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A CASE STUDY ON THE EFFICACY OF TRANSOBTURATOR TAPE FOR THE TREATMENT OF STRESS URINARY INCONTINENCE

Shubhi	Junior Resident, Department of OBG,KVG Medical College and Hospital Sullia, Dakshina Kannada.
Geeta J Doppa	Professor and Head of Department, OBG,KVG Medical College and Hospital Sullia, Dakshina Kannada.
Anil S Baipadithaya	Professor, Department, OBG,KVG Medical College and Hospital Sullia, Dakshina Kannada.
Ravikant G O	Professor, Department, OBG,KVG Medical College and Hospital Sullia, Dakshina Kannada.
Bhavya H U	Professor, OBG,KVG Medical College and Hospital Sullia, Dakshina Kannada.

KEYWORDS :

INTRODUCTION :-

Stress urinary incontinence (SUI) has a significant impact on the quality of life for many women, although estimates of prevalence vary widely due to inconsistencies in the definitions of SUI and differences in populations studied.[1] An estimated prevalence for urinary incontinence is nearly 30% in women aged 30–60 years, with approximately half of the cases attributed to SUI.[2,3] Seen in reproductive and menopausal age group women.

The study aims to evaluate the safety and efficacy of transobturator vaginal tape (TOT) in the management women with stress urinary incontinence (SUI) and to analyze post op complications at follow- up visits .

The treatment for this problem include initial conservative therapies (i.e., lifestyle interventions, pelvic floor muscle training, and bladder training)which may provide some relief, in certain cases, surgical intervention is required for long lasting relief for women whose quality of life is still impaired after a diagnosis of genuine stress incontinence has been confirmed. One such method that is gaining popularity is the use of Trans-obturator Tape (TOT).

In trans-obturator tape (TOT) placement, through small incisions placed in the groins and in the vagina under the urethra, the mesh can be placed under the urethra in the correct position without having to pass needles blindly through the retropubic space. The space that the needle passes through has been extensively studied and has been found to be a very safe space to work in. The mean operative time is significantly shorter in the transobturator sling and risk of bladder injury and of postoperative urinary retention is also considerably lower than other sling procedures. [5] The TOT is a tension-free sling as the resting urethral angle is not changed by the procedure, nor is it necessary to correct urethral hypermobility. [6] One of the most important and not well-recognized advantages of the TOT as compared with other midurethral sling procedures is the lower rate of *de novo* urge/urge incontinence.[7] As far as sexual activity is concerned, there is no significant change in patients' sexual life as regards frequency of intercourse and pleasure and/or pain during penetration, whereas there is a significant decrease in coital incontinence.[8]

MATERIALS AND METHODS :-

This is a retrospective observational study done on patients who presented with SUI and got admitted from January 2020 to January 2023, who underwent TOT mesh repair at KVG Medical College And Hospital, Sullia. Forty-three patients were analyzed and examination results obtained during preoperative, early postoperative periods, and at each follow-up visit were recorded. Findings were taken from patient files. Preoperatively, patients' medical history, physical examination findings, voiding diary notes, incontinence on cough stress test were evaluated. All participants had normal neurological findings. Most of the patients presented had past histories of grand multiparity, difficult vaginal deliveries, obstructed labour, chronic medical disorders like COPD, allergic rhinitis, chronic constipation, cesarean sections.

All the patients received intravenous antibacterial prophylaxis (ceftriaxone, 1 g) at the beginning of surgery. Trans-obturator Outside-in technique using non-absorbable prolene mesh was done. Complications included adjacent organ injuries, hemorrhage, urinary tract infections, urinary retention, recurrence of urinary incontinence were noted. Patients were clinically followed after one week, one month and in further follow up visits. 38 patients were followed, included age between 35-70 years, who were assessed in 2 groups, <50 years and >50 years. Data related to post-operative complications were collected.

An improvement was registered when patients judged themselves as improved with less frequent use of pads during daily activities. Subjective cure was defined as women not experiencing any urine loss on any physical stress.

