

# Urethral Erosion With Recurrent Stress Incontinence Following Transobturator Tape Surgery

## Urethral Repair With Simultaneous Pubovaginal Sling

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**Keywords:** stress urinary incontinence, complications, prosthesis implantation, surgery, female

### INTRODUCTION

Urethral erosion is an uncommon, but serious complication following synthetic tape placement for stress urinary incontinence (SUI). The authors discuss a woman who presented with urethral erosion, vaginal erosion, recurrent SUI, and painful groin indurations following transobturator tape placement. She was managed by sling excision with simultaneous rectus fascia sling surgery. Most such patients have been managed by urethral reconstruction and subsequent staged incontinence surgery, for fear of urethral complications. We could find only three such instances in literature where simultaneous repair of urethral erosion was carried out along with an autologous rectus fascia sling.<sup>(1,2)</sup>

### CASE REPORT

A 47-year-old woman had undergone transobturator tape placement for SUI elsewhere. Details of the type of the tape used and operative notes were not available. The patient mentioned that a transobturator polypropylene mesh had been placed using a mesh kit.

Early in the postoperative period, she had storage symptoms that initially responded to empirical 4 mg long-acting tolterodine. She presented 4 months postoperatively with intractable SUI (3 pads/day), urgency, and vaginal pain. She had a small vaginal erosion and nodular induration at the groin exit wounds. Urodynamic study showed recurrent SUI with an abdominal leak point pressure of 79 cmH<sub>2</sub>O at 200 mL. She had normal detrusor function and no residual urine. Cystoscopy showed

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Received January 2010  
Accepted September 2010

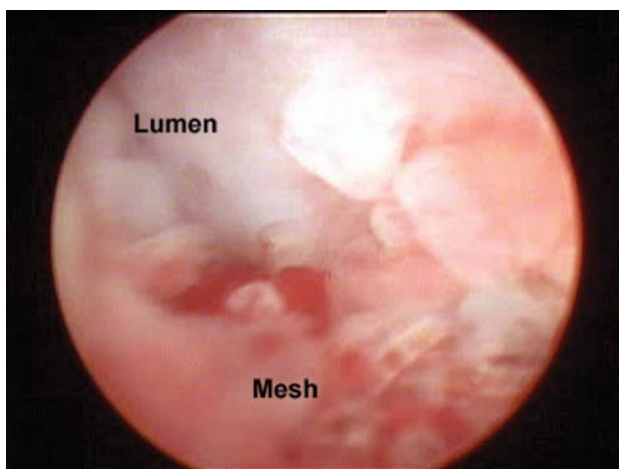
a 5 × 8 mm erosion in the floor of the urethra 2 cm distal to the bladder neck (Figure 1). Urine culture grew candida, for which she received fluconazole. Magnetic resonance imaging did not show any abscess or signs of inflammation along the tape.

The patient underwent excision of the suburethral tape, 2-layered reconstruction of the urethra using 5-0 vicryl, excision of lateral tape segments, Martius labial fat pad interposition, and simultaneous rectus fascia pubovaginal sling (Figure 2). Integrity was checked by methylene blue. Labial fat was interposed between sling and the urethra.

The suprapubic and urethral catheters were removed after 3 weeks. At 27 months follow-up, she had no subjective incontinence, urgency, or pain. Her urogenital distress inventory (UDI-6) and incontinence impact questionnaire (IIQ-7) scores were 1 and 0, respectively. A cough test did not show any leak. She had negligible residual on ultrasonographic evaluation.

## DISCUSSION

Since the initial descriptions of the tension-free vaginal tape and its transobturator modification, these procedures have become the most commonly performed surgeries for SUI.<sup>(3,4)</sup> Urethral erosion following tape surgery for SUI is rare (0.03% to 0.8%), but potentially serious.<sup>(5)</sup> It is usually the



**Figure 1.** Cystoscopic image of erosion in the floor of the urethra showing the tape mesh. There was an extensive erosion encompassing more than one quadrant of the urethral lumen.

sign of a technical error.<sup>(6)</sup> Erosion occurs following slings that are too tight or too close to the urethra and presentation may be delayed up to 2 years. Type of sling material (biological or synthetic, macroporous polypropylene or otherwise) and quality of vaginal tissues influence the tendency to erode. Erosion may present with urethral discomfort, dysuria, hematuria, voiding difficulty, retention, or urinary incontinence.

Diagnosis requires a high index of suspicion, and cystoscopy is important in patients with intractable symptoms. Patients with urethral erosion or recurrent incontinence should undergo detailed evaluation, including urodynamic study and ultrasonography. Simple out-patient transvaginal introital ultrasonography may provide valuable clues to the presence of an erosion.<sup>(5,7)</sup> In patients with suspected sepsis, magnetic resonance imaging can help in accurate identification of abscess tracts.<sup>(8)</sup> This may dictate the need for more extensive tape removal. Magnetic resonance imaging, however, is not suitable for the identification of the erosion itself. In contrast to delayed secondary urethral erosion, primary intra-operative urethral injury should be identified and repaired at the time of initial surgery. Tape procedure may proceed only if the injury is deemed minor.

