



Long-term Follow-up of TOT Operation and Quality of Life

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Hypothesis / aims of study:

To evaluate the long-term outcome of TOT and its effect on lower urinary tract symptoms and quality of life.

Study design, materials and methods:

Patients that suffered from stress urinary incontinence or mixed urinary incontinence and surgery was performed were recruited. Urogynecologic symptom assessment, bladder diary, and urodynamics was performed. Quality of life was analyzed using King’s Health Questionnaire. Patients were reanalyzed minimum 5 maximum 10 years after the operation.

Results

The total number of patients included in the study was 86. Mean follow-up period was 7.9±1.5 (5-10) years. Mean age of the patients at the beginning of the study was 49.8±8.5 (34-75). Mean age of the patients at the completion of the study was 56.6± 7.4 (45-80). Mean number of deliveries was 3.0±1.5 (0-9). 40 women (46.5%) were in the postmenopausal period. 20 women suffered from stress urinary incontinence whereas 66 women suffered from mixed urinary incontinence preoperatively. Stress test was positive in 34 women (39.5%) preoperatively. 31 women suffered from coital incontinence preoperatively whereas 3 women suffered from coital incontinence in the postoperative period. 53 women had Stage 2 or higher prolapse and underwent concomitant prolapse surgery. After surgery, urinary retention developed in 2 women, urinary tract infection developed in 5 women, groin pain developed in 2 women, mesh erosion requiring excision developed in one woman. 72 women had pad usage preoperatively whereas 12 women had pad usage in the postoperative period. Mean 1-hr pad test was 22.1±29.4 gr preoperatively and 3.4±18.1 gr (0-135) 1 year after the operation. Bladder diary results are summarized in Table 2. Q-tip test was 64.9±17.1 (30-90) preoperatively and 50.2±16.4 (15-90) at postoperative 1 year. Mean perineometer result was 22.3 ± 10.9 cmH₂O (2-51) and 23.1± 11.6 cmH₂O (0-62) at postoperative 1 year. 22 women suffered from urinary incontinence in the postoperative period. 4 suffered from SUI, 15 suffered from urge incontinence, and 3 suffered from mixed urinary incontinence. 67.4% were cured, 23.3% were better than before, 5.8% were the same, and 3.5% were worse. At long-term follow-up, 11 patients recurred. 2 suffered from stress urinary incontinence, 8 had urge incontinence, and 1 had mixed urinary incontinence. 63.2% were cured, 26.3% were better than before, 5.3% were the same, 5.3% were worse. There was a significant improvement in quality of life in all domains and the total score. (Table 3) This improvement persisted at the long term follow-up.

Table 1: Distribution of the operations performed

TOT only	27
TOT+ Vaginal hysterectomy	4
TOT+ Vaginal hysterectomy+ Colporrhaphy anterior+ Colporrhaphy posterior	29
TOT+ Colporrhaphy anterior	1
TOT+ Colporrhaphy anterior+ Colporrhaphy posterior	3
TOT+ Colporrhaphy posterior	10
TOT+ Manchester operation	3
TOT+ Laparoscopic assisted vaginal hysterectomy+ Colporrhaphy anterior	2
TOT+ Sacrocolpopexy	1
TOT+ Total abdominal hysterectomy	6

Table 2: Bladder diary results before and after surgery and after long-term follow-up

	Preoperative	Postoperative-1 year	Postoperative-long term
Mean fluid intake	2221.0±780.0 (600-5000)	2328.5±939.4 (600-5025)	2115.4±725.5 (1166-4325)
Mean voiding episodes	8.3 ± 2.8 (3.5-15.2)	7.1 ± 1.9 (3-12.5)	7.5±2.5 (2.7-16.2)
Mean urgency episodes	2.1±3.2 (0-15)	1.0±2.4 (0-14.2)	1.8±2.7 (0-10)
Mean leakage episodes	2.1±2.4 (0-14)	0.4±1.4 (0-10)	0.17±0.45 (0-2.25)

Table 3: King's Health Questionnaire Results before and after treatment

	Preoperative	Postoperative 1 year	Long-term	P1	P2	P3
General health perception	51.7±24.5	37.5±21.4	25.0±20.1	0.001	0.005	0.33
Incontinence impact	72.4±28.0	29.9±33.1	26.3±30.1	0.000	0.000	0.33
Role limitations	63.6±29.6	19.8±27.7	16.2±22.1	0.001	0.000	1.0
Physical limitations	62.3±30.7	16.7±28.2	12.3±25.3	0.001	0.000	0.907
Social limitations	45.1±30.1	10.1±20.0	5.8±12.8	0.001	0.000	0.618
Interpersonal relations	34.0±36.5	12.8±27.6	4.3±15.3	0.000	0.006	0.118
Emotions	49.1±32.0	19.0±25.2	7.9±16.9	0.000	0.000	0.434
Sleep/energy	42.7±29.4	16.9±21.7	9.2±13.3	0.000	0.000	0.957
Severity measures	57.1±24.0	22.8±24.5	15.8±19.4	0.000	0.000	0.466
Total score	465.9±203.1	186.3±174.8	123.6±136.0	0.000	0.000	0.665

P1= p value of statistical analysis between preoperative and 1-year results
P2= p value of statistical analysis between preoperative and long-term results
P3= p value of statistical analysis between 1-year and long-term results

Concluding message

TOT operation even when combined with prolapse surgery has a durable effect after long term follow-up.