

RELATIONSHIP OF PREVOIDING BLADDER VOLUME WITH POSTVOIDING RESIDUAL VOLUME AND UROFLOWMETRY IN MALE PATIENTS WITH BENIGN PROSTATE HYPERPLASIA

Hypothesis / aims of study

This is the first study which examined the relationship of prevoiding bladder volume with postvoiding residual volume and uroflowmetry in male patients with benign prostate hyperplasia (BPH). We suggested that on ultrasound examination prevoiding bladder volume affects the amount of postvoiding residual volume and

Study design, materials and methods

43 untreated patients diagnosed with BPH underwent a urinary tract transabdominal ultrasound examination to measure the prevoiding and postvoiding residual bladder volume in the radiology department. The patients had a mild sensation of voiding. Before the measurement of postvoiding residual urine the patients underwent a uroflowmetry. The next day the same patients underwent a second prevoiding urine measurement under a moderate or severe sensation of voiding. Then, they again underwent a uroflowmetry and postvoiding residual volume measurement, respectively. Wilcoxon signed rank tests were used to compare the first and next day measurements.

Results

The next day postvoiding residual volume was significantly higher than the first day postvoiding residual volume (Table 1). However, maximum and average flow rates and voided volume at uroflowmetry at the next day were also significantly higher than the first day measurements (Table 2).

Table 1

	Mean	SD	Significance
PVR first day	82,83	74,08	
PVR next day	155,46	118,91	
PVR next - PVR first			p<0.001
PV first day	207,16	109,28	
PV next day	411,33	205,57	
PV next - PV first			p<0.001

PVR: Postvoiding residual volume, PV: Prevoiding bladder volume

Table 2

	Mean	SD	Significance
Qmax first day	11,23	5,61	
Qmax next day	13,10	6,04	
Qmax next – Qmax first			p<0.023
Qave first day	4,30	1,95	
Qave next day	5,08	2,36	
Qave next – Qave first			p<0.020
Vv first day	179,07	106,28	
Vv next day	253,35	132,62	
Vv next –Vv first			p<0.001

Qmax: maximum flow rate, Qave: average flow rate, Vv: Voided volume at uroflowmetry

Interpretation of results

Patients with moderate or severe sensation of voiding showed larger residual volumes and higher maximum and average flow rates which do not represent the daily voiding patterns and may result in inaccurate medical or surgical interventions.

Concluding message

Postvoiding residual volume measurement and uroflowmetry should be performed with mild sensation of voiding.

Disclosures

Funding: No funding or grant **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics Committee:** Recep Tayyip Erdogan Üniversitesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu **Helsinki:** Yes **Informed Consent:** Yes