

## FEMALE UROLOGY

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### **Suprapubic sling adjustment: minimally invasive method of curing recurrent stress incontinence after sling surgery**

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**Purpose:** Recurrent stress urinary incontinence after sling surgery is a complex problem. A minimally invasive method of correcting recurrent stress urinary incontinence after pubovaginal sling surgery is described.

**Materials and Method:** We performed suprapubic sling adjustment in 10 women with recurrent stress urinary incontinence after sling surgery. Of these 10 women, 4 had received an antibacterial polytetrafluoroethylene patch sling, 3 an autologous dermis patch sling and 3 an autologous rectus fascia patch sling but stress incontinence recurred. To correct recurrent incontinence, a pubovaginal sling was revised by adjusting the sling tension suprapubically with the aid of a cotton swab test and bladder leak test.

**Results:** Mean followup was 13 months (range 8 to 28). Of the 10 women, 9 became completely dry and 1 was greatly improved. One patient who had persistent stress incontinence generated an abdominal leak point pressure of 189 cm H<sub>2</sub>O compared to a preoperative pressure was 120 cm H<sub>2</sub>O. The incidence of de novo urge incontinence was 2% (2 of 10 cases). Mean resting cotton swab angle was (+) 20 and (+) 5 degrees, and mean Valsalva cotton swab angle was (+) 40 and (+) 5 preoperatively and postoperatively. Mean pad use

decreased from 3 pads to less than 1 pad a day. Mean self-reported satisfaction score was 9 (range 8 to 10) on a visual analog scale.

Conclusions: Pubovaginal slings may be revised safely with excellent results. Adjusting the sling tension suprapubically is a minimally invasive technique. Suprapubic sling adjustment may be performed as an intermediary step before resorting to a complete sling takedown/revision.

### **Editorial Comment**

The author, Dr. Jong M. Choe, describes his technique of suprapubic sling adjustment after failed suburethral sling. The initial slings performed were strut slings with the endopelvic fascia not being perforated, but instead the sutures of the supporting sling passing through the endopelvic fascia traversing the retropubic space and then being anchored above the anterior rectus fascia. The technique involved the dissection and identification of the sling non-absorbable suspension sutures. The sutures were then retied in a tighter fashion with the utilization of a cotton swab test and supine bladder leak test. Dr. Choe's technique of correction as reported was very efficient with the mean operating time of 45 minutes, and mean estimated blood loss of 9 cc. The salvage success rate was equally impressive, with 9 of 10 patients being completely dry, and 1 patient greatly improved. Despite the reported objective cure rate of 90% (9 of 10 cases), and subjective cure rate of 100% (10 of 10 cases), the author also reports that 2 of 10 patients (20%) had de novo urge incontinence, and 1 of 4 patients presenting preoperative urge incontinence had persistence of same.

Dr. Choe should be complimented for reporting on a minimally invasive method of addressing a very difficult subpopulation of patients in our practice: the woman who has failed a previous suburethral sling. This paper is distinctly different than a prior paper on repeat pubovaginal sling procedures for recurrent stress incontinence after pubovaginal sling (1). Though the author does compare the 2 studies, the studies differ in that the series reported by Dr. Frank and me dealt with patients who had previous classic pubovaginal slings with endopelvic fascia perforation, with a variable degree of inactive retropubic fibrosis encasing the urethra. Dr. Choe's original slings were strut slings with a stated no perforation of the endopelvic fascia in addition to the sutures traversing this retropubic space. One of the interesting side points Dr. Choe raises, is that if does one really need to perforate the endopelvic fascia to a great degree in order to obtain a satisfactory and long term management of female urinary incontinence. Anecdotal experience states that when a sling fails, it usually fails right away, and when it does not fail, it lasts a long time. This is somewhat different than the time frame reported by Dr. Choe, in view that his mean time to recurrent stress incontinence was approximately 4 months (range 3-9 months). It would have been an interesting addition to this paper to explore Dr. Choe's thoughts on why his initial slings failed. Rovner et al. has cited reasons for early failures, such as suture breakage, incorrect sling placement, and tying the sling too loosely (2). Most of these early failures though are manifested immediately, as opposed to having a period of good results that gradually degrade into operative failure. I compliment Dr. Choe on the use of the Blaivas-Groutz anti-incontinence surgery response score (3). I find this incontinence score to be an excellent, simplified way of evaluating patient outcomes (see Appendix). Of note is that the mean reported Blaivas-Groutz anti-incontinence surgery score was 1, with a range of 0-2, but Dr. Choe does not make any mention of the 24-hour pad test, which is an integral part of the anti-incontinence surgery response score. In addition, I would have found of great value to find out which patient failed among the various pubovaginal sling types, and which patients were plagued with de novo or persistent urge incontinence. This would have potentially helped our understanding of female outlet obstruction and secondary voiding dysfunction.

This is a very valuable paper to review, especially when discussing potential options for a patient plagued with recurrent stress urinary incontinence after a pubovaginal sling. It will be of great interest to find if the reported technique has the same degree of efficacy in patients who have had a classic pubovaginal sling with perforation of the endopelvic fascia and retropubic fibrosis. I wager not.

