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DOES INTRAPROSTATIC INJECTION OF BOTULINUM TOXIN-A REDUCE POST-VOID RESIDUAL IN BENIGN PROSTATIC HYPERPLASIA?

Hypothesis / aims of study
Botulinum toxin (BNT-A) has received regulatory approval for use in detrusor overactivity and overactive bladder, but its use remains controversial in lower urinary tract symptoms (LUTS) due to benign prostatic hyperplasia (BPH) (1).
We tested the clinical value of intraprostatic injection of BTX-A in the paradigmatic condition of incomplete urinary retention (iUR) due to BPH, in men unwilling or unsuitable for surgery.

Study design, materials and methods
A prospective, multicentre, open label, interventional study was conducted in men suffering from BPH-related iUR, unfit for surgery and eligible to receive intraprostatic injection of BTX-A.
A sample of 12 men, consenting to treatment, were consecutively included in two Italian centres of Urology between June 2013 to June 2014.
All patients, aged from 63 to 83 (mean 72), were prior α-blocker users and went on with this drugs as suggested by Marberger et al (2). In 1 subject an indwelling transurethral catheter (due to the severity of bladder storage symptoms) was placed, 7 patients used in average 3 clean intermittent catheterisations (CIC) by day and 4 voided without need of CIC.
The mean post-void residual (PVR) was 268 cc (range 115-400).
At baseline the mean prostate volume was 37 (range 18-54 mL) and the International Prostate Symptom Score (IPSS) ranged from 21 to 33 (average 27).
A single transrectal administration of BNT-A was performed into the prostate transition zone; each lobe of adenoma was injected with 100 U of Incobotulinum under sonographic guidance.
The primary efficacy endpoint was reduction of PVR at week 2, 4, 8 and 12. Secondary endpoints were changes from baseline in IPSS and prostate volume.
Adverse events were also assessed.

Results
Intraprostatic BTX-A was well tolerated by all subjects and none complication was observed.
At follow-up prostate volume remained unchanged in all patients. Also PVR did not change in 11/12 evaluable cases; mean IPSS changed slightly (27 to 25) in the same patients.
Three attempts to remove the indwelling catheter in the lonely user failed.
Subsequently 7/12 patients underwent transurethral resection of the prostate with resolution of iUR and marked improvement of IPSS.

Interpretation of results
Intraprostatic injection of BTX-A has not provided subjective or objective benefit in men with iUR due to BPH. Above all we have not observed, unlike other authors (3), reduction of PVR.

Concluding message
Despite that larger studies are needed to assess a confirmatory evidence, in our clinical experience intraprostatic BTX-A is not effective in iUR due to BPH.

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