

Cochlear Implant evolving indications: our outcomes in adult patients.

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Abstract

Objective: The eligibility criteria for cochlear implant (CI) are constantly changing. The aim of the current study was to show our department's cochlear implant indications and to evaluate the longitudinal performance outcomes for patients with different types and degrees of sensorineural hearing loss, treated with CI. **Methods:** Between 2007–2019, 73 cochlear implantations were performed. Current CI indications allow us to categorize patients based on the type and degree of hearing loss. These can be grouped as follows: 1) Bilateral symmetric sensorineural hearing loss (SHL); 2) Bilateral profound hearing loss for high frequencies while maintaining low frequencies (EAS); 3) Asymmetric hearing loss (AHL); 4) Single-sided deafness (SSD) with intensive tinnitus in the deaf ear. For each group we evaluated the pre and post-operative pure tone audiometry and speech perception test in silence and with background noise. The patients also completed the speech, spatial and qualities of Hearing questionnaire (SSQ). **Results:** The four subgroups achieved significant benefits after CI, both in terms of speech performance and SSQ. **Conclusions:** According to literature, our data confirm that CI is an effective treatment for patients with different types of hearing loss. **Key Points:** 1) The eligibility criteria for cochlear implantation have regularly changed following the continuous progress in technology. 2) Schematically we divided our patients in 4 subgroups: 1) SHL; 2) EAS; 3) AHL; 4) SSD with intensive tinnitus in the deaf ear. 3) The criteria for AHL and SSD are in line with definitions suggested by Vincent et al. 4) Asymmetric hearing loss (AHL) and single-sided deafness (SSD) were traditionally treated with a contralateral routing of a signal hearing aid (CROS-HA) or a bone conduction device (BCD), even though CI is the only device capable of restoring bilateral stimulation to the auditory system and decreasing severity and incidence of tinnitus. 5) By treating patients with AHL or SSD and associated tinnitus, we saw that CI could not only improve hearing, but also drastically reduce tinnitus in most of the patients.

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