**ABSTRACT**

Binaural sensitivity was studied in 11 recipients of bilateral cochlear implant (BCI) devices. Effect of electrode pairing on binaural sensitivity was assessed by measuring interaural time differences (ITD) and interaural level differences (ILD). The effect of ITD and ILD on lateralization was assessed by using a three-choice identification task. The results showed that the effect of ITD and ILD on lateralization was better for matched electrode pairs than for mis-matched pairs.

**METHODS**

Stimuli: 80 µs, 500 Hz, 105 µV, 100 ms, 1500 Hz, 2000 Hz, 4000 Hz, 6000 Hz, 8000 Hz, 10 kHz. Pulse width 25-45 ms. PHA-PHA signals (typically 25 ms). Inter-aural level differences were measured using a 2AFC paradigm. Inter-aural time differences were measured using a 2AFC paradigm. The effect of ITD and ILD on lateralization was assessed by using a three-choice identification task.

**RESULTS: Matched Electrodes**

Fig. 5: Binaural sensitivity for matched electrode pairs: Subject IAD

**RESULTS: Effects of electrode mis-matching**

Fig. 10: Psychometric functions

**REFERENCES**


**CONCLUSIONS**

1. Is there an effect of the age of onset of deafness on binaural sensitivity?
2. Is there an effect of the type of stimulation on binaural sensitivity?
3. Is there an effect of interaural distance (by electrode number)?
4. How do we best measure binaural sensitivity (discrimination; lateralization)?

**Effect of Interaural Electrode Pairing on Binaural Sensitivity in Bilateral Cochlear Implant Users**

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