Clinical and Urodynamic changes post Onabotulinum Toxin-A treatment in adults with Spina Bifida

Elmer S1, Whishaw M2, Ong T3, Norris B1, Dowling C1
1. Royal Melbourne Hospital

BACKGROUND

The use of onabotulinum toxin-A in neurogenic bladder management has been extensively studied. Only a small number of studies have been published regarding the efficacy of intra-detrusor injections of onabotulinum toxin-A in children with spina bifida. To date there is minimal data specific to its use in adult spina bifida for management of neurogenic bladder.

OBJECTIVE

To evaluate the clinical and urodynamic improvement in adult spina bifida patients with neurogenic bladder treated with intra-detrusor injections of onabotulinum toxin-A.

RESULTS

We were able to show urodynamic improvement in all 17 adult spina bifida patients by decreasing detrusor pressure and increasing bladder capacity.

Dose escalation was required in 5 patients to 300 units due to an inadequate urodynamic response as demonstrated by worse bladder compliance in 2 patients (86cmH2O, 55cmH2O), decreased bladder capacity in 1, no improvement in 1, and resolution of severe detrusor overactivity that unmasked poor compliance (62cmH2O) in another patient.

Prior to treatment, 13 patients had unsafe detrusor pressures due to poor compliance at capacity (>40cmH2O). After treatment, 10 patients had safe maximum detrusor pressures, however 7 patients had persistent poor compliance (>40cmH2O) that required the addition of anti-cholinergic therapy.

Clinical improvements included resolution of urge incontinence episodes, reduction in symptomatic urinary tract infections, and improvement in quality of life scores.

Patients reported a ‘Much Better’ improvement in their symptoms (PGI-I mean 2.3) and described the severity of their condition as ‘Normal/Mild’ (PGI-S mean 1.5). Patients reported a clinically meaningful reduction in both their distress (UG-DI 6 pre-treatment mean 9.5, post-treatment mean 3.7) and incontinence impact (I1Q-7 pre-treatment mean 11.4, post-treatment mean 3.13).

CONCLUSION

To our knowledge, this is the first study demonstrating meaningful clinical and urodynamic improvements in adult patients with spina bifida who were treated with intra-detrusor injections of onabotulinum toxin-A. In nearly all of these patients, poor bladder compliance was unmasked by the onabotulinum toxin-A treatment, and remained at unsafe levels in 41% of the patients, requiring the addition of anti-cholinergic therapy. This study reinforces the need for close urodynamic assessment post-injection in patients with spina bifida.