



Management of Spasticity in a Frail Multiple Sclerosis Patient During the COVID-19 Pandemic

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Conflicts of Interests: The authors declare that there is no conflict of interest. All co-authors have read and approved the submission.

Acknowledgements: Editorial assistance was provided by Francesca Cappellini, PhD, and Aashni Shah (Polistudium SRL, Milan, Italy). This assistance was supported by Almirall.

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ABSTRACT

Spasticity is a common symptom in patients with multiple sclerosis, and it is associated with fatigue, anxiety, depression, pain and mobility and bladder dysfunction, negatively affecting patient quality of life. During the COVID-19 pandemic, several patients were not able to continue treatment for multiple sclerosis. Here, we present a case of a 45-year-old man who experienced symptoms that worsened after discontinuing nabiximols treatment during the lockdown. Within 2 months of treatment restoration, the patient showed a strong improvement in his overall clinical condition.

KEYWORDS

ST segment elevation, COVID-19, echocardiogram

LEARNING POINTS

- A good and constant adherence to a treatment schedule is essential to preserve its efficacy and to overcome a clinical worsening phase.
- During the COVID-19 pandemic, access to healthcare and treatments should be guaranteed to limit the consequences of reduced mobility due to social restrictions.

INTRODUCTION

Spasticity is a common symptom in patients with multiple sclerosis (MS), and it is strongly associated with symptoms that negatively affect patient quality of life^[1-3]. In addition to physiotherapy, standard antispastic drugs are used in the treatment of spasticity^[4]. Nabiximols (Sativex®) is an endocannabinoid system modulator consisting of 2 active ingredients, δ -9-tetrahydrocannabinol (THC) and cannabidiol (CBD) in a ratio of 1:1, in an oromucosal spray formulation.

In Italy, during the coronavirus disease 2019 (COVID-19) pandemic declared in March 2020, disabled, elderly and frail people were advised to stay at home. Several patients could not continue treatment with nabiximols, such as in our case.

CASE DESCRIPTION

We describe the case of a 45-year-old man affected by relapsing-

remitting MS, followed at the Multiple Sclerosis Center of the Tor Vergata University Hospital, Rome, Italy.

He was diagnosed with MS in 2011, after acutely developing right limb sensory and motor impairment. Over time, he progressively developed bilateral lower limb spasticity, not responding to a conventional antispastic drug (baclofen at the maximum dosage of 25 mg per day). Due to side effects (excessive weakness and mental confusion), it was not possible to increase the dosage.

In August 2019, neurological examination of the patient showed: I) Expanded Disability Status Scale (EDSS) 5.5; II) Numerical Rating Scale (NRS) 7; III) Ambulation Index (AI) 4; IV) Modified Ashworth Scale (MAS) at right lower limb 3 and at left 2 (Table 1).

Nabiximols treatment was started with a very slow increasing dosage of puffs up to 6 per day (2 in the morning, 2 in the middle of day and 2 before nighttime) without negative side effects. Several symptoms improved, including cramps/nocturnal spasms, pain and bladder disorders. The patient was again able to climb the stairs in his house and to walk on sandy ground after rehabilitation.

In January 2020, on neurological examination, the patient scores were: I) EDSS 5.0; II) NRS 4; III) AI 2; IV) MAS at right lower limb 2 and at left 0 (Table 1).

When the COVID-19 pandemic was declared in March 2020, the patient had motor and driving difficulties and lived far away from the MS Center with no caregivers.

In April 2020, the patient independently reduced the dosage to 1 puff in the morning and 2 puffs in the evening, scared of running out of treatment. Although he was advised by a phone consultation to at least continue home exercises in order to maintain good motility, we observed significant worsening of his neurological conditions when we visited him in June. He showed resumption of spasticity and the return of spasms and pain. In June, the patient scores were: I) EDSS 5.5; II) NRS 6; III) AI 3; IV) MAS at right lower limb 3 and at left 1 (Table 1). At this point, we suggested a new nabiximols titration scheme, with an increase in puffs in 2 weeks, up to 10 per day (at 8.00 am 2 puffs, at 11 am 2 puffs, at 2 pm 2 puffs, at 5 pm 2 puffs and at 10 pm 2 puffs). The patient had to do home exercises and stretching at least once in the morning or afternoon just after the puffs, in accordance with the closure of many rehabilitation institutes.

	T0	T1	T2	T3
EDSS	5.5	5.0	5.5	5.5
NRS	7	4	6	4
AI	4	2	4	3
MAS	Right 3 Left 2	Right 2 Left 0	Right 3 Left 1	Right 2 Left 1

Table 1. Timeline of patient's status

T0: August 2019; T2: June 2020; T3: November 2020; EDSS: Expanded disability Status Scale; NRS: Numerical Rating Scale; AI: Ambulation Index; MAS: Modified Ashworth Scale

a long time to overcome and much effort by the patient, caregivers and the healthcare system.

By providing the patient with multiple packs, he had to follow this prescription until the next clinical visit. In the meantime, we were following up with the patient by periodic phone visits. After 2 months, the clinical conditions improved although he experienced adverse effects with the warm season; he experienced confusion after the after-lunch puffs. He was advised to take a nap for 30 minutes after administration, to drink more water and mineral salts and to exercise early in the morning.

In November 2020, he showed a reduction in lower limb stiffness, no painful spasms and quality of sleep improved (Table 1). During the same period, the patient did not feel safe to resume physiotherapy at the rehabilitation centre; he agreed to continue the mobility programme at home and maintained a dosage of 8 puffs per day. To guarantee therapeutic continuity, we have provided the patient with sufficient drug packages until the next scheduled visit.

DISCUSSION

Our patient started nabiximols for the treatment of lower limb spasticity associated with MS because he was not responding to standard antispastic drug medication. Nabiximols treatment improved the patient's quality of life and relieved his symptoms. During the COVID-19 pandemic, the patient drastically reduced the dose of nabiximols, causing a retreat of the benefits achieved and a significant worsening of painful spasms. Our case confirms that nabiximols is a safe and effective therapy for MS-related symptoms in patients partially responding to standard approaches. It also shows the importance of a good and constant adherence to a treatment schedule to preserve efficacy and to overcome worsening of the clinical condition^[5].

During the COVID-19 pandemic, access to healthcare and to symptomatic treatments, such as nabiximols, should be guaranteed to disabled people with MS to limit the consequences of reduced mobility due to social restrictions. Although partially reversible after a treatment restart, as in our case, spasticity worsening takes

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