Abstract:

CONCLUSION: Achieving deep insertions, as well as good speech perception results, the FLEXsoft electrode array allows for some preservation in subjects with measurable low frequency hearing, even after a period of time. This opens the door for future research in electrode design, hearing preservation research and drug delivery systems. OBJECTIVES: The FLEXsoft electrode is designed to be atraumatic to the structures of the cochlea during deep insertion of a cochlear implant electrode. This paper reports on the surgical and functional outcomes in implantations with the FLEXsoft electrode array. PATIENTS AND METHODS: Twenty-three adult subjects received a FLEXsoft electrode array and were assessed on speech perception tests (monosyllables, sentences in quiet and in noise), a subjective questionnaire (Nijmegen Cochlear Implant Questionnaire) and a pure-tone audiogram. Results at 1, 3, 6 and 12 months post first fitting were compared to scores from the preoperative interval. RESULTS: Surgery was uneventful in all cases, the surgical handling was satisfactory and correct position of the electrode was achieved in all cases. Hearing could be preserved (as determined by the audiogram) in half of the subjects who had measurable audiograms preoperatively at the 1 month test interval, and in a quarter of subjects after 12 months of device use, despite
deep insertion of the electrode. Speech perception scores showed significant improvement over time, as did quality of life scores, and were comparable to results with the standard electrode array as used in the COMBI 40+ and PULSARCi100.