

## CRITICAL REGION RESPONSIBLE FOR VOIDING DYSFUNCTION LOCATES AT MIDPOINT AND DISTAL REGION OF THE PROSTATIC URETHRA IN BPH PATIENTS.

### Hypothesis / aims of study

In BPH patients, turbulence of urine flow initiated by deformation of the urethral cavity is considered to be one of causes of voiding dysfunction. We evaluated the effect of alpha-1 blocker on dilation of prostatic urethra using virtual 3D urethral contract, and compared with voiding parameters to identify regions responsible for voiding dysfunction.

### Study design, materials and methods

The opened and cross sectional image of the prostatic urethra was generated in 20 patients with BPH before and 4 weeks after administration of tamsulosin (0.2 mg/day). The video images of the prostatic urethra were recorded using a 16F flexible fiberscope, then processed using Windows®-based computer equipped with software (Endo-Flatter plus OVE, Chiba University) to reproduce the cross-sectional plane of the virtual 3D urethra before and after therapy. Prostatic urethra was divided into three regions; proximal, midpoint, and distal region. The cross-sectional areas were assessed to identify the dilated region after therapy, and compared to voiding symptoms.

### Results

After treatment, dilation of prostatic urethra was observed at distal region for 14 patients (P=0.0345), at midpoint for 15 (P=0.0181), and at proximal region for 12, respectively.

Concerning clinical relevance, distension at distal region was highly correlated with improvement of RUV (P=0.0249) and QOL index (P=0.0396). Dilation at midpoint significantly correlated with improvement of Qmax (P=0.0497) and total IPSS (P=0.0145). No significant correlation with clinical factors was observed at dilation of proximal region.

### Interpretation of results

In the prostatic urethra, the critical point responsible for the improvement of Qmax and RUV locates at the midpoint and distal region, respectively. In contrast, dilation at the bladder neck had little effect on symptom recovery. These findings would lead the idea of order-made therapy for voiding dysfunction with least invasiveness; dilate the critical point.

### Concluding message

Critical points responsible for voiding dysfunction in BPH patients could be identified at midpoint and distal region of the prostatic urethra.

### References

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### Disclosures

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