

40. IMPORTANCE OF URODYNAMIC INVESTIGATIONS IN THE MANAGEMENT OF WOMEN WITH OVERACTIVE URINARY BLADDER

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Introduction. Overactive bladder (OAB) is defined by the International Society for Contingency as a urinary urgency, with or without urinary incontinence, usually associated with urinary frequency and nocturia. OAB symptoms affect ~ 17% of women, and its prevalence increases with age, reaching 30.9% of elderly patients. Detrusor overactivity (DO) is the most common cause of OAB and can be identified in 64% of patients during urodynamics (UDS), expressed by phasic contractions of the detrusor. DO is classified into two subgroups: neurogenic and idiopathic (DOi), depending on the presence/absence of neurological diseases. Botulinum toxin type A (BTX-A) injections have received a grade A recommendation for refractory idiopathic OAB by a group of European experts, and are present in the guidelines of the American Association of Urology (AUA) and the European Association of Urology (EAU) as a standard of treatment.

Aim of study. The aim of this study was to evaluate the efficacy of UDS up to the injectable surgical treatment with BTX-A of detrusor muscle in patients diagnosed with refractory OAB associated with DOi. Urinary symptoms of OABi don't provide a complete and definitive diagnosis of the underlying pathology compared to UDS and only an increase of urinary frequency cannot present the predictive symptom of DOi, therefore complete investigation of bladder contraction function by UDS, including exploration of voiding phase, is mandatory until BTX-A intradetrusor injection.

Methods and materials. A short-term prospective pilot study performed at Department of urology and surgical nephrology, during 2019-2021, included 20 females diagnosed clinical and UDS with OAB refractory to drug treatment, associated with DOi. UDS findings were correlated with clinical data based on the OAB Symptom Score questionnaire (OABSS) to determine the predictive value of treatment for injection. After confirming both clinical and urodynamic diagnosis, patients underwent BTX-A injection surgery and were followed postoperatively after 1 month by assessing urinary symptoms after completing the voiding diary/24h and the OABSS questionnaire.

Results. Based on UDS data, the diagnosis of OAB with DO was confirmed by establishing the presence of phasic contractions of the detrusor ($n=3.85\pm 1.1$), increased values of detrusor pressure ($P_{detmax}=10.77\pm 10\text{cmH}_2\text{O}$) and the presence of lower urinary bladder compliance ($CVU=102.17\pm 100\text{ml/cmH}_2\text{O}$), these data in 100% of cases were predictors of effectiveness of BTX-A injection. Low values obtained on filling cystometry: first sensation of voiding ($FSV=76.6\pm 55.1\text{ml}$), first desire of voiding ($FDV=113\pm 100\text{ml}$), strong desire of voiding ($SDV=156\pm 121\text{ml}$) and maximal cystometric capacity ($MCC=176\pm 136.2\text{ml}$) correlated in 100% cases with OAB symptoms (urinary urgency, frequency and nocturia) from the OABSS validated questionnaire. Low preoperative PVR values ($\bar{x}=4.75\text{ml}$) didn't correlate with the occurrence of acute urinary retention or the need for intermittent post-injection catheterization, the same as presence of low value of maximum flow rate ($Q_{max}=9.8\pm 4.1\text{ml/s}$).

Conclusion. The urodynamic investigation is a reliable investigation for the objectification and evaluation of urinary dysfunction and is predictive of some postoperative complications of BTX-A injection in patients with OAB and DOi.