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Comparison of Early and Long Term Results of Transobturator Sling Procedure with and Without Concomitant Prolapse Surgery for Women with Stress Urinary Incontinence

Aydoğmuş H[1*], Aydoğmuş S[1-2]
[1]Department of Gynecology and Obstetrics, İzmir Katip Çelebi University Atatürk Research and Training Hospital, Turkey
[2]Department of Gynecology and Obstetrics, İzmir Katip Çelebi University School of Medicine, Turkey

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***Corresponding author**
Aydoğmuş H

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Abstract: Pelvic floor dysfunction is a common health problem affecting 12-44% of women. Moreover, frequently, more than one pelvic floor dysfunction is seen simultaneously. Midurethral sling operations are often combined with concurrent pelvic reconstructive surgery. The aim of this study was to evaluate whether the concomitant pelvic floor surgery with TOT (transobturator tape) has a negative effect on operative success, peroperative complications and long-term results. In this retrospective cohort study, the early and long-term results of 79 patients who underwent TOT procedure for genuine or predominant stress urinary incontinence between 2012 and 2017 were evaluated. The data of 47 patients who underwent TOT procedure and 32 patients who underwent simultaneous vaginal surgeries were compared in terms of objective success, complications, recurrence rate and long-term results. The data were evaluated in the statistical package program IBM SPSS Statistics 25.0 (IBM Corp., Armonk, New York, USA). P <0.05 was regarded as statistically significant. In evaluation of early results (three months), in the group of concomitant surgery two patients had urinary retention, one patient had recurrent prolapse and 1 patient had mesh erosion when the groups were compared in terms of objective success, early complication and postoperative pain, no significant difference was found. When long-term results (one year+) were compared, no significant difference was found between the groups in terms of recurrence, denovo incontinence and the frequency of culture positive urinary infection.
In the present study we did not found any difference between short and long term results of TOT procedure with and without concomitant vaginal surgery.
Keywords: Stress urinary incontinence, Transobturator tape, and vaginal surgery.

INTRODUCTION

Urinary incontinence and pelvic organ prolapse (POP) together account for about 80% of pelvic floor disorders [1]. It has been reported that up to 55% concurrent SUI has been detected in POP cases, and patients with SUI complaints have been reported to have various degrees (40-63%) of POP [1-3]. In approximately 40% of cases who underwent POP surgery, postoperative stress incontinence (SUI) has been reported [4]. Currently midurethral slings are the first line treatment choice of SUI. Because of their minimally invasive nature and high success rates midurethral slings are widely used in the last two decades [5]. Concomitatnt POP repair was reported in 34.4% of cases with sling surgery [6]. However, there is not enough data in the literature about the results of TOT procedure with concomitant POP surgery [7-8]. The aim of this study was to compare the results of TOT operations with and without concomitant pelvic floor surgery in terms of operative success, perioperative complications and long-term results.

MATERIALS AND METHODS

The data of 96 patients who underwent TOT procedure for stress urinary incontinence in Izmir Katip Celebi University Ataturk Training and Research Hospital, Department of Obstetrics and Gynecology between 2012-2017 were evaluated retrospectively. In the preoperative evaluation, general health and gynecological-obstetrical history, urinalysis and culture, stress test, pelvic evaluation according to POP-Q calcification and transvaginal ultrasonography were performed. In the postoperative follow-up period, the patients were evaluated at the postoperative 6th week, 3rd month and then annually. On each control pelvic organ prolapse evaluation, stress test and urine analysis, Urodynamics (if required) and urinary culture for symptomatic ones were performed. Patients who were missing follow-up and those, whose results were not accessed, were excluded from the study. Results of 47 patients who underwent TOT and 32 patients who underwent concomitant POP surgery were evaluated. The first three months after the operation were accepted

as early period. The groups were compared in terms of long term results such as surgical success, pelvic pain, infection, intraoperative and early postoperative complications, denovo or recurrence incontinence. The data were evaluated in IBM SPSS Statistics 25.0 statistical package program. Comparison of the groups was performed by independent two-sample T test and Mann-Whitney U test for normally distributed variables and non-normally distributed variables, respectively. Fischer chi-square exact test was used to compare categoric variables. P <0.05 was regarded as statisticallysignificant.

