

INCONTINENCE

Trigonal injection of botulinum toxin-A improves outcome

Second-line treatment of neurogenic bladder typically consists of a botulinum toxin-A (BTX-A) injection directly into the detrusor. New data, however, from a study carried out by Taha Abdel-Meguid at Abdulaziz University Hospital in Jeddah, Saudi Arabia, suggest that including the trigone in the injection protocol can significantly improve short-term results.

“The trigone is known to be extensively innervated and its smooth muscles are very sensitive to small changes in pressure,” explains Abdel-Meguid. “In clinical practice, many of our patients with overactive bladder describe prompt urgency and/or urinary incontinence on rising from a sitting to standing position, further implicating involvement of the trigone in these symptoms.”

Abdel-Meguid's study included 36 patients (34 male, 2 female) with spinal cord injury-related neurogenic detrusor overactivity refractory to oral anticholinergics. Individuals were randomized to receive either 300 U of

BTX-A into the detrusor ($n=18$), or 200 U into the detrusor plus 100 U into the trigone ($n=18$). 8 weeks later, both treatment groups showed improvement from baseline for all parameters studied, but patients who received a trigonal injection had significantly better continence rates and increased reflex volume.

“...injection into detrusor plus trigone was associated with an 80.9% decrease in number of incontinence episodes...”

BTX-A injection into detrusor plus trigone was associated with an 80.9% decrease in number of incontinence episodes per 24 h, compared to a reduction of 52.4% for patients who received intradetrusor BTX-A only ($P<0.001$). Similarly, only 33.3% of patients in the detrusor group were completely dry at 8 weeks, compared to 66.7% of the combined group ($P<0.001$).

Differences in quality of life, maximum cystometric capacity and maximum detrusor pressure observed between groups were not statistically significant. No systemic adverse effects were reported. Two patients in each treatment arm had vesicoureteral reflux at the beginning of the study, but neither worsened and no new cases were described.

“In the absence of a systematic review or meta-analysis of randomized controlled trials addressing the effects of BTX-A injection into the trigone, the evidence obtained from this study is the highest currently available (level 1b),” says Abdel-Meguid. He hopes these results will impact future clinical practice and promote further research in this area.

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