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Genuine Stress Urinary Incontinence in Indian Rural Females - Single Centre Experience

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Abstract: *Introduction: Genuine stress urinary incontinence is a significant urological condition in female, effecting psychosocial welfare, interpersonal relationships, quality of life and general health.*
Methods: A prospective study was performed to analyze outcomes Transobturator Tape(TOT) mesh repair in genuine stress urinary incontinence in Department of Urology, King George Hospital, Visakhapatnam over a two year period. All patients underwent TOT mesh repair under spinal anesthesia with a mean follow up of two months. Results: Total number of patients studied was 50. Majority of women in our study fall in 40 to 45 years age group, with mean age of 42.5years. All patients belong to STAMEY Grade I (70%) or Grade II (30%). Maximum patients' weight pad 3.5gms preoperatively. Sixty four percent patients had VLPP of 60-80 cm of H2O and 36% have 80-120 cm of H2O. Majority (92%) of patients in our study were cured of stress urinary incontinence with TOT mesh repair and 8% of patients had symptomatic improvement. No failures were noted. Conclusion: TOT Mesh repair for genuine stress urinary incontinence is safe, effective and minimally invasive treatment with excellent success rates. Short term results of our study were good.

Keywords: *stress urinary incontinence , Transobturator tape ,out comes ,Pad Test*

I. Introduction

Stress urinary incontinence as defined by the International Continence Society is the involuntary leakage of urine on effort or exertion, or on sneezing or coughing. It has substantial impact on quality of life for many women. Treatment includes initial conservative therapies and then surgery is an option for women whose quality of life is still impaired . Advances in surgical techniques have led to availability of a number of different procedures to treat SUI An evolution in sling procedures has occurred, from bladder neck slings to slings located at the midurethral level, making midurethral slings the cornerstone of ant incontinence surgery. This is mostly because these midurethral procedures have proved durable, reproducible, and highly effective.

Specially shaped trocars are used to access the retropubic space for sling placement,b whereas differently shaped trocars are used to access the obturator foramen for sling placement. TOMUS (TOT midurethral sling) were developed to avoid the potential for vascular and intestinal injury associated with blind retropubic passage of the trocars. It was also thought that the procedure did not require cystoscopy. This study focused on the attributes of TOMUS that make them so efficacious. Based on review of pertinent literature, the TOMUS sling technique and corresponding postoperative outcomes are discussed.

A large meta-analysis reported an estimated prevalence for urinary incontinence of 30% (range from 14% to 46%) in women aged 30 to 60 years, with approximately half of the cases attributed to SUI. The prevalence of SUI in women peaks at middle age and then declines slightly in favor of mixed and urge incontinence thereafter .Despite this significant prevalence ,due to the invasive nature and associated prolonged recovery of surgical options offered in the past, women did not undergo treatment (24).

II. Materials & Methods

This present study was a prospective study to analyze the various outcomes in TOT mesh repair in genuine stress urinary incontinence.Our study population includes 50 patients with symptoms of genuine stress urinary incontinence who attended the urology outpatient department, King George hospital betweenoct 2010 – dec 2012. All the patients with history of urine loss occurs only with physical exertion (history and stress test). Voiding habits are normal (fewer than eight episodes per day and fewer than two episodes per night). Pelvic examination documents pliable and compliant vaginal wall and adequate vaginal capacity. Post void residual volume is normal were included in the study.patients withProlapse (uterine , cystocele ,rectocele),Urgency & urge incontinence, Fistulae, UTI, Renal insufficiency, Neurological history and neurological findings, Patient has history of antiincontinence or radical pelvic surgery, Pregnant were excluded

Initially all patients were evaluated by using a proforma which includes detailed history, physical examination ,stamy grading , pad test ,uroflow&VLPP and cystoscopy &bonney's test.All patients were

underwent TOT mesh repair under spinal anesthesia with mean follow-up 12 months.Post follow-up evaluated by questioner , pad test & cough stress test.

III. Results

Totalnumber of patients studied was 50. Majority of patients in our study falls in 41- 45yrs with mean age of 42.5 yrs. (Table 1) out of them Premenopausal is 40 (80%) Postmenopausal is 10 (20%).all patients belong to stamy either grade 1 (70%) grade 2(30%).(table 2) In our study maximum patients weight of pad is 3.5 grms preoperatively. (table3). In our study 64 % patients have VLPP of 60-80 cmH2o & 36% have 80-120cmH2o of VLPP (table 4).