RESULTS :-

Among 43 patients who underwent TOT mesh repair, 38 patients were followed, out of which, 18 patients were below 50 years (Group A), and 25 patients above 50 years (Group B).

All patients were assessed in these groups as mentioned in the Table 1.

Table 1

	STRESS UI	MIXED UI	
Group A <50 YEARS	16(42.10%)	2(5.26%)	(18/38)41.86%
Group B >50 YEARS	5(13.15%)	20(52.63%)	(25/38)58.13%
	21(55.26%)	22(57.89%)	

The basic characteristics of the patients are presented in Table 2.

Table 2

S.NO.	PATIENT CHARACTERISTICS	n = 43
1	MEAN AGE (YEAR ± SD)	53.11 ± 10.84
2	MEAN PARITY ± SD	5.55 ± 2.40
3	BMI ± SD	24.66±4.11
4	Mean time of Incontinence (year)±SD	7.11±6.12
5	Stress Incontinence	41.86%
6	MIXED Incontinence	58.13

A total of 43 patients who had varying grades of SUI confirmed on clinical examination, underwent a midurethral sling by the TOT outside in method for treatment of SUI and followed up. All 43 patients had pelvic organ prolapse for which they underwent Vaginal hysterectomy with TOT mesh repair. There were no intraoperative complications. The patients tolerated the surgery well. The procedures were performed under spinal anaesthesia. The mean operation time of the patients without concomitant procedure was 21 min (range 15-30min). Mean blood loss related to trans-obturator procedures was minimal and was not recorded separately.

Table 3

S.NO.	POST OP COMPLICATIONS						
		GROUP A n = 18		GROUP B n = 25			
1	GROIN PAIN	5	13.16 %	8	21.05 %	13	34.21%
2	URINARY TRACT INFECTION	1	2.63%	3	7.89 %	4	10.53%
3	URINARY RETENTION	1	2.63%	3	7.89 %	4	10.53%
4	WOUND INFECTION	1	2.63%	2	5.26 %	3	7.89 %
5	DYSPAREUNIA	2	5.26%	0	0.00 %	2	5.26 %
6	UI NOT SUBSIDED	0	0.00%	4	10.53 %	4	10.53%
7	NO COMPLICATIONS	2	5.26%	2	5.26 %	4	10.53%
8	LOST TO FOLLOW UP	3	7.89%	2	5.26 %	5	13.16%

Out of 18 Group A patients, all recovered completely with SUI, while among 25 Group B patients, 21 patients recovered completely, and 4 patients recovered only 60-70%.

- Groin pain being most common complaint, 34.21% seen in total, among which 5 patients belonged to group A and 8 patients belonged to group B, subsided within 2-3 months of surgery with intake of oral analgesics.
- 4 patients had UTI symptoms within 15 days of surgery, 1 from group A and 3 from group B for which oral antibiotics given.
- 4 patients came with urinary retention within 1-2 weeks of surgery, One belonged to group A and rest to group B. Following which they were catheterized for 2 weeks. All recovered completely with no further complaints of urinary retention.
- Wound infection noted in 3 patients within 1 week of surgery ,1 from group A and rest 2 from group B. All were prescribed with oral antibiotics for which they all responded well.
- Dyspareunia noted in 2 patients of group A.

DISCUSSION:-

SUI is a common condition which is underreported as patients do not seek treatment for it.

Although it is primarily a urological condition it is usual that women consult a gynecologist for it. In fact, most often SUI has been detected when the patient presents with uterovaginal prolapse. Hence, surgeries for SUI in women are routinely performed by gynecologist.

