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Case Report

Chronic groin and vulvar abscess following removal of eroded trans-obturator tape segment

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Abstract: Stress urinary incontinence (SUI) affects the woman's quality of life. Currently, the Trans-obturator tape (TOT) technique was used to deal with SUI. Although the new nonwoven thermally bonded polypropylene tape used as TOT sling and the success rates of the TOT are up to 80% for the treatment of SUI, the procedure has been associated with infectious complications, mesh erosions, and foreign body reactions resulting from the use of a synthetic implant. The following is a case report of a 44 year old woman who experienced late post operative mesh erosion followed by chronic abscess formation following mesh removal from a TOT.

Keywords: Stress urinary incontinence, tension-free transvaginal type, trans-obturator tape, chronic abscess

Introduction

Stress urinary incontinence (SUI) affects 10-30% of women in the general population and adversely affects a woman's quality of life. Every year in the United States there are 160,000 procedures for incontinence. Sling procedures for the treatment of female SUI date back over 100 years. More recently in the 1990's the retropubic minimally invasive tension-free transvaginal tape (TVT) procedure was introduced [1]. In 2001 the Trans-obturator tape (TOT) technique was introduced. The TOT was designed to avoid blind entry into the retropubic space that resulted in the vascular, intestinal and bladder injuries associated with the TVT. Obtape was the first TOT sling commercially available in the United States, it was made of nonwoven thermally bonded polypropylene tape. Since 2005 Obtape has been replaced with woven monofilament polpropylene mesh. Although the success rates of the TOT are up to 80% for the treatment of SUI the procedure has been associated with infectious complications, mesh erosions, and foreign body reactions resulting from the use of a synthetic implant [2-7]. The following is a case report of a 44 year old woman who experienced late post operative mesh erosion followed by chronic abscess formation following mesh removal from a TOT.

Case report

A 44 year old multiparous woman who was referred to the division of gynecologic-oncology at the University of Arizona Medical Center in September of 2014 from a general gynecologist for further management of a chronic abscess overlying the fascial ramus and draining out of the left vulva. In 2009 she had TOT placed for the treatment of stress urinary incontinence, which was an uncomplicated procedure. The patient's medical history was otherwise non-contributory with the exception that she has smoked one pack of cigarettes daily for the last twenty-eight years. She initially presented to a general gynecologist in March of 2012 complaining of dyspareunia that had progressively worsened following placement of the TOT. She was also reporting occasional episodes of SUI despite having the TOT in place. Examination revealed an one centimeter vaginal mesh erosion that was palpable along the left side of the vagina adjacent to the ischial ramus that was also tender to palpation. She was scheduled for removal of the graft but did not follow through due to lack of insurance. In October 2013 she was taken to the operating room where the TOT graft was excised and the defect along the left anterior vaginal wall was repaired. December of 2013, the patient returned to clinic reporting

Figure 1. The preoperative appearance. The graft was placed too low in the vulva thigh crease. This may have led to erosion in the vagina.

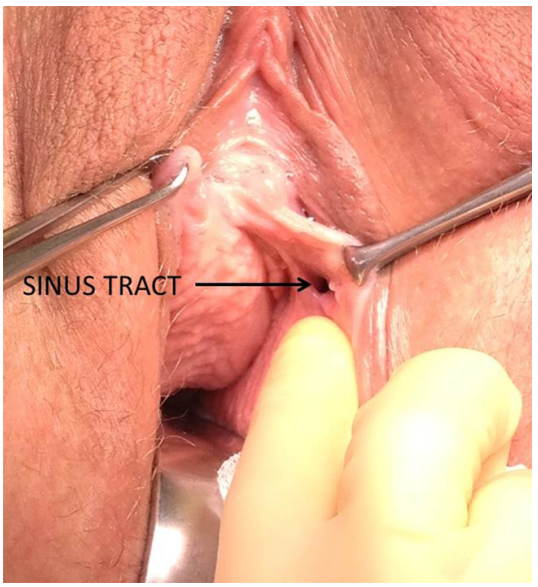

Figure 2. The open sinus tract in the vagina was source of chronic infection.

painful swelling from the vaginal introitus that extended up the left groin. An MRI was done demonstrating a draining sinus tract leading from the left lateral vagina to an inner area of the left thigh. She was prescribed a course of oral antibiotics, which she completed at the time of her next clinic visit, but did not have resolution of her symptoms. Upon examination

Figure 3. The complete graft is removed along with a sinus tract.

during this visit she was noted to have a tender 4 × 3 × 3 centimeter mass at the junction of the left thigh and vulva where the TOT exit incision had been. The patient was prescribed a course of Ciprofloxacin and Flagyl for fourteen days and asked to return to clinic on one week. After one week her pain had resolved and the swelling had decreased. She was given an appointment for one week but did not return for eight months.

