**Important clinical research in otology (N615)**

**ID: 615.3**

**Human Cochlear Morphology and how it relates to Cochlear Implantation**

Presenting Author: Karin Strömbäck

Karin Strömbäck, Elsa Erixon, Helge Rask-Andersen
University Hospital Uppsala

**Learning Objectives:** The ability to preoperatively estimate the insertion depth in a particular patient may influence the results in hearing preservation CI surgery.

**Introduction:** Modern cochlear implant (CI) surgery also purposes to preserve and maintain residual hearing and intra-cochlear structures. The rich variations in design and dimensions of the human cochlea may influence surgical trajectories and functional outcome. Here, we present anatomical data and experiences from hearing preservation CI-surgery.

**Material and Methods:** The sampled cochleae originated from unidentified autopsy materials and collection of inner ear mould created in Uppsala during the 70th. No information regarding gender, age or hearing was present. Data were collected from 73 plastic inner ear moulds. Reference points were constructed from photographic reproductions taken at different angles. Hearing preservation technique was performed in 21 patients and the dimensions of the cochlea were studied pre- and postoperatively.

**Results:** The length of the first turn represented approximately 53% of the total cochlear length. The width of various turns differed greatly between individuals and the height varied by as much as 1.4 mm, representing one third of the total height. The electrode configurations in each of the 21 cases were shown in insets and its relation to the round window. Hearing was conserved in all patients after one year.

**Conclusions:** Some patients are difficult to fit into a preformed definition which might lead to an unfortunate exclusion of “odd cases” that should be part of the diversified group of patients suffering from complications of AOM.

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**Mastoiditis in Sweden, a large pilot for future studies**

Presenting Author: Frida Enoksson

Frida Enoksson¹, Ann Hermansson²
¹Helsingborg hospital, ²Lund university

**Learning Objectives:** Descriptive studies are needed to define good comparative studies on the most important issues in a clinical disorder. The findings in this large pilot study can direct future prospective studies on how to treat acute mastoiditis in an era with efficient antibiotics and in a possible post-antibiotic era.

**Introduction:** Since the year 2007, the largest study on acute mastoiditis, so far, has been performed in Sweden. The main reason for performing it was to evaluate how reduced antibiotic treatment of acute otitis media affected its most common complication.

**Methods:** Most of the published results in the study “Mastoiditis in Sweden” were based on interpretation of medical records. This poses special challenges regarding definition and interpretation of the results and if antibiotic resistance has affected the results.

**Results:** More than 1300 cases have been included but still the findings are mainly descriptive. The typical patient with acute mastoiditis has been well defined, an otherwise healthy toddler without previous ear problems.

**Conclusions:** Some patients are difficult to fit into a preformed definition which might lead to an unfortunate exclusion of “odd cases” that should be part of the diversified group of patients suffering from complications of AOM.