Effectiveness of Transobturator Tape Procedure in Obese and Severely Obese Women: 3-Year Follow-up

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OBJECTIVE To assess the efficacy and safety of transobturator tape (TOT) for the treatment of stress urinary incontinence in severely obese and obese women.

METHODS We retrospectively reviewed the women who underwent a TOT procedure at 2 institutions between March 2005 and March 2013. The patients were divided into 3 groups according to the World Health Organization body mass index (BMI) values: normal weight group (BMI <25 kg/m^2; group 1), obese group (BMI = 30-34 kg/m^2; group 2), and severely obese group (BMI ≥35 kg/m^2; group 3). Overweight women (BMI = 25-29 kg/m^2) were omitted. Patients filled in the International Consultation on Incontinence Questionnaire-Short Form (ICIQ-SF) preoperatively and at the postoperative follow-up visits. The severity of urinary incontinence was classified by ICIQ-SF: slight (1-5), moderate (6-12), severe (13-18), and very severe (19-21). Patient satisfaction was assessed using a visual analog scale. Subjective improvement was defined as an ICIQ-SF score ≤12 and satisfaction with surgery (visual analog scale score ≥80).

RESULTS A total 470 women met the requirements for inclusion. There were 153 women in group 1, 72 women in group 2, and 32 women in group 3. Mean follow-up period was at least 12 months in all the groups. The difference between the groups according to mean operative time was significant (P <.001). The objective cure, subjective success (cured and improved), patient satisfaction rates, and complications were similar between the groups.

CONCLUSION Obesity and severe obesity do not seem to be risk factors for the failure of TOT procedure. However, postoperative urgency urinary incontinence rate was higher in severely obese women, and more women showed improvement instead of cure among severely obese women. UROLOGY 86: 244–249, 2015. © 2015 Elsevier Inc.

Obesity is not only a cosmetic but also an increasing health problem all over the world. Urinary incontinence (UI) is very common among obese women. In a recent study, Richter et al[1] reported that 67% of women presenting for bariatric surgery consultation had some form of UI. Obesity is a well-known risk factor of stress urinary incontinence (SUI), and in addition, there is too much concern if it is associated with a higher failure rate after anti-incontinence surgery.[2]

Obese women are more likely to experience UI and pelvic organ prolapse (POP) concomitantly.[3,4] In the surgical treatment of SUI, the most common procedures are tension-free vaginal tape (TVT) and transobturator tape (TOT). The effect of obesity on the results of anti-incontinence surgery is debatable as there are few studies on this topic. In these studies, midurethral sling (MUS) procedures have been found effective with minimal complications in obese patients.[5-7] Tchey et al[5] suggested that the TOT operation can be applied in obese patients with high expectations. However, Hellberg et al[8] indicated that the failure rate seems to increase when the body mass index (BMI) of women increases.

Another debate is about the perioperative complications in obese women who undergo vaginal surgery. Some studies have suggested that obese women are at a greater risk of postoperative complications after anti-incontinence surgery. Chen et al[9] reported that obese patients undergoing vaginal surgery were more likely to have operative site infections compared with nonobese controls.

The aim of this study was to assess the efficacy and safety of TOT for the treatment of SUI in severely obese and obese women in medium-term follow-up.

METHODS

We retrospectively reviewed 524 consecutive women who underwent TOT procedure at 2 institutions between March

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Table 1. Baseline characteristics of the patients

Characteristic	Group 1 BMI <25 kg/m^2	Group 2 BMI = 30-34 kg/m^2	Group 3 BMI ≥35 kg/m^2	*P* Value
n	153	72	32	
Follow-up time (mo), mean ± SD	39.4 ± 20.2	39.7 ± 21.0	40.9 ± 20.7	.368
Age (y), mean ± SD	51.0 ± 9.6	53.7 ± 8.6	53.4 ± 8.7	.163
BMI (kg/m^2), mean ± SD	22.1 ± 1.6	31.9 ± 1.4	38 ± 2.9	<.001
SUI, n (%)	101 (66)	44 (61.1)	19 (59.4)	.663
MUI, n (%)	52 (34)	28 (38.9)	13 (40.6)	.663
Preoperative DOA, n (%)	20 (13.1)	10 (13.9)	4 (12.5)	.978
ICIQ-SF, n (%)				
Moderate	7 (4.6)	2 (2.8)	1 (3.1)	.779
Severe	102 (66.7)	48 (66.7)	19 (59.4)	.718
Very severe	44 (28.7)	22 (30.5)	12 (37.5)	.763
Parity, median (range)	3 (1-7)	3 (1-6)	3 (1-5)	.968
Daily pad use, median (range)	4 (1-6)	4 (1-7)	4 (1-6)	.987
Menopausal state, n (%)	91 (28.8)	45 (62.5)	22 (68.8)	.605

BMI, body mass index; DOA, detrusor overactivity; ICIQ-SF, International Consultation on Incontinence Questionnaire-Short Form; MUI, mixed urinary incontinence; SD, standard deviation; SUI, stress urinary incontinence.
ICIQ-SF: slight (1-5), moderate (6-12), severe (13-18), and very severe (19-21).

