

*Conclusion:* CI surgery for patients 79 years or older was well tolerated. Patients benefited greatly from the device with improved hearing. CI should not be denied older individuals who are otherwise in good health. Non-use in the elderly was associated with post-operative vertigo and tinnitus, severe disease and limited social support.

doi:10.1017/S0022215116001432

### Important clinical research in otology (N615)

**ID: 615.3**

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

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*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 70<sup>th</sup>. 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:* The human cochlea displays wide and individual anatomic variation. These variations can influence the trajectory chosen by the surgeon and also the possibilities to preserve microstructures and residual hearing. Some variations may even explain difficulties experienced by surgeons to reach full insertion, even in normal cochleae.

doi:10.1017/S0022215116001444

### Important clinical research in otology (N615)

**ID: 615.4**

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

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*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 pre-formed 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.

doi:10.1017/S0022215116001456

### Epidemiology aspects of CSOM (R616)

**ID: 616.1**

#### Health check up system for hearing and congenital cholesteatoma

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*Learning Objectives:*

*Introduction:* At 6<sup>th</sup> Cholesteatoma and ear surgery meeting held at Canne, France in 2000, we had the discussion about the figure of congenital cholesteatoma in Japanese patients and in the patients of other countries. In the nineties most of the children with congenital cholesteatoma belonged to the severe cases. At the initial operation, cholesteatoma extended not only in the tympanic cavity, but to the mastoid in most of the Japanese children.

Recently the figure of the congenital cholesteatoma has changed. Introducing the endoscope and microscope into the ordinary tools of ENT office contributed to make diagnosis of congenital cholesteatoma in early stage. The hearing