**Cochlear implant in single-sided deafness and tinnitus: more than 10 years follow-up**

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**AIM:** To evaluate the long-term (LT) auditory outcomes for up to 10 years of Cochlear Implantation (CI) in an acquired Single-Sided Deaf Group (SSD) and an Asymmetric Hearing Loss Group (AHL).

**SUBJECTS:** 30 CI patients with SSD or AHL of 55 years (22 - 71 yr) and 8 years (3 - 10 yr) of experience with their CI (Med-El full electrode 31 or 28mm, fine structure FS4 fiotting) at the LT testing.

**METHODS:** Structured interview evaluated CI use. Adaptive Speech perception in noise and sound localization were assessed in two listening conditions, i.e., CIoff and CIon, and summation effect (S0N0), squelch effect (S0NCI), and a combined head shadow effect (SCIN0) were obtained. Sound localization used a frontal 9-speaker semicircle with CCITT noise bursts of 300-ms duration. QOL test included the 12-item Speech, Spatial and other Qualities (SSQ12), and the Hearing Implant Sound Quality Index (HISQUI19). Tinnitus assessment is judged with VAS for loudness and the Tinnitus Questionnaire (TQ) for QOL.

**RESULTS:** All the patients (23/23) wore their CI seven days a week, eight (3-10) years after cochlear implantation. SSQ12 improved frompre-operative score (2.63) to LT score (5.29). In the SSD group a significant combined head shadow effect of 2.67 dB HL was found. In the AHL group. The summation effect (3.50 dB HL), the squelch effect (4.17 dB HL), and the combined head shadow effect (7.67 dB HL) turned out to be significant at LT testing (Ear Hear 2016). Significant benefit was found for sound localization in the SSD group (47°) as well as in the AHL group (45°) (Clin Otolaryngol 2016). The tinnitus loudness decreased from 8/10 (7-10) to 3/10 (0-7), and the TQ dropped from 55 (27-78) to 31 (5-59) (Hear Res 2016).

Many short-term studies are compared with the interim results.

**CONCLUSION:** This is the first study to report on LT results in a large number of SSD or asymmetrical deaf CI users, up to 15 years. Structured interviews show that 100% of the subjects wear their CI seven days a week. The presence of binaural effects could be demonstrated with speech in noise testing, sound localization, and subjective evaluation and a significant decrease in tinnitus was achieved.

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Disclosure:Grant of Medel to Institution (UZA)