W14: Management of Complications of Mesh Prolapse and Sling Surgery - Demonstration through Surgical Video Cases

Workshop Chair: Howard Goldman, United States
03 September 2019 14:00 - 15:30

Start	End	Topic	Speakers
14:00	14:05	Introduction by Co-Chairs	Mauro Cervigni Howard Goldman
14:05	14:30	Surgical Videos of Synthetic Sling Complications	Roger Dmochowski Sandip Vasavada
14:30	14:40	Questions	All
14:40	15:10	Surgical Videos of Prolapse Mesh Complications	Mauro Cervigni Howard Goldman
15:10	15:25	Questions	All
15:25	15:30	Wrap Up	Howard Goldman

Aims of Workshop

Many surgeons learn best by observing expert surgeons. Given the number of mesh sling and prolapse repair cases performed experts are confronted with complications of such cases. Most patients with such complications who are appropriately treated have resolution of symptoms. The critical point is that those surgeons dealing with such cases have the expertise to successfully manage them. This course will review the management of such complications with a focus on using surgical video demonstrations to specifically review the surgical techniques necessary for successful outcomes.

Learning Objectives

Understand the appropriate evaluation prior to surgical removal of mesh complications

Target Audience

Urogynaecology

Advanced/Basic

Advanced

Suggested Learning before Workshop Attendance

1. Giusto LL, Zahner PM, Goldman HB. Management of the exposed or perforated midurethral sling. Urol Clin N Am. 2019;46:31-40.
2. Murphy AM, Goldman HB. Thigh exploration for excision of a transobturator sling. Int Urogynecol J. 2017 May;28(5):793-4.
3. Cohen SA, Goldman HB. Mesh perforation into a viscus in the setting of pelvic floor surgery- presentation and management. Curr Urol Rep. 2016 Sep;17(9):64.

Managing complications of Prolapse and Sling Mesh – Case Management Examples Utilizing Surgical Videos

ICS 2019

Mauro Cervigni MD
Roger Dmochowski MD
Howard B Goldman MD
Sandip P Vasavada MD

This course details the management of different types of sling and prolapse mesh complications utilizing surgical videos and case discussion. The following complications will be reviewed via such a format.

Transvaginal prolapse mesh extrusion
Transvaginal removal of intravesical mesh
Single port removal of intravesical sling
Urethrolysis/sling incision
Mesh perforation of the urethra
Urethral destruction due to sling - Neourethra formation
Severe thigh pain due to transobturator mesh arm – thigh dissection
Transrectal mesh extrusion and removal

Transvaginal prolapse mesh extrusion:

From 3-15% of transvaginal prolapse meshes may extrude vaginally. When asymptomatic some may be left alone. Vaginal estrogen cream has been reported to allow reepitheliazation in some cases. If symptomatic, and very small, excision may be attempted in the office. In other cases excision should be done in the operating room. The area of extrusion is carefully identified and lidocaine with epinephrine is injected under the vaginal skin around the extrusion. Typically a small cuff of skin is excised after which vaginal skin flaps are developed using sharp and blunt dissection in all direction for at least 1 cm. Finally, the mesh is incised at one side and then the underlying tissue (bladder/rectum) is carefully dissected off of the undersurface of the mesh taking great care to stay right on the mesh and leave all other underlying tissue intact. Enough mesh is removed so that there will be no mesh under the skin closure.

Transvaginal removal of intravesical mesh:

A patient with a history of an anterior prolapse mesh developed hematuria. Cystoscopy showed prosthetic material eroded in the bladder with encrustation. After an inverted U-shaped vaginal incision, the prosthetic material is removed until the bladder wall is opened after which the prosthetic material is extracted. Bilateral JJ stents are placed. Repair to the bladder wall is performed with interrupted Vicryl sutures and then the vaginal wall is closed. At 6 months the patient had complete healing with a total recovery.

Single-Port Sling Excision:

The use of single port technology has allowed minimally invasive intervention to help with sling excisions. When a sling is calcified and or otherwise perforated into the bladder, definitive excision should be undertaken in most circumstances. Single port access either directly into the bladder or with a combined intra and extravesical approach can allow definitive excision of the sling and adjacent sling. It remains important to allow a margin of sling to be excised deep to the mucosa (in the muscle layer) to avoid another segment perforation. Bladder repair of the entry sites can be challenging with this modality and requires specialized skills. Other forms of minimally invasive surgery (laparoscopy and robotics) can be undertaken as well for extravesical management of the sling.

