

EFFECT OF PREOPERATIVE FLOW RATE ON POSTOPERATIVE RETENTION AND VOIDING DIFFICULTY AFTER TRANSOBTURATOR TAPE OPERATION

Hypothesis / aims of study

In midurethral sling operations for stress urinary incontinence (SUI) sometimes surgeons encounter troublesome postoperative complications such as urinary retention or voiding difficulty. There has been controversy on the urethral obstruction after transobturator tape placement (TOT). Some studies suggested urinary retention and voiding difficulty occurring post-TOT are related with preoperative flow rate and detrusor pressure during void. In cases with low preoperative flow rate, there are some probabilities to appear postoperative retention. In this study, we intended to analyze the effect of preoperative flow rate on postoperative results.

Study design, materials and methods

Three hundred twenty-four patients who underwent TOT for SUI from June 2006 to May 2012 were included for analysis retrospectively. All patients were preoperatively investigated for the urinary symptoms, preoperative urodynamic studies (UDS) including flow rate measurement. Postoperative urinary symptoms such as, urinary retention, voiding difficulty, urgency and urinary incontinence were checked and uroflowmetry was conducted.

Results

Cases of postoperative urinary retention requiring catheter indwelling were three (0.9%) and voiding difficulty were 18 (14%). Patients were divided by preoperative peak flow rate of 15 meter per second. Lower flow rate group (low group, <15 m/s) had 40 patients (12.8%) and higher flow-rate group (high group) 272 (87.2%). Between two groups, there were no significant difference in age, previous pelvic surgery history and past medical history. In post-void residual (PVR) and detrusor pressure at peak flow rate there was higher scores in low group. Patients showing low flow rate below 12 m/s were more in low group ($p = 0.024$). However, there was no significant difference in postoperative voiding difficulty. Furthermore, three patients experienced in postoperative retention showed preoperative high flow rates. Catheter indwelling period, hospital stay, operation satisfaction showed no differences between groups.

Interpretation of results

Postoperative voiding pattern after midurethral sling operation seems to be obstructive [1]. However, the incidence of postoperative retention rate was not considerably high [2]. Kawashima et al. reported detrusor pressure at peak flow rate is important for free of postoperative acute urinary retention [3]. In this study, patients in low group showed higher detrusor pressure at pressure-flow study. This finding may support the detrusor contractility was an important factor for postoperative normal bladder emptying. Relatively low rate of retention in this study may imply the bias of patient selection for operation, which was a limitation of this study as well as shorter follow-up period and lack of postoperative UDS data.

Concluding message

Within one month of postoperative recovery period, patients with preoperative low flow rate showed more voiding difficulty. However, it seems subjective voiding difficulty was tolerable and treatments success rate was considerable to the patients with normal flow rate. According to this study, patients with preoperative low flow rate can be treated with TOT for SUI.

Table. Comparison of parameters between groups divided by preoperative flow rate

Parameters	Qmax>15 ± SD	Qmax<15 ± SD	p-value
Age	52.9 ± 9.58	55.0 ± 10.6	0.212
Prev pelvic op	16 (18.0%)	2 (11.1%)	0.732
Preoperative urgency	33 (37.1%)	7 (38.9%)	0.885
Qtip > 30	28 (34.1%)	4 (25.0%)	0.475
Qmax	32.4 ± 12.9	11.2 ± 2.6	<0.001
Voided Volume (VV)	343 ± 193	179 ± 129	0.001
PVR	36.9 ± 40.5	56.0 ± 103	0.267
MUCP	71.1 ± 30.7	75.8 ± 29.6	0.550
VLPP	85.7 ± 23.3	97.6 ± 16.1	0.062
PdetQmax	24.8 ± 12.8	36.2 ± 18.0	0.008
IDC (no/yes)	5 (5.6%)	2 (11.1%)	0.335
Catheter duration	1.0 ± 0.21	1.0 ± 0	1.000
Postop Qmax	21.2 ± 9.7	15.7 ± 8.9	0.002
Postoperative VV	258 ± 78	217 ± 75	0.064
Postop PVR	37.0 ± 42.9	44.3 ± 55.6	0.369
preQ – postQ	11.6 ± 14.7	-4.9 ± 9.6	<0.001
prePVR – postPVR	0.68 ± 55.6	-7.6 ± 74.8	0.446
preQ – Q1W	4.3 ± 14.1	-7.8 ± 11.0	<0.001
prePVR – PVR1W	0.68 ± 54.3	-6.0 ± 86.0	0.597
preQ – Q1M	-0.08 ± 14.0	-7.7 ± 7.4	0.026
prePVR – PVR1M	0.20 ± 62.6	18.8 ± 131	0.329

References

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Disclosures

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