Complications of Pediatric Cochlear Implant Surgery

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Title: Complications of Pediatric Cochlear Implant Surgery

Abstract:

Background:
Cochlear implantation (CI) surgery is the standard of care treatment for pediatric patients diagnosed with severe to profound sensorineural hearing loss. While considered a relatively safe operation, any invasive procedure involving the cranium has risks. However, there are few recent studies in the United States that have analyzed complication rates among children who have received CI. Furthermore, existing studies fail to discuss specific risk factors that led to post-operative complications, nor offer solutions to reduce their incidence. This study aims to 1) determine the incidence of specific complications in pediatric CI patients and 2) identify evidence-based risk factors for each complication so pediatric otolaryngologists can better identify high-risk patients prior to surgery.

Methods:
This is a single institution retrospective cohort study analyzing the pre-, intra-, and post-operative data from 175 pediatric patients who underwent CI surgery from 2010 to 2021 at Children’s Hospital of Michigan. Preoperative data includes demographic information, comorbidities, and imaging findings. Postoperative data includes complications such as infection, hematoma, wound dehiscence, facial nerve palsy, dysgeusia, and device failure.

Results:
Patients included were aged 10 months old to 29 years old. An incidence rate of 23.4% (41 of 175) of patients were found to have ≥1 postoperative complication. Further statistical analysis has yet to be performed, thus no further results can be reported at this time.

Conclusion:
Patients undergoing cochlear implant surgery have a complication rate of 23.4%. No further conclusions can be reported at this time.
Keywords: cochlear implant; complications; infection; congenital hearing loss; otolaryngology; pediatrics

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