

00209 TORP Ossiculoplasty in the Presence of an Intact Stapes Superstructure- A Pilot Study and a Review of Literature

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Aims: Conventionally, a partial ossicular replacement prosthesis (PORP) was performed in the presence of an intact stapes superstructure, while a total ossicular replacement prosthesis (TORP) was the option in the absence of the stapes superstructure. In the latter procedure, the prosthesis is usually positioned under the malleus and connected to the stapes footplate. The mechanics of this arrangement rendered the prosthesis unstable and the results were unpredictable. Recently, we performed a series of ossiculoplasties in patients with chronic ear disease, whereby the TORP is in direct contact with the tympanic membrane and stapes footplate, thus bypassing the native ossicular chain. The objective of the study is to assess the hearing outcomes of patients in this group of patients and identify factors that would influence surgical outcome.

Methodology: This is a retrospective pilot study of 10 patients who underwent a TORP in a tertiary institution from January 2009 to December 2016. Data such as the patients' demographics, indication for surgery and preoperative and post-operative audiometric data (including pure tone average (PTA) and air bone gap (ABG)) were collected. The status of the middle ear (assessed using the middle ear risk index (MERI)) and presence of cholesteatoma were also recorded.

Result: The median pre-operative PTA was 56.9 dB and ABG 41.3 dB. 3 were performed for congenital defects and 2 for ossicular erosion from cholesteatoma. 8 of 10 (80%) patients achieved surgical success (closure of ABG 20 dB), with an average improvement of 26 dB in ABG though the average PTA improved by 22.5 dB. The average Middle Ear Risk Index (MERI) was 3.6.

Conclusion: TORP ossiculoplasty with direct connection of the tympanic membrane to the stapes footplate can achieve a satisfactory improvement in hearing and closure of air-bone gap and may be used in the presence of an intact stapes superstructure.