

A severe complication of mid-urethral tapes solved by laparoscopic tape removal and ureterocutaneostomy

Tobias Schätz, MD; Stephan Hruby, MD; Daniela Colleselli, MD; Günter Janetschek, MD; Lukas Lusuardi, MD

Paracelsus Medical University Salzburg, Department of Urology and Andrology, Salzburg, Austria

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Abstract

Mid-urethral tapes are largely used to manage stress urinary incontinence (SUI). In certain cases, however, this procedure results in bothersome complications that lead to complete resection. We present the case of an 85-year-old woman who presented with ongoing suprapubic pain, hematuria, vaginal bleeding and recurrent urinary tract infections. The patient had undergone a tension-free vaginal tape (TVT) procedure in 1999 and a transobturator tape (TOT) placement in 2003 for SUI. Investigations revealed a urethral stone, erosion of both TOT and TVT and an urethra-vaginal fistula. Under local anesthesia the urethral stone was removed endoscopically and the TOT removed via a vaginal approach. Due to her comorbidity, she underwent a laparoscopic intraperitoneal removal of the TVT and a definitive ureterocutaneostomy to relieve her pain, inflammation and incontinence. This is the first ever presented case of erosion of mid-urethral tapes and incontinence treated with a laparoscopic resection of the tape and ureterocutaneostomy as definitive urinary diversion.

Introduction

The tension-free vaginal tape (TVT, Gynecare, Sommerville, NJ) was introduced in 1996.¹ This technique has long-term efficacy similar to that of Burch colposuspension.² Since then other retropubic and more recently transobturator tapes (TOT) have been introduced, making mid-urethral sling procedures less invasive and safer.^{3,4}

Complications after these procedures are perceived to be rare. The cumulative complications rates were 0.8% for bladder erosion, 1.1% for vaginal erosion, 1.7% for pelvic hematoma, 3.2% for revision operations, 3.4% for bladder perforations, 4% for clean intermittent catheterization, 9.7% for urinary tract infections, 15.6% for storage lower

urinary tract symptoms (LUTS) and 16.1% for voiding LUTS.³ Catastrophic complications, such as major hemorrhage from large vessels or bowel perforation, usually become apparent intra- or immediately after surgery. We present a case of a catastrophic complication presenting years after tape insertion.

Case report

In April 2010, an 85-year-old woman presented with perineal pain, continuous incontinence and offensive smelling urine. She had a history of TVT in 1999 for stress urinary incontinence (SUI) and a TOT in 2003 for persistent SUI elsewhere. Her general medical condition was poor. She had several pulmonary infarcts and currently was suffering from angina with an exercise tolerance of 100 metres.

Urine culture was positive for *E. coli*. A local anesthetic rigid cystoscopy revealed a small mid-urethral stone adherent to an eroded tape in the 6-o'clock position. There was further erosion at the bladder neck at the 1-o'clock position. Vaginal examination revealed the presence of a urethra-vaginal fistula.

The urethral stone was totally removed with cold cup biopsy forceps and the underlying tape was divided and partially removed. There was an unsuccessful attempt to remove the eroded tape from the lateral sides of the bladder neck and a suprapubic catheter was inserted. Cystography confirmed the urethro-vaginal fistula without other abnormalities.

Postoperatively, the patient developed pain and swelling of the mons pubis. She had no inflammatory signs or elevated serum inflammatory markers. A computed tomography scan showed a 6-cm fluid collection at the mons pubis connected to inflammation within the retropubic space (Fig. 1). In addition, the impression of the TVT could be seen as a V-shaped soft tissue density surrounded by further inflammation.



Fig. 1. A computed tomography scan showing a 6-cm fluid collection at the mons pubis connected to inflammation within the retroperic space.

Unfortunately the patient was still incontinent and in pain. In view of her comorbidity (ASA IV) and the absence of sepsis, the decision was taken to remove the tape and perform bilateral uretrocutaneostomy using minimally invasive techniques.

A transperitoneal laparoscopic approach was employed. The retroperic space was opened and the bladder dropped posteriorly. The pubic bone was identified laterally and followed the midline. By this movement the limbs of the TVT on either side could be identified and removed (Fig. 2). We mobilized the distal ureters bilaterally and transected them. The left ureter was tunneled through the sigmoid mesentery and both ureters were brought to the skin of the right iliac fossa.

Discussion

Vaginal erosion is a rare complication of TOT with a reported incidence of 0% to 1.5%.³ Erosion secondary to TVT is more common with an incidence of 0% to 10.9%.^{3,5} In our case we had an erosion of both mid-urethral tapes. To our knowledge this is the first report of complications following both TVT and TOT used concurrently in the same patient. The value of a repeat midurethral sling after a failed primary sling is not generally accepted,^{6,7} but the management of recurrent or persistent SUI after previous mid-urethral sling remains a challenge for the practicing gynecologist and urologist. Potentially, these patients could be treated with bulking agents, abdominal or laparoscopic urethropexy,

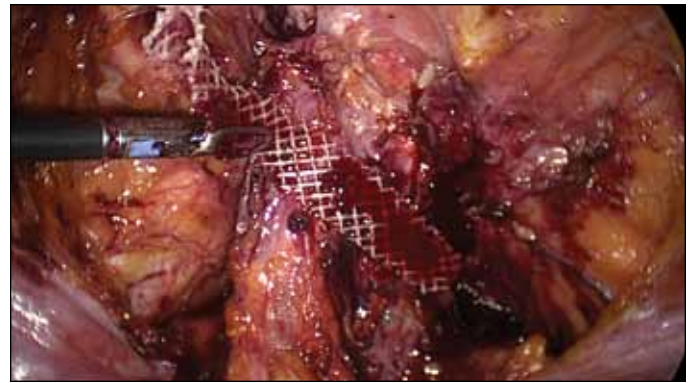


Fig. 2. Laparoscopic removal of the tension-free vaginal tape.

artificial urethral sphincter, and repeat mid-urethral sling.^{6,7}

While it is now clinically justified to employ a second tape without removing a failed tape,^{6,7} we were driven to intervene given the clinical situation that faced us.

Several ways to manage erosion have been described from no treatment, conservative local management to complete resection with endoscopy or open surgery.^{8,9} In our case we had an unfit, elderly woman with erosion of both tapes into the urethra and the TOT into the vagina with continuous complete incontinence. We therefore needed a solution that was minimally invasive and provided definitive resolution of her incontinence.

There are only 3 reports describing laparoscopic resection of mid-urethral tapes,⁸⁻¹⁰ and there are only few reports describing laparoscopic ureterocutaneostomy.^{11,12,13} We combined these two techniques to provide relief from pain, inflammation and incontinence.

Conclusion

We do not believe that the concomitant use of two different mid-urethral tapes can be clinically justified. This may have led to the severe case of erosion and fistula without improved continence. Laparoscopic surgery to remove the tape was safe and efficacious in this unfortunate scenario. Laparoscopy can also provide an effective solution for incontinence in an elderly, comorbid patient.

Competing interests: None declared.

This paper has been peer-reviewed.

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Correspondence: Dr. Tobias Schätz, Paracelsus Medical University Salzburg, Department of Urology and Andrology, Müllner Hauptstr. 48, 5020 Salzburg, Austria; fax: +43 662 4482 2971; to.schaetz@salk.at