

Transopturator Tape (TOT) for the Treatment of Stress Urinary incontinence in Females, Review of 50 Operated on Cases in Baghdad Hospitals

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Abstract: Stress urinary incontinence is defined as the involuntary leak of urine during efforts or exertion. It is reported to be affecting (4-35%) of women with successive increase in prevalence over age. In the period between Jan 2017 Jan 2018, we had operated on more than 75 cases by TOT, and we conducted a study to review the results of implementation of this procedure on incontinence patients, trying to evaluate the success rate and its relation to certain patient and disease variables. Assessment of the study sample demography revealed: a median age of (49) (33 -56); median BMI of 28.3; 65% of them being postmenopausal, 93% being multiparous. Results were typically in accordance with those in literature. As for the procedure complication, short term ones mostly reported in literature might include: pain, bleeding, worsening urge, neither of which have been encountered in our cases; whereas the one year follow up visit, worsening urgency in 8%; cystocele in 12%; and finally pain in 10% seem to be consistent with the incidence rate in previous similar studies.

Keywords: TOT, Stress urinary incontinence, prevalence over age.

INTRODUCTION

Stress urinary incontinence is defined as the involuntary leak of urine during efforts or exertion (Abrams, P. *et al.*, 2003). It is reported to be affecting (4-35%) of women with successive increase in prevalence over age.(Hota, L. S. *et al.*, 2012).In our society the prevalence is probably higher considering the trend of multiparity from one side and the social conflict of declaring the problem on the other side, all on the background of the diminished availability of the specialized centers to deal with it. Treatment options include: life style modification, physiotherapy, pharmacotherapy by duloxetine, and surgery, however, since all the above mentioned. modalities seemed to be of a low, or at best , of a time limited success: surgery would eventually be the last resort. In this respect, more than 300 surgical procedures have been described, yet with the global preference attitude towards minimally invasive surgery, midurethral sling procedures are now considered to be the most desirable operation. In this respect, two approaches were followed, first one was T'VT (tension free vaginal tape) which was initially described by Ulmsten in 1996 (Schietlitz, L. *et al.*, 2012); however being incorporating a retropubic blind passage of the trocar from the vagina to abdomen with the inherent risks of bladder injury (5%), bowel and major vessel injuries in less percentages (Parden, A. M. *et al.*, 2013), the need was raised to seek another passage approach, presumably lowering the above risks; that seemingly was best achieved by TOT { Transopturator vaginal tape) winch was

first described by Delorme (Barber, M. D. *et al.*, 2008). TOT is now adopted as the gold standard method for the treatment of stress urinary incontinence, this entails the insertion of a synthetic sling under the mid portion of (he urethra to provide support and retains the normal bladder neck position and subsequently function. Although initially it was described for the treatment of urethra! Hyper- mobility pur se, the scope of candidates has widened to include other cases as mixed incontinence as well as cases complicated by pelvic organ prolapse (Delorme, E. *et al.*, 2001).

MATERIALS AND METHODS

In the period between Jan 2017 Jan 2018, we had operated on more than 75 cases by TOT, and we conducted a study to review the results of implementation of this procedure on incontinence patients, trying to evaluate the success rate and its relation to certain patient and disease variables. Our study sample included patients with the stress urinary incontinence (SU1): and mixed urinary incontinence (MUI) that have been admitted for TOT operation in our hospitals in the above period whose case files turned to be having accessible and full data before and up to one year post operatively, and those were randomly selected till the ceiling of 50 was reached, of those 38 cases had pure stress, while 12 had mixed stress with the first being predominant by urodynamic study. Patient records were retrospectively investigated for the: success rate (determined by subjective admittance of no more complaint of urine leaking

upon exertion) both immediate and at one year follow up visit; for the postoperative complaints (immediate and at one year); as well as for variables that might affect the success, including:

Patient demographic variables (age, parity, menopausal status, BMI} at time of surgery.

Patient related clinical variables (concomitant systemic disease as Asthma, DM or being a smoker; or concomitant surgery at time of TOT).

Data were statistically analyzed using the SPSS, statistical significance was assessed using the chi square and P value, where a value of < 0.05 was considered to be statistically significant. Persistent incontinence postoperatively was assigned as failure.

RESULTS

Assessment of the study sample demography revealed: a median age of (49), (33-56); median BMI of 28.3; 65% of them being postmenopausal, 93% being multiparous. In the past obstetrical history 85 % with vaginal delivery with the rest having either cesarean or both vaginal and cesarean. All those being reported in literature as

risk factors to stress incontinence. Only few had coexisting medical conditions as DM or asthma, being less frequently encountered than concomitant surgeries at operation time where 35% had anterior and or posterior repair done at TOT time. The success rate was calculated as 81%, at 2 week postoperatively with no short term complications or complaints like pain, difficult urination or worsening urge. At one year follow up visit: success rate was calculated to be 84%, and with complaints not exceeding 15%. Successful cases were found to be of a lower median age, BMI than in failing ones, while multiparity was not found to be different between successful and failing groups of operated cases, on the other hand, higher incidences of postmenopausal status as well as vaginal deliveries were reported among successful operations. Apart from all these, pelvic organ prolapse correction surgery was reported in a higher frequency in the successful cases compared to the failing cases, which highlight the possibility of an underlying structural pathology contributing to both of them.

