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ORIGINAL ARTICLE

Evaluation of Female Patient Satisfaction after Midurethral Sling Surgery for Stress Urinary Incontinence

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ABSTRACT

Background: Stress Urinary incontinence (UI) is a common public health condition that affects women worldwide, Patient satisfaction after stress incontinence surgery can be influenced by many factors, patient-specific expectations, postoperative continence status and complications. Traditionally treatment success has been defined by cure rate and symptom improvement, patient reported outcomes, particularly satisfaction, have been recognized as complementary measures of success, This study aimed to evaluate female patient satisfactions post sling surgery for stress urinary incontinence.

Methods: It is a retrospective study including 30 female patients, 15 underwent Transobturator Vaginal Tape (TOT) operation and 15 underwent Tension free vaginal tape (TVT) for stress urinary incontinence during the period between Jan 2019 to Jan 2020 in female urology unit in Urology Department, Faculty of Medicine, Zagazig University. Patients were evaluated 12 months post MUS for complications and satisfactions by (ICIQ-SF) score, quality of life score, female sexual function index and Global response assessment scale.

Results: Marked improvement in International Consultation on Incontinence Questionnaire –Short Form and quality of life (ICIQ-SF) score dropped from (12.20±2.27) to (1.40±0.51) TOT group and from (11.26±2.15) to (1.06±0.23) in TVT group. The Quality of life domain score improved by dropping from (5.26±1.22) to (0.48±0.11) and from (5.06±1.09) to (0.51±0.11) in TVT group with no significant difference between the two groups. All items of female sexual function index (FSFI) score were improved and increased significantly from pre to post management without difference between both groups.

Conclusions: Mid urethral slings have high patient satisfaction rates regarding the improvements in ICIQ-SF scores and FSFI on short-term and are relatively safe procedures.

Keywords: Female sexual function index, Midurethral sling, Stress urinary incontinence, Transobturator tape.



INTRODUCTION

Urinary incontinence (UI) is one of the common public health problems that affects (35%-50%) of women worldwide with physical, psychological, social, and economic implications [1]. Stress UI (SUI) is the most common type of UI, and its prevalence (8% - 33%). in which there is involuntary leakage of urine upon effort, exertion, sneezing, or coughing. The most common risk factors for SUI are female gender, parity, obstetric history, chronic cough, advanced age, estrogen levels, obesity, and pelvic surgery history [2].

The treatment options of SUI include lifestyle changes such as weight loss, pharmacotherapy, pelvic floor muscle training, electrical stimulation, and urethral bulking agent injection. Surgery offered to women who do not respond to conservative treatment [3]. Midurethral slings are widely considered first-line surgery for treatment of female stress incontinence because of similar efficacy, yet reduced morbidity, as compared to historical operations including fascial slings and colposuspensions [4].

Patient satisfaction after SUI surgery can be influenced by many factors, including inherent

patient-specific expectations, postoperative continence status and complications. Patients with inappropriate treatment expectations who undergo stress incontinence surgery are at increased risk for dissatisfaction after surgery [5]. Although treatment success has been defined by cure rate and symptom improvement, patient reported outcomes, particularly satisfaction, have become increasingly recognized as complementary measures of success, so the objective of this study is to identify factors that may contribute to patient satisfaction with outcome. Factors considered were demographic variables and several clinical variables including preoperative symptom severity, adverse events and treatment outcomes [6].

PATIENTS AND METHODS

A retrospective study including 30 patients, 15 underwent Transobturator Vaginal Tape (TOT) and 15 underwent Tension free vaginal tape (TVT) operation for stress urinary incontinence during the period between Jan 2019 to Jan 2020 in female urology unit in Urology Department, Faculty of Medicine, Zagazig University. **Inclusion criteria:** Female patients who underwent transobturator tape (TOT) or tension free vaginal tape (TVT) for SUI. **Exclusion criteria:** Patients with neurological disease that might affect bladder function, Patients who required surgical repair of cystocele or rectocele and recurrent cases for SUI surgeries. Written Informed consent was obtained from the patient and relative in order to participate in the study. The approval for the study was obtained from Institutional Review Board (IRB). The work was carried out according to the Code of Ethics of the World Medical Association (Declaration of Helsinki) for studies involving humans.

