EFFECTIVENESS AND PATIENT SATISFACTION WITH INCOBOTULINUMTOXIN A (XEOMIN®) FOR THE TREATMENT OF LOWER LIMB SPASTICITY IN MULTIPLE SCLEROSIS

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INTRODUCTION AND OBJECTIVES

Spasticity is a common and potentially disabling symptom of multiple sclerosis (MS). It has been estimated that around two thirds of MS patients suffer from spasticity, 50% with moderate or severe degree (1). Its frequency and severity increases as the disease progresses. MS spasticity and associated symptoms such as fatigue, pain, bladder dysfunction, spasms, reduced mobility and sleep disturbances can have a profound negative impact on patients' well-being and quality of life. Nevertheless, the most disabling spasticity symptoms referred by the patients are movement problems and reduced walking ability. In patients, spasticity of the lower limbs (LL) often leads to a spastic pattern resulting in decreased range-of-motion, increase of energy consumption and gradual decrease of velocity since the beginning of spasticity. Local botulinum toxin type A injections in spastic muscles offer a treatment approach for managing focal spasticity and associated problems. Randomised clinical trials involving patients with spasticity resulting from a variety of diseases (mainly stroke and MS) have clearly shown that botulinum toxin type A can temporarily (for approximately 3 months) reduce spastic hypertonia in the elbow, wrist and finger flexors of the upper limbs, and the hip adductors and ankle plantar flexors in the LLs. The objective of this case series was to investigate the effectiveness and safety of Incobotulinumtoxin A (Xeomin®) in MS LL spasticity.

METHODS

Six patients (1 male, 5 female) with MS were treated with IncobotulinumtoxinA to improve their LL spasticity. We recorded symptoms, groups of muscles targeted, and the quantity of botulinum toxin used. Mean age of patients was 50.3 ± 8.2 (range 42-66) years. Patients with primary progressive (n=1) or secondary progressive (n=5) MS (starting from 1993–2005) and a mean (SD) Expanded Disability Status Scale score of 5.4 (1.0) at presentation were treated for LL spasticity with incobotulinumtoxinA. Assessments performed 5 weeks post-injection included muscle tone (Modified Ashworth Scale (MAS) and LL function (Goal Attainment Scale (GAS)) for the primary treatment goal and 10-metre walk test (10-MWT)). Patient satisfaction was determined on a 5-point Likert scale (from +2 to -2). All patients also received conventional oral treatment for MS.

RESULTS

In this study, we present our experience of six patients (1 male, 5 female) treated with Incobotulinumtoxin A. Patients received a mean dose of Incobotulinumtoxin A of 246 U (range 100-500 U). Injected muscles were calf, soleus, quadriceps femoris, bíceps femoris and adductor. All patients showed a reduction in muscle tone ≥ 1 point on the MAS and an improvement in average walking velocity from pre-injection to the 5 weeks post-injection assessment, with a mean improvement of 2.5s in the 10-MWT (pre-injection, 18.2s; 5 weeks post-injection, 15.7s). All patients achieved their primary GAS goal as expected or better than expected (mean score 0.3). Overall treatment satisfaction was high (mean score of +1.0 (0.6) in the Likert scale) and no patient reported dissatisfaction.No adverse effects or decrease muscle strength or functionality were observed in any of the patients.

TABLE 1: Individual results on MAS and 10-MWT

	MAS		10-MWT (s)	
Patient	Baseline	Follow-up	Baseline	Follow-up
1	3	2	38.1	32.0
2	1+	1	13.0	12.0
3	2	1	11.6	10.0
4	3	2	-	-
5	3	2	14.0	11.9
6	1+	1	14.1	12.4

CONCLUSIONS

In this case series, incobotulinumtoxinA for the treatment of focal lower limb spasticity was safe and efficacious, reducing the hypertonicity of muscles and improving gait and functional activity in patients with MS. Further studies are needed to confirm the place of incobotulinumtoxin A in this indication.

REFERENCES

Dressler et al. J. Neurol, 2016. Botulinum toxin therapy for treatment of spasticity in multiple sclerosis: review and recommendations of the IAB-Interdisciplinary Working Group for Movement Disorders task force.

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