



International Journal of Urology Research



ISSN Print: 2664-6617
ISSN Online: 2664-6625
Impact Factor: RJIF 5.28
IJUR 2024; 6(1): 14-19
www.urologyjournal.in
Received: 13-11-2023
Accepted: 12-12-2023

Ahmed Sadek Mahmoud El Diehy
Department of Urology,
Faculty of Medicine, Tanta
University, Egypt

Abd El-Nasser Khalifa EL-Gamasy
Department of Urology,
Faculty of Medicine, Tanta
University, Egypt

Mohamed Gaber Bastawesy
Department of Urology,
Faculty of Medicine, Tanta
University, Egypt

Ahmed Abd EL Raouf El Ghiaty
Department of Urology,
Faculty of Medicine, Tanta
University, Egypt

Corresponding Author:
Ahmed Sadek Mahmoud El Diehy
Department of Urology,
Faculty of Medicine, Tanta
University, Egypt

Quality of life after transobturator vaginal wall sling for the treatment of female stress urinary incontinence (Pilot Study)

**Ahmed Sadek Mahmoud El Diehy, Abd El-Nasser Khalifa EL-Gamasy,
Mohamed Gaber Bastawesy and Ahmed Abd EL Raouf El Ghiaty**

DOI: <https://doi.org/10.33545/26646617.2024.v6.i1a.29>

Abstract

Background: The condition known as stress urinary incontinence (SUI) is characterised by the individual experiencing an urge to void themselves during physical activity, sneezing, or coughing. The purpose of this study was to evaluate QoL (quality of life) following transobturator vaginal wall sling treatment for female SUI.

Methods: This prospective study was carried out on 40 women scheduled for SUI surgery. All patients were subjected to the following: Complain [Urinary incontinence(UI) severity, and other urinary symptoms to determine the type of UI either urge UI(UUI) SUI or mixed UI(MUI)], voiding diary, physical examination, Bristol female lower urinary tract symptoms questionnaire sub scores, and ultrasonography with post voiding residual urine volume estimation.

Results: The operative time recorded from the start till the end of our procedure ranged from 35 to 60 minute with a Mean \pm SD of 47.4 ± 5.63 minute. Score values of the UDI-6 and the IIQ-7 questionnaires, respectively, which reflect a significant improvement in QoL throughout the entire assessed population.

Conclusions: Patients who received the transobturator vaginal wall sling reported an improvement in their QOL. A considerable number of women sustained improvements in both incontinence and QOL.

Keywords: Quality of life, transobturator vaginal wall sling, female stress urinary incontinence, lower urinary tract

Introduction

Standardized terminology of the International Continence Society defines stress urinary incontinence (SUI) as the manifestation of a complaint of involuntary leakage during exertion, sneezing, or coughing [1].

This is a prevalent pathology: numerous studies indicate that this form of incontinence affects one in every two women who experience voluntary leakage. SUI manifests in 4% of women between the ages of 20 and 24, with the incidence rate surging to 12% to 35% among patients aged 40 and above. Synthetic midurethral sling (MUS) implantation is regarded as the "gold standard" in the treatment of SUI [2]. As Ulmsten, [3] initially documented in 1995, MUS implantation occurred through the retropubic pathway.

Delorme subsequently described transobturator implantation as an alternative route for suburethral sling implantation in 2001; this route reduces intraoperative complications. The tension-free implantation of this synthetic tape was intended to reinforce the pubourethral ligament, thereby promoting continence, in accordance with the Integral theory [4].

In a study conducted by Karram and colleagues [5], it was discovered that Tension-Free Vaginal Tape (TVT) is a successful and risk-free procedure. However, uncommon yet severe complications have been documented involving this method. These complications comprise vascular and bowel injuries that arise from the sling's passage through the retropubic space [6].

In 2001, Delorme [7] introduced a novel technique for tape insertion in 2001, wherein the tape traverses the obturator foramen. Since then, the transobturator approach (TOT) has become increasingly prevalent in the surgical management of sub-urethral TVTs (SUI).

Theoretically, this method could result in reduced obstruction and postoperative voiding dysfunction, in addition to circumventing complications like bladder and bowel perforations. Following this, deTayrac^[8] documented a cure rate of 84% after one year using the TOT procedure.

