

## A simple technique for intravesical tape removal

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**Abstract:** The tension-free vaginal tape (TVT) procedure has become the most frequently performed surgical technique for the treatment of stress urinary incontinence with cure rates reported at greater than 85%.<sup>1-3</sup> Nevertheless, these excellent results are associated with specific complications such as bladder perforation<sup>2,4</sup> and vaginal, urethral and bladder erosion.<sup>5-8</sup> Any undetected perforation or gradual erosion of the bladder wall may lead to a delayed recognition of an intravesical mesh. Herein, we describe a novel technique concerning mesh removal which requires minor instrumentation and results in the effective resection of intravesical tape.

**Key words:** Intravesical; Sling; Stress urinary incontinence; Tension-free vaginal tape.

### CASE REPORT

A 63-year-old woman presented with recurrent urinary tract infections and dysuria, six months following a TVT procedure performed elsewhere. A physical examination revealed no abnormalities. A cystoscopy was performed and an intravesical mesh was identified entering just behind the right ureteral orifice and exiting from the right side of the bladder dome. The patient was then prepared for mesh removal. A 26 Fr resectoscope was introduced into the bladder and subsequently reached the tape. The mesh was resected in the same way as a deep resection of a bladder tumor, with the loop in constant contact with the bladder wall (Fig. 1). Primarily, an incision was made at the exit point of the bladder dome following adequate filling of the bladder, in order for the tape to be stretched. The same procedure was repeated at the point of tape entrance adjacent to the trigone, and the resectoscope subsequently withdrawn. A 26 Fr cystoscope was introduced into the bladder and the free piece of tape was grasped and removed intact via the sheath of the cystoscope (Fig. 2). The patient had an uneventful recovery. A follow-up cystoscopy, performed one month postoperatively, showed no evidence of a mesh or

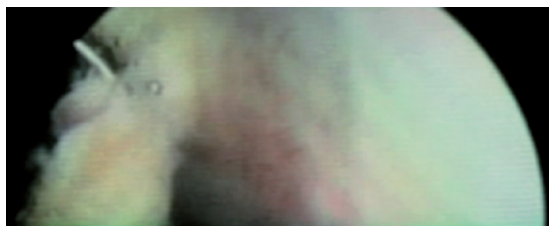


Fig. 1. – Resection of intravesical mesh during a cystoscopy using a resectoscope.



Fig. 2. – The free piece of mesh (3 cm) has been removed from inside the bladder by a grasper.

other abnormality. Follow-up data, one year post surgery, showed no signs of SUI recurrence.

### DISCUSSION

Bladder perforation during insertion of TVT is a common operative complication with rates varying from 5 to 19%.<sup>2-4</sup> However, if the condition is recognized intra-operatively, repositioning of the passer and drainage of the bladder for 24-48 h are the sole methods required for resolution of the problem. Therefore, a cystoscopy using a 70° angle is necessary to carefully inspect the entire surface of the bladder. In addition, full vesical distention is necessary, as folds of the bladder mucosa may conceal the tape. In addition, submucosal placement of the tape must not go unrecognised.

However, an intravesical mesh may be detected during a late cystoscopy in a patient experiencing recurrent urinary tract infections or hematuria following a TVT procedure. This complication, occurring and remaining unidentified at the time of surgery or developing by gradual penetration of the bladder wall, represents an operative challenge. Several approaches to this problem have been proposed. Volkmer et al.<sup>8</sup> proposed an open suprapubic approach with cystotomy for tape removal. Jorion described a method using a laparoscopic grasper via a suprapubic trocar using a transurethral nephroscope for inserting a laparoscopic scissors to cut the tape.<sup>9</sup> Baracat et al.<sup>10</sup> performed the excision in a similar fashion. Kielb and Clemens described a technique, which uses a laparoscopic scissors via a suprapubic trocar and a cystoscope to visualize and grasp the tape.<sup>11</sup> In an attempt to reduce the invasiveness and morbidity associated with the procedure, Giri et al.<sup>12</sup> in addition to Hodroff et al.<sup>13</sup> reported and described cases treated with transurethral holmium laser excision.

Our technique uses a resectoscope and a cystoscope, common transurethral instrumentation, which are easily accessible in all urological departments. We believe the described technique in the present study should represent the initial approach for the removal of an intravesical mesh.

### CONCLUSIONS

Urologists should exercise caution concerning cases with persisting symptoms resulting from lower urinary tract infection following TVT surgery, due to the possibility of the presence of an intravesical mesh. In such cases, the technique described herein can be easily performed and is less invasive, ensuring low morbidity.