Table-1: General characteristics of patients

	TOT n= 32	Concomitant POP Surgery n=47	P
Age (years)	49,15 ±7,65	54,61±11,25	0,019
Parity	2 (1-8)	3 (2-9)	0,012
Menopausal status (Premenopause n, %)	14 (43,8)	16 (34)	0,262
Previus POP surgery	3 (9,4)	5 (10,6)	0,585
Comorbid disorders	15 (46,9)	14 (29,8)	0,096

RESULTS

The average age of the TOT group was 49.1 (33-64) and the mean parity was 2 [1-8]. The average age and parity of the concomitatnt surgery group were 54.6 (37-83) and 3 (2-9), respectively. The groups were similar in terms of menopausal status, presence of comorbid diseases and history of previous pelvic surgery (Table 1). In TOT group, 90.6 % of the cases were had pure SUI, 6.3 % were POP + SUI and 3.1% were mixed incontinence. Indications of surgery were 55% SUI, 27.7 % POP, 14.9% POP + SUI and 2.1% urinary incontinence. Total vaginal mesh was not used for any of the patients. There was no significant difference between the groups in terms of early and long term complication, persistent urinary incontinence, denovo urinary incontinence and prolapse (Table 2). When covariance analyzes were performed for confounding factors such as menopausal condition, previous history of surgery, comorbidity, no significant difference was found between groups for postoperative pain and urinary infection, persistent urinary incontinence, recurrent POP and denovo urinary incontinence variables.

Table-2: Comparison of early and late clinical outcomes of patients

	TOT n= 32	Concomitant POP Surgery n=47	P
Pain (%)	6 (18,8)	4 (8,5)	0,054
Persistant SUI (%)	1 (3,1)	1 (2,1)	0,649
Peroperative complications	0 (0)	4 (8,5)	0,119
Urinary tract infection	6 (18,8)	8 (17)	0,536
Recurrent POP	0 (0)	1 (2,1)	0,595
Denovo UI	1 (3,1)	4 (8,5)	0,321

DISCUSSION

In the present study we determined that there was no significant difference between the patients who underwent transobturator midurethral sling operation and the patients who underwent concomitatnt prolapse surgery in terms of early and long term success rates and complications. In the literature, there are studies comparing the complication rates of midurethral sling surgery alone and concurrent with POP reconstruction surgery. The overall complication rate for transobturator midurethral sling surgery has been reported between 10.5% and 31.3% [9]. Although there are studies reporting that complications such as bleeding, bladder injury, and postoperative urgency are more common in concurrent surgery, there are studies also reporting that concomitant POP surgery with both retropubic and transobturator midurethral sling does not significantly increase the risk of complications [8,10]. In our study, any of our cases had clinically significant bleeding. Even though urinary retention and vaginal mesh erosion were more frequent in the concomitant surgery group, urinary tract infection and postoperative pain were slightly higher in the TOT group, but the difference was not statistically significant. We think the reason of this condition may be due to the fact that complications except pain and erosion are less with transobturator midurethral sling operations than retropubic procedure. In both groups one patient had SUI persistence. Short-term success rate was 96.9% in the TOT group and 97.9% in the concomitant surgery group (p = 0.64). Our success rates were similar to other studies in the literature. Some of the investigators reported that the de novo SUI incidence is similar with patients who underwent TOT procedure with and without concomitant POP surgery [11, 12]. In our study, de novo urinary incontinence was found to be

3.1% and 8.5% in the TOT group and the concomitant surgery group, respectively. Although in an average follow-up of 23 months (8-60) developing rate of de novo pelvic organ prolapse (more than stage 2) were slightly over in concomitant surgery group, the difference was not statistically significant. There is some limitations of our study. First is the small patient population. Because of the retrospective design of the study, patients who were missing the long-term follow-up had need to be excluded from the study. Another limitation is not using the quality of life questionnaires. In our study, we preferred to use clearly expressed data in our medical records and objective success criteria for evaluating urinary incontinence of the patients instead of subjective evaluation. The strength of our study is that the preoperative and postoperative evaluations are performed by the same investigators so the minimisation of interobserver difference.

CONCLUSION

In the present study, we found that there was no significant difference between TOT procedure with and without concomitant POP surgery in terms of objective success, early complications, denovo urinary incontinence and prolapse development.

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