Unilateral Cochlear Implantation in Older Children: Two Case Studies

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Case Studies

- Retrospective review of two pediatric cases in which implantation was a parent-driven decision
- No formal protocol for single sided pediatric implantation currently

Both Children

- Over the age of five when implanted
- Have normal hearing in one ear
- TRIaled acoustic amplification in the ear to be implanted
Pre-O p History

Patient A
- Diagnosed at 3.5 years with a severe-profound SNHL with normal hearing in contralateral ear
- Consistent HA user
- Sensory & speech-language concerns
- No speech recognition ability in the poorer ear
- Aided detriment in noise identified
- Cholesteatoma in “good ear”

Patient B
- Diagnosed at 5 years with moderately-severe SNHL with normal hearing in contralateral ear
- Consistent HA user
- Port-wine stain on right side of head (no other medical concerns)
- Poor speech recognition scores in hearing impaired ear
Post-Op: 9 Months

Patient A
- Cochlear Americas CI512/Nucleus 7
- Consistent CI User
- Regular aural rehabilitation
- No Open set SRS 9 months post-op
- Subjective Scale (CHILD): improvement post-operatively noted on patient and parent scales

Patient B
- Med-El Synchrony Flex 28/ Sonnet
- Consistent CI User
- Regular aural rehabilitation
- Good open set SRS to recorded speech and significant improvement with speech in noise at 9 months post-op
- Improvement in subjective measures (CHILD AND SSQ) from 3 to 9 months post-op
Implications

- Age not a determining factor for CI outcomes
- HA use not a differentiating factor
- Speech recognition in background noise remains an essential factor for candidacy assessment
- Additional pre-op speech perception and subjective measurement testing can allow for more meaningful post-op management
- **Unilateral CI should potentially be considered for children with unilateral HL with limited HA/Cros benefit**
Questions?

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