# Obturator Foramen Dissection for Excision of Symptomatic Transobturator Mesh

W. Stuart Reynolds,*,† Laura Chang Kit,† Melissa R. Kaufman,† Mickey Karram,‡ Gregory T. Bales† and Roger R. Dmochowski§

*From the Department of Urologic Surgery, Vanderbilt University Medical Center, Nashville, Tennessee (WSR, LCK, MRK, RRD), Department of Obstetrics and Gynecology, The Christ Hospital, Cincinnati, Ohio (MK), and Section of Urology, University of Chicago Medical Center, Chicago, Illinois (GTB)*

**Abbreviations and Acronyms**

MUS = mid urethral sling

POP = pelvic organ prolapse

SUI = stress urinary incontinence

Submitted for publication August 26, 2011.

Study received institutional review board approval.

* Correspondence: Department of Urologic Surgery, Vanderbilt University Medical Center, A1302 Medical Center North, Nashville, Tennessee 37232 (telephone: 615-343-1317; e-mail: william.stuart.reynolds@vanderbilt.edu).

† Nothing to disclose.

‡ Financial interest and/or other relationship with American Medical Systems, Ethicon Women's Health & Urology, Astellas, Cooper Surgical and E-Medsco.

§ Financial interest and/or other relationship with Allergan, Johnson & Johnson, Pfizer, Astellas, Serenity, Merck, Contura, Antares and Medtronic.

**See Editorial on page 1529.**

**Editor's Note: This article is the fifth of 5 published in this issue for which category 1 CME credits can be earned. Instructions for obtaining credits are given with the questions on pages 1939 and 1940.**

**Purpose:** Groin pain after transobturator synthetic mesh placement can be recalcitrant to conservative therapy and ultimately requires surgical excision. We describe our experiences with and technique of obturator foramen dissection for mesh excision.

**Materials and Methods:** The records of 8 patients treated from 2005 to 2010, were reviewed. Obturator dissection was performed via a lateral groin incision over the inferior pubic ramus at the level of the obturator foramen, typically in conjunction with orthopedic surgery.

**Results:** Five patients had transobturator mid urethral sling surgery for stress urinary incontinence, 2 had mid urethral sling and trocar based anterior vaginal wall mesh kits with transobturator passage of mesh arms for stress urinary incontinence and pelvic organ prolapse, and 1 had an anterior vaginal wall mesh kit for pelvic organ prolapse. Patients had 0 to 2 prior transvaginal mesh excisions before obturator surgery. All patients presented with intractable pain in the area of the obturator foramen and/or medial groin for which conservative treatment measures had failed. Six patients underwent concurrent vaginal and obturator dissection and 2 underwent obturator dissection alone. In all cases residual mesh (3 to 11 cm) was identified and excised from the obturator foramen. Mesh was closely associated to or traversing the adductor longus muscle and tendon with significant fibrous reaction in all cases. Postoperatively 5 patients were cured of pain and/or infection, and 3 reported no or some improvement at a mean followup of 6 months (range 1 to 12).

**Conclusions:** Our experience suggests that surgical excision of residual mesh can alleviate many of the symptoms in many patients. In all cases mesh remnants were identified and removed, and typically involved neuromuscular structures adjacent to the obturator foramen.

**Key Words:** surgical mesh; suburethral slings; obturator nerve; urinary incontinence, stress; pain

Groin pain after transobturator placement of pelvic mesh is a known complication of such procedures. Regardless of whether mesh is placed through the obturator foramen for SUI or POP, the occurrence of pain is typically localized to the inguinal area and medial thigh along the obturator nerve distribution. While not common, it is reported in up to 15% of patients undergoing transobturator MUS.[1–3] Typically the pain resolves with time, generally within a few weeks. Occasionally the pain is persistent, and



0022-5347/12/1875-1680/0
THE JOURNAL OF UROLOGY®

Vol. 187, 1680-1684, May 2012
Printed in U.S.A.
DOI:10.1016/j.juro.2011.12.065

requires treatment with oral analgesia, local injection of analgesia and steroids, or nerve block.[4,5] In a few instances the pain can be recalcitrant and devastating, and requires surgical excision to remove the offending material. We report on a series of patients with persistent symptoms from transobturator mesh who, after receiving optimized and exhaustive medical therapy, underwent obturator foramen dissection for mesh material excision.

## MATERIALS AND METHODS

After obtaining institutional review board approval (#110917), a retrospective chart review was performed on patients who had undergone transobturator dissection for the excision of symptomatic mesh material at our institutions. Patients were identified from billing information and surgeon case logs. Demographic data, clinical information and intraoperative findings were abstracted from the medical records. The surgical technique is reviewed.

