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Paediatric Cholesteatoma (R811)

ID: 811.1

From Retraction Pocket to Cholesteatoma: A Continuum in Pediatric Ears

Presenting Author: **Cuneyt Alper**

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Learning Objectives: Cholesteatoma is not a static condition, and does not develop instantly, changing from the definition of no cholesteatoma to a cholesteatoma all of a sudden. There is gradual transition, from state of cholesteatoma prone conditions to pre-cholesteatoma to cholesteatoma, during which an ear may not fit to the clear definitions. Awareness of this transition may be helpful in identifying the ears that has the risk for cholesteatoma development, and perhaps interventions may moderate or prevent this process.

There is a continuum of conditions from Eustachian tube (ET) dysfunction (ETD) to tympanic membrane (TM) retraction, TM retraction pocket, cholesteatoma prone retraction pocket, pre-cholesteatoma, cholesteatoma, recurrence of ET retraction pocket, recurrence of cholesteatoma. Although this progression of conditions is limited with primary acquired cholesteatoma, it represents majority of the pathogenesis of cholesteatoma cases in both children and adults. While this may be seen as theoretic/logical progression, this transition is observed more clearly in children with recurrent and chronic otitis media with likely underlying ETD followed up by pediatric otolaryngologists through their growth and development.

Current presentation is on the experience with the cholesteatoma prone ears, discussing the definitions, risk factors, management of risk factors, methods of prevention, and the decision making process in assessment and management of ears with retraction pocket, pre-cholesteatoma and early cholesteatoma states that are in transition to cholesteatoma formation.

There is a need for consensus on definitions and classification of these transitional conditions and diagnostic criteria for the underlying ETD, a grading system sensitive in capturing the changes in the state of ears as well as ETD, so that prospective close follow-up generates comparable data for future analysis, making analysis of results from multiple centers and hypothesis driven trials possible.

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Paediatric Cholesteatoma (R811)

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The Utility of Diffusion Weighted Magnetic Resonance Imaging in Identifying Cholesteatoma in Children

Presenting Author: **Kenneth Lee**

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Learning Objectives: 1) Understand the rationale of DW MRI for identifying presence of cholesteatoma 2) Understand the limits of DW MRI for identifying presence of cholesteatoma 3) Understand the accuracy and utility of DW MRI in determining the presence of cholesteatoma in children.

Cholesteatoma has a significant rate of recidivism. Children in particular are at higher risk of residual disease due to the aggressive nature of congenital cholesteatomas as well as recurrent disease due to ongoing Eustachian tube dysfunction. As a result, historically, "second look" procedures were routinely performed and considered standard of care. Recently, obligate planned revision tympanomastoidectomy procedures have become challenged due to concerns of repeated risks of anesthesia and surgery as well as added health care costs. While the diagnosis of cholesteatoma is primarily made clinically, imaging, particularly computed tomography, has been used as a tool to assist in confirming the diagnosis and determining the extent of the disease. In patients who have previously undergone primary cholesteatoma surgery, diffusion weighted magnetic resonance imaging (DW MRI) has become a useful imaging modality to assist in deciphering the presence of cholesteatoma vs. mere fluid or inflammation in the middle ear and mastoid. Since 2012, we have performed nearly 100 DW MRI studies in children to determine the presence of cholesteatoma. The results of these studies in comparison to subsequent surgical findings will be presented to review the accuracy of DW MRI in identifying cholesteatoma in our pediatric patient population.

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Paediatric Cholesteatoma (R811)

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Predictive factors for recurrent cholesteatoma

Presenting Author: **Adrian James**

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Learning Objectives: To enhance understanding of the factors which contribute to development of recurrent cholesteatoma in children as part of the Round Table session on Paediatric Cholesteatoma.

Predictive factors for recurrent cholesteatoma

Recurrent cholesteatoma (i.e. development of new disease after previous surgical clearance) may be a consequence of persistent pathogenetic factors and perhaps also of surgical technique. Cholesteatoma is commonly considered to behave more aggressively in children than adults. A clear understanding of factors that predispose to recurrent disease in children may help selection of optimal surgical