2005 and March 2013. Type 1, macropore monofilament polypropylene mesh was used for the standard outside-in TOT procedure in all the operations. We documented the patient characteristics, operative reports, postoperative visits, and complications from electronic medical records. The patients were divided into 3 groups according to the World Health Organization BMI values: normal weight group (BMI <25 kg/m^2; group 1), obese group (BMI = 30-34 kg/m^2; group 2), and severely obese group (BMI ≥35 kg/m^2; group 3). Overweight women (BMI = 25-29 kg/m^2) were omitted. Patients who had less than a 1-year period of follow-up were excluded. In addition, patients with previous incontinence and/or POP repair surgery, concomitant prolapse surgery, POP greater than stage 1 or neurogenic bladders were excluded from the study.

All patients were preoperatively evaluated with medical history, pelvic examination in lithotomy position, cough stress test (CST), and ultrasonography. Patients filled in the International Consultation on Incontinence Questionnaire-Short Form (ICIQ-SF) preoperatively and at the postoperative follow-up visits. The CST protocol consisted of placing the patient in lithotomy position and retrograde filling of the bladder with 300-mL normal saline at body temperature. The patients were asked to cough 10 times, and any leakage of fluid from the urethra was considered positive. If there was no leakage in the lithotomy position, the test was repeated in standing position. If the patient had pure SUI history with positive CST, we did not perform urodynamic studies (UDSs). UDSs were preserved for the patients who had mixed UI (MUI) history and/or postvoid residual urine >100 mL. All patients with pure SUI and stress-predominant MUI were documented in the study. Patients with urge-predominant MUI were excluded from the study. Informed consent was obtained from all patients.

The women were evaluated on the15th postoperative day with urine culture and were questioned for early postoperative complaints. They were re-evaluated on the third and 12th months and annually with pelvic examination including CST and ICIQ-SF. Postoperative additional UDSs were performed only in case of de novo overactive bladder symptoms. The severity of UI was classified by ICIQ-SF: slight (1-5), moderate (6-12), severe (13-18), and very severe (19-21). The data presented in this study were collected at the last control of the patients.

Cure of incontinence was defined as being completely dry after surgery. Cure was assessed subjectively and objectively. Criteria for objective cure include a negative CST, no need for pads, and no reoperation for SUI. Subjective cure was defined as an ICIQ-SF score = 0, no need for pads, and no reoperation for SUI. Subjective improvement was defined as no need for additional treatment for SUI, an ICIQ-SF score ≤12 (slight or moderate symptoms), and satisfaction with surgery (visual analog scale [VAS] score ≥80). The sum of subjectively cured and improved women was defined as subjective success. Failure was defined as having no change or worsening of UI after surgery. Postoperative patient satisfaction was assessed using a VAS, where 0 point represents very dissatisfied = unbearable urinary complaints and 100 points represents very satisfied = no urinary problems. We accepted the patient as satisfied if the VAS score was ≥80.[10,11] The patient reporting on the questionnaire and discontinuation of antimuscarinic medication defined resolution of urgency UI (UUI).

Statistical Analysis

Data were entered and analyzed using SPSS (SPSS, version 17.0; Chicago, IL) software package. Categorical variables were analyzed using the chi-square or Fisher exact test, and when comparing more than 2 groups, the Kruskal-Wallis H test was used. A *P* value <.05 was considered as statistically significant.

RESULTS

Among women documented, 470 women met the requirements for inclusion and had sufficient records for analysis. The distribution of women according to their BMI was as follows: 153 women with BMI 19-24 kg/m^2, 213 women 25-29 kg/m^2, 72 women 30-34 kg/m^2, and 32 women 35-47 kg/m^2. There were 153 women (normal weight) in group 1, 72 women (obese) in group 2, and 32 women (severely obese) in group 3. Baseline characteristics are summarized in Table 1. Mean follow-up period was at least 12 months in both the groups. Surgery was done under spinal or general anesthesia in 234 and 23, patients, respectively. Mean operative time was 15.8 minutes (12-31 minutes), 19.9 minutes (11-35 minutes), and 24.6 minutes

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