Sarcouncil Journal of Medicine and Surgery

ISSN(Online): 2945-3534

Volume- 03| Issue- 03| 2024

Research Article **Received:** 05-02-2024 | **Accepted:** 22-02-2024 | **Published:** 11-03-2024

Transobturator Tape vs Transvaginal Tape in Treatment of Stress Incontinence, Comparative, Retrospective Study

Jihad Anad Khalef[1], Ahmed Hadi Essa[2] and Ahmed Nazar Dhannoon[3]

[1]CABS , FIBMS, assistant professor of urology, department of surgery, faculty of medicine, AL- Iraqia university, Baghdad, Iraq

[2]FIBMS, assistant professor of urology, department of surgery, faculty of medicine, AL- Iraqia university, Baghdad, Iraq

[3]Professor of urology, department of surgery, faculty of medicine, AL- Iraqia university, Baghdad, Iraq

Abstract: Background: the stress incontinence quit common female problem following child delivery, a lot of procedure were used solve it, ranging from invasive to minimal invasive. TVT and TOT minimal invasive procedures this study is to compare in between relating to outcome and complications. Patients and method: The study was retrospectively recording over 100 patients was done in Alnuaaman teaching hospital in Baghdad – Iraq. The period is from November 2020 to November 2023. Fifty patients make TOT out- in procedure other 50 patients TVT procedure. The patient were subdivided Group A (TOT) , group B (TVT). Follow up over 6 months to changes in number of pads, cough test and patients' satisfaction. Results: the study that done we fellow up the time to hospital stay, foley insertion time and operation time. Mean of operation time in group A 25.7 and group B 34.2 min. hospital stay in group A 1.7-day, B 2.1 days, catheter insertion 7.4 days in group A and 8.3 days in group B. Conclusion: The TVT and TOT both are good option to treat stress incontinence, no statistically significant difference in both procedures. And TVT have higher risk to bladder perforation.

Keywords: stress incontinence, transobturator tape, transvaginal tape, pads test, cough test.

INTRODUCTION

Stress urinary incontinence (SUI) is defined as involuntary leak of urine during physical exertion or while sneezing or coughing, whereas urge incontinence is involuntary loss of urine associated with urgency (Haylen, B. T, *et al*., 2010) .SUI affects up to 40–50% of the female population, and 18% of them suf- fer from MUI (mixed incontinence) (Leone Roberti Maggiore, *et al*., 2017) . The risk factors for SUI and MUI include age, par- ity, and obesity, and the prevalence of urine incontinence is likely to increase as the population ages and the obesity rate increases (Ford, A. A, *et al*., 2017) .Prolapse is a pelvic floor disorder which commonly coexists with SUI and reportedly affects up to one in five women (Smith, F. J, *et al*., 2010) .The first option for treating SUI is conservative treatment, which focuses on bladder control exercises, pelvic floor muscle training, and dietary and lifestyle changes (such as physical activity, weight loss, and dietary changes) (PFMT). Surgery is required if the conservative treatment, which includes medication and physical therapy, is ineffective. Nowadays the most popular techniques are minimally invasive ones, along with open techniques like Burch colposuspension. Their goal is to use synthetic materials to suspend the urethra and neck of the bladder—a procedure known as slinging. The possibility of developing a treatment for this condition was suggested by abnormal positioning of the urethra and the neck of the bladder. Ulmsten and colleagues published a report in 1996 outlining the TVT (tension-free vaginal tape) technique for the treatment of SUI(Ulmsten, U. *et al*., 1996). A few years later, TOT (transobturator tape) method was described in which the tape is carried out between the obturator holes (Delorme, E, 2001) .Tension-free vaginal tape (TVT) was first described in 1995, and it had good success rates (84–95%), with minimal inva- siveness and complication rates (Yyssönen, V, *et al*., 2014; Tommaselli, G. A, *et al*., 2015).However, compli- cations, although rare, including bladder, bowel, and major blood vessel injuries, led to the development of the TOT technique in 2001. TOT procedures use two techniques: outside–in (TOT) or inside–out (TVT-O) techniques (Costantini, E, *et al*., 2016; Latthe, P. M, *et al*., 2010).

AIM OF STUDY: to compare the outcome of TOT vs TVT in stress incontinence.

PATIENTS AND METHODS

Inclusion criteria: female undergo stress incontinence due urethral hypermobility or intrinsic sphincter insufficiency confirmed by UDS.

Exclusion criteria: other causes to stress incontinence such as urge incontinence, mixed incontinence, fistula.

