

Efficacy and Perioperative Morbidity of Suprapubic Midurethral Sling Surgery for Females with Stress Urinary Incontinence

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ABSTRACT: *Tension free vaginal tape (TVT) is a minimally invasive operation that gained increase popularity at the surgical field for management of patients with stress urinary incontinence. The use of SPMUS (suprapubic midurethral sling) has significantly simplified the surgical procedure and made it safer.*

OBJECTIVES: *evaluation the effectivity of the SPMUS procedure in ladies with stress urin incontinence.*

PATIENTS AND METHODS: *Twenty six female patients were assigned to undergo SPMUS procedure in Al-Sadar Medical City from January 2010 to July 2011. Sixteen of the cases with pure SUI and ten had mixed UI. The procedures were done either under spinal anaesthesia (SA) or under general anaesthesia (GA). SPMUS implies the placement of a polypropylene tape at the mid-urethra via a minimal vaginal incision. Patients were monitored during outpatient visits at 2 weeks and 3 monthly after surgery.*

RESULTS: *The mean follow-up time was 12±1 months (3 to 19 months). average surgical time was 35 min (20–50 min). overall complications rate was 42.3%(11/26) . The intraoperative complications rate was 15.4%, including three bladder injuries, and one case of paraurethral hemorrhage . The postoperative complications rate was 26.9% (n=7 cases). Most serious complication was difficulty in urination in three ladies which required CIC (clean intermittent catheter) for about 21 days .The de novo urgency had occurred in one women. The objective cure rate about 96.2%.*

CONCLUSIONS: *SPMUS operation is an effective method for the manegment of patients with stress urine incontinence.*

KEY WORDS: *Midurethral Sling, Stress Urine Incontinence (SUI), SPMUS*

1. INTRODUCTION:

Urinary incontinence (UI) is a complaint of involuntary leakage of urine which is objectively provable⁽¹⁾.

In stress urine incontinence (SUI), symptom is involuntary leakage of urine on exertion , coughing or any factor elevate intra abdominal pressure ⁽²⁾

Since beginning of 20th century, sling operations have been used for management of SUI. VonGiordano portrayed the 1st urethral sling early in twentieth century using gracilis muscle ⁽³⁾. Adjustments to this practice were later portrayed. ^(4,5,6)

Now aday, the emphasis has been moved toward least invasive measures because of the documented benefits of less morbidity, rapid recovery and and decreased cost. Tensionless vaginal tape (TVT) operations, had been urbanized by Ulf Ulmsten at 1990s. TVT method is achieved with a prepackaged kit that allows the use of extremely small slits, ensuring negligible distress to the patients and a quick revival ⁽⁷⁾.

The SPMUS structure vary from TVT in many facts, its needles are more thin and go by in an antegrade manner from 2 minute suprapubic slits permitting more control on the needles' passage way in contrast to that of TVT practice ⁽⁸⁾.

OBJECTIVES: To make an assessment of using the SPMUS for management of female having stress urine incontinence. We focused on the effectiveness of this practice and its safety, included complications wether intrasurgical or postsurgical.

2. PATIENTS AND METHODS:

Twenty six female patients having urine incontinence presenting at Urology Department of Al-Sader Medical City from January 2010 to July 2011 were investigated for enrolment in this study.

All patients underwent incontinence surgery using a SPMUS. The sling kit comprise of two arched stainless steel needles 5-mm in diameter that are to be fasten to a 40-cm piece of polypropylene strip 11 mm wide with pore size of 150 µm. The tape is covered with a clear plastic sheath to facilitate retropubic passage of the tape.

The SPMUS procedures were performed using either general or spinal anesthesia. The frontal vaginal wall was slit opened at the point of the middle urethra, about 1cm from the urethral meatus, about 1.5 to 2cm in length. next dissection of the vaginal wall paraurethrally, two little suprapubic slits already had been prepared, about 2 cm from midline, for needle access. Then needle was held on the handle with dominant hand while the other hand holding arched part of the needle, close to the abdominal incision, to organize the course of the needle tip. after that, the needle crossed throughout suprapubic incisions, in the direction of the vaginal incision. Needle tip was sustained in close contact with the posterior surface of pubic bone till it edexceed throughout endopelvic fascia. We locates that tip by using index finger of non dominant hand, and guides the needle throughout the procreated vaginal slit. subsequent to the first needle in its location, we inserts the second one at the contra lateral side, with similar way. The surgen then performed Cystoscopy to exclude any vesical trauma, later than TVT was adjusted without any strain to reduce risk of postoperative proplems. The plastic sheath which cover the prolene tape then removed, then we closed abdominal incisions using

