Overview of MS Spasticity

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Key Words

Multiple sclerosis · Spasticity · Symptoms · Burden · Management

Spasticity is one of the most frequent symptoms associated with MS and yet it is often overlooked and poorly managed. Possible reasons for this include the different understanding of the definition of spasticity, ranging from the exploratory rigidity perceived by a healthcare professional to the multiple related symptoms felt by patients, and also the different clinical assessment tools which do not always take into consideration the patient's perception of their disease. Another contributing factor is the limited effectiveness and tolerability profiles of most of the currently available agents [1]. A number of large studies have shown that spasticity produces some of the most common and disabling symptoms associated with MS, occurring in up to 80% of affected MS persons [2–4]. Between 30 and 50% of MS patients rate their spasticity as moderate to severe [3], and some of the most commonly reported associated symptoms included rigidity, spasms, pain, worsening of movement difficulties and/or urinary dysfunction and sleep disturbances. The extent of the burden placed on MS patients who re-

ported spasticity, compared with patients who did not experience spasticity, in terms of spasms, urinary dysfunction and sleep disturbances in a recent study is highlighted in table 1 [4].

The effect of spasticity on mobility is one of the most disabling changes associated with MS and it has a marked negative impact on patient well-being and quality of life [4–6]. It also increases the cost-burden associated with MS, with an increased need for physiotherapy and caregiver support [6]. Figure 1 highlights the strong correlation between worsening of spasticity and reduced walking ability.

While there is a clear impact of spasticity on the overall well-being of MS patients, the available evidence demonstrates a limited effectiveness of the classic first-line treatment options such as baclofen, tizanidine, gabapentin, and others [1, 6]. Thus, there is an obvious unmet need for better therapeutic options for physicians and this is highlighted by the findings of a recent German survey which reported that in patients with moderate spasticity about 40% of physicians were unsatisfied or completely unsatisfied with current antispasticity therapies. In patients with severe MS spasticity about 60% of physicians were unsatisfied or completely unsatisfied with current treatments [6] (fig. 2).

Table 1. MS spasticity burden (data from [4]).

MS symptom	No spasticity, %	Spasticity, %	p value
Daytime spasms	5.4	67.1	<0.001
Urinary dysfunction	29.2	70.4	<0.001
Sleep disturbances	26.1	50.9	<0.001
Woken by urinary urgency (>2 times/night)	7.0	13.7	<0.001
Woken by spasms (one or more times/night)	1.9	51.7	<0.001

Fig. 1. Walking ability in patients with mild, moderate or severe spasticity [4–6].

Fig. 2. Physicians' satisfaction with pharmacological treatment in patients with mild, moderate or severe MS spasticity (data from [6]).

New guidelines for the management of MS have been developed in Spain (fig. 3) [7] and Germany and both contain algorithms for managing MS spasticity [7]. Baclofen and tizanidine remain the first-line treatment options in both sets of guidelines for the management of generalised MS spasticity, and both recognise the role of the new THC:CBD oromucosal spray as a second-line op-

tion for patients with moderate to severe treatment-resistant MS spasticity.

This supplement provides an insight into the latest clinical evidence concerning THC:CBD oromucosal spray (Sativex®), a unique cannabinoid-based medicine comprising a 1:1 mixture of 9-delta-tetrahydrocannabinol (THC) and cannabidiol (CBD). THC:CBD oromucosal spray acts as an endocannabinoid system modulator, and it is indicated as add-on treatment for symptom improvement in adult patients with moderate to severe spasticity due to multiple sclerosis (MS) who did not adequately respond to previous antispasticity therapy, and who demonstrated a clinically relevant response during a one month trial. At the present time, Sativex® is available in 17 European countries and it is also available in countries such as Australia, Canada and Kuwait.

Conclusions

Spasticity is one of the most common symptoms associated with MS, and in 30–50% of the affected patients it is rated as moderate to severe. Symptoms include spasms, and worsening of pain, movement difficulties, sleep disturbances, urinary dysfunction and disability

Fig. 3. Spanish guideline for the management of generalized MS spasticity (data from [7]).

and these result in an increased need for caregiver support, reduced well-being and quality of life, and an increased burden on families, friends and the healthcare system. There is a clear unmet need for more effective treatments and recent guidance recognizes the need for evidence-based support for the management of MS spasticity. Guidelines from Spain and Germany recommend baclofen and tizanidine as first-line options and acknowledge the available evidence supporting the use of THC:CBD oromucosal spray recommending it as a second-line option for patients with treatment-resistant spasticity.

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