HEARING PRESERVATION IN CHILDREN BY USING CI 422

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Hearing preservation in children with substantial low frequency hearing is possible with Straight Slim CI 422 array in long term observation.

Introduction:
In cochlear implantation, there are two crucial factors promoting hearing preservation: an atraumatic surgical approach and selection of an electrode that does not damage cochlear structures.

Aim:
This study aimed to evaluate hearing preservation in children implanted with the Nucleus Slim Straight (CI422) electrode.

Material and Method
Nineteen children aged 7–18 years, with partial deafness, were implanted using the 6-step Skarzyński procedure. Electrode insertion depth was 20–25 mm. Hearing status was assessed with pure tone audiometry before surgery, and at 1, 5, 9, 12 and 24 months after surgery. Electrode placement was confirmed with computed tomography. Minimal invasive surgical procedure with round window approach for partial deafness treatment was applied in every case. In all implanted patients steroids were administered peri-operatively and up to 14th day after implantation.

Results:
By understanding preservation of hearing as the elevation of hearing threshold in tonal audiometry no greater than 10 dB over 12 months of follow up substantial preoperative hearing was preserved in low and middle frequencies postoperatively within given conditions in 87% of cases.

Conclusion:
Hearing preservation in children implanted with the Nucleus CI422 slim, straight electrode is possible even with 25 mm insertion depth, although the recommended insertion depth is 20 mm. A round window approach using a soft, straight electrode is most conducive to hearing preservation.

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