



Female Urology

Suprapubic-assisted Transurethral Excision of a Vaginal Mesh Eroded Into the Bladder



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ABSTRACT

A 56-year-old woman with irritative voiding symptoms and recurrent urinary infections was found to have erosion into the bladder of a tension-free vaginal tape placed 61 months before. To achieve radical excision, a 26Fr Amplatz sheath was placed suprapubically under endoscopic vision. A rigid nephroscope with grasping forceps was used to pull the eroded mesh out of the bladder wall while excising it transurethrally with a resectoscope. Postoperative course was uneventful; 12 months after surgery the patient remains asymptomatic. This novel technique provides an effective means of radically removing a mesh eroded into the bladder either transurethrally or suprapubically.

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Introduction

Mesh kits that are used for treatment of stress urinary incontinence (SUI) or pelvic organ prolapse (POP) are a well-known source of foreign body in the bladder. Inadvertent passage of the mesh through the bladder wall is usually recognized on intraoperative cystoscopy; conversely, erosion of the mesh through the bladder wall may occur when it is placed on tension or too near to the bladder.

Removal of a mesh eroded into the bladder has traditionally been carried out using an open surgical approach involving cystotomy, mesh removal under direct vision, and reconstruction of the bladder wall. Transurethral removal represents a less invasive procedure but may leave residual mesh within the detrusor, thus causing irritative voiding symptoms up to urinary infection and stone formation. Laparoscopic and single-port laparoscopic removal has been reported to provide a “radical” excision but is more invasive and certainly more complex than a transurethral approach.

Herein we present a novel technique of “radical” mesh removal involving a suprapubic-assisted transurethral approach.

Case presentation

A 56-year-old woman presented with a 2-year history of severe irritative voiding symptoms and recurrent urinary infections in

spite of repeated treatments with antibiotics. Urine cytology was negative, whereas bladder ultrasounds revealed a 12 mm hyper echogenic lesion suspicious for a papillary bladder tumor; therefore, she was scheduled for transurethral resection of the lesion. Her past medical history was unremarkable, except for SUI treated by placement of a tension free vaginal tape (TVT) 61 months before. Intraoperative cystoscopy revealed the bladder lesion to be a bladder stone anchored to the TVT mesh that had eroded into the bladder just between the bladder neck and the left ureteral orifice (Fig. 1). It was decided to treat the stone using ballistic lithotripsy but to leave the eroded mesh for a further procedure to be accurately planned. Postoperative course was uneventful and the patient was discharged on first postoperative day after urethral catheter removal and successful voiding.

A suprapubic-assisted transurethral approach was planned and the patient consented and admitted for this procedure 18 days after the first one. Following spinal anesthesia, the patient was placed in the dorsal lithotomy position. Using a cystoscope, the ureters were intubated with 7Fr single-J ureteral catheters; the bladder was filled and a suprapubic puncture was carried out under endoscopic vision. A guidewire was passed into the bladder and the percutaneous tract dilated with plastic semirigid fascial dilators up to placing a 26Fr Amplatz sheath. One surgeon used a rigid nephroscope with grasping forceps to pull the eroded mesh out of the bladder wall while another surgeon excised it transurethrally using a resectoscope with a Collins electrode (Fig. 2). This maneuver allowed “radical” removal with minimal bladder damage. At the end of the procedure, we left dwelled the two single-J ureteral catheters, a 14Fr Foley urethral catheter, and a 12Fr suprapubic catheter. The suprapubic catheter was removed on first

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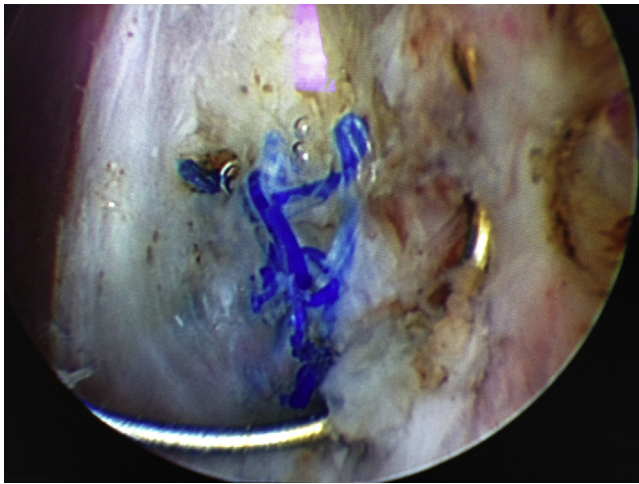


Figure 1. Endoscopic vision of the TVT mesh that had eroded into the bladder.

postoperative day, the single-J ureteral catheters on second, and the Foley urethral catheter on third postoperative day. Postoperative course was uneventful. At 1-month follow-up, the patient was asymptomatic and cystoscopy revealed partial healing of the mesh site. At 6-month follow-up, the patient continued to be asymptomatic and cystoscopy demonstrated complete healing of the mesh site. To date, 12 months after surgery, she remains asymptomatic.