**Appendix - Anti-incontinence surgery response score**

Postoperative 24-hour voiding diary

0 Nor urge or stress urinary incontinence episodes

1 1 to 2 Incontinence episodes

2 3 or more incontinence episodes

Postoperative 24-hour pad test

0 Total pad weight gain 8 g or less

1 Total pad weight gain 9 to 20 g

2 Total pad weight gain greater than 20 g

Patient questionnaire

0 The patient considers herself cured

1 The patient considers herself improved

2 The patient considers the operation to have failed

Total outcome score

0 Cure

1 to 2 Good response

3 to 4 Fair response

5 Poor response

6 Failure

**References**

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**Tension-free vaginal tape for stress urinary incontinence: Is there a learning curve?**

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Aim: To assess the learning curve characteristics of the first 30 tension-free vaginal tape (TVT) procedures carried out in our medical center and to evaluate its safety and short-term effectiveness.

Methods: A total of 30 incontinent women with urodynamically proven SUI were enrolled. None had undergone any previous anti-incontinence procedure. All were operated on by one surgeon, in accordance with the technique describe by Ulmsten et al. in 1996. Mean follow-up was  $11.4 \pm 3.6$  months (range, 5-17 months).

Results: Five (17%) bladder perforations occurred at the beginning of the study, due to inadvertent insertion of the applicator. All perforations were identified by intraoperative cystoscopy. Five other patients (17%) had increased intraoperative bleeding (> 200 mL) necessitating vaginal tamponade. Blood transfusions were not required. Eight (27%) patients had immediate postoperative voiding difficulties, necessitating catheterization for 2-10 days, but none needed long-term catheterization. There was no local infection or rejection of the Prolene tape was found. All patients were subjectively cured of their stress incontinence; however, urodynamic evaluation revealed "asymptomatic genuine stress incontinence" in one patient. Sixteen of 21 patients (80%) with preoperative urge syndrome had persistent postoperative symptoms. No patient developed de novo urge incontinence.

Conclusion: The TVT operation is a new, minimally invasive surgical procedure with excellent short- and medium-term cure rates. However, there is a definite learning curve, and we believe that the operation should only be performed by experienced surgeons.

### Editorial Comment

The authors present their experience regarding the initiation of tension-free vaginal tape (TVT) placement at their hospital for the treatment of stress urinary incontinence. They examined 30 incontinent women who had never had previous anti-incontinence surgery. The TVT placement was performed by one surgeon. Thirty patients were recruited in this study and analyzed in 3 groups of 10. The parameters examined included operative time, bladder injury, bleeding, hospitalization, and need for catheterization in each of the 3 groups. These parameters were then examined for statistical significance. In addition, the groups were stratified for age, parity, and the presence of preoperative urgency.

This paper is important in view of the popularity of the TVT since its introduction by Ulmsten et al. in 1996 (1). As the popularity for this operation has increased, there has been an increase in pressure and desire on urologists and gynecologists to perform this at their respective hospitals to provide a full service for their patients. The question which each surgeon asks of himself prior to performance of a surgery, is how easy will this be to do, and how rapidly may I learn it so I may offer it in a successful and safe fashion to my patients. The 3 main complications examined in this paper were bladder injury, bleeding, and the need for catheterization postoperatively. Of note, was that the instance of bladder injury did diminish rapidly with increase in surgical experience. Bleeding did not alter between the 3 groups. The need for perioperative catheterization also did not change significantly with increase in surgical experience. In the patients who had urgency, it was noteworthy that 80% had persistent postoperative symptoms. This is in marked contrast to the classic thought of the resolution of urgency after an anti-incontinence operation, with two-thirds having the urgency resolve, one-third having the urgency continue, and less than 5% having de novo urinary urge incontinence (2).

Several points of critique in this paper were that the paper did look at the learning curve of a single surgeon, but it was stated in the article that the urogynecological surgeon had been trained by Ulmsten to perform all of the operations. It was unclear to me whether the surgeon spent one day with Dr. Ulmsten, one month, or a residency. In addition, it would be more illuminating if the exact training could be delineated with regard to the number of cases, hands on training or solely observation. Also, there were 30 TVT procedures carried out, one of the procedures was aborted and converted to a Burch-retropubic suspension secondary to distorted anatomy attributed to previous pelvic surgeries. I was unsure whether this patient was included in the 30 patients. Another point of review is that 11 (37%) of the patients underwent concomitant surgical procedures. These ranged from laparoscopic procedures to pelvic relaxation repairs. The authors try to accommodate this and still use the TVT procedures in their series by commenting on the mean operating time for the TVT procedure outside of the concomitant surgical procedures. Unfortunately, the concomitant surgical procedures may have had a downstream effect on the overall incidence of bleeding, hospitalization, and post-operative catheterizations. I would have found the paper much more educational if the TVT procedures analyzed would have been without concomitant operations.

Literature is now replete with commentary and descriptions of the tension-free transvaginal tape procedures. Any of the papers in the literature report fairly small series with a large number of multi-site authors with good results, thus indicating that perhaps the learning curve is rather rapid with the TVT procedure (3). Though the paper by Groutz et al. used patients who had never had anti-incontinence operations before, other papers have commented on the success of the TVT procedure for patients who have previously failed stress incontinence surgery (4).

This paper is valuable for it helps guide the reader in the onset of the use of the TVT procedure, if that operation has not yet been added to his surgical armamentarium. It also guides the reader to counsel his patients that there may not be a significant diminution in urge incontinence after the anti-incontinence operation. Based on this paper, the surgeon can count on the incidence of bladder perforation diminishing with increased surgical experience but the challenge of perioperative hemorrhage remaining. In addition, emphasis is made that this operation should not be completed without intraoperative cystoscopy.

### References

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