The study was retrospectively recording over 100 patients was done in Alnuaaman teaching hospital in Baghdad – Iraq period November 2020 to November 2023, 50 patients make TOT out-in

***Corresponding Author:** Jihad Anad Khalef

DOI- https://doi.org/10.5281/zenodo.10805945

procedure other 50 patients TVT procedure. All patient undergoes from SUI confirmed by urodynamic study (UDS). after full assessment procedure was done in some patients under spinal anesthesia and other general anesthesia. In lithotomy position after good sterilization and foley insertion, make 2cm vertical anterior vaginal wall incision below the urethral meatus, periurethal tissue dissection, finger blunt dissection toward obturator foramen. In TOT out-in procedure we made small slit by knife over obturator membrane at level of clitoris, then blind insertion of TOT needle by finger guide in right side to take tape tip, the procedure is repeated in left side in the same sequences. After the tape withdraw in both sides equalized in middle by tension free elevation over forceps to prevent over tension that led to pressure necrosis in urethra. For those patients that did TVT for them, at first, we made suprapubic incision, after made anterior vaginal wall and blunt dissection, the needle inserted from the incision above as direction nibble to vaginal incision then repeat the procedure in contralateral side to make tension free elevation. To make of comparison between two methods, we regard cough test and number of pads per hour, and patients' satisfaction. Fellow up over 1st moth, 3th month, 6th month fellow up. The statistic is done by SPSS 21 regarding paired t-test to study the significance when p-value < 0.05.

RESULTS

The study was done retrospectively over 100 patients age range (38-71 year) mean (54.5) , (table 1)

Table 1: study group comparison

	Group A TOT	**Group B TVT**	**p- value**
Number of patients	50 (50%)	50 (50%)	
Age of patients	38-71 (54.5)	40-62(51)	0.2150
Operation time (min)	25.7	34.2	0.0001
Hospital stays (day)	1.7	2.1	0.0295
Catheter insertion (days)	7.4	8.3	0.0013

undergo incontinence not proceeded by urgency no straining severity estimated by number of pads and cough test (objective) patients' satisfaction (subjective)

Table 2: Fellow up in first month

	Group A	**Group B**	**p-value**
Cough test negative	40(80%)	38(76%)	0.8208
Pad number negative	41(82%)	40(80%)	0.9115
Patient satisfaction	36(72%)	35(70%)	0.9055

Table 3: Fellow up in third month

	Group A	Group B	p-value
Cough test negative	43(86%)	39(78%)	0.6587
Pad number negative	43(86%)	42(84%)	0.9136
Patient satisfaction	40(80%)	36(72%)	0.6464

Table 4: Fellow up in sixth month

	Group A	Group B	p-value
Cough test negative	48(96%)	45(90%)	0.7557
Pad number negative	47(94%)	46(92%)	0.9174
Patient satisfaction	48(96%)	43(86%)	0.6002

DISCUSSION

The TOT and TVT is one of best interventional modality for stress incontinence, the same principle of suspension of urethra but they are different on mode of tape introduction. There is statistical significance between operation time, hospital stay and catheter insertion time. Mostly due to more invasive insertion of tape towered the abdomen. But there is no statically significance in fellow change of results in cough test, pad number and patients' satisfaction, mostly due to both carry same principle of suspension. In comparison to study done (Marcin Zyczkowski, 2014) show no statically different among the groups , but they add in-out procedure of TOT. Other study lim Lin, *et al*., (2018) total of 87 patients were included in the analysis, including 50 patients in the TOT group

Publisher: SARC Publisher

and 37 patients in TVT group. The median follow-up period was 18.5 months. The baseline demographic and clinical characteristics were similar between the two groups except for age, intrinsic sphincter deficiency and IIQ-7 score . The mean age was significantly older in the TVT group (68.5 ± 9.1 vs. 62.2 ± 10.3 years, p ¼ 0.004), and the TVT group had more patients with intrinsic sphincter deficiency (38% vs. 18%, p ¼ 0.043) and higher IIQ-7 scores (32.6 ± 12.6 vs. 16.3 ± 17.4, p ¼ 0.008). The postoperative quality of life of both groups was not significantly different (UDI-6: 5.9 ± 7.9 vs. 5.0 ± 5.9, p ¼ 0.639; IIQ-7: 5.2 ± 12.5 vs. 4.3 ± 9.7, p ¼ 0.776), however the success rate was significant higher in the TVT group (88% vs. 60%, p ¼ 0.036). The difference among these studies relating to number of cases studied, as well as advanced center facilities. There have also been evaluations of the outcomes of employing midurethral slings to treat patients with mixed urinary incontinence. In 2003, Korean researchers came to the conclusion that treatment with TVT and TOT decreased the patients' proportion of urgency-related daily incontinence, with TVT showing greater efficacy. (Han, J. Y, *et al*., 2013) .This supported a 2013 Finnish study in which 70% of patients with detrusor overactivity symptoms reported improvement following surgery; the two surgical methods did not significantly differ from one another. (Nyyssönen, V. *et al*., 2013) .Based on 492 cases, a meta-analysis of American scientists conducted in 2007 revealed no appreciable variations in the effectiveness of the two techniques. The determination was reached that a limited quantity of studies lack clarity about the efficacy of these approaches in treating mixed-etiology urine incontinence. (Sung, V. W. *et al*., 2007)

