

## **BOTULINUM TOXIN DETRUSOR INJECTIONS IN PATIENTS WITH NON-NEUROGENIC BLADDER HYPERACTIVITY**

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**INTRODUCTION & OBJECTIVES:** Botulinum toxin A was initially used as a potent muscle relaxant for sphincter externus injections in the treatment of sphincter detrusor dyssynergia. Recently, botulinum toxin A detrusor injections have been established for the treatment of neurogenic bladder hyperactivity (detrusor hyperreflexia). We report our experiences with the use of botulinum toxin A in 42 patients with non-neurogenic bladder hyperactivity (detrusor instability) refractory for common conservative treatment options.

**MATERIAL & METHODS:** From 07/2001 till 06/2004, 60 patients underwent botulinum toxin A detrusor injections, 42 of them for non-neurogenic bladder hyperactivity (16 males, 26 females; mean age 56 years). Etiology varied between idiopathic detrusor instability (IDI) (52.4%), de novo urgency/frequency following surgery (DNU) (33.3%) and interstitial cystitis (IC) (14.3%). All patients were refractory for antimuscarinics. Further treatment failures included resiniferatoxin bladder instillations, pudendal neuromodulation, TUR-P (in male patients), antidepressants, alpha-blockers, EMDA and phosphodiesterase I inhibitors. All patients received 20 to 30 detrusor depot injections of 10 IE botulinum toxin A (200-300 IE total dose). The area of the ureteral orifices was excluded to prevent reflux. Six weeks after therapy micturition diaries and patient satisfaction questionnaires were recorded and cystometry and pressure flow studies were performed.

**RESULTS:** Median diurnal voiding frequency decreased from 16 to 8 ( $p < 0.05$ , Wilcoxon test), median nocturia decreased from 4 to 2 ( $p < 0.05$ ). Mean cystometric bladder capacity increased from  $147 \pm 94$  ml to  $322 \pm 125$  ml ( $p < 0.001$ ), post void residual changed from  $9 \pm 18$  ml to  $46 \pm 91$  ml (n.s.). Global patient satisfaction was: 35% completely satisfied, 12.5% generally satisfied, 25% unsatisfied, and 27.5% very unsatisfied. Patients with DNU had the highest satisfaction rate (54% overall satisfied), followed by IDI patients (48%) and IC patients (33%).

**CONCLUSIONS:** Voiding frequency and cystometric parameters improved significantly, proving the efficacy of botulinum toxin A detrusor injections in patients with non-neurogenic bladder overactivity. Urinary retention did not occur despite of high total injection doses. Objective treatment failures may be due to underlying non-cholinergic pathologies. The surprisingly low patient satisfaction can be explained by a persisting urgency and/or a negative patient selection (severe symptoms, multiple treatment failures, psychic alteration). However, in our opinion botulinum toxin A detrusor injections remain a treatment option in desperate end-stage patients otherwise facing urinary diversion.