

## Vestibular findings in multiple sclerosis patients

<sup>1,2</sup>Marina Sangheli, <sup>1,2</sup>Olga Gavriiliuc, <sup>1,2</sup>Diana Cretu, <sup>1,2</sup>Mirela Nederita, <sup>\*1,2</sup>Mihail Gavriiliuc

<sup>1</sup>Department of Neurology No 1, *Nicolae Testemitanu* State University of Medicine and Pharmacy

<sup>2</sup>*Diomid Gherman* Institute of Neurology and Neurosurgery, Chisinau, the Republic of Moldova

\*Corresponding author – Mihail Gavriiliuc. E-mail: mihail.gavriiliuc@usmf.md

### Abstract

**Background:** Dizziness, vertigo, and imbalance combined with other clinical signs of multiple sclerosis (MS) patients like weakness, sensory loss, ataxia, may result in falls and accidents, as well as restrictions on outdoor activity, which can have a detrimental impact on social engagement and quality of life. Our aim was to identify vestibular deficits in patients with multiple sclerosis (MS).

**Material and methods:** This retrospective cohort study was conducted on a group of 94 MS patients, aged 18 to 68 years, admitted to our clinic over the course of a year (01.02.2019 – 01.02.2020).

**Results:** Out of 140 MS patients 94 had vestibular symptoms (59 women and 35 men, mean age  $39 \pm 6.3$  years old). Fifty-seven patients had relapsing-remitting (RR), 27 – secondary progressive (SP), 7 – primary progressive (PP) and 1 – recurrent progressive (RP) MS form. The mean EDSS score was  $4.3 \pm 1.9$ . Imbalance was the most common reported symptom (90%), followed by dizziness (43%) and vertigo (17%). Nystagmus was present in 43% of patients, in 68% it was only horizontal and in 13% of cases unidirectional. Vertigo was more frequent in RR patients (24%), dizziness in PP form (57%) and imbalance in SP patients (96%). No significant correlations were found between disease severity (EDSS score) and vestibular findings except imbalance ( $p=0.037$ ,  $r=0.242$ ).

**Conclusions:** Vestibular symptoms are common in patients with MS. Understanding the underlying mechanism of vestibulopathy (peripheral, central, BPPV) may impact on prognosis and management strategies in patients with multiple sclerosis. Therefore, a prospective study is needed.

**Key words:** multiple sclerosis, vertigo, imbalance, dizziness.

## Cognitive impairment and neuropsychiatric manifestations at the onset of multiple sclerosis: case report

<sup>\*1,2</sup>Alina Macovenciu, <sup>2</sup>Irina Cernei

<sup>1</sup>Department of Neurology No 1, *Nicolae Testemitanu* State University of Medicine and Pharmacy

<sup>2</sup>*Diomid Gherman* Institute of Neurology and Neurosurgery, Chisinau, the Republic of Moldova

\*Corresponding author – Alina Macovenciu. E-mail: alinamac1993@gmail.com

### Abstract

**Background:** Multiple sclerosis (MS) is a demyelinating disease of the central nervous system that mainly affects young adults and leads to a wide range of signs and symptoms, including physical, cognitive and psychiatric manifestations. The cognitive manifestations are slow processing speed, reduced memory and attention performance. Psychiatric disorders include depression, anxiety, bipolar disorder, and psychosis. The first manifestations of the disease are various and sometimes atypical, they can also mimic any other condition.

**Material and methods:** Case report of early atypical manifestations of MS.

**Results:** A 26-year-old man presented with diplopia, cognitive decline (inattention and episodes of memory loss) and psychiatric impairment, rapidly progressing during the last 6 months. Dysphoria and anxiety appeared after the cognitive decline. Initially the patient was considered to suffer from a psychiatric disorder, but treatment with anticonvulsants (valproic acid) didn't produce any effect. Neurological examination revealed generalized hyperreflexia, a left pyramidal syndrome and diplopia. Brain MRI demonstrated multiple contrast enhanced ring like lesions (~ N10) in the periventricular and juxtacortical white matter, cerebellum, brainstem, genu of the corpus callosum and cervical spinal cord. Cerebrospinal fluid evaluation demonstrated a presence of specific oligoclonal bands. The treatment with methylprednisolone 1g/day for 5 days suppressed the psychiatric and cognitive manifestations. The patient was referred to disease modifying treatment.

**Conclusions:** Recognition of early atypical manifestations of MS such as cognitive impairment and psychiatric disorders is important to avoid diagnostic errors and inappropriate, potentially harmful treatments.

**Key words:** multiple sclerosis, cognitive decline, neuropsychiatric manifestations.