

**Transobturator tape for female urinary incontinence: Follow-up after 6 months.**

<sup>1</sup>Dr. Asif Iqbal, MD/MS, Senior Resident, Department of Gynecology and Obstetrics, Government Medical College, Srinagar.

<sup>2</sup>Dr. Rizwana Habib, MD/MS, Professor Department of Gynecology and Obstetrics, Government Medical College, Srinagar.

<sup>3</sup>Dr. Nimra Iqbal, MDS, Department of Conservative Dentistry and Endodontics, ITS Dental College and Hospital, Greater Noida.

<sup>4</sup>Dr. Iram Mushtaq, MBBS, Junior Resident, Department of Gynecology and Obstetrics, Government Medical College, Srinagar.

**Corresponding Author:** Dr. Asif Iqbal, MD/MS, Senior Resident, Department of Gynecology and Obstetrics, Government Medical College, Srinagar.

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**Conflicts of Interest:** Nil

**Abstract**

**Objectives:** The objective of this paper is to evaluate the effectiveness of transobturator vaginal tape (TOT) in the treatment of female stress urinary incontinence and to analyze functional results and quality of life after 6 months follow-up.

**Methodology:** It was a prospective observational study. 60 women with clinical and urodynamic features of genuine stress incontinence fulfilling the inclusion criteria were enrolled in this study and underwent TOT operation after clearance from the ethical committee and informed consent. The follow-up was done after 6 months subjectively by UDI-6 and objectively by history and physical examination.

**Results:** Our objective assessment demonstrated 86.66% cure rate after 6 months. Subjective assessment using UDI-6 score demonstrated 90% cure rate.

**Conclusion:** The transobturator approach from outside to inside is a very effective treatment of SUI with low morbidity and minimal complications. However, longer

follow-up in larger populations should assess the long-term reliability of this procedure.

**Keywords:** GSI (Genuine stress incontinence), TOT (Transobturator tape), TVT (Transvaginal tape), UDI-6 (Urinary distress inventory-6), UDS (Urodynamic study), SUI (Stress urinary incontinence).

**Introduction**

Stress urinary incontinence (SUI) is defined as involuntary urine leakage on effort or exertion (e.g., on sneezing or coughing) without rise in detrusor pressure<sup>1</sup>. A large meta-analysis reported an estimated prevalence of urinary incontinence of 10% in women aged 30-60 years with approximately half of cases attributed to stress urinary incontinence.<sup>2</sup> The amount of urine lost at any one time is usually only a few drops. Stress urinary incontinence occurs as a result of variable combination of urethral sphincter weakness and defect in urethral support leading to ineffective closure of urethra. Normal urethral closure is maintained by a combination of intrinsic and extrinsic factors. The principal known risk factors are age, Body mass index (BMI) and parity.<sup>3-7</sup> Treatment of urinary

incontinence can be either nonsurgical or surgical. In cases, where conservative therapy fails, women need surgical treatment. Minimally invasive Mid-Urethral Sling procedures (TOT and TVT) have been developed to avoid the complications of open procedures. The minimally invasive Retropubic Transvaginal Tape (TVT) was introduced in 1996. However potential immediate surgical complications with TVT included bladder perforation, injury to pelvic vessels and bowel. In 2001 Delorme described a new method of inserting the tape, which passes through the obturator foramen, thus avoiding some of the complications such as bladder perforation and bowel perforation.<sup>8</sup>