nonabsorbable sutures. The colpotomy then sutured with absorbable Vicryl 3-0. A Foley's catheter next placed in to the bladder and vaginal pack left for haemostasis. Vaginal packing and Foley's catheter were removed on day one postoperatively.

3. RESULTS:

A sum of 26 ladies were included in our research. Average patients' age was 48 years (range 28-70 years). Mixed urine incontinence had been identified in ten patients (38.5%) (figure 1).

The overall complications rate was 42.3% (11/26). Intraoperative complications occurred in four patients (15.4%) (figure 2), including bladder injury in three patients (11.5%), all cases were diagnosed intraoperatively by cystoscopy.

One patient (3.8%) developed haemorrhage during vaginal dissection, the haemorrhage was treated by packing for 24 hours, and resolved without need for secondary procedure. No vaginal perforation was noticed.

The total incidence of postoperative complications were (26.9%) (seven cases) (figure 3). Transient perineal pain occurred in one patient (3.8%). There was one patient (3.8%) with transient dysuria which resolved within week to ten days. One case (3.8%) had UTI postoperatively. Three patients (11.5%) developed retention.

De novo urge symptoms occurred in one woman (3.8%), responded well to four weeks of anticholinergic therapy. Of the ten patients (38.5%) with preoperative urge symptoms, seven improved, and three had persistent urge symptoms postoperatively.

Mean follow-up duration was 12 ± 1 months (3 to 19 months). Overall objective cure rate was 96.2% using cough provocative test at 2 weeks and three monthly after surgery (figure 4).

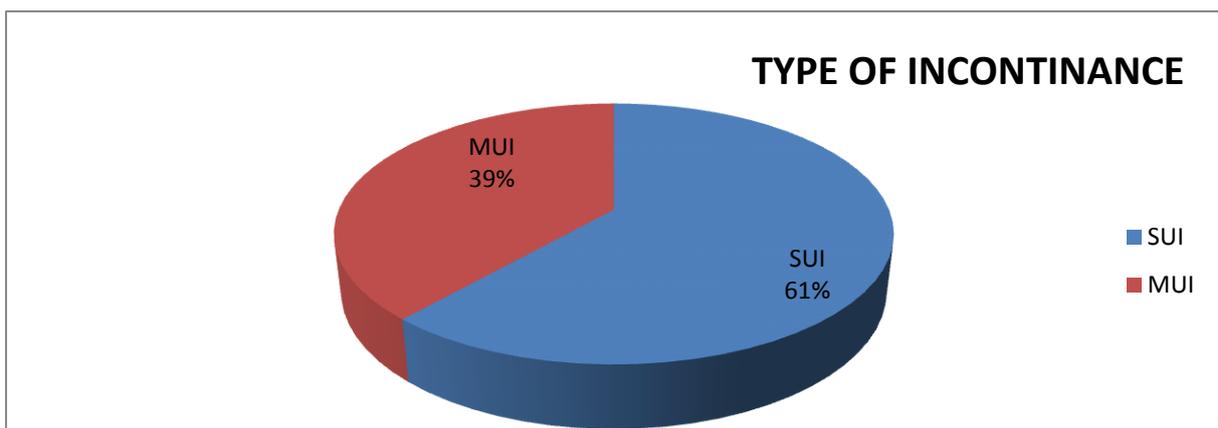


Figure 1: shows type of incontinence in women underwent SPMUS procedures in this study.

