Three Years Experience with Cochlear™ Pediatric Implanted Recipient Observational Study (Cochlear P-IROS) at New Delhi, India

Abstract

Background: Currently, there is a significant lack of data concerning long-term outcomes from paediatric cochlear implantation in terms of quality of life. There is a need for a long-term, prospective study. This study aims at highlighting the results, three years post surgery of a five year prospective study. This study has been conducted in an Indian private hospital setting, where a significant proportion of children were from a lower socioeconomic demographic and received funding by a philanthropic foundation.

Methods: The Cochlear™ Paediatric Implanted Recipient Observational Study (P-IROS) is a prospective, patient outcomes registry for routinely implanted children. The study collects data using questionnaires post-surgery and at regular intervals up to five years. This is collected through a secure web interface.

The objectives of the study include:

- To evaluate the longitudinal improvements in auditory perception with implantable hearing devices in children using standardized questionnaires.
- To provide statistically significant data to support patient management decisions at the clinical, regulatory, payer and policy level.
- To compare the patient-related or humanistic benefits such as educational attainment, quality of life and patient satisfaction resulting from use of hearing implants in unilateral, bilateral and bimodal configurations.

Results: We present our findings on 257 patients who have been enrolled on the study at our Centre starting January 2014 till date. At the time of presentation of this study, 195 patients have completed 2 years and 85 patients have completed 3 years since surgery.

The analysis carried out includes:

- Improvements in auditory perception (measured by CAP-II).
- Improvements in quality of life (measured by CuHI-QoL).
- Changes in mode of communication
- Mainstream education placement
- Correlation between parents’ expectations (measured by CuHI-QoL) and auditory perception (measured by CAP-II).
- The alignment of parents’ satisfaction and clinician satisfaction (measured by Moeller score) at follow-up.
- Descriptive analyses of access to implant clinic (how far families are travelling to get to the clinic), types of referral and socio economic status (measured by family income, parents’ education and occupation) and their impact on outcomes.
- Regression analysis looking at predictors of outcome.

Conclusion: Cochlear implantation is a life-changing intervention. The evidence in support of what it can achieve is clear. However, the associated costs and need to maintain an external device raise the question if it will remain an effective option for life in all children, especially those from the lower socioeconomic demographics. The Cochlear P-IROS is an attempt to answer the same over a five-year period.

Our study in New Delhi, is presenting its conclusions on improvements in performance and quality of life three years after cochlear implant surgery of an ongoing five year study. At the 12, 24 & 36 months follow-up intervals, children have made progress in their auditory performance, quality of life, communication mode & education placement. 4/257 (1.5%) children have become non users.