MAK HILL Publications Research Journal of Medical Sciences

Research Article
doi: 10.36478/makrjms.2025.1.413.415

Complications and Outcome of Trans-Obturator Tape Using Mono-Filament Polypropylene Mesh

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ABSTRACT

To evaluate short term outcome and complications of Trans-obturator tape. Study was conducted at three hospitals in Kashmir valley between 2019-2022. Total thirty-five trans-obturator tape surgeries were performed by single surgeon. Out of 35 patients five did not return back for follow up, two were lost during follow up, therefore 28 patients were studied. Mean(±SD) age was 53±6.3 years. Mean(±SD) BMI of studied patients was 25.6±4.7. Mean(±SD) Operation time (surgery) in our study was 25.6±4.8 minutes. Two (7%) patients have developed hemorrhage intra-operatively. Four (14%) patients have reported to our OPD with complains of groin pain and Two (7%) patients with retention of urine in first month of procedure. One (3%) patient reported with mesh erosion after one year of procedure. Urine leak was reported by One (3%) patient in third year of procedure. Trans-obturator tape is less invasive and effective surgical technique for correction of Stress urinary incontinence. The risk to urinary bladder, urethra and bowel is very less however few patients have developed complications like mesh erosion and recurrence on long term follow up, therefore further large sample size studies are required over longer period of time to validate findings.

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Key Words
Evaluate short term outcome and complications, trans-obturator, stress urinary incontinence

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Received: 25 September 2024
Accepted: 20 December 2024
Published: 01 January 2025

Citation: Imtiyaz Ganie, Shazia Jeelani, Tazeen Jeelani, Jubran Amain and S. Salik, 2025. Complications and Outcome of Trans-Obturator Tape Using Mono-Filament Polypropylene Mesh. Res. J. Med. Sci., 19: 413-415, doi: 10.36478/makrjms.2025.1.413.415

INTRODUCTION

Stress urinary incontinence is defined as involuntary urinary leakage on exertion[1]. Prevalence of SUI varies between 4-35%[2] and rate is highest among young and middle age women. Trans-obturator tape to treat Stress urinary incontinence was first described by Delorme in 2001[3]. In this technique needle is passed at level of mid urethra just parallel to perineal membrane inside out with very less risk to urinary bladder[4], however risk to obturator vessels is slightly increased[5].

Aims and Objectives: To evaluate short term outcome and complications of Trans-obturator tape.

MATERIALS AND METHODS

Study was conducted at three hospitals in Kashmir valley between 2019-2022. Total thirty-five trans-obturator tape surgeries were performed by single surgeon. Out of 35 patients five did not return back to us for follow up, two were lost during follow up, therefore 28 patients were studied. All the patients with stress urinary incontinence were subjected to detailed clinical examination and trans-perineal ultra -sonography. Patients with obstructive uropathy were excluded from study. All the patients with hyper-mobile urethra on trans-perineal ultrasound were included[6], written informed consent was obtained. Procedure was done under regional anesthesia. All aseptic precautions were taken 1.5-centimeter incision was made on anterior vaginal wall, 1 centimeter from external urethral meatus, space was created up to inferior pubic-ramus on each side for passage of polypropylene mesh, tension-free mesh was applied.