Table 1: Demographic and other variables of the study sample

Variable	Value
Age (median)(minimum-maximum)	49 (33-65)
BMI (mean \pm standard deviation)	27.1 \pm 2.7
Parity (median)	4.2 (1-8)
Delivery mode	
Vaginal delivery (number, %)	42 (84%)
Cesarean delivery (number, %)	6 (12%)
Vaginal and cesarean (number, %)	2 (4%)
Postmenopausal status (number, %)	33 (66%)

Table 2: clinical (medical and surgical) variables of the study sample

Variable	Percentage%
Type of incontinence	
Stress	42 (84%)
Mixed (stress and urge)	8 (16%)
Systemic disease	
Asthma	3 (6%)
Smoking	7 (14%)
DM	2 (4%)
Surgeries at operation time	
Anterior repair, posterior repair	18 (36%)

Table 3: Failure or other complications at one year post operation follow up

Variable	Percentage %
Persistent stress (failure)	8 (16%)
Worsening urge	4 (8%)
Cystocele development	6 (12%)
Pain	6 (12%)

Table 4: Comparison of the sample variables between successful and unsuccessful TOT undergoing cases

Variable	Successful cases (n=42) (84%)	Unsuccessful cases (n=8) (16%)	P value
Age (median)	45	61	0.163
BMI (mean \pm SD)	26.6 \pm 2.72	29.3 \pm 2.88	0.232
Multiparity (n, %)	37 (37/42%)	7 (7/8%)	0.938
Postmenopausal status (n, %)	25(25/42%)	6 (6/8%)	0.281
Vaginal delivery mode	34 (34/42%)	3 (3/8)	0.032
Concomitant systemic disease	4 (4/42%)	7 (7/8%)	0.024
Concomitant gyne surgery	17 (17/42%)	-	-

DISCUSSION

Results were typically in accordance with those in literature. As for the procedure complication, short term ones mostly reported in literature might include: pain, bleeding, worsening urge, neither of which have been encountered in our cases; whereas the one year follow up visit, worsening urgency in 8%; cystocele in 12%; and finally pain in 10% seem to be consistent with the incidence rate in previous similar studies (Karatas, A. *et al.*, 2014). We also found a lower median age, BMI in successful cases than in failing ones, again in accordance with similar previous studies which reported a higher success among cases with lower age and body mass index (Esin, S. *et al.*, 2011). Multiparity was not found to be different between successful and failing cases, which would be a promising issue for patients willing to go for the procedure since the majority are expected to be multiparous women. There were higher incidences

of postmenopausal status as well as vaginal deliveries among successful cases, again consistent with results of previous similar studies, (Dursun, P. *et al.*, 2011), however the statistical significance of such correlation needs to be further analyzed by future studies. Among successful TOT cases, medical conditions were not found to be higher, yet pelvic organ prolapse correction surgery was found to be of a higher frequency compared to the other group, the possibility of having an underlying structural defect in the pelvic architecture (including inherent weakness of the supporting structures, or acquired defects in the them by virtue of trauma, parity, hypoestrogenism, or other defects contributing to both prolapse and urethral hypermobility at a concurrent time would make a reasonable explanation, and that justification has once again been documented in literature (Yücel, N. *et al.*, 2013).

REFERENCES

- Abrams, P., Cardozo, L., Fall, M. and Griffiths, D, *et al.* "The standardization of terminology of lower urinary tract function: Report from the standardization Subcommittee of the International Continence Society." *Urology*, 61.1 (2003): 37–49.
- Hota, L. S., Hanaway, K., Hacker, M. R., DiSilvio, L., Elkadry, E. and Dramitinos, P, *et al.* "TVT-Secure (hammock) versus TVT obturator: A randomized trial of suburethral sling procedures." *Female Pelvic Med Reconstr Surg*, 18.1 (2012): 41–45.
- Schietlitz, L., Dwyer, P. L., Rosamilia, A., Murray, C., Thomas, E. and De Souza, A, *et al.* "Three-year follow-up of tension-free vaginal tape compared with transobturator tape in women with stress urinary incontinence and intrinsic sphincter deficiency." *Obstet Gynecol*, 119.2 Pt 1 (2012): 321–327.
- Parden, A. M., Gleason, J. L., Jauk, V. C., Gamer, R. and Ballard, R. J. "Incontinence outcomes in women undergoing primary and repeat midurethral sling procedures." *Obstet Gynecol*, 121.2 Pt 1 (2013): 273–278.
- Barber, M. D., Kleeman, S., Karram, M. M., Parasio, M. E., Walters, M. D. and Vasavada, S. P, *et al.* "Transobturator tape compared with tension-free vaginal tape for the treatment of stress urinary incontinence: a randomized controlled trial." *Obstet Gynecol*, 111.3 (2008): 611–621.
- Delorme, E. "Transobturator urethral suspension: mini-invasive procedure in the treatment of stress urinary incontinence in women." *Prog Urol*, 11.6 (2001): 1306–1313.
- Fong, E. D. and Nitti, V. V. "Review article: Midurethral synthetic slings for female stress urinary incontinence." *Int Urogynecol J*, 21.5 (2010): 596–608.
- Karatas, A, *et al.* "Evaluation of treatment success in patients who underwent

- transobturator tape surgery." *J Turk Soc Obstet Gynecol*, 11 (2014): 195–200.
9. Esin, S., Salman, M. C., Ozyuncu, O. and Durukan, T. "Surgical outcome of transobturator tape procedure in obese and non-obese women." *J Obstet Gynaecol*, 31.7 (2011): 645.
10. Dursun, P., Bildaci, T. B., Iynelolu, H. B., Kuscu, E. and Ayhan, A. "Transobturator tape operation is more effective in premenopausal women with stress incontinence." *Korean J Urol*, 52.9 (2011): 612–615.
11. Yücel, N., Usta, A., Guzan, K., Kanter, M., Bilgiç, E. and Ozel, N. O, *et al.* "Immunohistochemical analysis of connective tissue in patients with pelvic organ prolapse." *J Mol Histol*, 44.1 (2013): 97–102.

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