Letter to the Editor re: Evaluation of the Clinical Effects of Abobotolinum Toxin A (Dysport) Injection in the Treatment of Neurogenic Lower Urinary Tract Dysfunction

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We read with interest the recent publication by Sharifiaghdas et al Evaluation of the Clinical Effects of Abobotolinum Toxin A (Dysport) Injection in the Treatment of Neurogenic Lower Urinary Tract Dysfunction[(1)].

A small study involving 52 female patients with neurogenic voiding dysfunction who were treated with Dysport following a trial of medical therapy for 3 months is presented. It is noted that 36 patients had neurogenic detrusor activity, 8 had sphincter dyssynergia and 8 had both. The authors only mention the cause of neurogenic voiding dysfunction in 17 patients and it is unclear how many had multiple sclerosis or a traumatic spinal cord injury. Additionally, is not stated whether any patient underwent video urodynamic assessment and preoperative pad usage, and patient weight is not documented.

The authors proceed to discuss the preoperative assessment and exclusion criteria. Although the urogenital distress inventory questionnaire was used in this study[(2)] specific neurogenic bladder questionnaires which have been validated in both traumatic spinal cord injury and multiple sclerosis exist[(3,4)] and are not referenced. In our unit, all neurogenic bladder patients undergo pre and post operative assessment with the SF Qualiveen questionnaire to document baseline status and treatment response following intravesical Botox[(5)].

It should also be acknowledged by the authors that the pivotal Dignity Trial involving intravesical botox therapy which investigated improved continence as an endpoint and improved urodynamic parameters as endpoints is also not referenced[(6,7)].

The authors allude to the small sample size and limit follow up period. However, the failure to fully elucidate the exact cause of neurogenic voiding dysfunction and reliance on one questionnaire only are also drawbacks of this study.

REFERENCES

1. Sharifiaghdas F, Taheri M, Borumandnia N et al. Evaluation of the Clinical Effects of Abobotolinum Toxin A (Dysport) Injection in the Treatment of Neurogenic Lower Urinary Tract Dysfunction. Urology Journal 2022; 1: 63-68
2. Uebersax J, Wyman J, Shumaker S, et al. Short forms to assess life quality and symptom distress for urinary incontinence in women: the Incontinence Impact Questionnaire and the Urogenital Distress Inventory. Neurourol Urodyn 1995; 14: 131-9
3. Costa P, Costa P, Perrouin-Verbe B, et al. Quality of Life in Spinal Cord Injury Patients with Urinary Difficulties. European Urology 2001; 39: 107-113
4. Bonniaud V, Bryant D, Parratte B, et al. Development and Validation of the Short Form of a Urinary Quality of Life Questionnaire: SF-Qualiveen. The Journal of Urology 2008; 180: 2592-2598
5. Floyd MS, Jr. and Khadr RN. Role of gentamicin in reducing urinary tract infections in patients with neurogenic bladder. Canadian Urological Association journal Journal de l'Association des urologues du Canada 2017; 11: 427-428. 2017/11/01
6. Cruz F, Herschorn S, Aliotta P, at al. Efficacy and safety of onabotulinumtoxin A in patients with urinary incontinence due to neurogenic detrusor overactivity: a randomised, double-blind, placebo-controlled trial, Eur Urol, 2011; 60: 742-75
7. Ginsberg D, Gousse A, Keppenne V, et al. Phase 3 efficacy and tolerability study of onabotulinumtoxin A for urinary incontinence from neurogenic detrusor overactivity. J Urol, 2012; 187: 2131-2139

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Reply by Author

In response to the above letter to the editor, a wide variety of potential neurologic etiologies can lead to neurogenic lower urinary tract dysfunction (NLUTD) which is categorized by the neuroanatomic location [1,2]. In this study, we only mentioned the reason for NLUTD in patients who had known neurologic disorders in the spinal canal (17 participants; intervertebral disc prolapses:8, trauma:5 and, after disc surgery:4). The other patients had potential risk factors for neurologic diseases such as long-time diabetes mellitus, iatrogenic injuries during pelvic or bladder surgeries, pelvic radiation, etc. who's maybe categorized as the probable peripheral neuropathy that cannot be proved by imaging (MRI of the brain or spinal cord).

We thank the authors for their attention, the mean weight of our patients (kg) was 69.46 ± 14.33. Regarding the evaluation of NLUTD patients, according to the latest version of AUA/SUFU guidelines on NLUTD[2], in addition to the detailed history, physical examination and, urine analysis, there are a variety of tools such as voiding diaries, questionnaires (e.g., NBSS, Qualiveen), uroflow, urodynamics, renal ultrasound, and cystoscopy which do not recommend all of those in each patient. Video urodynamic is performed only in one center in our country, which is not easily available for our patients who came from a significant distance and is used for very limited referral patients. We agree that the use of validated questionnaires would significantly have improved the initial evaluation and follow-up of NLUTD patients. We will plan to employ these specific questionnaires in future studies.

The main outcome of our study was a subjective improvement in patient continence which was evaluated by patients' general satisfaction questionnaire including; improvement in urinary incontinence, difficult urination, and the need for clean intermittent catheterization[3]. Existing evidence regarding the improved urodynamic parameters as endpoints reveals that a patient's follow-up based on UDS may improve treatment satisfaction[4], however, urodynamic parameters do not guarantee improvement in bothersome lower urinary tract symptoms[5]. Along with these results, in the last meta-analysis by Guang-ping et al.[6] outcome treatment after botulinum injection in patients with neurogenic detrusor overactivity caused by spinal cord injury were uroflow, postvoid residual volume, urge incontinency episode, or just adverse events in some studies.

Again, we thank the authors for their interest and comments in our work.

Yours sincerely,

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REFERENCES

1. Gajewski JB, Schurch B. An International Continence Society (ICS) report on the terminology for adult neurogenic lower urinary tract dysfunction (ANLUTD). 2018;37:1152-61.
2. Ginsberg DA, Boone TB, Cameron AP, Gousse A, Kaufman MR, Keays E, et al. The AUA/SUFU Guideline on Adult Neurogenic Lower Urinary Tract Dysfunction: Diagnosis and Evaluation. J Urol 2021;206:1097-105.
3. Kuo HC. Therapeutic outcome and quality of life between urethral and detrusor botulinum toxin treatment for patients with spinal cord lesions and detrusor sphincter dyssynergia. Int J Clin Pract 2013;67:1044-9.
4. Verghese TS, Middleton LJ, Daniels JP, Deeks JJ, Latthe PM. The impact of urodynamics on treatment and outcomes in women with an overactive bladder: a longitudinal prospective follow-up study. Int Urogynecol J 2018;29:513-9.
5. Goldman HB, Lloyd JC. International Continence Society best practice statement for use of sacral neuromodulation. 2018;37:1823-48.
6. Li GP, Wang XY, Zhang Y. Efficacy and Safety of OnabotulinumtoxinA in Patients With Neurogenic Detrusor Overactivity Caused by Spinal Cord Injury: A Systematic Review and Meta-analysis. Int Neurourol J 2018;22:275-86.