



**Fig.** Reductions in Week 4 and Week 12 pain scores were maintained with repeat treatment with AboBoNT-A in open-label studies.

### VOIDING DYSFUNCTION IN PATIENTS WITH HEREDITARY SPASTIC PARAPLEGIA

Stéphanie Deffontaines Rufin<sup>a,b</sup>, Sabine Pol<sup>a,c</sup>, Kosta Vassilev<sup>a</sup>, Dominique Mazevet<sup>a,\*</sup>. <sup>a</sup>Spasticity Unit, PMR Department, Pitié-Salpêtrière Hospital, AP-HP, Paris, France; <sup>b</sup>LADAPT, Châtillon, France; <sup>c</sup>PMR Department, Compiègne, France

E-mail address: [dominique.mazevet@aphp.fr](mailto:dominique.mazevet@aphp.fr)

\* Corresponding author: Spasticity Unit, PMR Department, Pitié-Salpêtrière Hospital, 47 Boulevard de l'Hôpital, 75651, Paris Cedex 13, France.

**Introduction:** Hereditary spastic paraplegia (HSP) is known to cause voiding dysfunction. Prior studies have reported on clinical and urodynamic evaluation of smaller samples of patients with HSP.

**Methods:** One hundred patients suffering from HSP were included in the study. The presence of urinary symptoms was determined by assessment using the Urinary Symptom Profile (USP) questionnaire. Depending on the clinical results, urodynamic evaluation was performed. Urodynamic assessment consisted of uroflowmetry and measurement of postvoid residual urine volume. Urethrocystomanometry was usually performed after uroflowmetry.

**Results:** Eighty-seven patients suffered from lower urinary tract symptoms (LUTS), mostly overactive bladder (OAB) syndrome (85 patients). Dysuria was present in 45 patients.

Ano-rectal disorder was frequently seen (41 patients). Total USP score was correlated with the age of the patient ( $P=0.0001$ ). Moreover, this correlation was even stronger on the OAB sub score ( $P=1.9, 10^{-6}$ ). Urodynamic analysis was performed for 40 patients. It showed detrusor overactivity in 19 cases, with high detrusor pressure of 7. Dyssynergia was present for 9 patients. Complications such as urinary infections, urolithiasis, and vesicoureteral reflux, occurred in 14 patients. In earlier series, complication rates varied between 6.9%<sup>1</sup> and 54.5%.<sup>2</sup>

**Conclusions:** The present study confirms the occurrence of LUTS in patients suffering from HSP. OAB syndrome seems to be more frequent with increasing age. Detrusor overactivity was the most frequent urodynamic abnormality.

**Keywords:** Hereditary spastic paraplegia; Lower urinary tract symptoms; Urodynamics

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### RESULTS OF BOTULINUM TOXIN THERAPY FOR SPASTICITY IN PATIENTS WITH AMYOTROPHIC LATERAL SCLEROSIS

Stéphanie Deffontaines Rufin<sup>a,b</sup>, Sabine Pol<sup>a,c</sup>, Manuel Wiese<sup>a</sup>, Kosta Vassilev<sup>a</sup>, Dominique Mazevet<sup>a,\*</sup>. <sup>a</sup>Spasticity Unit, PMR Department, Pitié-Salpêtrière Hospital, AP-HP, Paris, France; <sup>b</sup>L'ADAPT Hauts de Seine, Châtillon, France; <sup>c</sup>PMR Department, Compiègne, France

E-mail address: [dominique.mazevet@aphp.fr](mailto:dominique.mazevet@aphp.fr)

\* Corresponding author: Spasticity Unit, PMR Department, Pitié-Salpêtrière Hospital, AP-HP, Paris, France.

**Introduction:** Spasticity is a frequent and disabling symptom in patients suffering from amyotrophic lateral sclerosis (ALS).<sup>1</sup> Standard treatment includes physiotherapy and oral drugs such as baclofen but these treatments may lack efficacy and tolerability. Studies of botulinum toxin (BTX) therapy for ALS patients are sparse.<sup>2,3</sup> We conducted a study to examine the safety and efficacy of BTX therapy in the management of spasticity in these patients.

**Methods:** One hundred three ALS patients referred to a physical medicine and rehabilitation department between 2006 and 2018 were included. Of these, 91 received BTX injections. The medical charts of these patients were retrospectively analysed to determine the efficacy and tolerability of this treatment.

**Results:** Of the 91 patients receiving BTX injections, 83 were injected in the lower limbs, 4 in the upper limbs, and 4 in both upper and lower limbs. Seventy-six patients were still able to walk. For these patients, the goal of treatment was functional improvement for 71, and improved comfort for 5. Fifteen patients were unable to walk. Of these, 8 underwent BTX therapy to improve their transfer capabilities and 7 to improve comfort. For 28 patients, an additional goal of treatment was reducing cramps and pain due to spasticity. Fifty-one patients expressed satisfaction with treatment, and the injections were repeated. Some patients continued the treatment through several reinjections, up to 16. The main reason for stopping injections was a worsening of the disease.

Of the 234 injections performed in ALS patients, there were only 10 reports of adverse events (AEs) with 2 cases of transient respiratory degradation. This AE is rare, but it requires a cautious use of BTX in ALS patients, especially regarding the level of toxin doses administered.

**Conclusions:** More than a half of the patients had a satisfactory reduction of their spasticity after BTX injections, and this treatment can be proposed for patients with ALS and spasticity. Nevertheless, because of the fragility of these patients, especially regarding respiratory function, we advise injection of lower doses than are administered to patients with spasticity due to other neurological diseases.

**Keywords:** Amyotrophic lateral sclerosis; Botulinum toxin; Spasticity

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### RESULTS OF BOTULINUM TOXIN INJECTIONS FOR THE TREATMENT OF SPASTICITY IN PATIENTS WITH PRIMARY LATERAL SCLEROSIS

Stéphanie Deffontaines Rufin<sup>a,b</sup>, Sabine Pol<sup>a,c</sup>, Manuel Wiese<sup>a</sup>, Kosta Vassilev<sup>a</sup>, Dominique Mazevet<sup>a,\*</sup>. <sup>a</sup>Spasticity Unit, PMR Department, Pitié-Salpêtrière Hospital, AP-HP, Paris, France; <sup>b</sup>L'ADAPT Hauts de Seine, Châtillon, France; <sup>c</sup>PMR Department, Compiègne, France

E-mail address: [dominique.mazevet@aphp.fr](mailto:dominique.mazevet@aphp.fr)