Prostatic Injection of Botulinum A Toxin: An Alternative Treatment for Benign Prostatic Hyperplasia

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Abstract:
Introduction: Benign Prostatic Hyperplasia (BPH) is a common problem. It is the fourth diagnosis in men over 50. Transurethral resection of prostate (TURP) has been considered as a gold standard for the treatment of symptomatic BPH. However TURP has long-term morbidity including retrograde ejaculation, bladder neck contracture, and impotence.

In this study, we examined the clinical effectiveness of prostate injection of botulinum A toxin in the treatment of BPH.

Methods: In this descriptive study, 53 men with BPH, who had failed medical treatment and were poor risks for surgery, were treated by injection of botulinum A toxin into different parts of the transition zone. Amounts of prostate-specific antigen(PSA), prostate symptom scores, quality-of-life index, prostate volume, postvoid residual urine volume, and peak urinary flow rates were recorded for all patients before injection and 3 months after the injection. In all patients, the injection was performed.

Results: The mean patient age was 78±2.5 years. The mean symptom score and quality-of-life index significantly improved after 3 months. Maximal urinary flow rate (Qmax) showed a significant increase after 3 and 6 months of treatment (P<0.05). Postvoid residual urine volume had a significant decrease after 3 and 6 months (P<0.05). Mean serum total PSA decreased from 5.1±1.5 ng/mL to 2.7±0.9 ng/mL within 3 months after the treatment (P<0.05). Prostate volume decreased from 65±8 ml to 59±6 ml within 1 month and to 49±5 ml within 3 months (P<0.05). The maximal treatment effect was seen after 1 week. At the end of the 6-month follow-up, 48 patients had improved symptoms and in 32 patients, medical treatment were discontinued. Only in 7 patients, symptoms were not improved.

Conclusion: The study showed that prostate injection of botulinum A toxin (BTA-A) leads to rapid reduction of prostate volume as well as reduction in urethral resistance in patients with bladder outlet obstruction due to enlargement of prostate and it can be regarded as a treatment for resistant urinary retention in patients with benign prostatic hyperplasia who are poor risks for surgery. This alternative treatment has the minimal side effects. It may even be considered as an adjuvant treatment in patients with prostate cancer.

Keywords: Prostate, Outline a toxin, Benign prostatic hyperplasia (BPH).

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