Abstract:

OBJECTIVE: To evaluate long-term ipsilateral hearing preservation in patients who underwent cochlear implantation for the combined electric acoustic stimulation of the auditory system. METHODS: This was a prospective observational study conducted at a tertiary referral center. Twenty-three subjects were implanted with the MED-EL C40+ standard or C40+ medium electrode using an atraumatic surgical protocol via an anterior-inferior cochleostomy approach. The desired insertion depth was 18-24 mm or 360 degrees. All patients showed significant low-frequency hearing prior to surgery and monosyllabic word scores did not exceed 40% in the best aided condition. Pure-tone audiometry was performed prior to implantation and at distinct intervals after surgery. RESULTS: Nine patients (39.1%) showed complete pure-tone audiometric hearing preservation (0-10 dB) over an average of 29 months. Seven subjects (30.4%) showed partial preservation of residual hearing (hearing loss 15-40 dB) until an average of 25 months. Delayed loss of residual hearing was observed in 5 cases (21.7%) and 2 patients (8.6%) completely lost residual hearing during or immediately after surgery. Freiburger Monosyllabic word understanding scores in a group of patients with complete hearing preservation increased from 13.1% preoperatively to 75% in the electric acoustic stimulation condition. CONCLUSION: This study documents
that complete and partial preservation of ipsilateral hearing after cochlear implantation can be achieved in about 70% of cases over an average period of 27.25 months when using 360 degrees electrode insertions. Copyright (c) 2006 S. Karger AG, Basel.