CASE STUDIES

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Case Study Format

• Call for pediatric case studies sent out to participants ahead of conference.
  • Submitted cases were reviewed and four selected to be presented
• Subject matter experts on each of the topics selected for panel.
• Panel members are:
  • Dawna Lewis, PhD, Boys Town National Research Hospital, USA
  • Gary Rance, PhD, University of Melbourne, Australia
  • De Wet Swanepoel, PhD, University of Pretoria, South Africa
Case Study Format

- Case studies will be presented by moderators
- Questions and comments will be directed to content experts on panel to facilitate larger group discussion about the various clinical topics raised
- Intended to be interactive so participation is encouraged
- When allotted time for each case is up; moderator will present a brief summary with additional points to consider during diagnosis and management
Case Study 1: Newborn with Mild Unilateral HL

- Born at 36 weeks without complications
- Newborn screening results:
  - At Birth:
    - Passed Left; Referred right
  - In Outpatient setting:
    - Passed Left; Referred right
- Diagnostic test results at four months:
  - ABR results in eHL
  - Tympanometry: Normal
  - Otoacoustic Emissions:
    - Present left: Absent right
Questions

• Does she need a hearing aid now?
• How much benefits would she get from it?
• Does it make a difference having it now or a bit later?
• If it is better later, around what age?
• What impact does it have on parents?
Case Study 1
Summary/Considerations

- Consider etiology and possibility of progression
- Discuss implications of unilateral HL with family
- Discuss potential benefits and limitations of HA/FM use in cases of unilateral HL with family
- Discuss families concerns and likelihood of follow up
- Consider impact of current or future middle ear problems on child’s overall function
Case Study 2: Mild Bilateral High Frequency HL

- 15 month old
- Normal hearing through 1000Hz with a mild, bilateral hearing loss (25-30 dBHL) at 2000Hz and 4000Hz
Question:

To aid, or not to aid?
Case Study 2
Summary/Considerations

- Consider etiology and possibility of progression
- Consider ear canal growth and effect on degree of HL
- Discuss impact of mild bilateral HL with family
- Discuss potential benefits and limitations of HA/FM use in cases of mild bilateral HL with family
- Discuss families concerns and likelihood of follow up
- Consider impact of current or future middle ear problems on child’s overall function
Background Case # 3
Child with Bilateral ANSD

• Born at full term weighing 3400gms (7.5 lbs)
• RH incompatibility; hyperbilirubinemia requiring exchange transfusion
• Newborn hearing screen results unavailable
• Presented to clinic at 1 year of age when mother noticed she was not responding to her name and diagnosed with ANSD
• Child received early intervention/speech language services and regular audiologic follow up
• Currently 3 years, 7 months of age
Background Case #3
Child with Bilateral ANSD

• Audiologic Findings:
  • ABR consistent with auditory neuropathy
  • Tympanometry: Normal
  • Acoustic Reflexes: Absent
  • Otoacoustic emissions (TEOAE): Present
  • Hearing sensitivity normal bilaterally (500-4000Hz).

• Speech and Language Test Findings:
  • Tests of receptive and expressive language and phonology were age appropriate
  • Some confusions noted during testing on words that sounded similar

• Recommendations:
  • Preventative speech and Language Therapy
  • Trial use of FM with Phonak iSense
ABR (Clicks at 80 & 90dBnHL) Rarefaction, Condensation and Sound Interrupted Runs
Case Study 3: Summary/Considerations

- Use caution when counseling parents of infants dx’d with ANSD about functional outcomes when only electrophysiologic test results available.
  - While normal hearing sensitivity likely small percentage of children with ANSD, important to consider possibility at time of diagnosis
- Medical work up essential for children with ANSD; careful medical follow up needed in ANSD even in cases with normal hearing sensitivity.
- Important to evaluate speech and language abilities in addition to hearing sensitivity in children with ANSD
- Audiologic test battery for children with ANSD should include age appropriate speech perception tests.
Thank You!