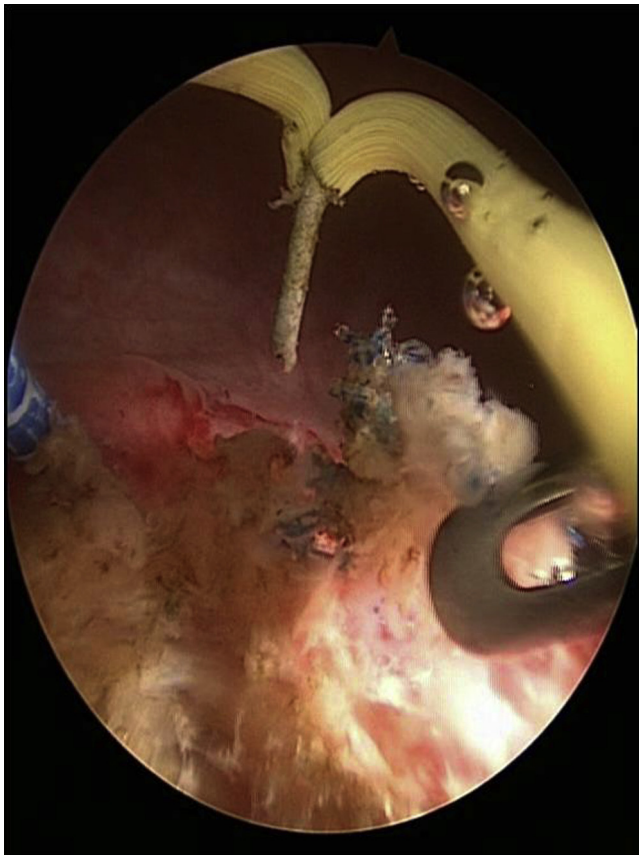


Figure 2. Using a rigid nephroscope with grasping forceps passed through the suprapubic Amplatz sheath, the eroded mesh is pulled out of the bladder wall while being excised transurethraly with a Colling's electrode (transurethral vision; the left ureter is intubated with a single-J ureteral catheter).

Discussion

The widespread use of mesh surgery for SUI and POP surgery involves the possibility of facing complications such as postoperative mesh erosion into the bladder.¹ This complication has traditionally been approached by open surgery, involving cystotomy, identification and splinting of the ureteral orifices, wide excision of the mesh and bladder wall reconstruction.² In the last decade, however, attempts have been made to treat such complication by means of endourological procedures, including conventional laparoscopic or transvesical single-port laparoscopic procedures,³ transurethral procedures, and suprapubic-assisted transurethral procedures. The laparoscopic procedures, particularly the single-port one, require specific instruments and skill and are more invasive than the transurethral ones. The transurethral procedures, including monopolar or bipolar resection as well as holmium laser excision, are less invasive and certainly more familiar thus simpler for urologists; nevertheless, the mesh may sometimes be located in a position difficult to reach transurethraly.³ Most important, if the mesh is not pulled out of the bladder wall by another instrument, resection or laser excision may result into a very large bladder perforation or may not be “radical”.⁴ To avoid this drawback, a suprapubic-assisted transurethral excision has been suggested.^{4,5} In both reports, a 5 mm laparoscopic port was placed suprapubically to insert either a laparoscopic Babcock⁴ or an endoscopic scissors⁵ to be used under transurethral vision. Such solutions, however, do not overcome the problem of the mesh being sometimes located in a position difficult to be reached transurethraly.³

The novelty of our procedure is the use of an Amplatz sheath for a combined suprapubic and transurethral approach to removal of a mesh eroded into the bladder. This approach allows pulling and excising the mesh radically under both transurethral and suprapubic direct vision. Most important, the excision can be carried out also from the suprapubic approach whenever the mesh is difficult to be reached transurethraly.

Conclusion

The combined suprapubic and transurethral approach seems to be a simple, safe and effective means of radically removing a mesh eroded into the bladder either transurethraly or suprapubically.

Consent

Written permission was obtained from the patient.

Conflict of interest

None.

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