

## INTRAVESICAL PROSTATE PROTRUSION WELL CORRELATES WITH STORAGE SYMPTOMS IN OLDER MALE ADULTS WITH NON-NEUROGENIC OVERACTIVE BLADDER

### Hypothesis / aims of study

Significant intravesical prostate protrusion (IPP) has been shown to cause bladder outlet obstruction. On the other hand, storage symptom can be secondary to bladder outlet obstruction. Therefore it is valuable to know whether there is a significant correlation between IPP and storage symptom in older male. In this study we investigated the correlation between the subjective symptom and parameters of urodynamic and imaging studies in male patients with non-neurogenic overactive bladder (OAB).

### Study design, materials and methods

We prospectively recruited male patients older than 60 years old with chief symptoms of urinary frequency, urgency and urge incontinence. Patients with neurological comorbidities, such as cerebral vascular accident, which might cause lower urinary tract symptoms, were excluded. A total of 122 male patients were enrolled. We used total International Prostate Symptom Score (IPSS-T), voiding sub-score (IPSS-V), storage sub-score (IPSS-S) and overactive bladder symptom score (OABSS) to evaluate subjective symptoms. All patients received pressure-flow urodynamic study and catheter-free uroflowmetry. Maximal flow rate (Q max), mean flow rate (Q mean), CMG capacity, post-voiding residual urine (PVR), detrusor pressure at maximal flow (Pdet at Q max) and Abrams-Griffiths number were recorded or determined. All patients received trans-abdominal ultrasound to obtain the data of intravesical prostatic protrusion (IPP), prostate volume (PV) and detrusor wall thickness.

### Results

The mean age of 122 patients were  $72 \pm 10$  years old. The mean IPSS-T, IPSS-V, IPSS-S and OABSS were  $16.8 \pm 7.3$ ,  $7.2 \pm 4.8$ ,  $9.7 \pm 3.4$  and  $9.8 \pm 3.1$  respectively. IPSS-T score positively correlated with Q max, Q mean and negatively with PSA level ( $P < 0.05$ ). IPSS-V sub-score was negatively correlated with Q max and Q mean ( $r = -0.238, -0.302$  and  $p$  value =  $0.008, 0.001$ , respectively). IPSS-S was negatively correlated with CMG capacity, Q max, Q mean ( $P < 0.05$ ) and positively correlated with PVR, PSA level and IPP ( $P < 0.05$ ). OABSS was negatively correlated with CMG capacity, Q max ( $P < 0.05$ ) and positively correlated with IPP ( $P < 0.05$ ). There was no correlation between symptom scores and Pdet at Q max, Abrams-Griffiths number, prostate volume, detrusor wall thickness.

### Interpretation of results

IPP was consistently correlated well with storage symptom as measured by both IPSS storage sub-score and OABSS.

### Concluding message

In older male patients with non-neurogenic OAB, more severe storage symptom is associated with a lower maximal flow rate and a more prominent intravesical prostatic protrusion, indicating that the cause of non-neurogenic OAB in older male is most likely prostate-related.

### Disclosures

**Funding:** None **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics Committee:** IRB of Taipei Veterans General Hospital **Helsinki:** Yes **Informed Consent:** Yes