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Free Papers (F772)

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Correlation between hearing results, CT-scan images and intraoperative findings in cholesteatoma related labyrinthine fistula

Presenting Author: **Soledad Boleas-Aguirre**

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Learning Objectives: Learning objectives: In this study there was no association between fistula size on CT-scan and hearing level before cholesteatoma surgery. The type of fistulae found intraoperatively did not correspond to postoperative hearing.

Introduction: To compare audiological results before and after surgery in subjects suffering from horizontal semicircular canal (HSC) fistulae due to cholesteatoma. To assess whether there was any relationship between 1) fistulae size according to preoperative CT-scan and pre-operative bone-conduction hearing, and 2) type of fistulae found during surgery and post-operative bone-conduction hearing.

Methods: Retrospective evaluation including 21adults suffering from cholesteatoma with preoperative CT-scan images. Intervention: open mastoidectomy with identification of HSC fistulae. Outcomes: to compare bone conduction thresholds before and after surgery and, to assess for correlation between 1) fistulae size on preoperative CT scan and preoperative bone conduction hearing loss, and 2) type of fistulae identified during surgery and postoperative bone conduction hearing loss. The study protocol was approved by the Ethical Committee on Clinical Research of our institution.

Results: After surgery we detected a decline in bone conduction thresholds. We could not establish correlation between fistulae size on CT-scan and bone conduction hearing in the preoperative setting. Similarly, there was no correlation between fistulae type found during surgery and postoperative bone conduction hearing.

Conclusions: In this series of subjects presenting with HSC fistulae due to cholesteatoma, we verified an increase in hearing loss after surgery. Correlation between fistula size on CT-scan and hearing level pior to surgery was not established. There was no correlation between the type of fistulae found during surgery and postoperative bone conduction hearing.

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Lessons learned from false positive diffusion weighted MRI findings in the follow-up after cholesteatoma surgery

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Learning Objectives: It is advisable to combine non-EPI DW MRI findings with ADC mapping and interpretation using all clinical and radiologic information available. After use of fat obliteration techniques extra care in interpretation is required as fat necrosis can be a cause of false positivity. When in doubt one should not be hesitant to repeat scanning.

Introduction: Non-Echo-Planar Diffusion-weighted magnetic resonance imaging (non-EPI DW MRI)is increasingly proposed to replace the standard second look surgery in the follow-up after cholesteatoma surgery because of its high sensitivity and specificity. However, we have encountered several cases of positive MRI results in patients, in whom no recurrent or residual disease was found during subsequent surgery. We like to discuss our lessons learned.

Methods: Retrospective analysis of all false positive cases in our center during non-EPI DW MRI follow-up, after initial cholesteatoma surgery.

Results: Six patients underwent ear surgery, based on positive non-EPI DW MRI findings, during which no cholesteatoma was found. Case history and all available imaging of these cases were re-evaluated and compared to histologic results. The subsequent causes for false positive non-EPI DW MRI's were fat necrosis (after fat obliteration), fibrous connective tissue, foreign body reaction, calcified material and bone dust.

Conclusion: Non-EPI DW MRI is a reliable method for follow-up but can result in both false-negative as well as false-positive results.

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Accuracy of PROPELLER DW MRI in diagnostics of middle ear cholesteatoma

Presenting Author: **Suzan Al Kole**

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Learning Objectives: In my experience, when you get a group of professionals together and give them the opportunity to determine what they'd like to talk about, you'll end up with enough viable.