patient scenarios and intra-operative video to illustrate the learning points.

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Labyrinthine problem in chronic ear diseases (R864)

ID: 864.3

Staging method for cholesteatoma-induced semicircular canal fistula using CTP (Cochlin tomo-protein), as a diagnostic marker

Presenting Author: **Tetsuo Ikezono**
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