

## EFFECT OF DURATION OF BLADDER CATHETERIZATION ON BLADDER FUNCTION IN PATIENTS UNDERGOING ANTERIOR COLPORRAPHY: PROSPECTIVE RANDOMIZED STUDY

**Hypothesis / aims of study:** Cystocele is displacement of the bladder from its normal anatomic position. The most common surgical method used for the treatment of cystocele is colporrhaphy anterior. Long-term catheterization is frequently used after colporrhaphy anterior. The aim of this study is to evaluate the effects of long-term catheterization on bladder function.

**Study design, materials and methods:** Patients who had applied with the complaints of pelvic organ prolapse and/or urinary incontinence and had undergone anterior colporrhaphy between January 2012- January 2014 were included in this prospective randomized study. Pelvic organ prolapse staging was done with POP-Q staging system. The same surgeon performed all of the operations. Patients were randomized according to duration of bladder catheterization as 2 days, 3 days, or 4 days. Randomization was performed using www.randomization.com programme. After the bladder catheterization period was completed, patients were instructed to void when they sensed the need to void, or wait for maximum 3 hours if no sensation to void developed. Residual urine volume was measured with 10-Fr catheter after micturition. T-test was used for statistical analysis. Ethics approval was obtained from the Istanbul University Ethics Committee.

**Results:** The total number of patients was 58. Duration of catheterization was 2 days in 21 patients (Group 1), 3 days in 17 patients (Group 2), and 4 days in 20 patients (Group 3). The mean age, parity, POP-Q stage and lower urinary tract symptoms of patients are outlined in Table 1. Lower urinary tract symptoms were present in 42.9% of patients in Group 1, 35.3% of patients in Group 2, and 55% of patients in Group 3. 29 patients underwent anti-incontinence surgery during the operation. The types of operations performed are detailed in Table 2. No preoperative and postoperative complications developed in any of the patients. There was no significant difference regarding micturition volume, residual urine volume, and residual urine volume/ micturition volume between Group 1 and 2 and Group 2 and 3. Micturition volume was significantly higher in Group 1 when Group 1 and 3 were compared. There was no significant difference between the three groups in terms of residual urine volume and residual urine volume/ micturition volume. The results are detailed in Table 3.

**Interpretation of results:** Micturition volume is significantly higher when the duration of catheterization after colporrhaphy anterior is 2 days when compared to 4 days. This might be explained by the reduced bladder sensation in the immediate postoperative period. However, bladder emptying is not affected and there are no significant differences regarding residual urine volume.

**Concluding message:** Long-term bladder catheterization has no effect on bladder emptying. Randomized studies with higher number of patients is needed to further determine the effect on bladder sensations.

**Table 1:** Demographic variables of the patients and distribution of preoperative lower urinary tract symptoms.

	Group 1 (n=21)	Group 2 (n=17)	Group 3 (n=20)	p
Age	55.7 ± 8.8	58.8 ± 10.1	55.8 ± 9.0	> 0.05
Parity	3.4 ± 1.5	3.8 ± 1.9	3.7 ± 2.1	> 0.05
Cesarean section	2 (9.5%)		2 (10%)	
POP-Q Stage 2	9 (42.8%)	7 (41.2%)	9 (45%)	
POP-Q Stage 3	11 (52.4%)	10 (58.8%)	11 (55%)	
POP-Q Stage 4	1 (4.8%)			
Stress Urinary Incontinence	5 (23.8%)	3 (17.6%)	3 (15%)	
Mixed Urinary Incontinence	4 (19.0%)	3 (17.6%)	8 (40%)	
Obstructed micturition			1 (5%)	

**Table 2:** Distribution of the types of operations performed for pelvic organ prolapse and urinary incontinence in the three groups.

	Group 1 (n=21)	Group 2 (n=17)	Group 3 (n=20)
TOT+ VAH+ CA+ CP	3 (14.3%)	3 (17.6%)	7 (35%)
VAH+ CA+/- CP	7 (33.4%)	4 (23.5%)	3 (15%)
TOT+CA+ CP	3 (14.3%)	2 (11.8%)	1 (5%)
VAH+ CA+CP+SSF	2 (9.5%)	1 (5.9%)	

<b>TOT+ VAH+ CA+CP+ SSF</b>			1 (5%)
<b>VAH+ CA+CP+ McCall culdoplasty</b>	2 (9.5%)	1 (5.9%)	2 (10%)
<b>TOT+ VAH+ CA+CP+ McCall culdoplasty</b>	2 (9.5%)	1 (5.9%)	2 (10%)
<b>CA+CP</b>	1 (4.8%)	2 (11.8%)	1 (5%)
<b>Manchester+ Perineoplasty</b>	1 (4.8%)		
<b>LAVH+BSO+ CA</b>		1 (5.9%)	
<b>Cervical stump removal+CA+McCall culdoplasty</b>		1 (5.9%)	
<b>TOT+CA+ Sacrohysteropexy</b>		1 (5.9%)	1 (5%)
<b>TVT+VAH+CA+CP</b>			1 (5%)
<b>Minisling+VAH+CA+CP</b>			1 (5%)

TOT= Transobturator tape, VAH= Vaginal Hysterectomy, CA= Colporrhaphy anterior, CP= Colporrhaphy posterior, SSF= Sacrospinous fixation, LAVH= Laparoscopic assisted vaginal hysterectomy, BSO= Bilateral salpingoophorectomy

**Table 3:** Mean micturition volume, residual urine volume, and residual urine volume/ micturition volume results of the three groups.

	<b>Group1 (n=21)</b>	<b>Group2 (n=17)</b>	<b>Group3 (n=20)</b>	<b>p<sub>1-2</sub></b>	<b>P<sub>1-3</sub></b>	<b>P<sub>2-3</sub></b>
<b>Micturition volume (ml)</b>	331.5 ± 132.7	303.7 ± 140.9	243.0 ± 115.6	0.537	0.029	0.159
<b>Residual urine volume</b>	41.7 ± 35.3	37.6 ± 31.8	33.2 ± 32.7	0.711	0.429	0.683
<b>Residual urine volume/micturition volume</b>	0.14 ± 0.14	0.13 ± 0.09	0.13 ± 0.10	0.683	0.693	0.974

Disclosures

**Funding:** No funding or grant was used **Clinical Trial:** Yes **Public Registry:** No **RCT:** Yes **Subjects:** HUMAN **Ethics Committee:** Istanbul University Ethics Committee **Helsinki:** Yes **Informed Consent:** Yes