

MID TO LONG-TERM OUTCOMES OF TRANSOBTURATOR TENSION-FREE MIDURETHRAL SLINGS FOR THE SURGICAL TREATMENT OF STRESS URINARY INCONTINENCE IN WOMEN

Hypothesis / aims of study

Retropubic and transobturator Tension-Free Midurethral Slings (TVT, TOT) are currently considered the gold standard for surgical treatment of stress urinary incontinence (SUI), due to their effectiveness and low rate of complications. This study reports the mid to long-term outcomes of TOT for the surgical treatment of SUI in women.

Study design, materials and methods

Charts of 315 consecutive patients were reviewed to collect demographic and clinical data.

To assess the mid to long-term results of TOT, telephone interviews were carried out in March 2014. At the interview the patients were invited to subjectively assess 1) continence status (dry or not) with success defined as no leakage in any condition (neither stress nor urgency) and no use of pads; 2) presence of late surgical complications, such as erosion, need for urethrolysis and/or chronic pain; 3) patient satisfaction.

International Continence Society Pelvic Organ Prolapse Quantification (ICS POP-Q) has been used to quantify POP severity. Advanced prolapse was defined as symptomatic POP stage ≥ 2 .

Student's t-test was used to statistically compare continuous variables and chi-square test to compare categorical variables. Statistical Packet for Social Sciences version 13.0 for Windows (SPSS Inc., Chicago, IL, USA) was used for statistical analysis. All differences with a p value less than 0.05 were considered statistically significant.

Results

From January 2008 to December 2013, 315 patients underwent TOT implantation in a single tertiary hospital. Forty-three patients were lost to the follow-up (unavailable for telephone interview) and were excluded from this analysis. Four out of 272 patients reported a previous surgical procedure to treat SUI in the past (recurrent urinary incontinence). Mean age was 58.66 ± 11.87 years (20 to 88 years). Mean weight was 71.30 ± 12.08 kg. Mean body mass index (BMI) was 28.39 ± 6.62 kg/m².

The three most frequent comorbidities were hypertension (44.3%), diabetes (8.5%) and depression (11.1%).

30.9% of patients underwent urodynamics before TOT implantation. According to the urodynamic diagnosis, 67.2% of patients had stress urinary incontinence and 32.8% had mixed urinary incontinence. 83.3% of patients had significant pelvic organ prolapse and needed concomitant POP surgery (without mesh implantation).

Mean number of daily pads used before surgery was 3.63 ± 3.08 (0 to 15).

Postoperative continence rate was 78% at a mean follow-up of 33.83 ± 20.67 months (6 to 72 months). Patients with persistent postoperative urinary incontinence reported a mean pad usage of 1.01 ± 1.92 units per day (mild urinary incontinence).

Age and BMI were not predictors of persistent urinary incontinence ($p=0.096$ and $p=0.426$, respectively).

Surgical complications were found in 17.4% of patients. Most frequent complications were dyspareunia (16 cases), groin pain (12 cases), new onset of recurrent urinary tract infections (5 cases), *de novo* urgency (5 cases), vaginal erosion (3 cases) and persistent urinary retention requiring urethrolysis (3 cases).

90.3% of patients stated that they did not regret undergoing TOT implantation and were happy with their surgical results. There was a significant association between urinary continence and patient's satisfaction ($p=0.003$). Continent patients had also a higher chance to report that they would undergo TOT implantation again if they could come back in time ($p=0.005$).

Dyspareunia was not a predictor of recurrent UI ($p=0.22$). Patients who performed urodynamics before TOT implantation did not have a higher chance of success when compared to those patients without urodynamics ($p=0.4$).

Table 1. Clinical parameters in patients who underwent TOT implantation* (n=272)

	N	Age (years)	BMI** (kg/m ²)	Would undergo TOT implantation again if could come back in time
Fully continent (no pad usage)	212	58.74 ± 12.34	27.67 ± 6.16	95%
Persistent urinary incontinence	60	58.82 ± 13.19	28.65 ± 9.62	79%***

* Data presented as mean \pm standard deviation for continuous variables

** BMI = Body mass index

*** P = 0.005

Interpretation of results

Since it was introduced in 1996, the minimally invasive retropubic tension-free vaginal tape (TVT) has become the surgery of choice for treating stress urinary incontinence. Concern about potential complications associated with TVT led in 2001 to the development of another minimally invasive procedure using the trans-obturator tape (TOT) procedure (1), which has a lower rate of bladder perforation and postoperative obstructive symptoms, but is not without risks (2).

Our series showed that at a mean follow-up of 33 months, the majority of women was continent, with significant improvement in quality of life after TOT implantation. Postoperative continence rate was 78%, which is consistent with previously published studies. There was a low risk of severe postoperative complications, such as vaginal erosion and persistent urinary retention.

Concluding message

TOT implantation was a safe and effective option for treatment of SUI in women. Postoperative satisfaction was extremely high.

References

1. Delorme E: Transobturator urethral suspension: mini-invasive procedure in the treatment of stress urinary incontinence in women. *Prog Urol* 2001, 11:1306-1313.
2. Richter HE, Albo ME, Zyczynski HM, et al. Retropubic versus transobturator midurethral slings for stress incontinence. *N Engl J Med*. 2010 Jun 3;362(22):2066-76.

Disclosures

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