There is no consensus regarding the optimal management of these patients. A range of reconstructive surgeries have been described, including endoscopic tape removal alone and vaginal removal with urethral reconstruction with or without interposition of vascularized autologous tissue. Mild SUI in women with small erosions may resolve after transurethral tape excision.<sup>(9)</sup> Of 34 patients in a recent review, 13 had postoperative SUI after management of sling erosion.<sup>(5)</sup> However, only three patients have so far been reported to have undergone simultaneous autologous pubovaginal sling placement at the time of erosion management.<sup>(1,2)</sup> In most patients, attempts at total tape excision are not warranted and removal of the sub-urethral por-

tion of the tape suffices. In our patient, maximal tape excision was performed in view of severe painful groin indurations along with the erosion. The duration of postoperative catheter placement is not standardized and the surgeon must use discretion based on the severity of the problem and the quality of the repair. In patients presenting with urethral erosion of previously placed multifilament or coated tapes, in view of the risk for progressive erosions, strong consideration must be given for total tape excision.<sup>(10)</sup>

Stress urinary incontinence does not always recur after tape excision; hence, prophylactic re-do incontinence surgery is unwarranted.<sup>(5,11,12)</sup> However, if there is recurrent SUI along with erosion at presentation, careful consideration must be given to the simultaneous placement of a pubovaginal sling at the time of erosion repair. This is technically feasible, effective, and durable. It obviates the need to explore the doubly-scarred periurethral area in case the SUI does not resolve with sling excision and urethral repair alone. It is preferable to interpose healthy vascularized tissue, such as a Martius flap, between the repaired urethra and sling in all such women. Synthetic tapes may carry higher risk of erosion and should be used with caution. Poor quality of vaginal and periurethral tissues may anyway dictate the need for staged reconstruction. In patients developing recurrent SUI after urethral reconstruction, a standard autologous pubovaginal sling can be performed.<sup>(13)</sup> In carefully selected patients, synthetic sling may be placed as an interval



**Figure 2.** A total of 8 cm of tape was excised leaving behind small segments passing through the obturator foramen. Tape microbiology showed candidal growth. Details of the type of tape used were not available.

procedure.

## CONFLICT OF INTEREST

None declared.

## REFERENCES

1. Starkman JS, Wolter C, Gomelsky A, Scarpero HM, Dmochowski RR. Voiding dysfunction following removal of eroded synthetic mid urethral slings. *J Urol.* 2006;176:1040-4.
2. Powers K, Lazarou G, Greston WM. Delayed urethral erosion after tension-free vaginal tape. *Int Urogynecol J Pelvic Floor Dysfunct.* 2006;17:422-5.
3. Ulmsten U, Henriksson L, Johnson P, Varhos G. An ambulatory surgical procedure under local anesthesia for treatment of female urinary incontinence. *Int Urogynecol J Pelvic Floor Dysfunct.* 1996;7:81-5; discussion 5-6.
4. Delorme E. [Transobturator urethral suspension: mini-invasive procedure in the treatment of stress urinary incontinence in women]. *Prog Urol.* 2001;11:1306-13.
5. Velemir L, Amblard J, Jacquetin B, Fattou B. Urethral erosion after suburethral synthetic slings: risk factors, diagnosis, and functional outcome after surgical management. *Int Urogynecol J Pelvic Floor Dysfunct.* 2008;19:999-1006.
6. Boublil V, Ciofu C, Traxer O, Sebe P, Haab F. Complications of urethral sling procedures. *Curr Opin Obstet Gynecol.* 2002;14:515-20.
7. Tunn R, Gauruder-Burmester A, Kollé D. Ultrasound diagnosis of intra-urethral tension-free vaginal tape (TVT) position as a cause of postoperative voiding dysfunction and retro-pubic pain. *Ultrasound Obstet Gynecol.* 2004;23:298-301.
8. Zumbé J, Porres D, Degiorgis PL, Wyler S. Obturator and thigh abscess after transobturator tape implantation for stress urinary incontinence. *Urol Int.* 2008;81:483-5.
9. Wai CY, Atnip SD, Williams KN, Schaffer JI. Urethral erosion of tension-free vaginal tape presenting as recurrent stress urinary incontinence. *Int Urogynecol J Pelvic Floor Dysfunct.* 2004;15:353-5.
10. Mesens T, Aich A, Bhal PS. Late erosions of mid-urethral tapes for stress urinary incontinence—need for long-term follow-up? *Int Urogynecol J Pelvic Floor Dysfunct.* 2007;18:1113-4.
11. Madjar S, Tchetgen MB, Van Antwerp A, Abdelmalak J, Rackley RR. Urethral erosion of tension-free vaginal tape. *Urology.* 2002;59:601.
12. Haferkamp A, Steiner G, Müller SC, Schumacher S. Urethral erosion of tension-free vaginal tape. *J Urol.* 2002;167:250.
13. Vassallo BJ, Kleeman SD, Segal J, Karram MM. Urethral erosion of a tension-free vaginal tape. *Obstet Gynecol.* 2003;101:1055-8.