European Journal
of Case Reports in
Internal Medicine

Management and Treatment of Late-Onset Multiple Sclerosis

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Conflicts of Interests: The authors declare no financial or other conflicts of interests.
Acknowledgements: Editorial assistance was provided by Francesca Cappellini, PhD and Aashni Shah (Polistudium SRL, Milan, Italy). This assistance was supported by Almirall.

ABSTRACT

Multiple sclerosis (MS) with clinical onset after the age of 50 years is unusual and frequently misdiagnosed. Ageing is associated with diverse immune changes also known as immunosenescence, and a higher risk of comorbidities and infections, which need to be considered when planning medical treatments.

We describe the case of a 69-year-old woman with late-onset relapsing-remitting MS. Beyond the diagnostic difficulty and specific therapy for MS, we also addressed the management of symptoms, such as spasticity. Our case report confirmed the good safety profile of nabiximols in older age also. Progress in imaging and biomarker assessment has helped to distinguish MS from mimicry disease, which is important for improving disease management in the longer term.

KEYWORDS

Multiple sclerosis, late onset, disease-modifying therapy,

LEARNING POINTS

- Multiple sclerosis (MS) with clinical onset after the age of 50 years is associated with immunosenescence and higher risk of comorbidities and infections, which need to be considered when planning medical treatments.
- The onset of MS in old age also opens up new scenarios for both immunomodulatory treatments and symptom management.
- The approval of nabiximols for the management of MS spasticity opened up a new opportunity to many patients.

INTRODUCTION

Multiple sclerosis (MS) is the most common inflammatory autoimmune disease of the central nervous system (CNS). MS is usually diagnosed between the ages of 20 and 49 years[1], and MS with clinical onset after the age of 50 years (late-onset MS; LOMS) is unusual and frequently misdiagnosed. Few data are available regarding patients with very late-onset inflammatory demyelinating events. Moreover, ageing is associated with diverse immune changes also known as immunosenescence, and a higher risk of comorbidities (including vascular disease) and infections, which need to be considered when planning medical treatments. Due to previous comorbid conditions and higher odds of T2-hyperintense lesions on magnetic resonance imaging (MRI), almost 40% of LOMS patients receive a delayed diagnosis of 3–5 years. The differential diagnosis may be sometimes difficult and includes cerebrospinal vascular syndrome, hypertension-related disorders, compressive myelopathies, primary and secondary vasculitis, metabolic diseases, degenerative and nutritional syndromes[2,3].

CASE DESCRIPTION

We describe the case of a 69-year-old woman with a history of thyroiditis. In December 2017, she had fever following an onset of tremors in the left hand, which spontaneously regressed after 1 month. For this disorder, she underwent brain computed tomography (CT) in January 2018. It showed on the right parenchymal hypodensity corresponding to the corona radiata with extension to the ipsilateral external capsule compatible with non-stabilized ischaemic lesion. For an in-depth diagnostic, she underwent brain MRI with the evidence of multiple areas in the semioval centres, along the periventricular white matter. The CT hypodensity was not confirmed to be definitely ischaemic from MRI but the patient was dismissed with a cerebrovascular encephalopathy diagnosis. The patient presented a wellness period until December 2018 when she had fever followed by postural instability and eye movement deficit. She went to the ER and started therapy with intravenous (IV) methylprednisolone 500 mg for 5 days with improvement of the disorders. On 11 January 2019, she underwent brain MRI with gadolinium with evidence of numerous small focal lesions with high signal in the long TR (repetition time) sequences, some hypointense in the T1-weighted sequences, with right mesencephalic, pons, cerebellar hemispheric bilaterally and white matter both periventricular and bilateral frontoparietal juxtacortical involvement. After gadolinium administration almost all lesions showed enhancement. The findings described were compatible with the clinical suspicion of active demyelinating disease (*Fig. 1*).

The patient was admitted to our MS centre in January 2019. Neurological examination showed internuclear ophthalmoplegia, ataxic-spastic gait, urination urgency, tetrahyperreflexia and Romberg present (EDSS 4.5). The patient was treated with IV methylprednisolone 1,000 mg once daily for 5 consecutive days. In response to this therapy, her walking ability improved, and the neurological examination showed tetrahyperreflexia, urination urgency and spasticity (EDSS 1.5). The spasticity and sphincteric

treatment of spasticity in MS gave a strong recommendation for the use of intrathecal baclofen, nabiximols oromucosal spray and intramuscular injection of botulinum toxin[7]. This study showed that more than 50% of patients demonstrated improvement of spasticity and only 39.5% of patients discontinued nabiximols during the entire observation period. Adverse advents occurred only in 16.3% of patients[8]. Our case report confirmed a good safety profile for nabiximols in older age also. There are a growing number of cases of individuals with MS with an onset after the age of 50 years and it is important to make a correct diagnosis. Progress in imaging and biomarker assessment has helped to distinguish MS from mimicry disease and identifying this late-onset form is important to improve disease management in the longer term.

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