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Insertion of cochlear implant electrodes through round window membranes: Its accessibility in pediatric population

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Introduction: For infants and children with severe to profound hearing impairment, cochlear implantation is the widely accepted surgery of choice. There has been a recent shift of electrode array insertion from bony cochleostomy to round window membrane (RWM) insertion. Round window membrane is strategically placed which could be accessed after an optimal post tympanotomy. St. Thomas hospital (STH) classification is used to evaluate the accessibility of RWM insertion of electrode array and can be classified as Types I, IIa, IIb and III. In type I RWM is 100% visible and insertion is straight forward while in type III RWM is not visualized at all and a bony cochleostomy is under taken.

Material & Methods: A total of 190 pts were included with minimum age of 1.5 years and maximum of 4.1 with mean of 2.76, There were 48.2% males and 50.3% females in the group. Children with diagnosed syndromes or age more than 4.5 were not included in study.


Results: The cause of hearing loss in majority of cases was unknown (53.7%) followed by low birth weight (14.7%), maternal infections (12.6%), meningitis (6.3%), birth asphyxia and jaundice (5.3%) and non-inherited congenital (2.1%) All the type III pts underwent bony cochleostomies (2.1%) while simple round window insertions were 65.3% (32.2% in Type I, 54.8% in type II a and 12.9% in Type II b) and 32.6% underwent extended round window insertion. (33.8% in type II a and 66.1% in Type II b)

Conclusion: STH classification is an easy way to assess the accessibility of RWM insertion in patients planned for cochlear implantation provided that a proper posterior tympanotomy has been undertaken.

Speaker Biography

Montasir Junaid is an ENT Specialist with special interest in Otolaryngology and Head and Neck Surgery. He has worked as Assistant Professor in Pakistan and currently is a visiting faculty in Armed Forces Hospital southern region, Saudi Arabia. He has more than 25 publications and two books published as Author and Co-Author. He is also an Active Member of Pakistan Cochlear Implant Program, where cochlear implants are being done free of charge on financially challenged pediatric patients with complete hearing loss.

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