Original Paper

Hearing loss in multiple sclerosis patients

**Saberi A (MD)[1], Naghavi SE (MD)[2], Hatamian HR (MD)[3], Banan R (MD)*[1]
Nemati Sh (MD)[4], Kazemnejad E (PhD)[5], Pouryazdanpanah D (MD)[6]**

[1]Assisstant Professor, Depatement of Neurology, Guilan University of Medical Sciences, Rasht, Iran. [2]Assisstant Professor, Depatement of Otolaryngology, Head and Neck Surgery, Guilan University of Medical Sciences, Rasht, Iran. [3]Associate Professor, Depatement of Neurology, Guilan University of Medical Sciences, Rasht, Iran. [4]Associate Professor, Depatement of Otolaryngology, Head and Neck Surgery, Guilan University of Medical Sciences, Rasht, Iran. [5]PhD in Biostatistics, Depatement of Otolaryngology, Head and Neck Surgery Research Center, Amiralmomenin Hospital, Rasht, Iran. [6]Resident in Neurology, Guilan University of Medical Sciences, Rasht, Iran.

Abstract

Background and Objective: Multiple sclerosis is one of demyelinating disorder of CNS that is an uncommon cause of the sensorineural hearing loss. This study was done to determine the hearing loss in multiple sclerosis patients.

Materials and Methods: This case-control study was performed on 60 (44 women, 16 men) multiple sclerosis patients and 38 (27 women, 11 men) normal subjects by pure tone audiometery, otoacustic emissions and auditory brainstem responses in Gilan provine, Iran during 2010-11. Data was analyzed by using SPSS-17, Chi-Square and Fischer tests.

Results: 12.5% of case and 3.9% of the control ears had abnormal pure tone audiometery ($P<0.05$). The frequencies of abnormal HF-pure tone audiometery and two modalities of otoacustic emission did not show any significant differences in two groups. Abnormal autidory brainstem response of ears were observed in 20% and 9.2% of cases and controls, respectively ($P<0.05$). 20% of case and 9.2% of the control ears had abnormal auditory brainstem response ($P<0.05$). The absolute latencies of waves I, II and V had not significant differences between two groups. Inter peak latencies of I-III and III-V waves were observed in 10% and 11.7% in cases ears and 1.3% and zero percent in controls, respecticely. 6.7% of cases and 2.6% of control ears had retrocochlear abnormality.

Conclusion: Hearing loss detected by pure tone audiometery and auditory brainstem response is more common in multiple sclerosis compared to normal population.

Keywords: Multiple sclerosis, Sensory neural hearing loss, Pure-tone audiometery, Otoacustic emissions, Auditory brainstem responses

*** Corresponding Author: Banan R (MD), E-mail: drbanan@yahoo.com**

Received 7 September 2011 **Revised** 9 November 2011 **Accepted** 14 December 2011

This paper should be cited as: Saberi A, Naghavi SE, Hatamian HR, Banan R, Nemati Sh, Kazemnejad E, Pouryazdanpanah D. [Hearing loss in multiple sclerosis patients]. J Gorgan Uni Med Sci. 2012; 14(1): 121-8. [Article in Persian]