

## URODYNAMIC CHARACTERISTICS OF PATIENTS WITH LOWER URINARY TRACT SYMPTOMS AND SMALL PROSTATE

### Hypothesis / aims of study

The relevance of prostate size in the pathophysiology of lower urinary tract symptoms (LUTS) is controversial. In this study, we evaluated the relevance of urodynamic parameters according to the size of prostate

### Study design, materials and methods

174 patients with LUTS were prospectively enrolled. All patients were given informed consent. At the time of their visit, 3 day voiding diary, Transrectal Ultrasonography, Maximal flow rate, Post-void residual urine (PVR), International Prostate Symptom Score (IPSS) and Urodynamic parameters (PdetMax, PdetQmax, MBC, bladder outlet obstruction index (BOOI=PdetQmax-2Qmax), and presence of detrusor overactivity (DOA) were evaluated. According to the prostate volume, patients with less than 30g were classified as the Group A and the patients with more than 30g were classified as the Group B. The urodynamic parameters were analyzed according to prostate size using t-test and correlation analysis.

### Results

The mean prostate volume of the Group A and Group B were 25.3ml(20.2-30) and 56.7ml(30.1-128.0), respectively. BOOI showed statistical significance between group A and B (p=0.035), and showed weak but significant correlation between the prostate volume and BOOI (p<0.001, correlation coefficient=0.287). In case of DOA, no statistically significant difference was observed between the groups, but revealed a positive relationship with both prostate volume (p=0.047, correlation coefficient=0.151) and BOOI (p<0.001, correlation coefficient=0.347).

	Patient with prostate volume < 30g	Patient with prostate volume ≥ 30g	p-value	
Q <sub>max</sub> (ml/s)	11.00±6.98	10.39±5.47	0.617	Q <sub>max</sub> ; maximal flow rate
PVR	61.56±69.20	73.33±81.72	0.491	post void residual volume
Voided volume	221.92±177.60	193.88±105.80	0.269	voided volume
Number of voids	10.60±2.64	10.69±4.31	0.933	minimal voided volume
Number of nocturnal voids	2.00±1.12	2.20±1.12	0.573	MiBC; minimal voided volume
MiBC in voiding diary	108.25±63.02	89.33±55.99	0.185	MBC; maximal voided volume
MBC in voiding diary	319.00±97.17	335.56±218.14	0.077	
IPSS	21.00±8.32	18.09±8.35	0.133	
BOOI	18.62±28.07	34.47±35.47	<b>0.035</b>	
DOA (%)	19.2%	33.8%	0.141	

IPSS; international prostate symptom score, BOOI; bladder outlet obstruction, DOA; detrusor overactivity

### Interpretation of results

Greater prostate volume showed higher BOOI with increased frequency of DOA, therefore prostate size is related to the not only bladder outlet obstruction but also presence of detrusor overactivity.

### Concluding message

As small prostate volume is less likely to be related to the presence of DOA, there might be correlation between the prostate volume and presence of detrusor overactivity.

Specify source of funding or grant	none
Is this a clinical trial?	Yes
Is this study registered in a public clinical trials registry?	No
Is this a Randomised Controlled Trial (RCT)?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	Yes
Specify Name of Ethics Committee	Korea hospital Institutional review of board
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes