Emisje otoakustyczne a objaw wyrównania głośności

Otoacoustic emissions and recruitment

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Summary

Introduction: Typical high frequency hearing loss is accompanied by an exaggerated response to loudness as the sound level exceeds your elevated thresholds. This exaggerated response to sound levels is termed "recruitment". Recruitment is a paradoxical phenomenon present in hearing losses due to cochlear damage. Loudness recruitment is usually present to some degree as measured on the SISI. There have been many explanation connected this phenomena so far. It has been suggested that otoacoustic emissions might be more sensitive in assessment of changes to the cochlea caused by noise than pure tone audiometry. Material and methods: In the present study results of the short increment sensitivity index test (SISI), DPOAE as well as slope of DPOAE input/output *(I/O)* function were compared before and after noise expo-sure. The I/O function plots DPOAE amplitude as a function of the level of the primary tones, for the progressively increasing stimulus levels (from 45 to 70 dB SPL) for the frequencies 1, 2, 3, 4, 6, 8 kHz. From 40 patients between 18-21 years, 30 ears were extracted with cochlear lesions and good hearing. Results: Both, PTA and DPOAEs amplitude showed in this group significant reduction due to noise exposure. Slopes of the DPOAE I/O function were depended on stimulus levels. For the low intensity stimuli levels (45-55 dB SPL) we obtained DP I/O amplitude value worse than before noise exposure. When stimulus level was above 55 dB SPL for the frequencies (1, 2, 3, 4, 6, 8 kHz) the amplitude and DP I/O slope was higher than before noise exposure. We did not notice that phenomena in persons without cochlear lesions. Conclusions: Our results showed that in examination group with cochlear lesion I/O DP amplitude was higher using stimulus level above 55 dB SPL. This notice can be otoacoustic recruitment phenomena.