



Removal of Polypropylene Sling Mesh From the Urethra: An Anatomic Technique

Drew A. Freilich and Eric S. Rovner

OBJECTIVE	To describe a technique for removal of intraurethral mesh with minimal disruption of the peri-urethral anatomy.
MATERIALS AND METHODS	Through a midline transvaginal approach the sling is located lateral to the urethra and divided. The medial portion of the divided sling is carefully dissected back to its entrance laterally into the urethral lumen. A stay suture is placed on the dissected sling. The sling is located on the contralateral side and likewise divided and dissected back to the urethral lumen. The completely dissected sling is pulled through such that the holding stitch is through and through the urethral lumen, allowing easy localization of the urethral defect on lateral walls of the urethra. These defects are closed with an absorbable suture and the vaginal incision is closed.
RESULTS	Three patients have undergone a transvaginal removal of their intraurethral mesh using the described technique. At a mean follow-up of 6.0 months, there were no intraoperative or postoperative complications. All patients were obstructed preoperatively and all developed stress urinary incontinence postoperatively requiring 0-1 pads per day.
CONCLUSION	Current approaches to the surgical repair of chronic intraurethral mesh have significant limitations that are minimized by the described technique. This anatomic removal of mesh from the urethra has several advantages including no disruption of the ventral wall of the urethra, complete removal of foreign body from the urethra, and simplified localization of the urethral wall defect to allow for anatomic closure. UROLOGY 86: 196–199, 2015. © 2015 Elsevier Inc.

Polypropylene midurethral slings are the most commonly performed surgery for stress urinary incontinence (SUI) in the United States.¹ This procedure is generally considered highly successful with minimal morbidity.² A recognized, but fortunately rare, postoperative complication is the finding of intraurethral (intraluminal) mesh occurring in 0.3% of patients undergoing midurethral sling surgery (Supplementary Fig. 1).¹ This is an uncommon but potentially devastating complication of stress incontinence surgery. In such cases, the intraurethral mesh can be closely associated with the sphincter mechanism. Often highly symptomatic, the affected individuals will most commonly require surgical intervention. However, the optimal surgical approach to the removal of intraurethral mesh has not been described.

Preoperative physical examination and cystoscopy are helpful in determining the location and extent of the intraluminal mesh. Review of the operative note for surgeries performed elsewhere often help operative

planning by identifying any intraoperative issues from the initial surgery and confirm the type of procedure performed (i.e. transobturator or retropubic). Additionally, some have advocated for the use of ultrasound as a means to further identify the location of the mesh.³

Removal of intraurethral mesh may risk severe recurrent incontinence due to the anatomical relationship of the female midurethral continence mechanism and the luminal sling. Furthermore, violation of the urethral lumen on the ventral side in an attempt to remove the mesh transvaginally may risk urethrovaginal fistula formation due to superimposed suture lines. Numerous endoscopic mesh removal techniques have been reported,⁴⁻⁶ but these procedures have limitations in that only a small segment of the involved mesh is removed leaving a substantial risk of persistent pain in affected patients as well as the potential for the re-emergence of the remaining mesh fragments into the urethral lumen. We describe a novel transvaginal technique to remove intraurethral mesh intact en bloc, with minimal disruption of the ventral urethral anatomy.

Financial Disclosure: The authors declare that they have no relevant financial interests.

From the Department of Urology, Medical University of South Carolina, Charleston, SC
Address correspondence to: Eric S. Rovner, M.D., Department of Urology, Medical University of South Carolina, 96 Jonathan Lucas Street, CSB 644, Charleston, SC 29425. E-mail: Rovner@musc.edu

Submitted: March 11, 2015, accepted (with revisions): April 11, 2015

TECHNIQUE

Under regional or general anesthesia a urethral catheter is placed and a transvaginal midline 3-4 cm incision is made

