



Mid-term patient QoL after tot surgery for mixed type urinary incontinence

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ABSTRACT

Objectives: The objective of this study is to determine patients' satisfaction and quality of life after trans-obturator tape surgery in the setting of mixed urinary incontinence with stress urinary incontinence dominance.

Materials and Methods: The patients who had undergone surgery of trans-obturator tape within last 5 years in our clinic were included. All patients had urodynamic evaluations preoperatively. We used incontinence impact questionnaire-7 and urogenital distress inventory-6 questionnaire forms. Patients were only asked for one-word comment on their satisfaction with the operation: "Satisfied" or "unsatisfied". Also we used visual analog scale 0 to 10 for their satisfaction (happy or unhappy) for trans-obturator tape operation.

Results: Thirty-three women included in our study. Median follow-up was 35 months. 6% of them had early postvoiding residual volume of 50 to 100 mL. None reported to have stress urinary incontinence as preoperatively during follow-up. 60% of them were happy/satisfied for having trans-obturator tape operation. This group's median visual analog scale score was 10.40% of them were unhappy/unsatisfied for having trans-obturator tape operation. This group's median visual analog scale score was one.

Conclusion: Unsatisfied rate is high for trans-obturator tape performed for stress dominant mixed urinary incontinence, though successful surgery. This might be unmet preoperative over-expectations of patients like being dry with surgery for all components mixed urinary incontinence or failure of surgeons to inform well about the surgical outcomes.

Keywords: Incontinence impact questionnaire-7 (IIQ-7); mixed urinary incontinence; trans-obturator tape; urogenital distress inventory-6 (UDI-6); visual analogue scale (VAS)

INTRODUCTION

Involuntary leakage of urine is defined as urinary incontinence by the International Continence Society. There are three types

of urinary incontinence in particularly. These are stress urinary incontinence (SUI), urge urinary incontinence (UUI) and mixed urinary incontinence (MUI).¹ Urinary incontinence affects quality of life (QoL) negatively. People with urinary incontinence have

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problems in performing their daily activities and in social life. MUI is the complaint of urinary incontinence that contains both urge and stress incontinence. About one-third of women with incontinence have mixed incontinence.^{2,3} Behavioral and lifestyle changes such as low caffeine intake, exercise, weight loss, and pelvic floor exercise are accepted as the first-line treatment for MUI.

It is unclear whether surgery or medical treatment is more effective for MUI. While medical treatment is more effective in the urge component of mixed incontinence, surgical treatment is more effective in the stress component. Medical treatment includes anticholinergic drugs. Surgical procedures include tension-free vaginal tape (TVT), the Burch colposuspension, transobturator tape (TOT) treatment. In 2001, the trans-obturator sling application began to be used in humans.⁴

In our study, we aimed to determine the patients' satisfaction and QoL after TOT surgery for mixed type urinary incontinence patients in the mid-term follow-up period.

MATERIALS AND METHODS

Patients who underwent TOT due to MUI in our clinic in the last 5 years were retrospectively screened. Patients who could not be reached for the questionnaires were excluded from the study. The patients' demographics and medical histories were noted. Medical history includes preoperative anticholinergic use, chronic diseases, previous operations, preoperative cystoscopy findings, number and type of delivery, preoperative overactive bladder findings and postoperative complications. All patients underwent preoperative urodynamics to exclude neurological diseases.

All patients had undergone cystoscopy to confirm MUI and decided on surgery. In order to decide on surgery, stress test positivity, Marshall Marchetti test positivity and whether the Q-tip test was greater than 30 degrees were checked in cystoscopy and urogynecological examination. An informed consent form was obtained from each patient before operation. We used questionnaires of urogenital distress inventory-6 (UDI-6) and incontinence impact questionnaire-7 (IIQ-7) to evaluate patients' QoL after TOT in the mid-term follow-up period. Total UDI-6 scores ranged between 0-18 points and IIQ-7 scores ranged between 0-21 points. Higher scores are associated with poorer QoL. We also questioned whether they were happy with the operation and their satisfaction level using a visual analog scale (VAS) of 0 to 10. The patients' QoL and satisfaction score were determined and analyzed to find any clinical correlations of scores with clinical parameters. There were 46 patients operated with TOT at beginning. Thirty-three patients were asked to fill out UDI-6, IIQ-7 and VAS.

