Challenges of therapeutic assessment and intervention in the pediatric single-sided deafness population

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Defining Unilateral Hearing Loss

• Poorer Ear
  • PTA ≥ 20 dB HL
  • >25 dB HL at two or more frequencies >3000Hz

• “Good” Ear
  • Normal to slight hearing loss

Defining Single-Sided Deafness

- Unilateral severe-to-profound hearing loss
- Normal to slight hearing loss in “good” ear
Identifying Deficits

**UHL**
- Significant psychosocial difficulties in school
- ~1/3 have to repeat a grade

**SSD**
- Listening in noise
- Behavioral problems
- Auditory fatigue
- Pragmatics/Social communication

Lieu et al. (2013) *B-ENT*
Lieu et al. (2012). *Laryngoscope*
Lieu JE. (2004). *Arch Otolaryngol Head Neck Surg*
Cochlear Implantation in SSD

• First performed in adults with UHL and incapacitating tinnitus (2008)
• Pediatric acquired single-sided deafness (2013)
• Pediatric congenital single-sided deafness (2017, n= 20)

Plontke et al. (2013). Eur Each Otorhinolaryngol.
CI in Pediatric SSD

- Improvement in:
  - Speech understanding
  - Sound localization

Hassepass et al. (2013). *Otol Neurotol.*
Sharma et al. (2016). *Otol Neurotol.*
Cortical Plasticity

Sharma et al. (2016). *Otol Neurotol.*
Areas for Improvement

• Standardized evaluation & assessment
• Educational environment
• Family counseling
Evaluation of the Pediatric Patient with SSD

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**Assessment**

**Education**

**Counseling**

**Future Directions**
Evaluation of the **Pediatric** Patient with SSD

**Assessment**

**Education**

**Counseling**

**Future Directions**
Functional Listening Evaluation

• Duplicate tests given by the audiologist
  • Booth vs Functional Setting

• Listening Comprehension
  • Noise vs Quiet
Auditory Questionnaires

- LittlEars
- SSQ (Speech, Spatial and Qualities of Hearing Scale)
- FLE: Functional Listening Evaluation
- ELF (Early Listening Function)
- SIFTER
- PEACH
- CHILD
- IT-MAIS
- LIFE
- Self-Advocacy
Self-advocacy
SIFTR
LIFE

SLP
FLE
It-MAIS
LittEars
ELF
PEACH

SSQ
CASLLS

AUD
TOD
Standardized Assessments

- TAPS-3
- TAPS-4
- TAC
- TACL-4
Assessment Techniques

- Masking
- Plug and Muff
- Direct audio input
- Bluetooth
Evaluation of the **Pediatric** Patient with SSD

Assessment

Education

Counseling

Future Directions
Classroom Management

• Universal Design
• FM system
• Preferential seating
• Self advocacy
Assessment Protocols

• Auditory Questionnaires
  • SIFTER
• Monthly observation
• Specialist assessment
• Pragmatics/Social communication
Staff Training in General Education

- In-service
- Call the teacher
- Parent tools
- AM teacher checklist
Evaluation of the **Pediatric** Patient with SSD

- Assessment
- Education
- Counseling
- Future Directions
Psychosocial Support

- School Psychology
- CI Track / New ID’s
- Family Support
Addressing issues in the home

Family Dynamics
• Stigma
• Behavior
• Anxiety

Everyday Issues
Technology Management

• YouTube videos
• Binder of information
• Record tech intro session
Resource Sharing

• Parent Groups
• LOCHI: Hearing First
• OCHL
• Karen Anderson
Evaluation of the Pediatric Patient with SSD

Assessment
Education
Counseling
Future Directions
Next Steps in Pediatric SSD

• Protocol/Guidelines
• Peer-to-peer networking
• Counseling research
Next Steps in Pediatric SSD

• SSD Expert Panel with Otologists/Audiologists

• Multi-Center Studies for SSD
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