In comparison to shorter intervals, the scant information regarding mid-term follow-up confirms that there is a marginal decline in efficacy four to five years following surgery. Two variables that are inconsistently evaluated in follow-up studies, namely patient satisfaction and subjective cure rates, are critical, according to another significant finding of the follow-up research^[9].

We aimed to assess QoL after transobturator vaginal wall sling for the treatment of female SUI.

Patients and Methods

This prospective study was carried out on 40 women scheduled for SUI surgery who attended to the outpatient clinic or be admitted to the in-patient ward of urology department at Tanta University hospitals during the period of the study starting from November 2021 till March 2023. The research received ethical approval from the Faculty of Medicine Ethical Committee at Tanta University in Egypt. The approval number was 35115/12/21.

The effectiveness of the procedure and its influence on quality of life were evaluated after five years. The research was granted approval by the review board at our institution, and each participant provided written informed consent.

Inclusion criteria were women with SUI and positive cough stress test, Patients with mixed urinary incontinence (UI) with predominant stress component.

Exclusion criteria were Mixed UI (MUI) with more predominant urge component, past history of failed anti-incontinence surgery, bleeding dysfunction or active urinary tract infection, Underactive bladder with large post-voiding residual urine volume, Grade III pelvic organ prolapse and history of pelvic irradiation.

All patients were subjected to the following: Personal history: including age, marital status, number of offspring, and special habits. Complain: with focus on details of the type, timing, and UI severity, and other urinary symptoms to determine the type of urinary incontinence either urge UI (UII), SUI or MUI and which component was more predominant. Voiding diary: number and time of each void, volume and type of fluid consumed, associated symptoms as urgency, amount of leakage, pad usage and its degree of wetness when changed. Bristol Female Lower Urinary Tract Symptoms Questionnaire sub scores (BFLUTS): fulfilled with the aid of the physician. Medical and family history: for any medical conditions or any blood disease. Obstetric history: Number of pregnancies (Gravida), number of live births, number of abortions and type of delivery (Caesarean section, vaginal delivery). Operative history: patients were asked about all previous surgeries, pelvic surgery or pelvic irradiation.

Physical examination

Middle vaginal examination for enterocele and uterine prolapse, Posterior vaginal examination for rectocele, Cough stress test and demonstration of leakage. If no leak during lithotomy, the test was performed again during standing position, and erineum examination for perianal sensation and anal sphincter tone.

Ultrasonography with estimation of post voiding residual urine volume.

Preoperative assessment Women underwent a clinical examination, a urodynamic study utilising multichannel cystomanometry, a urethral profile, and a catheterization-based assessment of post-void residual urine prior to undergoing surgery. The definitions and units adhered to the International Continence Society's recommendations. The condition of having urodynamic stress incontinence at maximum urethral closure pressure was designated as intrinsic sphincter deficiency.

Operative steps

Two seasoned pelvic floor surgeons performed operations on the women while under spinal or general anaesthesia, administering an intravenous prophylactic dose of amoxicillin-clavulanic acid (2 g). Pelvic floor defects were rectified using the most suitable technique, which included anterior or posterior colporrhaphy, vaginal hysterectomy accompanied by McCall culdoplasty, or sacrospinous fixation for stage IV prolapse or vault prolapse, when present.

Steps

After the administration of perioperative antibiotics, a sterile Foley catheter (16F) is used for complete evacuation of the bladder. Hydro-dissection of the anterior vaginal wall by normal saline mixed with adrenaline. Midline vaginal incision(1cm) proximal to the external meatus up to the bladder neck then two parallel incisions 2 cm apart up to 6 cm. Dissection of paraurethral tissue laterally to reach pubic arch. Vaginal graft is isolated (6x2cm) with lateral dissection of vaginal mucosa to help closure of the vagina or for associated cystocele.

Then making multiple longitudinal incision in its mucosal surface then the two suspension prolene suture were placed at lateral edges bilaterally.(Combined sharp and blunt dissection towards the inferior pubic rami till reaching the obturator foramen bilaterally.

A minor dermal incision was performed bilaterally at the level of the clitoris in the medial thigh. A C-shaped trocar was inserted into each obturator foramen twice using the outside-in method, with the index finger guiding the procedure in the vagina. The vaginal graft's stay sutures were retracted from the thigh to the vagina, leaving a bridge of approximately 0.5-1 cm at the level of the obturator foramen between the two sutures. This procedure was replicated on the contralateral side.