Outcome results : Majority of patients in our study cured (92%) the SUI with TOT & 8% patients improved symptoms. No failure were noted. Pad test(post op) Maximum patients were pad free. Few were used < 1 pad / day

Complications: Only 12% of patients presented with complications .among 8%, 2% &2% presented with pain, retention & vaginal extrusion of mesh respectively.Management of urinary Retention

Summary :- Out of 50 patients ,46 patients were cured of their symptoms & 4 patients were improved of their symptoms.Six patients developed complications. One patient developed acute urinary retention, which was managed by perurethralfolyes catheterization and normalized on 5th pod after removal of cathter with improved symptoms.Four patients had complaint of pain . All were treated with analgesics & normalized on 7thPOD.Finally , vaginal extrusion of mesh occurred in one patient at 26th day of follow-up. We irrigated wound with antibiotic solution & trimming of the vaginal flap edges and sutured with 2/0 chromic catgut .Patient was kept on oral antibiotics for 5 days. Wound healed well & healthy in follow –up & Symptoms were improved.

IV. Discussion

Stress urinary incontinence (SUI) is a condition that affects the psychosocial welfare , interpersonal relationships, quality of life ,productivity & general health of afflicted women. It is one of the common diseases in middle age women (18, 20, 34). Despite this significant prevalence, due to the invasive nature and associated prolonged recovery of surgical options offered in the, many women did not undergo treatment. Since Ulmsten's initial article in 1996 there has been extensive acceptance of the various midurethral sling technologies. Transobturator tape (TOT) was a viable method for correction of SUI.

TOT mid urethral slings have grown in acceptance and popularity to gain a leading position in SUI surgery. Its become the new gold standard for the surgical treatment of SUI, not only because of their simplicity for both surgeon & patient, but also because of excellent surgical outcomes & low morbidity. The Transobturator sling appears to have reproducible short term continence results similar to those seen with the TVT procedure, yet seemingly less voiding dysfunction. It does appear to mimic the suprapubic approach by stabilizing the midurethra, recapitulating the "hammock" support that is thought to be responsible for continence.

Major vascular and bowel complications have not been reported. The results of our study compared with the various studies (27). The parameters such as questionnaire, pad test and cough stress test.Mean age of the patient in our study is 42.5yrs. We studied outcome results in 50 female patients.

Assessment

Study	Parameters
Delorome etal,2003	Cough stress test, uroflow
deTyrac et al,2004	Cough stress test/ questionnaire
Lim et al 2006	Questionnaire, cough stress test
Kocjancic et al 2008	Questionnaire
Present study	Questionnaire , cough stress test , pad test

We used outcome parameters - Questionnaire, cough stress test & pad test:- cured/dry

Study	% of cured	% of improved
Delorome etal,2003	90.6	9.4
deTyrac et al,2004	90	3.3
Lim et al 2006	95	4
Kocjancic et al 2008	90	9
Present study	92	8

In our study 92% patients were cured SUI & 8% were improved there symptoms. No failure cases were noted.

Study	% of failure
Delorome etal,2003	0
deTyrac et al,2004	6.7
Lim et al 2006	1
Kocjancic et al 2008	1
Present study	0

There was few reversible adverse events [6 (12%)] occurred in our study.

V. Conclusions

Retro pubic mid urethral sling and Transobturatormid urethral slings are the mid urethral slings widely used in the therapyof stressincontinence andfor both techniques mid urethral access is obtained with a minimal vaginal dissection. However, randomized trials will be necessary to demonstrate the potential superiority of these techniques compared to the original TVT in terms of intraoperative complications or postoperative voiding dysfunction. The Transobturator approach is an effective and safe technique for the treatment of female stress urinary incontinence. Excellent success rates have been reported with TOTrepair.It allows minimally invasive surgery to be used in stress urinary incontinence to restore the physiologic and anatomic conditions of continence. .this procedure did not require cystoscopy.The short term results of our study with TOT mesh repair were good.Finally, early operative and one year follow-up results showed that this tape achieved the set therapeutic outcomes we set ourselves.

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Table 1 Age

Age(Yrs)	No of patients	%
30-35	5	10
36-40	10	20
41-45	20	40
46-50	10	20
51-55	5	10

Table 2 Stamy Grading

Grading	No of patients	%
0	0	0
1	35	70%
2	15	30%
3	0	0

Table3 Pad Test

Weight of the pad (grs)	No	%
2-3	10	20
3.1-5	28	56
5.1 -6	7	14
>6	5	10

Table 4 V.L.P.P

Pressure CmH20	No	%
>120	0	0
80-120	18	36
60-80	32	64
<60	0	0

Table 5

Study	Mean age in years
Delorome etal,2003	64 (50-81)
deTyrac et al,2004	54.7
Lim et al 2006	55
Kocjancic et al 2008	59 (35-78)
Present study	42.5 (30-55)

Table 6 Adverse Events

Study	N	Adverse events
deTyrac et al,2004	30	6% uncomlicated UTI, 1% obturator hematoma
Giberli et al 2007	118	4% vaginal erosin,1% vaginal hematoma
Waltregany 2008	102	1% vaginal laceration
Richberger et al 2009	197	2.5% vaginal erosin ,5.5% UTI,5% urinary retention
Present study	50	4(8%) pain in groin pain,1(2%) urinary retention, 1(2%) vaginal erosin.