Otoacoustic Emissions in Sudden Sensorineural Hearing Loss: Changes of Measures with Treatment

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**Abstract**

**Introduction:** To identify changes in OAEs parameters in treatment course of idiopathic sudden sensorineural hearing loss (iSSNHL).

**Materials and Methods:** In a prospective study from August 2005 to January 2009, 26 patients with iSSNHL underwent conventional audiometry/tympanometry and two types of OAEs (TEOAEs and DPOAEs) before and after the completion of standard drug therapy. The changes in pre- and post-treatment parameters were compared with each other and with normal-contralateral ears.

**Results:** In TEOAEs, the mean overall correlation (reproducibility) and the mean overall strength in involved ears were 10.96±23.36 and 0.99±3.45 dB, respectively, before the treatment, which reached 22.88±36.55 and 1.85±5.3, respectively, after the treatment (P>0.05). Significant difference between “correlation score” (average of correlations at 3-4 involved frequencies) before and after treatment was found: 6.52 ±18.19 vs. 21.67±37.8 (P<0.034). The difference between pre- and post-treatment overall correlation and correlation score in the “response group” were significant (P<0.031). In DPOAEs of the involved ears, the mean DP1 level and the DP1 signal-to-noiseratio changes were not significant with the treatment (P>0.05).

**Conclusion:** Evoked OAEs, especially TEOAEs, are objective, rapid, and sensitive tools in the treatment course of iSSNHL.

**Keywords**

Idiopathic sudden sensorineural hearing loss; Otoacoustic emissions; Response; Treatment