Next, we used cystoscopy for urethral and bladder visualization to discover any inadvertent placement of a suture or needle through the urethra. This was done in the first 5 cases, but we did not use cystoscope later. Following this, interrupted sutures were used to secure the vicryl 4/0 sling proximally and distally to the periurethral tissue in order to prevent rolling and ensure a stable, flat, and broad-base sling.

Then tying the 2 prolene sutures from one obturator foramen together tightly while putting an instrument between the sling and the urethra to avoid overcorrection. Repetition of this procedure occurs on the contralateral side.

Post-Procedure

All study participants returned to our centre one and five

years after the procedure for postoperative evaluations, during which information regarding the operation's efficacy and quality of life was gathered through interviews. Post-void residual urine was measured by catheterization during the clinical examination; it was deemed normal if it was less than 10, improved (UDI-6 and IIQ-7 if pre-operative > postoperative), or deteriorated (UDI-6 and IIQ-7 if pre-operative < postoperative). The potential for local complications was consistently assessed throughout the follow-up period and categorised using International Urogynecological Association terminology^[10].

The resolution of subjective and objective SUI, as determined by the UDI-6 and urodynamic study after 12 months, and a negative cough test on physical examination after 24 months, was considered the cure for SUI. The objective and subjective measurements of SUI improvement were a reduction in leakage as determined by the pad weight test and a decrease in the UDI-6 score, respectively^[11].

Subjective outcome: "Patient reported outcome": Patient was categorized as "subjectively cured" if no urine leakage episodes were reported and "subjectively improved" if the

urine leakage episodes are less and only occurred with severe exertion and "subjectively failed" if patient stated persistence of urine leakage as preoperative. "Validated questionnaire": Symptoms evaluated by Bristol Female Lower Urinary Tract Symptoms Questionnaire Subscore that fulfilled with the aid of the physician^[11].

Statistical analysis

An SPSS v26 statistical analysis was performed (IBM Inc., Armonk, NY, USA). For quantitative variables, the mean and standard deviation were provided (SD). The frequency and percentage of qualitative variables were defined (%). Wilcoxon test analysis was performed on quantitative non-parametric data presented as the mean and interquartile range (IQR). Considered statistically significant was a two-tailed P value below 0.05.

Results

Socio-demographic data of the studied patients

Socio-demographic data and medical data were presented in Table 1.

Table 1: Socio-demographic data and medical and surgical history, and Complaint and vaginal examination of the studied cases(N=20)

		N=40	
Age(Years)	Mean \pm SD	40.2 \pm 8.71	
	Range	32 - 61	
BMI(Kg/m ²)	Mean \pm SD	32.9 \pm 8.37	
	Range	23- 42	
Marital status	Married	40(100%)	
Preoperative Data		Number(40)	%
Medical History of cases	Asthma	16	40%
	Constipation	14	35%
	Cardiovascular disorder	6	15%
	DM	4	10%
Family History of SUI	No	36	90%
	Yes	4	10%
Previous surgery of cases	Hysterectomy	5	25%
Type of delivery of cases	Normal Vaginal	12	30%
	CS	28	70%
Complaint & Examination			
Complaint	SUI	24	60%
	MUI	16	40%
Vaginal Examination	No POP	20	50%
	G I cystocele	8	20%
	G II cystocele	6	15%
	G I cystorectocele	6	15%

Data are presented as Mean \pm SD and number of(%), BMI: Body Mass Index According to our results, the operative time recorded from the start till the end of our procedure

ranged from 35 to 60 minute with a mean \pm SD of 47.4 \pm 5.63 minute, (Table 2).

Table 2: Operative data of our included patients:

Operative Data		Number(40)	%
Type of procedure done	Isolated sling placement	20	50%
	Concomitant anterior repair	14	35%
	Concomitant anterior and posterior repair	6	15%
Operative time	Mean \pm SD	47.4 \pm 5.63	

Data are presented as mean \pm SD and number of(%)

Postoperative data of the studied patients

The scores obtained from the UDI-6 and IIQ-7 questionnaires indicate a significant enhancement in quality

of life (QoL) across the entire population that was evaluated (Table 3).

