

## **C112: Treatment of neurogenic detrusor overactivity using intravesical detrusor injection with botulinum toxin - pilot study**

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**INTRODUCTION & OBJECTIVES:** The overactive bladder (OAB) syndrome is defined, according to the International Continence Society (ICS), as urinary urgency, that is usually accompanied by frequency and nocturia, with or without urinary incontinence, in the absence of urinary tract infection. Detrusor overactivity is diagnosed by urodynamic study. When an underlying neurological condition occurs, the term used would be neurogenic detrusor overactivity. The usual pharmacological treatment (the antimuscarinic drugs) has limited efficacy, due to the systemic adverse events (dry mouth, constipation, blurred vision), which lead to low treatment compliance. Therefore, the purpose of this pilot study is to determine the efficacy and safety of a single dose Botulinum Toxin A in subjects with Neurogenic Detrusor Overactivity (NDO) and urinary incontinence, with non-adequate response to antimuscarinic agents or treatment discontinuation.

**MATERIAL & METHODS:** Our study included 12 patients with diagnosed neurogenic detrusor overactivity (NDO), presenting with at least 1 episode of urinary incontinence per 24 hours, according to their bladder diary. After signing the informed consent and the initial evaluation including compulsory urodynamic study, they received intravesical therapy with Botulinum Toxin A (AbobotulinumtoxinA – Dysport 500 UI), which was injected cystoscopically into the detrusor muscle in 15 different sites, sparing the bladder trigone. After the procedure, the patients are evaluated for 6 months, assessing the bladder diary (for the number of incontinence episodes, number of voidings per day, number of urgency episodes, and the mean voided volumes) urodynamic parameters at 3 months, post voiding residual and episodes of urinary tract infection (UTI) as well as the the need for intermittent catheterisation.

**RESULTS:** In terms of results, the bladder diary showed an improvement regarding daily incontinence (decreased by approximately 50%) and catheterisation episodes (-15%) , as well as the urodynamic parameters – maximum cystometric capacity (MCC), reflex volume and maximum detrusor pressure (MDP), that were improved with 60%, 50% and -40% respectively. In terms of UTI, there was a slight increase regarding these episodes, with an average of +25%.

**CONCLUSIONS:** Intravesical botulinum toxin proved to be an efficient alternative for patients with NDO that fail on conservative or medical treatment, improving symptoms and urodynamic parameters, as well as the patients' quality of life. We are evaluating in a second study the appropriate dosage number of injection sites, long term adverse events, as well as the effectiveness of reinjection.

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