

# **Auditory test findings and changes in Meniere's disease**

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## **Background**

Meniere's disease is a disorder of the inner ear that is also known as idiopathic endolymphatic hydrops. Excess pressure accumulation in the endolymph can cause a tetrad of symptoms: (1) fluctuating hearing loss, (2) occasional episodic vertigo, (3) tinnitus, and (4) aural fullness. Hearing loss is an ongoing complication in these patients. Timely diagnosis and treatment, however, has been suggested to be factors against progressive hearing loss in patients with Meniere's disease. This study sought to examine auditory test findings and changes in Meniere's disease.

## **Methods & Materials**

In this cross-sectional analytic study, 200 patients with newly diagnosed Meniere's disease were recruited in Imam Reza Teaching Center during a one-year period of time. Auditory test findings were documented before the commencement of pharmacologic treatment and 3 months thereafter. Correlation between changes in auditory test changes with gender, age, duration of the disease and the baseline hearing level was investigated.

## **Results**

There were 133 females and 67 males with a mean age of 45.29 years (standard deviation=12.16, minimum-maximum: 18-78) available in the study population. The mean duration of the disease was 3.37 years (standard error of mean=0.30, minimum-maximum: 1 week-21.73 years). The mean hearing level at baseline was 33.32 dB, which significantly dropped to 26.97 dB 3 months after treatment ( $p<0.001$ ). Both increasing age and increasing duration of the disease were along with more severe hearing loss and poor response to treatment. Permanent hearing loss was associated with increasing age (cut-off=47 years old), increasing duration

of the disease (cut-off=1.4 years), and more severe hearing loss at baseline (cut-off=38 dB).

**Conclusion**

Since the duration of the disease is a poor prognostic factor for response of hearing loss to pharmacologic treatment, early diagnosis and start of treatment is vital in patients with Meniere's disease.

**Keywords:** *Meniere's Disease, Audiometry, Hearing Loss, Prognosis.*