Table 3: Preoperative and postoperative questionnaire of the studied patients

	Preoperative(N=20)	1 year(N=20)	5year	P Value
UDI-6 score	48±22.35 [0-100]	14.5±16 [0-50]	29±18.6 [0-83]	< 0.001*
IIQ-7 score	50±29 [0-100]	9±11.5 [0-46]	23.7±26 [0-76]	< 0.001*
QoL effect	---	31(77.5) [30.8-55.2]	24(60) [28.8-53.1]	< 0.001*

*Data are presented as median (IQR), QoL: Quality of Life, *p-value ≤ 0.05(Statistically significant)

Lastly, regarding treatment outcome, there were 35 cases (87.5%) who were cured and 3 cases(7.5%) who were improved and only 2 case(5%) who was failed after 1 year. There were 30(75%) who were cured and 7(17.5%) who were improved and only 3(7.5%) who was failed after 5 years (Table 4).

Table 4: Objective cure rate after 1 year and 2 years

	Cured	Improved	Failed
After 1 year	35(87.5%)	3(7.5%)	2(5%)
After 5 years	30(75%)	7(17.5)	3(7.5%)

Data are presented as number of (%).

4(10%) had Urinary tract infection, 2(5%) had Denovo urgency 1(2.5%) had Transient retention. Table 5

Table 5: Complications incurred with the transobturator vaginal wall sling

N (%)	Perioperative and postoperative complication
0%	Bladder injury
0%	Lateral vaginal injury
0%	Urethral injury
0%	Vaginal erosion
4(10%)	Urinary tract infection
2(5%)	Denovo urgency
1(2.5%)	Transient retention

Data are presented as number of (%)

Discussion

A multitude of intricate risk factors influence the incidence of UI, such as ethnicity, age, pregnancy status, and obesity, among others. Additionally, the impact of menopause on incontinence in general is a matter of debate. Certain modifiable factors, including anxiety, high body mass index (BMI), and newly diagnosed diabetes, were found to be associated with the development of more frequent incontinence during the menopausal transition, according to the Study of Women across the Nation. The available data indicates that medical treatments and healthy behavioural factors may play a beneficial role in preventing UI during this time period^[12].

While autologous pubovaginal slings are a viable option for the treatment of SUI, they are not without the potential to induce complications. Notable is the implementation of the retropubic approach to sling placement. The transobturator technique reduces the incidence of this complication^[13].

We evaluated the outcome of transobturator vaginal wall sling as a treatment of SUI in terms of safety and efficacy. Since the vaginal wall sling was first introduced by Raz *et al* in 1989, numerous techniques adjustments have been made; all of these adjustments use the retropubic approach. This brought to our knowledge that the transobturator method had never been used previously for vaginal wall sling^[14].

Our procedure ranged from 35 to 60 minute with a mean value (\pm SD) of 47.4±5.63 minute. This operative time increase was sometimes due to concomitant anterior and posterior repair that was done in some cases.

Similarly, Fawzy Salman *et al.*^[15] who evaluated autologous transobturator rectus fascial sling, the mean operative time was 53.4 minutes.

Similarly, Taweel *et al.*^[16] who evaluated transobturator tape for female SUI, the mean operative time was 18 minutes.

As regard to Groutz A. *et al*^[17] who aimed to evaluate pubovaginal sling outcome for SUI treatment. Their findings support those that have been published in the literature, which is typically over an hour.

The present study that evaluated vaginal wall as a sling via transobturator approach showed that the success rate was 90%.

There were 35 cases (87.5%) who were cured and 3 cases (7.5%) who were improved and only 2 case (5%) who was failed after 1 year. There were 30(75%) who were cured and 7(17.5) who were improved and only 3(7.5%) who was failed after 5 years.

Similarly, Linder and Elliott^[18] who evaluated rectus fascia as a sling through transobturator approach, reported that the overall success rate was 85%.

In comparison to our study, Church and Hanna,^[19] reported that use transobturator tape for SUI had short-term success rates of 89.3% at 3 months.

Heinonen *et al.*^[20] who evaluated patients satisfaction and objective and subjective cure rates after TOT, the study documented that the stress test yielded an objective cure rate of 89%. Subjective cure rates were 83%, as determined by the visual analogue scale(VAS), short versions of the Incontinence Impact Questionnaire-7(UDI-6), and the UI Society Score; the detrusor instability score(DIS); and the EQ-5D and EQ-5D VAS; patients' satisfaction was assessed through a self-tailored questionnaire.