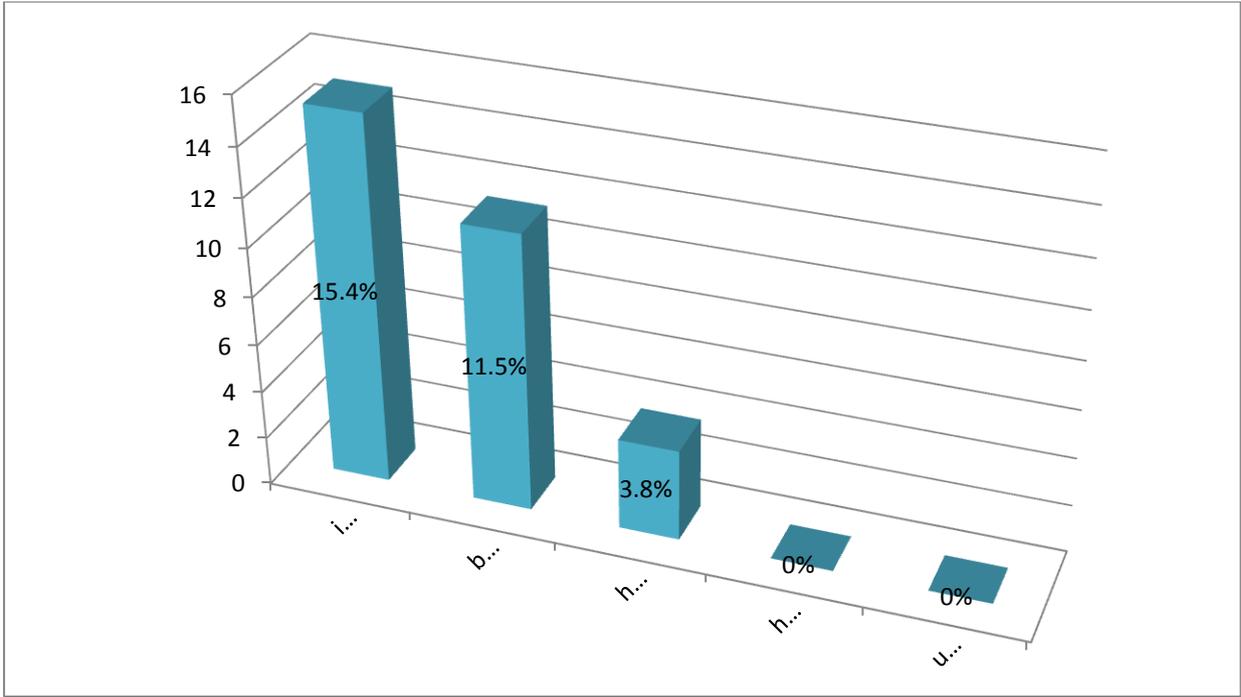


Figure (2) shows intraoperative complications of SPMUS procedure.