Pre-treatment evaluation: Included a detailed urological and gynecological history and a physical examination, ICIQ-SF questionnaire, Global response assessment scale and Female Sexual Function Index (FSFI). **Postoperative:** all cases recruited after 12 month from time of Midurethral sling insertion for evaluation of their satisfaction and reporting the long term complications. Patient satisfaction were assessed by (ICIQ-SF) translated into Arabic language as well as the Global Response Assessment (GRA) Scale and FSFI. Lower score for the ICIQ-SF indicated better response. Marked and moderate improvements of symptoms on the GRA Scale were considered a successful outcome. Slight improvement, neutral response and worsening of symptoms were

considered as failures. Adverse events were documented using the modified version of the Dindo Classification System.

Statistical Analysis

Data collected over the course of the history, basic clinical examination, laboratory investigations and outcome measures are coded, entered and analyzed using Microsoft Excel software. Data was then imported into the Analysis Software Statistical Package for Social Sciences (SPSS version 20.0) (Statistics Package for Social Sciences). Depending on the type of qualitative data represented by number and percentage, the quantitative continuous group represented by mean \pm SD, the following tests were used to test differences for significance. Difference and association of the qualitative variable by the Chi square test (χ^2) or the Fisher test. Differences between quantitative independent groups by t-test paired with t-test. The P value was set at < 0.05 for significant results and < 0.001 for high significant results.

RESULTS

Regarding patients characteristics showed no statistical difference between both groups. As shown in table 1. Regarding post operation complication according to Dindo classification distribution among both group we had reported G I (dyspareunia) 3 cases in TOT group and 1 case in TVT group ($P = 0.28$), G II (Groin/pelvic pain) 4 cases in TOT group and 2 cases in TVT group ($P = 0.42$) and one case de novo urgency in TVT group with no case in TOT group ($P = 0.309$), G III (Voiding dysfunction) one case in TOT group with no cases in TVT group ($P = 0.309$). No SUI reported in both group so no failure. Table 2

Regarding International consultation on incontinence Questionnaire –Short Form and quality of life (ICIQ SF) score dropped from (12.20 ± 2.27) to (1.40 ± 0.51) in TOT group and from (11.26 ± 2.15) to (1.06 ± 0.23) in TVT group ($P = 0.634$). The Quality of life domain score improved by dropping from (5.26 ± 1.22) to (0.48 ± 0.11) in TOT group and from (5.06 ± 1.09) to (0.51 ± 0.11) ($P = 0.843$) with no significant difference between both groups. Table (3).

Regarding Global response assessment scale, majority of both groups showed marked improvement with 80% and 93.3% in TOT and TVT groups respectively with no significant difference. Table (4).

Regarding Female Sexual Function Index (FSFI), all items of FSFI score were improved Desire, Arousal, Lubrication, Orgasm, Satisfaction

and Pain and also total FSFI score was improved and increased significantly from pre to post

management with no significant difference between both groups. Table (5).

Table (1): Demographic and clinical data distribution between studied groups

	TOT	TVT	t	P
AGE	41.26±10.88	42.73±11.62	0.357	0.724
BMI	27.22±3.17	28.12±3.20	0.779	0.443
Menopause	4	6	0.60	0.43
Hysterectomy	1	2	0.37	0.54

No statistical difference between both groups.

Table (2):post-operative complications distribution among studied group

	TOT	TVT	t/X ²	P	
Dindo system grade	G I(dyspareunia)	N 3	1	2.75	0.42
	G II(Groin/pelvic)	N 4	2		
	G III(Voiding dysfunction)	N 0	1		
Dyspareunia	Yes	N 3	1	1.15	0.28
Voiding dysfunction	Yes	N 1	0	1.03	0.309
GII: De novo urgency		0	1	1.03	0.309

Table (3):International consultation on incontinence Questionnaire –Short Form and quality of life

	TOT	TVT	t/ X ²	P
ICIQ SF Total pre (mean/SD)	12.20±2.27	11.26±2.15	1.154	0.258
ICIQ SF Total post(mean/SD)	1.40±0.51	1.06±0.23	0.482	0.634
Quality of life pre (impact)	5.26±1.22	5.06±1.09	0.471	0.641
Quality of life post (impact)	0.48±0.11	0.51±0.11	-0.199	0.843

No statistical difference between both groups.

Table (4): Global response assessment scale

	TOT	TVT	X ² Fisher	P	
Improvement	Marked	N 12	14	3.89	0.15
		% 80.0%	93.3%		
	Moderate	N 3	1		
		% 20.0%	6.7%		

Majority of both groups were marked improved with 80% and 93.3% respectively with no significant difference.

Table (5): FSFI score distribution between studied intervention groups.