Urethrolysis/Sling Incision:

Two varieties of this procedure are noted. That for synthetic material focuses primarily on loosening or excising identified synthetic material whilst that for biologics frequently requires retropubic dissection and lysis of the fibrotic response at the level of the endopelvic fascia.

Urethral mesh removal:

Intra-urethral mesh should be removed in toto and therefore laser or mechanical removal from an endoscopic approach is insufficient to remove intramural fibers. Mesh excision from the urethra involves use of controlled urethral access via urethrotomy, excision of mesh inclusive of extra urethral fragments and watertight closure of both formal urethrotomy and also urethrorrhaphy of the areas of mesh involvement.

Urethral destruction following sling – Neourethra construction:

Most sling excision and repairs are fairly straightforward; however, some can completely transect and damage the urethra. One must consider urethroplasty techniques to surgically re-establish continuity to the urethra. The adjunctive use of a Martius flap should be strongly considered as the urethra is a high pressure zone and this flap placement may minimize fistula formation.

Severe thigh pain after transobturator sling:

Temporary thigh pain after a transobturator sling is not uncommon. It typically resolves within a few days. On very rare occasions severe thigh pain can persist and if unresolved after conservative management a thigh dissection to identify and remove the thigh portion of the mesh may be necessary.

An incision is made about one cm lateral to the thigh crease. On rare occasions the sling may be identified in the subcutaneous tissues and then followed through the muscles to the obturator foramen. Typically, the sling is not evident until a more complete dissection has been performed. We typically detach the gracilis and adductor brevis from the pubis to allow for complete inspection in the area of the obturator externus. The adductor longus tendon is the superior margin and we do not incise that. On occasion though the sling may be found above or in the tendon. Once the sling is identified (often via blunt palpation) it is dissected and followed out to the subcutaneous tissues and back to the obturator membrane allowing for complete removal. The skin and deeper layers are closed and a drain is left in place.

Transrectal mesh erosion and removal:

One year after placement of a posterior vaginal mesh, this 70 year old woman developed bothersome symptoms. Exam showed the presence of a part of the prosthesis floating in the rectal cavity. After removing the central part of the mesh, the procedure was continued with blunt and sharp dissection of the inside arms of the mesh which perforated the lateral rectal wall. This dissection was carried out following the two arms of the mesh near the ischial sThe rectal wall including the muscularis mucosa was reconstructed with two layers of absorbable suture.

References

Campagna G, Panico G, Caramazza D, Maturano M, Ercoli A, Scambia G, Cervigni M. Rectal mesh erosion after posterior vaginal kit repair. Int Urogynecol J, 2019: 30(3):499

Frenkl T, Vasavada S, Rackley R, Goldman HB. Management of iatrogenic foreign bodies of the bladder and urethra following pelvic floor surgery. Neurourol Urodyn 2008;27(6);491-5.

Ridgeway B, Walters MD, Paraiso MF, Barber MD, McAchran SE, Goldman HB, Jelovsek JE. Early experience with mesh excision for adverse outcomes after transvaginal mesh placement using prolapse kits. Am J Obstet Gynecol 2008;199(6):703

Firoozi F, Goldman HB. Transvaginal excision of mesh erosion involving the bladder after mesh placement using a prolapse kit: a novel technique. Urology 2010

Firoozi F, Ingber MS, Moore CK, Vasavada SP, Rackley RR, Goldman HB. Purely trans-vaginal/perineal management of complications from commercial prolapse kits with use of a new prostheses/grafts complication classification system. J Urol. 2012 May; 187(5):1674-9

Firoozi F, Goldman HB. Pure transvaginal excision of mesh erosion involving the bladder. Int Urogynecol J 2013 Jun;24(6):925-6

Moore CK, Goldman HB. Simple sling incision for the treatment of iatrogenic bladder outlet obstruction. Int Urogynecol J. 2013 Dec;24(12):2145-6

King AB, Tenggardjaja C, Goldman HB. J Urol. 2016