In August of 2014 the patient presented now complaining of pelvic pain, dyspareunia, and drainage from a tract exciting at the site of the TOT incision. A 2 × 2 cm tender fluctuant mass was found at the TOT incision site (**Figure 1**). The abscess was further incised and wound culture was collected. The wound culture grew out Beta Hemolytic Streptococci, Prevotella Bivia (beta lactamase positive), and Haemophilus. She was placed on Augmentin and continued on this until she was taken to the operating room for removal of the retained vaginal mesh. There was an associated vaginal sinus tract (**Figure 2**).

On September 16, 2014 she underwent excision of polyprolylene mesh through a left groin and vaginal incision. The portion of vaginal mesh that was removed was approximately 3.5 centimeters in length and was sent for culture. The excised retained segment of mesh grew out Gardnerella vaginalis and Prevotella melaninogenica, both of these bacteria are normal inhabitants of the vagina (**Figure 3**). She was placed on a course of Flagyl once the wound culture results returned.

The pathology report is as follows: Final Diagnosis (es): (A) Fissure fistula sinus tract, excision: Fibroadipose tissue with extensive chronic and acute inflammation consistent with fistula. (B) Foregin body, vaginal mesh graft: Fibroconnective and adipose tissue with few mesh fiber spaces, chronic inflammation and few foreign body giant cells. No squamous mucosa present. (C) Vaginal skin, biopsy: Non-keratinized squamous mucosa with mild to moderate chronic inflammation, otherwise unremarkable.

She returned to clinic on post operative day 7 and was doing well. Her left thigh and vaginal incisions remained closed and without drainage. The patient returned six weeks postop and is free of pain or infection.

Discussion

The TOT was developed with the intent to minimize surgical morbidity that resulted from the retropubic approach of the TVT. However, as with all synthetic implants, the risk of erosion and resulting infection from contamination exists as a late post operative complication following TOT placement. In previous studies rates of vaginal mesh erosion from TOTs range from 1.8%-7.6% [2, 3, 7]. Reported infections complications of sub-urethral sling procedures include cellulitis, sinus tract formation, abscess formation, necrotizing fasciitis, osteitis pubis, and urinary tract infections. Infections complications may be delayed by several months or years after the sling procedure [4, 7]. There have been few reported cases of thigh abscess as a late complication of TOT placement within the literature, the majority of which occurred 3-5 years after the initial procedure [5]. The occurrence of thigh abscess can be explained by the anatomical route of the TOT which courses through the obturator fossa. In most cases vaginal mesh erosion precedes abscess formation.

The TOT suburethral mesh should be placed under the midurethra with the exit site being through the obturator foramen and exiting the skin just below the adductor longus ligament. This is at the same level as the base of the clitoris. This patient's TOT was placed too distal in the urethra and the exit site was too low. This caused her erosion and the subsequent sinus and abscess.

The TOT is the standard in the world for curing stress urinary incontinence. If it is placed properly the infection, erosion rate is less than 1%. Errors in placement may increase the complication rate.

Conclusion

This case illustrates a few important points, the first of which is that one must be vigilant in detecting and managing vaginal mesh erosions promptly and that additional complications such as chronic infection and abscess formation may results from an incomplete removal of eroded mesh. Polypropylene mesh implants are not always visible with MR or CT imaging and as such suspicion for retained mesh should be in the forefront of a differential diagnosis when managing patients with late infections complications. When presenting patient's with management options for SUI, patient should be made aware of the potential for late complications, namely infections complications, that may result from the TOT synthetic implant. Additionally patients with TOTs should be educated that erosion or suspected erosion needs to be managed quickly and with complete removal of the retained graft.

Disclosure of conflict of interest

None.

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