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

¹Assistant Professor, Department of Neurology, Guilan University of Medical Sciences, Rasht, Iran. ²Assistant Professor, Department of Otolaryngology, Head and Neck Surgery, Guilan University of Medical Sciences, Rasht, Iran. ³Associate Professor, Department of Neurology, Guilan University of Medical Sciences, Rasht, Iran. ⁴Associate Professor, Department of Otolaryngology, Head and Neck Surgery, Guilan University of Medical Sciences, Rasht, Iran. ⁵PhD in Biostatistics, Department of Otolaryngology, Head and Neck Surgery Research Center, Amiralmomenin Hospital, Rasht, Iran. ⁶Resident 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 audiometry, otoacoustic emissions and auditory brainstem responses in Gilan province, 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 audiometry (P<0.05). The frequencies of abnormal HF-pure tone audiometry and two modalities of otoacoustic emission did not show any significant differences in two groups. Abnormal auditory 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, respectively. 6.7% of cases and 2.6% of control ears had retrocochlear abnormality.

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

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

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

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