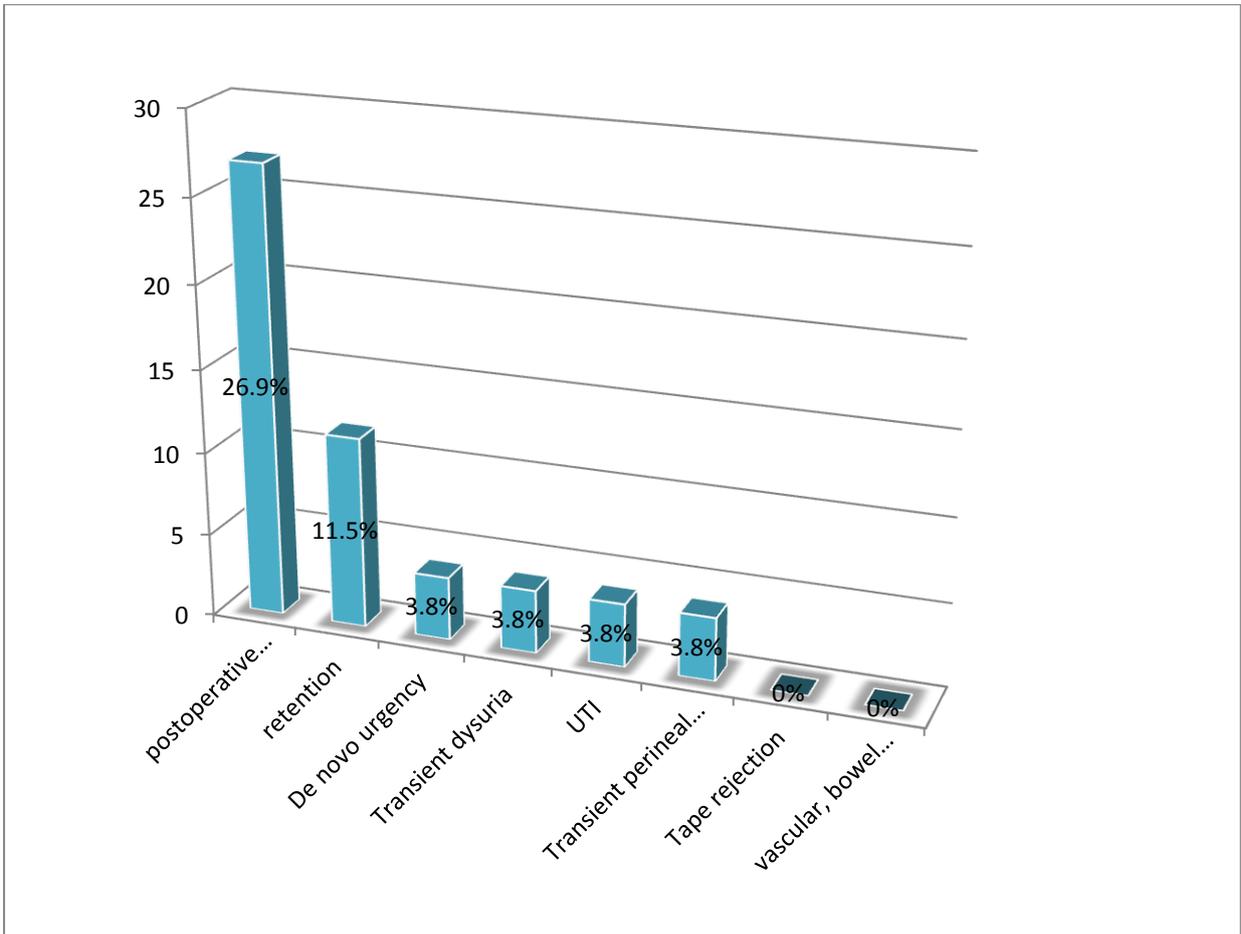


Figure (3) shows postoperative complications of SPMUS procedure.

