

THE IMPACT OF PROSTATIC URETHRAL ANGLE ON LOWER URINARY TRACT SYMPTOMS AND TREATMENT WITH TAMSULOSIN

Hypothesis / aims of study

Prostatic urethral angle (PUA) had been reported to help in the treatment of individuals with lower urinary tract symptoms. Our research is to evaluate the impact of prostatic urethral angle on lower urinary tract symptoms and treatment with Tamsulosin after four weeks.

Study design, materials and methods

We designed a prospective study to recruit male Taiwanese patients who presented moderate to severe lower urinary tract symptoms (International Prostate Symptom Score >8) suggestive of mild prostate enlargement between 20 and 40 gm. Patients who were older than 70 years, diagnosed with prostatitis, urinary tract infection, or neurogenic bladder were excluded. All patients were administered Tamsulosin 0.2mg per day for one month. All patients received transrectal ultrasound for measurement of prostate volume and prostatic urethral angle, uroflometry and bladder sonography for post voided residual urine. We divided patients into two groups by PUA 35° .

Results

Between January and December 2011, a total of 172 patients were recruited in our study. There were 38 patients whose PUA $\geq 35^\circ$ (group A) and 134 patients whose PUA $< 35^\circ$ (group B). Before medical treatment, group A had lower maximum flow rate (12.78 vs 13.18 ml/s) and greater post voided residual urine (71.33 vs 69.87 ml) than group B. Group A reported more severe IPSS including storage and empty scores (18.69 vs 16.46). After Tamsulosin therapy 4 weeks, the improvement of maximum flow rate and post voided residual urine reported better in group B. The improvement of IPSS were more remarkable in group B than A (13.11 vs 10.73), especially in nocturia ($p=0.04$).

Interpretation of results

Greater degree of prostatic urethral angle may cause a valve type of obstruction which make poor funneling effect of bladder neck. The energy loss in the bending prostatic urethra results in decreased velocity of urine. The poor dynamics of urine flow may cause more severe IPSS. The lower degree of prostatic urethral angle had better urine dynamics, therefore better response to Tamsulosin therapy in IPSS, maximum flow rate and post voided residual urine .

Concluding message

PUA $\geq 35^\circ$ may lead to poor IPSS, maximum flow rate and response of Tamsulosin in patients with lower urinary tract symptoms suggestive of mild prostate enlargement.

References

1. UROLOGY 75: 1467–1471, 2010.
2. Int Braz J Urol. 2008; 34: 627-37

Disclosures

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