Statistical Analysis

The continuous variables were expressed as medians, counts and percentages where appropriate. The data were recorded in excel sheets (Office Professional Plus 2016, Microsoft) and analyzed using statistical software (SPSS Inc. Released 2009. PASW Statistics for Windows, Version 18.0. Chicago: SPSS Inc.). Continuous variables including age, body mass index (BMI) and questionnaires' scores were compared with Mann-Whitney U test. A p -value <0.05 was considered statistically significant.

RESULTS

Thirty-three women were included in the study with a median age of 55 years. Their median follow-up period was 35 months. 73% had one or more co-morbid diseases. 46% of them were smokers. 39% of them had previous pelvic surgery related to gynecology. 88% of them were on antimuscarinic medication for urge incontinence. 9% was nullipara. Median numbers of live births were 3 with birth related complications in 42% of them. Preoperative median bladder capacity was 400 mL. 6% of them had early operation failure and 6% had early postoperative postvoiding residual volume of 50 to 100 mL. None had urinary retention. None reported to have SUI as preoperatively. 60% of the patients reported themselves as happy/satisfied for having been operated with median VAS of 10 whereas other 40% reported as unhappy/unsatisfied with a VAS score of 1. Surgery satisfied group were insignificantly older, and had a lower BMI, which are statistically insignificant (Table 1). The median UDI-6 scores were significantly lower in satisfied group compared to unsatisfied (0 vs. 15.5) ($p \leq 0.001$) and IIQ-7 scores were significantly lower in satisfied group compared to unsatisfied (3 vs. 11) ($p \leq 0.001$). No other clinical variable was distinct between two groups.

DISCUSSION

Urinary incontinence is an important health problem that affects QoL. To perform surgery, the diagnosis of SUI dominant MUI must be confirmed by cystoscopy. It is necessary to accurately determine the stress component weight in MUI. Because we thought that patients with SUI dominant MUI would more benefit from surgery.

Table 1. UDI-6, IIQ-7 scores of the patients

	Satisfied	Unsatisfied	p -value
Age (years)	57	52	0.511*
BMI (kg/m ²)	31	33.3	0.108*
IIQ-7 score	0	15.5	$<0.001^*$
UDI-6 score	3	11	$<0.001^*$

*Mann-Whitney U test, BMI: body mass index; IIQ-7: incontinence impact questionnaire-7; UDI-6: urogenital distress inventory-6

In all patients in the study, the complaint of stress incontinence component after surgery improved compared to the preoperative period. Similarly, lower UDI-6 and IIQ-7 scores were observed in patients with low VAS scores and who were satisfied with the operation. In the current study, satisfaction and QoL of patients after TOT were determined by subjective evaluation of patients through questionnaires.

There were the most significant improvements at urgency and UUI after TOT in the literature. In a review there was 30 to 85% improvement in urgency and UUI after MUS during a follow-up of 3 to 60 months.⁵ There are studies showing that middle urethral sling surgery also improves storage symptoms in MUI. Verified questionnaires evaluating stress and compression components can be an indicator for surgical success when administered preoperatively.⁶ It becomes difficult to analyze the results of urinary incontinence surgery because there are no superior questionnaires that can evaluate the success of urinary incontinence surgery universally.⁷

The UDI-6 questionnaire form contains high quality evidence and IIQ-7 questionnaire form contains moderate quality evidence in a systematic review.⁸

In a study in which unoperated stress and mixed type incontinence patients and urge type incontinence patients were examined in terms of physical, emotional and social QoL; the lowest score was observed in mixed type incontinence patients.⁹ This shows us that these patients may have an improvement in their QoL after surgery with a high probability.