### Materials And Methods

It was a prospective observational study conducted in the department of Gynecology and Obstetrics, Lalla Ded Hospital, Government Medical College Srinagar, over a period of 24 months including 60 patients from August 2016 to August 2018. Patients diagnosed with SUI were explained about their disease. Patients who were willing for an operative procedure and were desirous of transobturator tape placement were finally recruited for this study after obtaining written informed consent. Before surgery, the patients were evaluated by history, physical examination, stress test, cotton swab test (Q tip test), ultrasound and all baseline investigations. All women underwent urodynamic evaluation preoperatively. A standard protocol for pre-operative and 6 months postoperative evaluation was followed which included a gynecological examination, a stress test performed in standing position with comfortably filled bladder, a 24 hr pad test and residual urine measurement by catheterization or ultrasound. Patient with urge incontinence or mixed incontinence or pure intrinsic sphincter deficiency were not included in the study. The TOT procedure was done using the outside-in technique. The wide centre of the

sling was positioned at the level of midurethra where it served as hammock for the urethra. The redundant ends of sling were cut flush with the skin. The time taken and blood loss during surgery was noted using pre-weighed swabs. Foley's catheter was removed next day and patient was discharged after passing urine freely. Patients were given advice regarding squatting while intercourse. Telephonic communication was established. Follow-up was done at 2 months and 6 months interval subjectively by UDI-6 and objectively by history and physical examination. We defined the cure of SUI as disappearance of subjective and objective SUI using UDI-6 and 24 hours pad test and negative cough test on physical examination. Per-operative and post-operative complications were taken into account.

### Results and Discussion

Sixty women were recruited in this study who fulfilled the inclusion criteria and underwent TOT procedure. The mean age was  $55.8 \pm 6.38$  years (range 42-70) and minimal follow-up was 6 months.

Incidence of SUI increases with age. In our study, majority of the patients were in age group of 50-59 (63.3%), mean age being  $55.8 \pm 6.38$  years. It was comparable to study conducted by Taweel W A et al (2010)<sup>9</sup> in which mean age was 52 years.

SUI is more common in obese women. In our study mean BMI and SD value of patients was  $25.1 \pm 3.88$ , Bratu O, Radulescu, Spinu D et al (2013)<sup>10</sup> reported mean BMI of 28.76 with limits between 22.5 and 38.3. SUI is more common in parous women.

SUI is more common in parous women. Out of 60 patients, 46 (76.7%) were para 2-4. 6 (10%) patients were para 4 or more.

In our study 46 (76.7%) patient were of para 2-4. In the study conducted by Chattopadhyay N, Kundu M K, Saha

M K et al (2014)<sup>11</sup> 63.33% patients of SUI were para 3 or more and 30% patients were para 2.

Preoperatively , cough stress test was positive in all patients. Preoperatively , 50 (83.3%) patients had < 20 gm weight gain on 24 hour pad test, 6 (10%) patients had weight gain of 20-74 gm/24 hour and 4 (6.7%) cases had values >= 75gm/24hour.

Table 1: Pre-operative Urodynamic data of patients

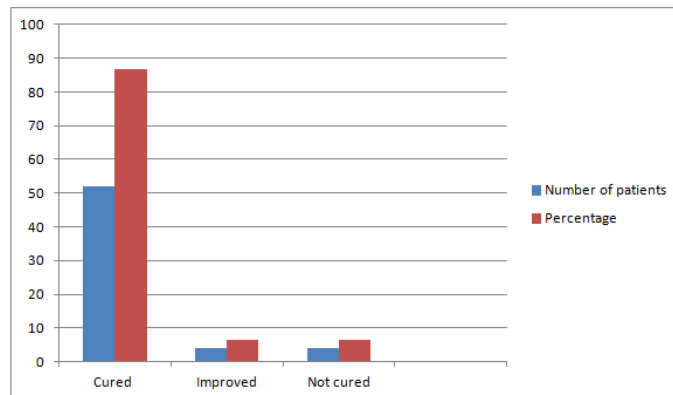
Variable	Pre-Operative	
	Median	Range
First sensation (ml)	171.5	36-443
Bladder capacity (ml)	493.5	342-789
MUCP (cmH20)	30.5	12-38
PVR	122.5	100-150
Uroflow (Q Max)	22.5	20-30

The mean duration of surgery in studied Patients was 19.1+-3.29 minutes. The mean hospital stay was 2.7+-0.827 days and the average blood loss was 61.5+-8.46 ml.

