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Long-Term Study of "Vibrant® Soundbridge" implantable hearing aids

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Nowadays implantable hearing aids are an indispensable part of modern otologic and audiologic clinics. In principle, an active prosthesis using appropriate signal processing is implanted in the middle ear system. In this way the recipients can achieve better acoustic recognition and improved speech perception while the auditory ear canal remains open. In this study 11 patients out of 49 patients, who received an implantable hearing device (Vibrant® Soundbridge MED-EL) at the Department of Otolaryngology of the Medical University of Hanover, are evaluated by means of a number of audiological tests. The postoperative observation time averages 6.3 years. The results indicate a median functional gain of 30 dB. In monosyllabic speech tests the patients were able to achieve a 27 % median improvement of speech intelligibility at 65 dB SPL with the Vibrant Soundbridge. The results of multifrequency tympanometry revealed that the Vibrating Ossicular Prosthesis (VORP) has no significant influence on the resonance frequency of the middle ear over a period of 6 years. Conclusion: If the criteria for patient recruitment are adhered to, implantable hearing devices yield a good hearing benefit and high qualified speech perception with more comfort.