## REFERENCES

1. Rezapour M, Ulmsten U. Tension-free vaginal tape (TVT) in women with recurrent stress urinary incontinence - a long-term follow-up. *Int Urogynaecol J Pelvic Floor Dysfunct* 2001; 12 Suppl 2: S9-11.
2. Haab F, Sananes S, Amarenco G, Ciofu C, Uzan S, Gattego B, Thibault P. Results of the tension-free vaginal tape procedure for the treatment of type II stress urinary incontinence at a minimum follow-up of 1 year. *J Urol* 2001; 165: 159-62.
3. Kuuva N, Nilsson CG. A nationwide analysis of complications associated with the tension-free vaginal tape (TVT) procedure. *Acta Obstet Gynecol Scand* 2002; 81: 72.
4. Ward KL, Hilton P, Browning J. A randomised trial of colposuspension and tension free vaginal tape for primary genuine stress incontinence. *Neurourol Urodyn* 2000; 19: 386.
5. Sweat SD, Itano NB, Clemens JQ, et al. Polypropylene mesh tape for stress urinary incontinence: complications of urethral erosion and outlet obstruction. *J Urol*. 2002; 168: 144-146.
6. Madjar S, Tchetgen MB, Van Antwerp A, et al. Urethral erosion of tension-free vaginal tape. *Urology* 2002; 59: 601.
7. Pit MJ: Rare complications of tension-free vaginal tape procedure: late intraurethral displacement and early misplacement of tape. *J Urol* 2002; 167: 647.
8. Volkmer BG, Nesslauer T, Rinnab L, et al. Surgical intervention for complications of the tension-free vaginal tape procedure. *J Urol* 2003; 169: 570-574.
9. Jorion JL. Endoscopic treatment of bladder perforation after tension-free vaginal tape procedure. *J Urol* 2002; 168: 197.
10. Baracat F, Mitre AI, Kanashiro H, et al. *NI. Clinics* 2005; 60: 397-400.
11. Kiehl S, Clemens J. Endoscopic excision of intravesical tension-free vaginal tape with laparoscopic instrument assistance *J Urol* 2004; 172: 971.
12. Giri SK, Drumm J, Flood HD. Holmium laser excision of intravesical tension-free vaginal tape and polypropylene suture after anti-incontinence procedures. *J Urol* 2005; 174: 1306-7.
13. Hodroff M, Portis A, Siegel SW. Endoscopic removal of intravesical polypropylene sling with the holmium laser. *J Urol* 2004; 172: 1361-2.

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**Pelvic Floor Digest***continued from page 25***7 – PAIN**

**Comparative measurement of pelvic floor pain sensitivity in chronic pelvic pain.** *Tu FF, Fitzgerald CM, Kuiken T et al. Obstet Gynecol. 2007;110:1244.* Women with pelvic pain conditions exhibit enhanced somatic pain sensitivity at extragenital sites. Whether comparable differences exist for pelvic floor or vaginal pain sensitivity is unknown. Comparing 14 women with chronic pelvic pain to 30 healthy women without this condition and using a prototype vaginal pressure algometer, we recorded continuous ascending pressure and determined each subject's pressure-pain threshold at each of eight paired pelvic floor sites and two adjacent vaginal sites. Thresholds were significantly lower in women with pelvic pain (at iliococcygeus). Pelvic floor and vaginal site pain detection thresholds had moderate-to-strong correlations with each other.

**Re-imaging interstitial cystitis.** *Hanno PM. Urol Clin North Am. 2008;35:91.* An "antiproliferative factor" has been postulated in the etiologic pathway of the painful bladder syndrome/interstitial cystitis, but without any dramatic breakthroughs in the field. Other looks with regard to epidemiology, etiology, and clinical treatment are being taken.

**Chronic prostatitis/chronic pelvic pain syndrome.** *Pontari MA. Urol Clin North Am. 2008;35:81.* Prostatitis is not any more referred to inflammation in the prostate, often attributed to an infection, but rather to a chronic pain syndrome for which the presence of inflammation and involvement of the prostate are not always certain. The article discusses this syndrome and the various factors associated with diagnosis and treatment.

**Vulvodynia: new thoughts on a devastating condition.** *Gunter J. Obstet Gynecol Surv. 2007;62:812.* The article explores 3 factors that may contribute to inconsistent results with therapy; the hypothesis that vulvodynia is a systemic disorder; the idea that failure to address the psychological or emotional aspect or chronic pain may affect outcome; and the concept that chronic vulvar pain, like headache, is not a single condition but is a diverse group of disorders that produce the same symptom.

**Vulvodynia: case report and review of literature.** *Gumus II, Sarifakioglu E, Uslu H, Turhan NO. Gynecol Obstet Invest. 2007;65:155.* Vulvodynia is a chronic pain syndrome affecting up to 18% of the female population, defined as chronic vulvar burning, stinging, rawness, soreness or pain in the absence of objective clinical or laboratory findings. A case accompanying somatoform disorder and depression is presented.

**Painful bladder syndrome/interstitial cystitis and vulvodynia: a clinical correlation.** *Peters K, Girdler B, Carrico D et al. Int Urogynecol J Pelvic Floor Dysfunct. 2007 Nov 24; epub.* Vulvodynia affects 25% of women with painful bladder syndrome/interstitial cystitis (PBS/IC). To clinically evaluate the association of PBS/IC and vulvodynia and possible contributing factors, a group of 70 women were divided in 2 subgroups with and without vulvodynia for comparison. Average levator pain levels were significantly greater in those with vulvodynia and there were no differences in number of pelvic surgeries, sexually transmitted infections, vaginitis or abuse history.

**Serum paraoxonase-1 activity in women with endometriosis and its relationship with the stage of the disease.** *Verit FF, Erel O, Celik N. Hum Reprod. 2007 Nov 13; epub.* Oxidative stress may play a role in the pathophysiology of endometriosis. Serum paraoxonase-1 (PON-1) is a high-density lipoprotein (HDL) associated enzyme that prevents oxidative modification of low-density lipoprotein (LDL). The serum PON-1 activity in women with endometriosis was significantly lower compared to controls and a negative correlation was found with the stage of the disease.

**8 – FISTULAE**

**Limited anterior cystotomy: a useful alternative to the vaginal approach for vesicovaginal fistula repair.** *Hellenthal NJ, Nanigian DK, Ambert L, Stone AR. Urology. 2007;70:797.* Most vesicovaginal fistulas are corrected using a transvaginal approach. A novel abdominal approach is described, using a small anterior cystotomy and omental pedicle interposition.

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