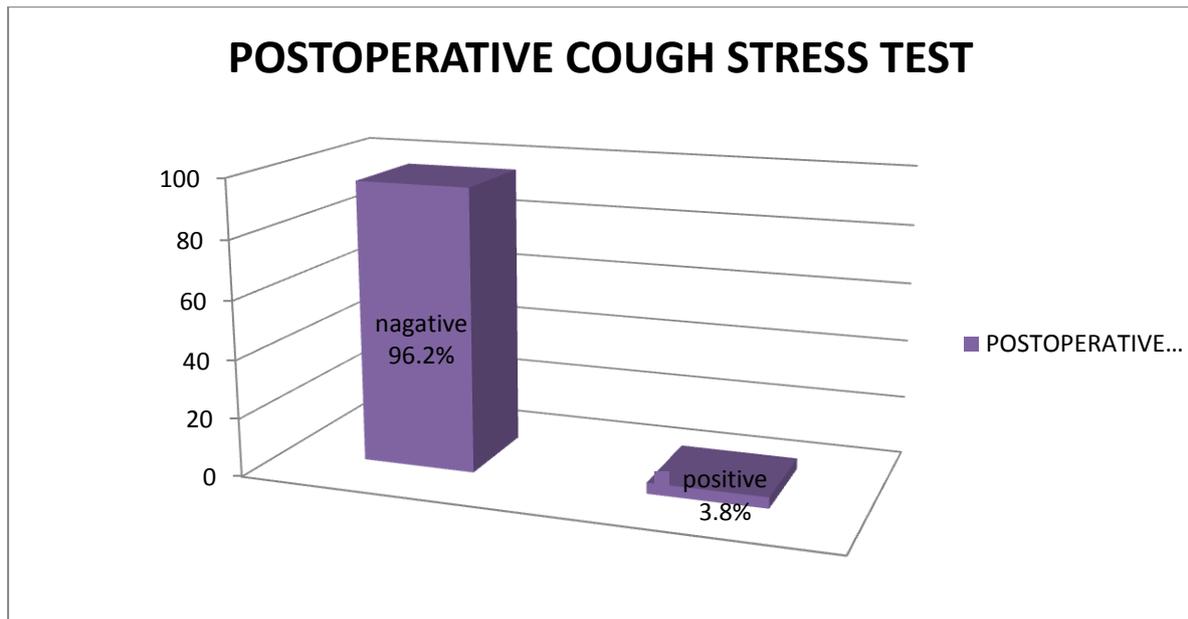


Figure (4): shows results of postoperative cough provocative test

DISCUSSION: TVT, whose style was established depending on the integral theory proposed by Petros and Ulmsten focused on midurethral continence, presented a less-invasive treatment for SUI⁽⁹⁾.

Our early practice favor the concept that the SPMUS delivery apparatus is simple to employ and integrate into our practice.

In current series, 26 patients underwent SPMUS procedures, 25 patients of them were cured, with an objective cure rate of 96.2%. This is comparable to previously published reports by Deval et al (cure rate of 90.4%), Hodroff et al (cure rate of 83%), and Andonian et al (cure rate of 83%)^(10,11,12). This is also comparable to other published reports on TVT by Ulmsten et al (cure rate of 91%), Haab et al (cure rate of 87.1%), Nilsson et al (cure rate of 84.7%), and Levin et al. (Cure rate of 93.4%)^(13,14,15, and 16). In the current study, overall complications rate of 42.3% were observed. Three bladder injuries (11.5%) had occurred. This is almost similar to Deval et al, who reported 8.5% risk of bladder perforation, but different from Andonian et al study who reported higher incidence of bladder perforation, in 24% of patients^(10,12). In our stud, no patient had urethral injury. This result is comparable to Deval et al who reported 0.8% risk of urethral injury⁽¹⁰⁾. No vascular, bowel or nerve damage were noticed in this study. This is equivalent to other comparable studies^(10,11,12). This is different from other studies utilizing TVT as Kuuva et al, Ward et al, and Meschia et al in their multicenter trial who reported traumas to the obturator, external iliac, femoral, inferior epigastric vessels, and nerves during TVT placement^(17,18,19). One patient had paraurethral haemorrhage (3.8%) in this study; this result is almost similar to Jaffry et al who reported (4.3%) risk of haemorrhage⁽²⁰⁾. No patient developed retropubic haematoma in this study. This is analogous to Deval et al results⁽¹⁰⁾, but different from Andonian et al, who reported higher incidence of retropubic haematoma (14.9%)⁽¹²⁾. In their multicenter trial on TVT, Ulmsten et al notified two cases of uncomplicated hematomas at the retropubic space out of 50 cases (4%)⁽¹³⁾.

Postoperative voiding dysfunction is inherent to all anti-incontinence surgery, Deval et al reported 10.7% risk of transient urinary retention, 3.7% of them required tape transection⁽¹⁰⁾,

and this is comparable to our result with urinary retention reported in 11.5%, no case in our group required transection of tape. In the current study, one patient (3.8%) developed de novo urgency postoperatively. This is comparable to Deval et al results (11.5%)⁽¹⁰⁾, and Hodroff et al results (6.1%)⁽¹¹⁾.

One patient (3.8%) developed UTI in this study; this result is comparable to Deval et al (8.6%)⁽¹⁰⁾, and to Jaffry et al (6.4%)⁽²⁰⁾. One patient (3.8%) developed transient perineal pain; this is comparable to Jaffry et al result (6.4%)⁽²⁰⁾. The result of the current study show that SPMUS is an effective, and a relatively secure operation for management of patients with stress urine incontinence.

4. CONCLUSIONS:

The SPMUS operation is an efficient and secure technique for the management of ladies with stress urine incontinence. It is a simple vaginal procedure with a very short learning curve. Perioperative risks are relatively low, the duration of hospitalization is short and the patients return to their natural daily activity rapidly.

5. RECOMMENDATIONS:

Based on the present data, it is highly recommended to use a minimally invasive SPMUS in patient with SUI with bothersome symptoms. Further studies are required to verify long-term results and to conclude if sling-specific outcomes can vary over the time.

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