	TOT	TVT	t	P
Desire	0.93±0.33	1.11±0.38	-0.739	0.466
Arousal	1.20±0.41	1.13±0.35	0.165	0.870
Lubrication	1.13±0.41	1.0±0.33	0.333	0.742
Orgasm	1.0±0.41	0.85±0.28	0.695	0.493
Satisfaction	0.93±0.33	1.0±0.38	-0.174	0.863
Pain	0.86±0.28	0.87±0.23	0.008	0.952
Total FSFI score	6.06±2.3	5.93±1.87	0.077	0.939
Desire POST	3.60±1.12	4.06±1.43	0.805	0.427
Arousal POST	3.46±1.12	3.86±1.12	0.752	0.459
Lubrication POST	3.40±1.21	3.93±1.32	0.962	0.344
Orgasm POST	2.66±1.21	3.60±1.21	1.933	0.063
Satisfaction POST	2.53±1.35	3.40±1.29	1.788	0.085
Pain POST	2.53±0.83	3.26±1.22	1.590	0.123
Total FSFI score POST	18.20±6.23	22.13±7.43	1.365	0.183

All items of FSFI score were improved Desire, Arousal, Lubrication, Orgasm, Satisfaction and Pain and also total FSFI score was improved and increased significantly from pre to post management. No significant difference between two interventions.

DISCUSSION

In this work we aimed to report the patient’s satisfaction who received MUS for stress urinary incontinence. Thirty patients were included in our study and allocated in 2 groups according to the approach of MUS. Each group included 15 patients, group I (TOT) & group II (TVT). Those patients were invited to report the postoperative satisfaction using ICIQ-SF questionnaire, the global response assessment scale and FSFI. There is little consensus in literature about the effect of age and weight on surgical outcome success rate of those undergoing MUS. This could be explained by the use of different outcome parameters and different follow up timing used in different trials.

Laterzal et al reported that age and BMI at surgery may affect the objective long term outcomes of SUI surgery, but not the early. Explaining that by the immediate mechanical effect of mid urethral slings which is independent of ageing of the tissue and patient’s weight. When positioned correctly MUS supports the urethra in a ‘hammock-like’ way and its curative effect is shown after 3 months. But After 5 years, the remodelling occur around the sling along with deterioration of pelvic floor muscle support also, the overweight may affect pelvic floor structures thereby, increasing intra-abdominal pressure in older and overweight patients, resulting in the loss of the therapeutic effect of the sling [7]. Another study reported that treatment failure 12 months postoperatively was higher in patients over 75 years than in patients between 65 and 75 years

old (10.5% vs. 7.2%) [8].

In our study ICIQ SF score improved significantly and the Quality of life domain score improved which mean that mid urethral slings have high patient satisfaction rates and this was comparable to the study reported by Al-Zahrani et al., who stated that The ICIQ-SF score dropped from (14 ±4.1) to (6.4 ±6) and the quality of life domain score improved by dropping from (7.15±2.7) to (2.3±3), with also no significant difference between the two groups but in this study the long-term follow-up extended up to 16 years and the results showed decrease in the success rate that was not clearly understood [9]. Another study reported a decreased objective continence success rate within a 5-year follow-up period. Also showed that the better objective success rate on the TVT approach may come at the cost of the subjective success rate in the form of postoperative de novo urgency and voiding dysfunction. on contrary, the TOT approach was associated with a worse objective success rate on long term follow up but a better subjective rate in regard to improvement in urinary symptoms, quality of life and sexual function [10].

Patient satisfaction significantly affected by the development of de novo urgency after the MUS. The incidence varies (3%-25%). It was present in 6.7% in our study who had undergone TVT. Nyssönen et al reported that, de novo urgency occurred in 17% of their patients after a 46-month follow-up period following the MUS with 75% of

the patients being unsatisfied [11]. Voiding dysfunction after TVT occurred in one of our patients (6.7%) and relieved spontaneously 2 weeks later. This is comparable to a study that reported less frequent voiding dysfunction in TOT approach when compared to TVT approach [12]. Another study showed that the number of unsatisfied women due to voiding dysfunction was significantly higher in the TVT than in the TOT groups [13].

In our patients the rate of groin/pelvic pain was about (6.7%) in TOT which is higher than that reported by most of studies due to small sample size. In a series of 450 patients only 1% developed groin pain after TOT [14]. Regarding dyspareunia (4) cases developed dyspareunia (3) cases in TOT while only 1 case in TVT. This was comparable to that reported by petri et al in which the incidence of dyspareunia was more with TOT (18.5%) than TVT (3.8%) [15]. Regarding the sexual function; the total FSFI score improved significantly in TVT better than TOT in our study. This was comparable to a study which showed total satisfaction according to FSFI score improvement from (23.86±5.67) to (27.25 ±4.66) [16].

Conflict of interest: none

Financial disclosure: none

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