Zachowanie resztek słuchowych po założeniu wszczepu ślimakowego w obserwacji krótkiej i długiej

Hearing preservation results after cochlear implantation in short-term and long-term observation

Olimpia Stanisławek-Sut, Krzysztof Morawski, Kazimierz Niemczyk

ABSTRACT

Objective: To estimate a residual hearing preservation in cochlear implant patients in short-, and long-term observation

Material and methods: A group of 40 subjects with preserved residual hearing were included to this study. In all of them cochlear implant was provided due to a neurosensonal hearing loss. In all subjects hearing was tested using traditional audiological test battery. Cochlear implant surgery was performed typically. After minimal retroauricular incision antromastoidectomy was performed, and then, tympanotomy posterior to get a good access to the tympanum and to identify the round window and the promontory. Cochlear implant electrode was inserted to the scala tympani by cochleostomy approach. In some patients „soft technique” of cochlear implant surgery was done. In these cases a surgeon specially focused on a very careful and precise surgical maneuvers specially during elaboration of the cochleostomy and insertion of the electrode into the scala tympani.

Results: In investigated group of 40 cochlear implant patients generally a 5–10 dB worsening of hearing threshold was observed in the first 3–12 months following surgery, and 10–15 dB in long-term observation. In a group of patients with residual hearing in whom the straight electrode inserted into the cochlea in the first 12 months hearing threshold increased 10 dB, and in longer than 12 months observation 10–20 dB. Analogous analysis in patients with perimodiolar electrode inserted revealed respectively 10.0–12.5 dB and 2.5–12.5 dB. In traditional technique of cochlear implant surgery hearing worsening in short-term period was 10 dB while in long-term period 15–20 dB. In soft technique of cochlear implant surgery hearing worsening was for short-term and long-term as follows: 5–10 dB and respectively 10–20 dB.

Conclusions: Observation of post-surgery hearing preservation showed that hearing threshold after cochlear implant insertion is unstable and getting worse in both short-, and long-term
observation. During long-term period the hearing worsening is slower than in the first 12 months of observation.

**Key words:** Cochlear implant, Severe sensoneural hearing loss, Residual hearing, Hearing preservation

**Słowa kluczowe:** implant ślimakowy, głęboki niedosłuch odbiorczy, resztki słuchowe, zachowanie słuchu