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EARLY TAPE MOBILISATION: A BETTER METHOD FOR THE MANAGEMENT OF POSTOPERATIVE URINARY RETENTION AFTER MID-URETHRAL TAPE SURGERY?

Hypothesis / aims of study: A national registry database for female incontinence surgery was retrospectively analysed to identify which of the following three methods for the management of urinary retention after mid-urethral tape surgery had the best subjective and objective outcomes; catheterisation, tape transection or early postoperative tape mobilisation.

Study design, materials and methods

In the period 1998 to 2013, 19631 stress and mixed incontinent women had TVT, TVTO, TOT or Adjust operations performed. Postoperative urinary retention was previously primarily handled with catheterisation. If necessary, the tape was transected later. Since 2008 early tape mobilisation during the first postoperative week has been increasingly performed. The vaginal incision is opened in local anaesthesia and the tape is pulled down. Before surgery and at 6-12 months follow-up a validated questionnaire (1) was completed and a stress test with 3 coughs and 20 jumping jacks was performed with 300 ml bladder volume. The result from the 6-12 months follow-up stress-test was used as the objective outcome in the study. A stress index (0 – 12 points) generated from the validated questionnaire is an expression of subjective stress incontinence bother and was used as the first subjective post-operative outcome. The questionnaire also contains a validated question for treatment satisfaction. The women can choose: “very satisfied”, “moderately satisfied”, “neither satisfied nor dissatisfied”, “moderately dissatisfied” or “very dissatisfied”. The percentage of women registered as “very satisfied” at the 6-12 months follow-up was used as the second subjective post-operative outcome. Categorical data are presented as percentages and continuous data as median with 5 and 95 percentiles. Mann-Whitney U test was used to test differences in continuous outcome variables and Chi square test for dichotomous outcome variables. A significance level of 5 % was used. To adjust for the observed imbalance in preoperative values, we performed an analysis of covariance using the preoperative values as a covariate. This approach gives the correct between-group differences regardless of any preoperative imbalance.

Results

746 of 19631 women (3.8%) experienced postoperative urinary retention. The median time of follow-up was 9 months. 260 women performed self-catheterisation between 1 week and 1 month and 73 women performed self-catheterisation for more than 1 month. 129 women had the tape transected. 141 women had post-operative tape mobilisation performed, 16 of these had the tape later transected. Postoperatively these 16 women had significantly more leakage (P<0.0005) and larger stress indices (P<0.047) than the remaining 125 women. 64 women (18%) who started catheterisation had their tapes transected later. Postoperatively these 64 women were significantly less “very satisfied”, leaked more and had larger stress indices (all 3 variables P<0.0005) than the 284 women who performed self-catheterisation and were not transected. The pre and postoperative number of women are given in the tables.

Pre- and post-operative stress test, stress index and % “very satisfied” in women who performed catheterisation and in women who had their tape transected.

	Catheterise N 284/256				Tape transected N 129/129				
	Percentile 5	Median	Percentile 95	% very satisfied	Percentile 5	Median	Percentile 95	% very satisfied	P-value
Preop. stresstest g.	2	37	150		3	32	161		0.474.
Preop. stress index	5.0	9.0	11.0		6.0	9.0	12.0		0.149
Postop. stress test	0	0	20		0	0	65		0.0005
Postop. stress index	0.0	0.0	7.0		0.0	0.0	10.0		0.0005
Postop. very satisfied				74.7				49.1	0.0005

Pre- and post-operative stress test, stress index and % “very satisfied” in women who had the tape transected or mobilised due to retention

	Tape transection N129/129				Tape mobilised N125/100				
	Percentile 5	Median	Percentile 95	% very satisfied	Percentile 5	Median	Percentile 95	% very satisfied	P-value
Preop. stress test g.	3	32	161		0	24	102		0.0220
Preop. stress index	6.0	9.0	12.0		5.0	8.0	11.0		0.0020
Postop. stress test g.	0	0	65		0	0	0		0.0030
Postop. stress index	0.0	0.0	10.0		0.0	0.0	6.0		0.0005
Postop. very satisfied				49.1				82.0	0.0005

Pre and postoperative stress test, stress index and % “very satisfied” in women who performed catheterisation and in women who had their tapes mobilised due to retention									
	Catheterise N 284/256				Tape mobilisation N 125/100				
	Percentile 5	Median	Percentile 95	% very satisfied	Percentile 5	Median	Percentile 95	% very satisfied	P
Preop. stress test	2	37	150		0	24	102		0.001
Preop. stress index	5.0	9.0	11.0		5.0	8.0	11.0		0.027
Postop. stress test	0	0	2		0	0	0		0.136
Postop. stress index	0.0	0.0	7.0		0.0	0.0	6.0		0.183
Postop. very satisfied				74.7				82.0	0.163

Pre- and post-operative stress test, stress index and % “very satisfied” in women who performed catheterisation followed by tape transection and women who had the tape mobilised									
Catheterise and later transection N 64/64					Tape mobilised N 125/100				
	Percentile 5	Median	Percentile 95	% very satisfied	Percentile 5	Median	Percentile 95	% very satisfied	P-value
Preop. stress test	0	35	161		0	24	102		0.005
Preop. stress index	5.0	9.0	11.0		5.0	8.0	11.0		0.084
Postop. stress test	0	1	105		0	0	0		0.0005
Postop. stress index	0.0	2.0	10.0		0.0	0.0	6.0		0.0005
Postop. very satisfied				33.3				82.0	0.0005

Interpretation of results

At the 6 – 12 months follow-up women with retention after mid-urethral tape surgery who had the tape transected had significantly more leakage during the stress test, higher stress incontinence indices and were less satisfied than women who performed catheterisation or had the tape mobilised. There was no significant difference between women who performed catheterisation and those who had the tape mobilised. However, 18% of the women who catheterised underwent subsequent tape transection. These women had significantly more leakage, higher stress incontinence indices and were less satisfied than the women who had their tapes mobilised. Postoperative tape mobilisation seems to generate the best subjective and objective postoperative outcomes.

Concluding message

Women with urinary retention after mid-urethral tape surgery should be offered early tape mobilisation.

References

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