The Cochrane Collaboration carried out a MUS procedures meta-analysis for SUI in women in 2017, it compared transobturator with retropubic techniques for the same sling material for short-term (up to one year), (either autologous or synthetic). For example, synthetic sling, based on 55 trials of fair quality, the subjective cure rates of synthetic retro pubic slings was (71-97%) and of synthetic transobturator slings was (62-98%) were comparable. In the short-term result, there was no discernible difference in the objective cure rate^[21].

Similar findings were seen in a review of 597 randomly assigned individuals in a randomised trial comparing retropubic and transobturator MUS for SUI. This experiment verified the equivalence of the objective cure rates (negative stress test, negative pad test, which were 77.2% and 72.3% for the retropubic and transobturator synthetic MUS, respectively, at twelve months^[22].

Concerning complications, 4(10%) had Urinary tract infection, 2(5%) had Denovo urgency 1(2.5%) had Transient retention.

In the series by Taweel *et al.*^[23], 8% of patients developed de novo urgency. Urinary retention was not reported in any patients, with the exception of transient cases that resolved within a day. Vaginal laceration that goes unnoticed can

increase the risk of mesh extrusion in patients. One instance of vaginal wall injury was identified during the tunneler's passage; however, it was resolved without further complications by reinsertion. Hence, it is strongly advised to examine the lateral vaginal wall subsequent to inserting the needle through the transobturator foramen.

In our study, no erosion was found compared to Cubuk *et al.* [24] who used transobturator rectus slings and reported only 2 cases of complications in their study among 22 cases. One of them had minimal vaginal exposure of fascial graft that was smaller than 1 cm and successfully treated conservatively.

Cubuk *et al.* (2020) [24] who used transobturator rectus sling reported one case had wound infection that treated conservatively with antibiotics.

Regarding the complications associated with the PVS, postoperative voiding dysfunction, which occurred in up to 15% of cases, is the most often reported event [25].

In comparison to Raz *et al* who used retro pubic vaginal wall sling in 1989, they reported 7% and 9% for de novo and urge incontinence respectively [14].

In our series, groin pain was detected in 4 cases (3.44%) and graded as claven grade I and treated conservatively with analgesics. It was not severe and disappeared within 2 weeks.

Our study was limited by the relatively short follow-up period, the study was done in single center, The study had small sample size, Narrow vagina, Unhealthy vaginal mucosa, Previous vaginal surgery as the harvest of the graft will be difficult.

Conclusions

As an effective treatment for SUI, transobturator vaginal wall slings were utilised to collect quality of life data from the treated women. Significant improvements in both incontinence and quality of life were sustained in a proportion of women. Additionally, longer follow-up in larger populations should be conducted to determine this procedure's long-term dependability.

