

USE OF BOTULINUM TOXIN IN IDIOPATHIC OVERACTIVE BLADDER

Hypothesis / aims of study

To analyze the clinical, urodynamic, and adverse effects of botulinum toxin treatment in patients with idiopathic overactive bladder.

Study design, materials and methods

We analyzed 28 patients diagnosed with idiopathic overactive bladder who were treated by applying 100, 200, and 300 units of Botulinum toxin from September 2007 to November 2011. We evaluated demographic variables and factors that are related to clinical symptoms such as urgency urinary incontinence, nocturia, daytime voiding frequency, and number of pads needed per day. Urodynamic variables were also analyzed including data from filling cystometric and the pressure/flow study. Adverse effects were evaluated, taking into account the presence of positive cultures in the postoperative period and the need of intermittent catheterization after one week, as well as 3 months after the procedure. For the statistical analysis, SPSS 15.0 program was used.

Results

All patients were women with a mean age of 57 ± 13 years. Among the patients, 75% were ASA II, and 82% had received prior treatment with anticholinergics. A total of 41 procedures were performed in which 100, 200, and 300 toxin units were administered 36, 4, and 1 cases; respectively. In all, 1 patient received a second injection, and 2 patients have received 3 injections so far. The average time between treatments was 17 to 20 months.

Clinically, we observed that there was a 60% reduction in urge incontinence episodes. The average number of pads used per day was 3 before treatment and, pads were no longer needed after treatment. Daytime voiding frequency longer 2 hours improved by 28%, and nocturia decreased by 50%. In regards to urodynamics, we mainly found changes in the maximum cystometric capacity, observing an increase of 105ml (51-159) $p < 0.000$. Moreover, there were increases in the volumes at which the first desire to void (95ml (11-99) $p < 0.015$) and first involuntary detrusor contraction (55 ml (22 -167) $p < 0.020$). Residual urine increased a mean of 18ml(11-48), which did not result statistically significant. Among all patients, only one presented a positive urine culture, which was managed with oral antibiotics. Five patients needed transient catheterization in the first week and only one required a Clean Intermittent Catheterization during 3 months.

Chances of Urodynamic study				
	Before	After	Median	P
First desire to void	115±87	171±110	55±101	0.015
Volume first Involuntary detrusor activity	72 ±56	167 ±93	95±69	0.020
Maximum cystometric capacity	207 ±125	313 ±121	105±127	<0.001
Post void residual	24 ±30	47± 59	22±53	0.050
Clinics chance after application of botulinum toxin				
	Before	After		
Urgency	78%	17%		
FMD > 2 horas	17,9%	42%		
Nocturia	3±1.5	1.5±1		
Number of pads	3	0		

Interpretation of results

Several studies have demonstrated the beneficial effect of botulinum toxin regarding the symptoms and quality of life in the treatment of overactive bladder (1). Botulinum toxin has been proposed as an alternative treatment in patients diagnosed with idiopathic overactive bladder refractory to anticholinergic drugs (grade of recommendation A). According to our study and in concordance to other series published (2,3), 100U, 200U and 300U of botulinum toxin injected intradetrusor carries out changes in the urodynamic parameters such as an increase in maximum cistomanometric capacity (105ml), volume at first urinary desire(55ml) and, volume at first involuntary detrusor contraction (95ml). The improvement in urodynamic parameters may be

expressed clinically as longer time between_micturition and a reduction in urge episodes (61%).(4) Therefore, a better quality of life is achieved.

Concluding message

Treatment with botulinum toxin showed to have a positive clinical and urodynamic effect in patients with idiopathic overactive bladder, only finding minor and tolerable adverse effects with no systemic repercussions whatsoever.

References

1. Apostolidis A, Dasgupta P, Denys P, Elneil S, Fowler CJ, Giannantoni A, et al. Recommendations on the use of botulinum toxin in the treatment of lower urinary tract disorders and pelvic floor dysfunctions: a European consensus report. Eur. Urol. January 2009;55(1):100-19.
2. Denys P, Le Normand L, Ghout I, Costa P, Chartier-Kastler E, Grise P, et al. Efficacy and safety of low doses of onabotulinumtoxinA for the treatment of refractory idiopathic overactive bladder: a multicentre, double-blind, randomised, placebo-controlled dose-ranging study. Eur. Urol. March 2012;61(3):520-9.
3. Dmochowski R, Chapple C, Nitti VW, Chancellor M, Everaert K, Thompson C, et al. Efficacy and safety of onabotulinumtoxin A for idiopathic overactive bladder: a double-blind, placebo controlled, randomized, dose ranging trial. J. Urol. December 2010;184(6):2416-22.

Disclosures

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