Abstract EFAS/DGA 2007

Early Changes of Electrical Stapedius Reflex Threshold over Time in Patients Supplied with CI

Koci, V., Stephan, K.

Medical University Innsbruck

Background/aims:
The measurement of postoperative electrical stapedius reflex thresholds (ESRT) provides a good predictor of comfort levels for the fitting of cochlear implants. In many cases, the ESRT values are directly used for setting comfort levels in the map of the speech processor. The aim of the present study was to evaluate the temporal development of ESRT in an early stage of implant use.

Methods:
In a retrospective study, postoperative ESRT data from 16 unselected subjects supplied with MED-EL Combi40+ or Pulsar implant devices were analyzed. ESRT was determined for single channel stimulation using a well established test procedure in our department. The first ESRT data were collected approximately 4 weeks after switch-on of the implant. The change of ESRT over time was determined in the subsequent fitting sessions up to about one year of implant use.

Results:
The change of ESRT values over time are largest in the first period of implant use. After about 6 months of implant use the levels tend to stabilize. In most cases, an increase of ESRT was observed while the overall channel profile remained almost unchanged. However, in some cases, also a decreasing trend and/ or a change in channel profiles was found.

Conclusions:
Repeated measures in the early stage of implant use are necessary for the reliable estimation of comfort levels of the CI. Application of such objective measures is particularly important for CI fitting in very young children in order to provide appropriate electrical stimulation within the first months of implant use. Changes of stapedius reflex threshold over time cannot be generalized for all patients or for specific electrodes.