Electro-acoustic stimulation with hybrid cochlear implant: Evolution of residual hearing up to five years after implantation

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Introduction: The hybrid cochlear implant, was designed for patients suffering from severe-to-profound hearing loss in higher frequencies with good residual hearing in lower frequencies as they do not benefit with the use of hearing aids, especially in situations of background noise, the combination of both technologies allows stimulation of the entire frequency range. Same doubts appear about the possible negative effect over the remnants cochlear structures and functions with a foreign body in the cochlea and because of effect of continuum ear electrical stimulations during years.

Objectives: In this study, the evaluation of residual hearing is made in postoperative for up of five years.

Material & Methods: Three patients with bimodal stimulation have a time of up to five years of residual hearing follow up. Both, bone and air conduction hearing were evaluated pre and post surgical for up to five years. Residual audition were compared with contra-lateral hearing (non-implanted and with similar pre-operatively function) from the same subjects.

Results: In all three cases, small bone-air gap between 12 and 17.5dB for frequencies average 256-4096 were evidenced. No significant progression in hearing loss from the contralateral was evidenced.

Conclusion: In all three cases with hybrid cochlear implant permanent use and follow up to five years, no sensori-neural hearing loss were attributable to the effect of foreign body or electrical stimulation was evident. In all cases the benefit was highly significant with the electro-acoustic stimulation both silence and noise.

Impact of UPPP on CPAP levels in patients OSAS

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Objectives: Obstructive Sleep Apnea Syndrome (OSAS) is associated with severe complications. Uvulopalatopharyngoplasty (UPPP) is one of several treatment modalities suggested for OSAS. The purpose of this study is to evaluate the effect of UPPP on Nasal Continuous Positive Airway Pressure (CPAP) levels in patients with OSAS.

Methods: 20 patients who had been diagnosed with OSAS before UPPP were retrospectively evaluated. All patients had demonstrated compliance on home CPAP therapy, were minimally 6 months post-surgery and had follow-up reports that their CPAP was less effective. We collected data on age, sex, weight, BMI and apnea/hypopnea index (AHI). Optimal CPAP pressure was determined initially through attended in laboratory complex polysomnography. Follow-up CPAP pressure was obtained using an auto-titrating PAP device at home. These data were used to appreciate the pressure alterations that accompanied surgery.

Results: The starting CPAP pressures averaged 12±3.5 cm H2O with a range of 8-18 cm H2O. Follow-up CPAP pressures averaged 9.5±2.9 cm H2O with a range of 4-12 cm H2O, representing an overall reduction of 22%.

Conclusion: CPAP pressure requirements shift considerably in patients undergoing UPPP. Auto-titrating PAP devices have commit for facilitating the management of CPAP therapy during this time. Consideration should also be given to the use of auto titrating PAP units as the treatment of choice in these subjects.