Financial support and sponsorship: Nil

Conflict of Interest: Nil

References

1. Kalejaiye O, Vij M, Drake MJ. Classification of stress urinary incontinence. *World J Urol.* 2015;33:1215-20.
2. Dokmeci F, Cetinkaya SE. An overview of surgical treatment for female stress urinary incontinence. *Curr Obstet Gynecol Rep.* 2018;7:84-91.
3. Ulmsten U, Petros P. Intravaginal slingplasty(IVS): an ambulatory surgical procedure for treatment of female urinary incontinence. *Scand J Urol Nephrol.* 1995;29:75-82.
4. Fabian G, Barcz E, Zwierzchowska A, Kociszewski J. Complications of sub-urethral sling procedures. *Ginekologia Polska.* 2014;85:44-52.
5. Karam M, Goldwasser S, Kleeman S, Steele A, Vassallo B, Walsh P. High uterosacral vaginal vault suspension with fascial reconstruction for vaginal repair of enterocele and vaginal vault prolapse. *Am J Obstet Gynecol.* 2001;185:1339-43.
6. Ross S, Tang S, Schulz J, Murphy M, Goncalves J, Kaye S, *et al.* Single incision device (TVT Secur) versus retro pubic tension-free vaginal tape device(TVT) for the management of stress urinary incontinence in women: a randomized clinical trial. *BMC Research Notes.* 2014;7:1-10.
7. Delorme E, Droupy S, de Tayrac R, Delmas V. Transobturator tape (Uratape®): A new minimally-invasive procedure to treat female urinary incontinence. *Eur Urol.* 2004;45:203-7.
8. Detayrac R, Deffieux X, Droupy S, Lambling CA, Benamour CL, Fernandez H. A prospective randomized trial comparing tension-free vaginal tape and transobturator suburethral tape for surgical treatment of stress urinary incontinence. *Am J Obstet Gynecol.* 2004;190:602-8.
9. Cañete P, Ortiz E, Domingo S, Cano A. Transobturator sub urethral tape in the treatment of stress urinary incontinence: Efficacy and quality of life after 5 year follow up. *Maturitas.* 2013;74:166-71.
10. Haylen BT, Freeman RM, Swift SE, Cosson M, Davila GW, Deprest J, *et al.* An International Urogynecological Association(IUGA)/International Continence Society (ICS) joint terminology and classification of the complications related directly to the insertion of prostheses(meshes, implants, tapes) and grafts in female pelvic floor surgery. *Neurourol Urodyn.* 2011;30:2-12.
11. Cañete P, Ortiz E, Domingo S, Cano A. Transobturator suburethral tape in the treatment of stress urinary incontinence: efficacy and quality of life after 5 year follow up. *Maturitas.* 2013;74:166-71.
12. Waetjen LE, Xing G, Johnson WO, Melnikow J, Gold EB, Nation SOWSHAT. Factors associated with reasons incontinent midlife women report for not seeking urinary incontinence treatment over 9 years across the menopausal transition. *Menopause.* 2018;25:29-37.
13. Stanford EJ, Paraiso MFR. A comprehensive review of suburethral sling procedure complications. *J Minim Invasive Gynecol.* 2008;15:132-45.
14. Raz S, Siegel AL, Short JL, Synder JA. Vaginal wall sling. *J Urol.* 1989;141:43-6.
15. Fawzy Salman M, Mabrook Badr M, Kotb Korietnah A. Autologous trans-obturator (ATO) rectus fascia sling in treatment of female stress urinary incontinence. *AIMJ.* 2020;49:1583-98.
16. Al Taweel W, Rabah DM. Transobturator tape for female stress incontinence: follow-up after 24 months. *Can Urol Assoc J.* 2010;4:33-6.
17. Groutz A, Blaivas JG, Hyman MJ, CHAIKIN DC. Pubovaginal sling surgery for simple stress urinary incontinence: analysis by an outcome score. *J Urol.* 2001;165:1597-600.
18. Linder BJ, Elliott DS. Autologous transobturator urethral sling placement for female stress urinary incontinence: short-term outcomes. *Urol.* 2016;93:55-9.
19. Church E, Hanna L. Safety and efficacy of the transobturator tape for stress urinary incontinence: short-term and medium-term results of 125 patients demonstrate a procedure-related learning curve. *Gynecol Surg.* 2010;7:31-7.
20. Heinonen P, Ala-Nissilä S, Rätty R, Laurikainen E, Kiilholma P. Objective cure rates and patient satisfaction after the transobturator tape procedure during 6.5-year follow-up. *J Minim Invasive Gynecol.* 2013;20:73-8.

21. Ford AA, Rogerson L, Cody JD, Aluko P, Ogah JA. Mid-urethral sling operations for stress urinary incontinence in women. *Cochrane Database Syst Rev.* 2017;7:63-75.
22. Albo ME, Litman HJ, Richter HE, Lemack GE, Sirls LT, Chai TC, *et al.* Treatment success of retropubic and transobturator mid urethral slings at 24 months. *Urol J.* 2012;188:2281-7.
23. Taweel WA, Rabah DM. Transobturator tape for female stress incontinence: follow-up after 24 months. *Can Urol Assoc J.* 2010;4:33-6.
24. Cubuk A, Yanaral F, Savun M, Ayranci A, Erbin A, Yazici O, *et al.* Modified autologous transobturator tape surgery-evaluation of short term results. *Ginekologia Polska.* 2020;91:51-6.
25. Nambiar AK, Arlandis S, Bø K, Cobussen-Boekhorst H, Costantini E, de Heide M, *et al.* European association of urology guidelines on the diagnosis and management of female non-neurogenic lower urinary tract symptoms. Part 1: diagnostics, overactive bladder, stress urinary incontinence, and mixed urinary incontinence. *Eur Urol.* 2022;4:33-9.

How to Cite This Article

Diehy EASM, Abd Gamasy ENKE, Bastawesy MG, Ghiaty EREAA. Quality of life after transobturator vaginal wall sling for the treatment of female stress urinary incontinence (Pilot study). *International Journal of Urology Research.* 2024;6(1):14-19.

Creative Commons (CC) License

This is an open-access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.