NYU School of Medicine

BIMODAL TO SEQUENTIAL BILATERAL IMPLANTATION: WHEN AND WHY

Janet Green, AuD; Nicholas Deep, MD; Nathalie Chouery, AuD; William Shapiro, AuD; J Thomas Roland, Jr., MD; Susan Waltzman, PhD
OBJECTIVE

- The objective of this study - to examine factors that influence parental and recipient decisions to pursue sequential cochlear implant.
QUESTION: Why are you pursuing a second implant?

Reasons for Second CI

- Child driven decision: 16%
- Parental readiness: 23%
- Decrease in hearing aid benefit: 42%
- Decrease in hearing sensitivity: 65%
- Expectation of improved bilateral benefit: 100%
- Performance with CI1: 100%
RESULTS

- Decrease in Hearing Sensitivity: n=31

<table>
<thead>
<tr>
<th>Time Interval</th>
<th>PTA CI1 (dB)</th>
<th>PTA CI2 (dB)</th>
<th>LFPTA CI2 (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre CI1</td>
<td>94.0</td>
<td>84.4</td>
<td>73.0</td>
</tr>
<tr>
<td>Pre CI2</td>
<td>-----</td>
<td>90.3</td>
<td>75.0</td>
</tr>
</tbody>
</table>

- Performance with CI1:
RESULTS

Decrease in Hearing Aid Benefit

Binaural Benefit

Postlingual Word Recognition Score

<table>
<thead>
<tr>
<th></th>
<th>Pre CI1</th>
<th>Pre CI2</th>
<th>3 Month Bilateral</th>
<th>1 Year Bilateral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean WRS (%)</td>
<td>15</td>
<td>11</td>
<td>41</td>
<td>42</td>
</tr>
</tbody>
</table>

Binaural Word Recognition Score

- Aided Bilateral
- Bimodal
- Bilateral CI (3mo)
- Bilateral CI (1yr+)

Mean WRS (%)

- 0
- 10
- 20
- 30
- 40
- 50
- 60
- 70
- 80
- 90
- 100
CONCLUSIONS and FUTURE DIRECTIONS

- Performance with first CI, progression of hearing loss, and a change in aided word and sentence recognition are strong factors influencing the decision for a second implant.
- CI2 improved significantly.
- Binaural benefit masked by ceiling effects.
- The future – comparison with our remaining bimodal recipients.

- Poster #34
THANK YOU