In the study where the International consultation incontinence questionnaire short-form was used, it was seen that the QoL of MUI patients was more affected.¹⁰ This form contains questions about the frequency of urinary incontinence, the amount of urinary incontinence, how much it affects daily life, and in which cases it causes urinary incontinence.

In a survey study in which MUI patients were questioned using UDI-6, the King's Health Questionnaire and Patient Global Impression of Improvement questionnaires, it was shown that surgical success was less in patients over the age of 60 and in menopausal patients.¹¹

In a review, it was observed that mixed incontinence patients had lower satisfaction after midurethral sling surgery than stress incontinence patients.¹²

In a study in which the QoL of patients with SUI and MUI was investigated using the UDI-6 questionnaires, a more clinically significant improvement in postoperative UDI-6 score was observed in patients with MUI.¹³ In this study, both SUI and MUI patients underwent retropubic midurethral sling and

simultaneous prolapse repair. In contrast to our study, patients with MUI and SUI were compared.

In a study that included patients who underwent surgical treatment for mixed or urge type incontinence, 2/3 of patients underwent TOT for persistent post-operative stress incontinence.¹⁴ The surgical methods in this study were "cervical-rectal-sacral fixation" and "vaginal-rectal-sacral fixation". Additional alternative treatments may be required for patients with mixed incontinence who underwent TOT/TVT but did not improve in the urge component after treatment.¹⁵

Although people with neurological diseases were excluded in our study, in a study comparing the results of mid-urethral sling surgery, no significant difference was found in terms of improvement in the urge component with and without neurological disease.¹⁶

In a randomized clinical study comparing MUI patients who underwent surgery only and combined behavioral and pelvic floor muscle therapy in addition to surgery; a non-significant difference in incontinence symptoms was detected at 12-month follow-up. But this difference did not meet the prespecified threshold for clinical importance.¹⁷

In a study of persistence of urgency and UUI in women with mixed urinary symptoms after midurethral slings, the overall satisfaction score was lower in patients who continued to feel urge after midurethral sling surgery or who continued to have UUI.¹⁸ When these patients were asked if they recommended surgery to their friends, they received a negative response.

In a study that searching about treatments of MUI, it is emphasized that the evaluation of mixed incontinence should be carried out carefully and comprehensively. Because conditions such as preoperative detrusor hyperactivity, urge component dominance affect surgical success.¹⁹

Mid-urethral sling surgery is recommended in patients with MUI for whom behavioral therapy is not effective. It is difficult to predict which patient will benefit from surgery exactly among these patients. For this reason, it is important from the point of view of the clinical approach to classify MUI into subtypes by conducting further research.²⁰

In our study, the high preoperative urge component showed that the dissatisfaction rate was high in the follow-up after surgery.

CONCLUSION

The limitations of our study were that there were only thirty-three women and that it was a retrospective study. It was observed that TOT operation significantly improved the stress components of the patients in general. According to the results

of the questionnaires directed to the patients, it was observed that the stress incontinence components of the patients were greatly improved after TOT.

It was seen that the factors of BMI, patient age, chronic diseases and birth history did not create statistically significant differences between the two groups (satisfied/non-satisfied). A study with more patients is necessary for us to make a more accurate assessment.

ETHICS

Ethics Committee Approval: University of Health Sciences Türkiye, İstanbul Health Practice & Research Center, Ethics' Committee approval was taken (no: 75, date: 25.02.20)

Informed Consent: Informed consent form was obtained.

Peer-review: Internally and externally peer-reviewed.

Contributions

Surgical and Medical Practices: H.K., E.A., M.H.E.A.; Concept: H.K., E.A., M.H.E.A.; Design: H.K., E.A., M.H.E.A.; Data Collection or Processing: H.K., E.A., M.H.E.A.; Analysis or Interpretation: H.K., E.A., M.H.E.A.; Literature Search: H.K., E.A., M.H.E.A.; Writing: H.K., E.A., M.H.E.A.

DISCLOSURES

Conflict of Interest: No conflict of interest was declared by the authors.

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