Over the last decade, the surgical treatment for SUI has evolved.[4] Midurethral sling surgeries are very safe and effective way of treatment for SUI.[11-13] Although TOT is nowadays being offered as treatment of choice in many centers as it is an effective method of treatment of SUI, reports have indicated varying success rates for the procedure.[14-16] In the current study, the TOT was very successful as most of the patients were relieved of their symptoms at follow-up. Kegels exercise and physiotherapy have been advocated in the nonsurgical management of SUI.[17-19]

TOT application was successful in 89.47% cases in this study and it failed in 10.53% cases in 12 months. Taweel *et al*. reported a 92% cure or improvement rate after 12 months and 85% after 24 months by an objective assessment and a patient satisfaction rate of 88% at 1 year by subjective assessment. [12]

The mean age of the patients operated for SUI under this study was 53.11 years (SD 10.84 years; range 35–70 years). The mean age of patients reported by Taweel in his series was 52 ± 9 years (range 34–70 years).[12]

The average stay of 38 patients in this study (excluding the 4 who had to stay because of urinary retention was 3 days. Isabelle *et al*., for women who had only TOT procedure, reported the mean hospitalization as 2.2 days.[14]

In our series of 38 patients, there was no bladder/urethral injury intra-operatively.

None of the patients had developed erosion in the period of study till the last follow-up, which is probably due to the use of the tape material made of nonwoven polypropylene mono filament with macropores.

One of the most important and not well recognized advantages of the TOT as compared with other mid-urethral sling procedures is the lower rate of de novo urge/urge incontinence. In the trans-obturator approach, the path of the tape, crossing the obturator foramen, muscle, and fascia, reproduces the natural sub-urethral suspension by reinforcing the rotational pivot point, restoring continence while sparing the retro-pubic space. Sparing the retropubic space may preserve any periurethral nerve fibers that may be associated with urethral function and stability. Second, the TOT is associated with a lower risk of urethral as compared with other mid-urethral sling procedures. The trans-obturator sling procedure spares the retropubic space and thus also eliminates the risk of major bowel, neural, and vascular complications which have been reported with the TVT. In this study, there was no incidence of de novo urgency/urge incontinence.

CONCLUSION :-

TOT is a safe and effective procedure for SUI with a low rate of complications. Premenopausal women with SUI will have a better post operative outcome with TOT compared to postmenopausal women since most of the premenopausal women presented with only stress urinary incontinence, while most of the postmenopausal women presented to us with urinary incontinence also had urge component which could not be corrected surgically.

There are enough data in the literature to support the use of the trans-obturator approach as a good alternative to the

retropubic access, and it has all the potential to be the new Gold Standard in the treatment of female SUI.[17]

REFERENCES :-

1. Luber KM. The definition, prevalence, and risk factors for stress urinary incontinence. Rev Urol 2004;6:S3.
2. Hampel C, Weinhold D, Benken N Eggersmann C, Thuroff JW. Definition of overactive bladder and epidemiology of urinary incontinence. Urology 1997;50:4.
3. Hampel C, Artibani W, Espuña Pons M, Haab F, Jackson S, Romero J, *et al*. Understanding the burden of stress urinary incontinence in Europe: A qualitative review of the literature. Eur Urol 2004;46:15.
4. Hermieu JF, Conquy S, Leriche B, Debodinance P, Delorme E, Boccon Gibod L, *et al*. Synthesis of the guidelines for the treatment of non-neurological urinary incontinence in women. Prog Urol 2010;20 Suppl 2:S94-9.
5. DeTayrac R, Deffieux X, Droupy S, Chauveaud-Lambling A, Calvanese-Benamour L, 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.
6. Minaglia S, Ozel B, Hurtado E, Klutke CG, Klutke JJ. Effect of Transobturator tape procedure on proximal urethral mobility. Urology 2005;65:55-9.
7. Juma S, Brito CG. Transobturator tape: Two years follow-up. Neurourol Urodyn 2007;26:37.
8. Abdel-Fattah M, Ramsay I, Pringle S, Bjornsson S, Hardwick C, Tierney J, *et al*. Transobturator suburethral tapes in the management of urinary incontinence: Success, safety and impact on sexual life. Gynecol Surg 2007;4:267-73.