The mean duration of surgery was 19+-3.29 minutes, the range being 15-27 minutes and the mean blood loss in our study was 61+-8.46ml. Magon N, Chopra V S (2012)<sup>12</sup> in their work found that the mean duration of surgery was 21.69 minutes and mean blood loss was 76.78 ml which was calculated by using pre- weighed swabs.

In post-operative period , cough stress test was negative in 56 (93.3%) patients and positive in 4(6.6%) patients . Post-operatively , on follow-up after 6 months , 52 (86.6%) patients were dry on 24 hour pad test and 4 (6.6%) patients had weight gain of pre-weighed pad less than 8 grams. Only 4 (6.6%) patients had weight gain of more than 8 grams on 24 hour pad test.

## Objective outcome

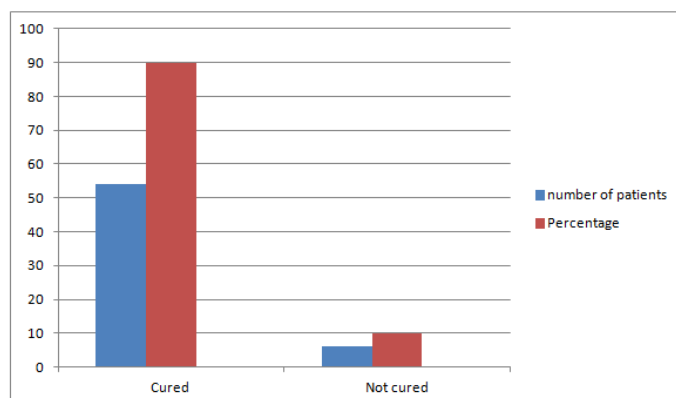


Out of 60 patients , 52 (86.6%) patients were cured , while as 4 (6.6%) patients improved after six months of follow up.

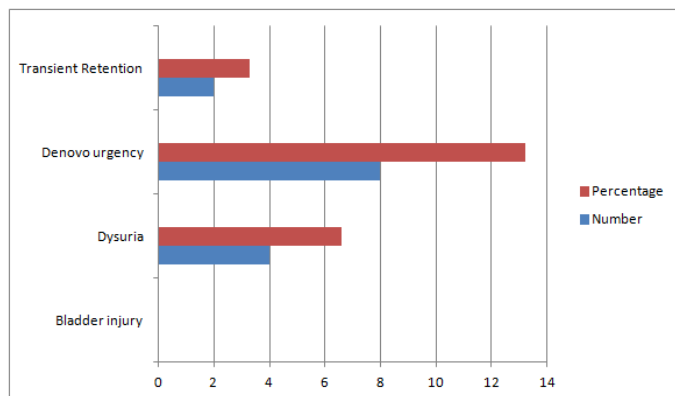
Objective outcome using cough stress test and 24 hour pad test revealed 86.6% cure rate in our study. 4(6.6%) patients improved and only 4(6.6%) patients were not cured. Total success rate of TOT was 93.2% as observed by Magon N, Chopra V S (2012)<sup>12</sup> where as Chattopadhyay N, Kundu M K, Saha M K et al (2014)<sup>11</sup> demonstrated 100% cure rate.

Subjective assessment using UDI-6 score demonstrated 90% cure rate and significant improvement in quality of life.

## Subjective outcome



## Post operative complication rate in patients



The complication rate was low. Only 4 (6.6%) patients complained of dysuria in post-operative period. 8 (13.2%) patients developed de-novo urgency and transient retention was reported in only 2 (3.3%) patients.

## Conclusion

Stress urinary incontinence is a common disorder among females and has a negative impact on the quality of life as it has both psychological and social implications. In our set up where we don't have facility for laser and PRP, TOT becomes the treatment of choice to improve quality of life in patients of stress incontinence.

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