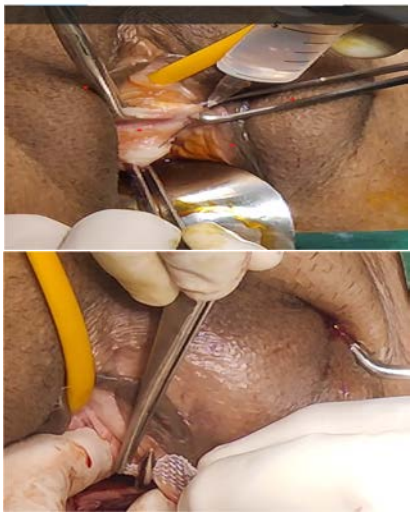

Fig.1: (a, b) Trans-Obturator Tape Surgeries were Performed by Single Surgeon

RESULTS AND DISCUSSIONS

Data was expressed as median and range. Means±SD and 95% confidence interval are used to describe normal distribution. Software used was MS Excel. In our study mean(±SD) age was 53±6.3 years, only 6 (21%) were postmenopausal women. Mean parity was 3.7. Mean(±SD) BMI of studied patients was 25.6±4.7. Out of 28 patients 23 (82%) were with pure stress urinary incontinence, 4(14%) were having mixed urinary incontinence. 4(14) patients were hysterectomized before present study. Five patients 5(17%) were having associated prolapse POPQ cystocele (Aa/Ba>+1) and cystocele/rectocele (Aa/Ba, Ap/Bp>+1).(Table 1).

Table 1: Patient Characteristics

Patient characteristics	Total N= 28
Age(yrs) mean±SD	53.3±6.3
Parity (mean, range)	3.7, 4
BMI mean±SD	25.6±4.7
Pure SUI no. (%)	23 (82%)
Mixed incontinence	4 (14%)
Previous hystrectomy	4 (14%)
Associated prolapse	5 (17%)

Mean(±SD) Operation time (surgery) in our study was 25.6±4.8 minutes. 24 (85%) of patients have undergone trans-obturator tape procedure only and 5 (17.8) percent of patients have undergone trans-obturator tape with site specific defect repair. (Table 2).

Table 2: Type of Surgery and Mean Operation Time

Type of surgery and mean operation time	Total
Trans obturator tape n (%)	24 (85%)
TOT+AP repair n (%)	5 (17.8%)
operation time (min.) mean±SD	25.6±4.8

In our study 2(7%) patients have developed hemorrhage intra-operatively. 4 (14%) patients have reported to our OPD with complains of groin pain and 2(7%) patients with retention of urine in first month of procedure. 1(3%) patient reported with monofilament mesh erosion after one year of procedure. Urine leak was reported by 1(3%) patient in third year of procedure. (Table 3).

Table 3: Complications

complications	Total
Intra-operative bleeding	2 (7%)
Early post-operative complications:	
pain	4 (14%)
retention of urine	2 (7.1%)
Late postoperative complications:	
Mesh erosion	1 (3%)
Urine leak	1 (3%)

In our study most of the patients were of middle age group and Obese with mean (SD) age of53.3±6.3 years and mean (SD) BMI of 25.6±4.7. Similar observations were made by S Mommesen and Anders Foldspang[7]. Eighty two percent of patients in our study were having pure stress urinary incontinence and Fourteen percent were hysterectomized. Seventeen percent of patients were having associated prolapse POPQ (cys/Aa/Ba>+1) which was corrected by anterior colporrhaphy. The mean (SD) operation time was 25.6±4.8 minutes. Objective cure rate in our studied patients was 94% (ninety-four) for Stress urinary incontinence. From our study two patients (7%) developed hemorrhage during intra-operative period which was stopped by applying

gauze pressure and bi-polar cautery. Similar findings were reported by Isabella Kaelin-Gambirasio[8]. Four patients reported with groin pain within first month of surgery for which tablet Brufen was prescribed. Two patients presented with retention of urine in first week of surgery, one with post-void residual volume>150cc required catheterized for 24 hours. Our findings are in agreement with Neuman Menahem[9]. One out of twenty-eight patients (3%) reported with mesh erosion which was treated by excision of mesh and local application of estrogen cream and one patient complained recurrent urinary leak one year after surgery[10].

CONCLUSIONS

In conclusion trans-obturator tape is less invasive and effective surgical technique for correction of Stress urinary incontinence. The risk to urinary bladder, urethra and bowel is very less however few patients have developed complications like mesh erosion and recurrence on long term follow up, therefore further studies with large sample size and over longer period of time are required to validate findings.

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