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ID: IP008**The symptoms and prognosis of traumatic pneumolabyrinth by air location**Presenting Author: **MOO JIN Baek**Moo Jin Baek¹, Dong Hyun Lee², Eui Kyeong Bang³¹Haeundae Paik Hospital, Inje University, Busan, Korea, ²Haeundae paik Hospital, Busan, Korea, ³Busan vetrans Hospital, Busan, Korea*Learning Objectives:*

Objective: The Pneumolabyrinth is a rare condition in which air is present in the inner ear due to abnormal pathways between the middle ear and inner ear. This condition can be caused by congenital reasons, middle ear surgery, head trauma. The cases of traumatic pneumolabyrinth is increasing due to the high resolution CT. But Symptoms and prognosis of traumatic pneumolabyrinth is not clarified yet and needs further investigation.

Methods: We reviewed 149 cases of head trauma Patients who underwent temporal bone CT between Jan 1st 2012 to Jan 1st 2014. Review of records was done according to the factors: temporal bone fracture, otic capsule involvement, location of air bubble, symptom improvement.

Results: Ten patients showed pneumolabyrinth with symptoms of dizziness and hearing loss. Dizziness which is related to air bubble in the vestibule showed symptom improvement in all 10 cases. While hearing loss followed by air bubble in the cochlea(5 cases) did not show symptom improvement. No correlation was found between Symptom improvement and otic capsule involvement.

Conclusion: In cases of traumatic pneumolabyrinth there are a few factors that can be considered to predict the prognosis. Location of the air bubble appears to be the key factor to predicting the prognosis.

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ID: IP009**Sem Study on Cholesteatoma-affected Ossicles**Presenting Author: **Maurizio Barbara**Maurizio Barbara¹, Selenia Miglietta², Michela Relucenti³, Ezio Battaglione⁴, Giuseppe Familiari⁵, Edoardo Covelli⁶¹Sapienza University Rome, ²Department of Anatomy, Histology, Forensic Medicine and Orthopaedics, Sapienza University, Rome, Italy, ³Department of Anatomy, Histology, Forensic Medicine and Orthopaedic, Sapienza University, Rome, Italy, ⁴Department of Anatomy, Histology, Forensic Medicine and Orthopaedic, Sapienza University, Rome, Italy,⁵Department of Anatomy, Histology, Forensic Medicine and Orthopedics, Sapienza University, Rome, Italy, ⁶ENT Unit, NESMOS, Sapienza University, Rome, Italy

Learning Objectives: To shed some light on the erosive processes that affect the incus in respect to the cholesteatoma localization.

Background: The degree of invasiveness of a cholesteatoma is usually based on some clinical features, such as its extension, relapsing tendency and erosive capacity. For this latter, the ossicular chain, and mostly incus, is usually involved, leading the surgeon to its accurate cleansing or removal.

Material and Methods: For this study, incus specimens were collected during tympanomastoid surgery from adult patients with cholesteatomatous otitis media. The samples were processed for scanning electron microscopy and the investigation aimed to consider at first the whole bone, then to give a detailed mapping of the eroded parts of the incus adjacent to the cholesteatoma tissue. The different degrees of erosion (in terms of presence/absence of erosion, lacunae and their diameter and depth) and the presence/absence of biofilm were considered. Erosion degree was recorded with 0 if absent, and with 1–2–3 if mild, moderate or severe, respectively. Five consecutive fields at 100X magnification, aligned in 3 rows, the first one proximal and the last one distal to the surgical erosive point were analyzed. A total of 60 fields for each row were observed.

Results: Erosion lacunae were clustered on the surface of the eroded areas, their diameter being $75 \pm 15\mu\text{m}$. Although a proximal to distal gradient exists, looking to the distribution of the eroded areas, grade 3 erosion was not only limited to the area proximal to the ossicle erosive edge (first row) but also in row 2 and sometimes scattered up to row 3. Grade 3 erosion was observed around nutrient foramina of the bone (65%).

Discussion: Our observations confirm the hypothesis that the erosion degree is higher near the resection edge, but also prove that erosion areas of degree 3 can also be observed in regions far from the erosive point.

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ID: IP010**Protocols for Application of Non-EPI DW MRI in Cholesteatoma**Presenting Author: **Maurizio Barbara**Maurizio Barbara¹, Alessandro Bozzao², Edoardo Covelli³, Andrea Romano⁴, Luigi Volpini³, Veronica Confaloni⁴¹Sapienza University Rome, ²Neuroradiology, Sapienza University, Rome, Italy, ³ENT Unit, NESMOS Department, Sapienza University, Rome, Italy, ⁴Neuroradiology, Sant'Andrea Hospital, Rome, Italy