CONCLUSION

1-The TVT and TOT both are good option to treat stress incontinence, no statistically significant difference in both procedures

2-TVT is slightly longer procedure with risk of bladder injury.

3- Need more patients to give more detail and minimize bias.

REFERENCE

1. Haylen, B. T, *et al*. "An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction." *Int Urogynecol J*, 21.1 (2010): 5–26.
2. Leone Roberti Maggiore, *et al*. "Long-term outcomes of TOT and TVT procedures for the treatment of female stress urinary incontinence: a systematic review and meta-analysis." *Int Urogynecol J*, 28.8 (2017): 1119–30.
3. Ford, A. A, *et al*. "Mid-urethral sling operations for stress urinary incontinence in women." *Cochrane Database Syst Rev*, 7 (2017): CD006375.
4. Smith, F. J, *et al*. "Lifetime risk of undergoing surgery for pelvic organ prolapse." Obstet Gynecol, 116.5 (2010): 1096–100.
5. Ulmsten, U., Henriksson, L., Johnson, P. & Varhos, G. "An ambulatory surgical procedure under local anesthesia for treatment of female urinary incontinence." *International Urogynecology Journal and Pelvic Floor Dysfunction*, 7.2 (1996): 81–86.
6. Delorme, E. "La bandelette trans-obturatriceL un procede miniinvasif de traitement de l'incontinence urinaryde la femme." Progrès en Urologie, 11 (2001): 656–659.
7. Yyssönen, V, *et al*. "Prospective randomized trial comparing tension-free vaginal tape versus transobturator tape in patients with stress or mixed urinary incontinence: subjective cure rate and satisfaction in median follow-up of 46 months." *Scand J Urol*, 48 (2014): 309–15.
8. Tommaselli, G. A, *et al*. "Medium-term and long-term outcomes following placement of midurethral slings for stress urinary incontinence: a systematic review and meta-analysis." *Int Urogynecol J*, 26 (2015): 1253–68.
9. Costantini, E, *et al*. "Long-term efficacy of the trans-obturator and retropubic mid-urethral slings for stress urinary incontinence: update from a randomized clinical trial." *World J Urol*, 34 (2016): 585–93.
10. Latthe, P. M, *et al*. "Two routes of transobturator tape procedures in stress urinary incontinence: a meta-analysis with direct and indirect comparison of randomized trials." *BJU Int*, 106 (2010): 68–76.
11. Zyczkowski, M, *et al*. "Tension-free vaginal tape, transobturator tape and own modification in treatment of female incontinence." *Hindawi*, (2014).
12. Lin, L, *et al*. "Comparison between tension-free vaginal tape and transobturator tape in treating stress incontinence after vaginal mesh surgery." *Taiwanese Journal of Obstetrics and Gynecology*, 57 (2018).

Publisher: SARC Publisher

13. Han, J. Y, *et al*. "Effectiveness of retropubic tension-free vaginal tape and transobturator inside-out tape procedures in women with overactive bladder and stress urinary incontinence." *International Neurourology Journal*, 17.3 (2013): 145–151.
14. Nyyssönen, V., Talvensaari-Mattila, A. & Santala, M. "A prospective randomized trial comparing tension-free vaginal tape versus transobturator tape in patients with stress or mixed urinary incontinence: subjective cure rate and satisfaction in median follow-up of 46 months." *Scandinavian Journal of Urology*, (2013).
15. Sung, V. W., Schleinitz, M. D., Rardin, C. R., Ward, R. M. & Myers, D. L. "Comparison of retropubic vs transobturator approach to midurethral slings: a systematic review and meta-analysis." *American Journal of Obstetrics and Gynecology*, 197.1 (2007): 3–11.

Source of support: Nil; **Conflict of interest:** Nil.

Cite this article as:
Khalef, J.A., Essa, A.H. and Dhannoon, A.N. "Transobturator Tape vs Transvaginal Tape in Treatment of Stress Incontinence, Comparative, Retrospective Study." *Sarcouncil Journal of Medicine and Surgery* 3.3 (2024): pp 5-8.

Publisher: SARC Publisher