All the obturator dissections and mesh excisions were performed in the operating room with the patient under general anesthesia. Patients were placed in the dorsal lithotomy position, and the entire perineum and vulva, lower abdomen and medial thighs to the level of the knee were sterilely prepared and draped. Several patients underwent concurrent vaginal dissection and excision of mesh via a vaginal incision as well as an obturator dissection. Vaginal synthetic mesh material was generally identifiable visually or palpably, and this was dissected free from adjacent vaginal structures, and traced laterally to the level of the pubic ramus and obturator foramen. A variety of vaginal incisions and exposures were used for this portion of the procedure, although a midline or inverted U incision was used most commonly. In patients in whom a vaginal exploration had previously been performed, only the obturator dissection was performed in isolation.

Obturator dissection and mesh excision were performed through a lateral groin incision directly over the inferior pubic ramus at the level of the obturator foramen. Figure 1 depicts the anatomical structures of the inner thigh and obturator region. The incision was typically located 1 to 2 cm lateral to the pubic ramus and 3 to 4 cm inferior to the adductor longus tendon insertion (fig. 2). Using electrocautery and blunt dissection the incision was extended to the inferior pubic ramus on the medial aspect of the obturator foramen through the subcutaneous tissue and fat. The most superficial muscle overlying the foramen is the adductor brevis, which can be mobilized off the inferior pubic ramus by dividing its medial attachments to the bone and elevating it laterally to reveal the obturator externus muscle spanning the obturator foramen. Once identified, the pubic ramus was cleared of overlying tissue anteriorly and posteriorly around the medial aspect of the obturator foramen. If necessary to access palpable or visible mesh or to completely expose the obturator foramen when no mesh was identifiable, the gracilis muscle and tendon were also detached from its insertion medially to the obturator foramen.

In most cases mesh material was visible or palpable, and the dissection followed the course of the material. The mesh was dissected free of the surrounding tissue with a combination of sharp and blunt maneuvers. The obturator neurovascular structures were carefully identified and preserved when necessary, particularly if the mesh was in close proximity. If a vaginal excision of mesh had previously been performed, medial dissection of the mesh into or through the obturator foramen was generally limited. In those cases with concomitant vaginal dissection, mesh material was invariably identified vaginally and traced laterally to the obturator foramen. The obturator internus muscle, which overlies the medial or pelvic aspect of the obturator foramen, did not require specific dissection or mobilization in these instances. The mesh traversed this muscle through to the lateral obturator space.

In cases in which synthetic material was not immediately identified, the dissection was carried around the margin of the obturator foramen, preserving the neurovascular bundle exiting from the obturator canal in the superolateral aspect of the foramen. The obturator externus muscle and obturator membrane can also be dissected free and elevated to better expose the obturator foramen and canal, although this was not necessary in this series. The synthetic material was typically located more laterally and anteriorly than expected, often in close proximity to or traversing the adductor longus muscle.

Once the synthetic material was excised the incision was closed superficially after a closed suction drain was placed through a separate stab incision. Muscle and tendon structures were generally not reconstructed or repaired before closure.

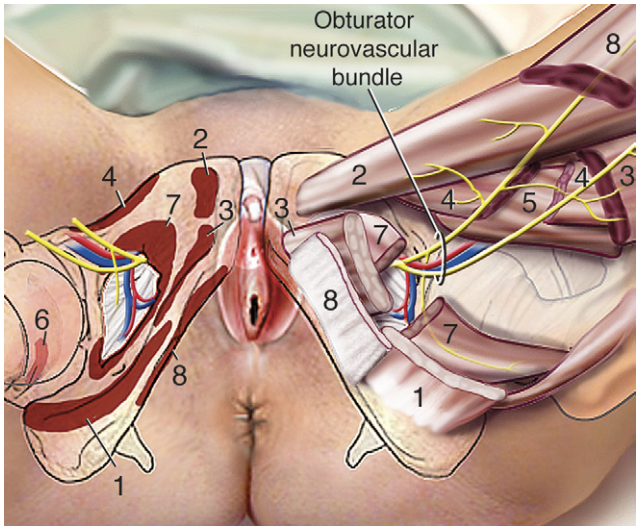


**Figure 1.** Illustration of inner thigh anatomy in region of obturator foramen: medial thigh muscles and attachments. 1, adductor magnus muscle. 2, adductor longus muscle. 3, adductor brevis muscle. 4, pectineus muscle. 5, iliopsoas muscle. 6, quadratus femoris muscle. 7, obturator externus muscle. 8, gracilis muscle. Reprinted with permission from Karram M and Pancholy A: Synthetic midurethral slings for the correction of stress incontinence. In: Atlas of Pelvic Anatomy and Gynecologic Surgery, 3rd edition. Edited by MS Baggish and MM Karram. St. Louis, Missouri: Elsevier-Saunders 2011; pp 747–780.