in the anterior vaginal wall centered over the midurethra. Dissection is carried laterally in the same plane as if for sling placement, developing vaginal wall flaps. The sling is identified lateral to the urethra within the periurethral fascia away from the urethral lumen. During the dissection, the ventral aspect of the urethra is assiduously avoided, as it is best to locate the sling approximately 0.5-2 cm lateral to the midline thus avoiding any premature disruption of the urethral lumen. The sling arm lateral to the urethra on one side is isolated with a right angle clamp and divided between hemostats, which leaves the two cut ends of the sling on one side of the urethra. A 2-0 stay suture is affixed to the cut end of the divided mesh arm, which leads toward the urethra (Supplementary Fig. 2). The other (lateral) divided mesh arm leading away from the urethra is dissected free and removed. The divided mesh arm leading toward the urethra medially is then carefully dissected free of the periurethral fascia medially toward the urethra. The urethral wall will eventually gradually tent out with gentle traction on the mesh arm as the dissection proceeds medially. The dissection is carried until clear mesh without ingrowth is seen indicating entry into the urethral lumen (Fig. 1). The mesh is not removed at this point. Attention is then turned to the contralateral side of the urethra and the mesh is located laterally in the same manner as the initial side. The sling is dissected free, and transected between hemostats. The lateral mesh segment is freed and removed as was done on the opposite side. The medial portion is similarly dissected toward the urethra until the clear mesh is again seen indicating entry into the urethra. The ventral aspect of the urethra remains undisturbed. After the mesh is fully mobilized the stay suture is used to pull the mesh through the urethra en bloc leaving the stay suture through and through the urethra (Fig. 2). Typically, only small defects are created in the urethra laterally on either side. These defects are easily identified adjacent to the stay suture (Fig. 3). Synthetic absorbable suture is used to close the urethral defect in 1 or 2 layers and the stay suture is pulled out. The vaginal wall is closed with 2-0 suture. The vagina is packed and the urethral catheter is left indwelling. A voiding cystourethrogram (VCUG) is performed 10-14 days postoperatively (Supplementary Fig. 3).

RESULTS

Three women have undergone anatomical transvaginal excision of midurethral mesh that had eroded into the urethra utilizing the described technique. Their mean age was 53. Mean follow up is 6.0 months. The median time from mesh insertion to removal was 35 months (range 8-59). Patient demographics and outcomes are detailed in Supplementary Table 1. No patient had a sling inserted at the time of mesh excision. No patient required an interposition flap (i.e. Martius). There were no intraoperative nor postoperative complications. All patients were discharged on postoperative day one. No patient

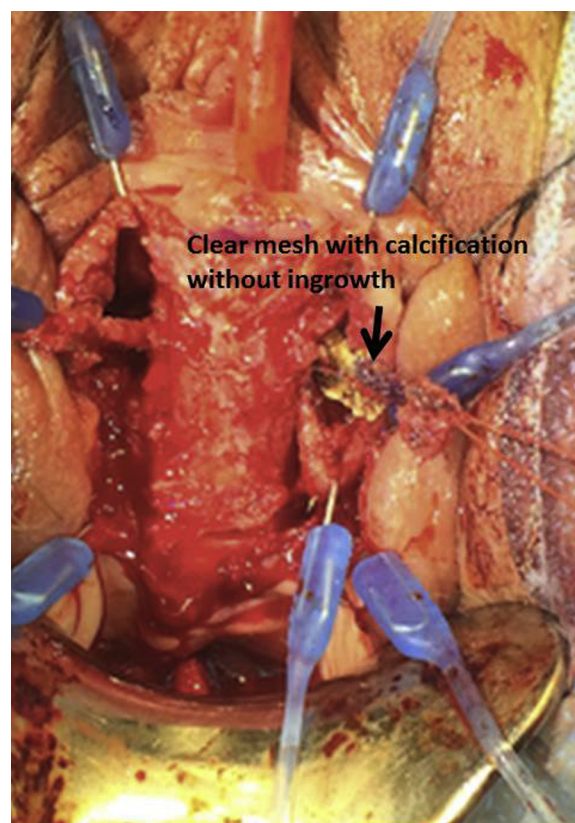


Figure 1. Mesh on traction after dissection back to the urethral lumen. This demonstrates the clear blue portion of the mesh with attached calcification, which was intraluminal. (Color version available online.)

had urinary extravasation on their postoperative voiding cystourethrogram. At the time of follow up no patient had developed a fistula. All three patients were obstructed preoperatively and developed mild SUI postoperatively requiring 0-1 pads per day. No patient reported dyspareunia. No patient has undergone additional incontinence surgery.

DISCUSSION

Foreign body violation of the urethral lumen as a result of anti-incontinence surgery is a rare but potentially life altering event. When recognized intraoperatively and associated with synthetic materials such as mesh, immediate, removal of the foreign material is recommended and the case aborted.⁷ The postoperative finding of mesh within the urethral lumen chronically is a more difficult problem. The etiology of intraurethral mesh is controversial and may result from inadvertent unrecognized urethral injury at the time of the initial sling placement or may result from migration into the urethral lumen sometime postoperatively. The mesh may be partially within the urethral wall and exposed in the lumen, or may be completely traversing the lumen of the urethra with or without an associated calcification. Intraluminal mesh may only be definitively diagnosed on endoscopic examination. These patients may present with any

Download English Version:

<https://daneshyari.com/en/article/3898525>

Download Persian Version:

<https://daneshyari.com/article/3898525>

[Daneshyari.com](https://daneshyari.com)