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EFFICACY AND SAFETY OF INTRAVESICAL ONABOTULIUMTOXIN A INJECTION ON PATIENTS WITH IDIOPATHIC DETRUSOR OVERACTIVITY AND DIABETES MELLITUS

Hypothesis / aims of study
Diabetes mellitus (DM) is an independent risk factor for idiopathic detrusor overactivity (IDO) and overactive bladder (OAB). Diabetic patients have more OAB symptoms and may be more refractory to behavioral and pharmacological therapy. Intravesical onabotulinumtoxin A injection (BoNT-A) has been considered as a new therapy option for IDO and OAB patients when conventional treatment failed. However, whether diabetes is a poor prognostic factor for BoNT-A treatment was not fully understood. Thus, we investigated the efficacy and safety of BoNT-A injection for patients with DM and IDO.

Study design, materials and methods
A total of 217 patients who received intravesical injection of 100 U BoNT-A for refractory IDO were enrolled into this study. Of them, 48 patients have DM. Videourodynamics was performed at baseline and was repeated at 3 months after intravesical BoNT-A injection. Patients with moderate and marked improved outcome defined as the patients' perception of bladder condition improved by 2 and 3 points were considered as exhibiting a successful result. The procedure-related adverse effects including acute urinary retention, large post-voiding residuals, straining to void, urinary tract infection, hematuria and general weakness were recorded. Forty-eight age-matched patients were randomly selected from non-diabetic groups and compared.

Results
The mean age of diabetic and non-diabetic patients were 73.08±8.80 and 71.98±9.33 years old (p=0.552), respectively. The similar successful result was noted during 6 months follow-up (DM 56% versus non-DM 61%, p=0.128). The changes of urodynamic parameters at baseline and 3 months after onabotunilumtoxin A injection were similar in two groups. Compared with baseline, PVR and bladder capacity increased significantly at 3 months in both groups. However, the changes of Qmax, voided volume and Pdet at baseline and 3 months were not statistically significant. Regarding the adverse events, compared with non-diabetic patients, diabetic patients had significantly higher incidence of large post-voiding residuals (60.4% in DM versus 33.3% in non-DM, p= 0.007) and general weakness (10.4% in DM versus 0% in non-DM, p=0.027). However, baseline urodynamic parameters in diabetic patients could not predict the occurrence of adverse effects. The incidence of other adverse events including AUR, straining to void, hematuria, and UTI was comparable in both groups. Patients with AUR were treated with an indwelling Foley catheter for 7 days. Most of the patients could void without performing CIC. No major complications were noted in both groups.

Interpretation of results
Our findings first demonstrated that the efficacy and safety of intravesical 100 U BoNT-A injection on patients with IDO and DM. Previous studies have showed that impairment of efferent pathways of the bladder in DM is considered the cause of DO with impaired contractility. Thus, it is reasonable to worry whether improvement of IDO will carry worse contractility. However, our results are against the assumption because baseline detrusor pressure is not a poor prognostic factor for adverse events and treatment failure.

Concluding message
Though intravesical BoNTA injection increased the incidence of large post-voiding residuals and general weakness in diabetic patients, DM itself did not influence the treatment outcomes and other adverse effects. Onabotulinumtoxin A injection was a safe and effective treatment for patients with IDO and diabetes.

Disclosures
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