Case Report

Bladder Perforation: A Missed Diagnosis Posttransobturator Tape

Vineet V Mishra, Ruchika A Verneker, Sunita Lamba

Department of Obstetrics and Gynaecology, Institute of Kidney Diseases and Research Centre, Ahmedabad, Gujarat, India

Abstract

The advent of transobturator tape (TOT) in 2001 reduced the risk of bladder perforation to 1% in TOT as compared to 5% in tension-free vaginal tape (TVT). We present a case of bladder perforation in TOT where the diagnosis was missed for 5 years. This patient presented with dysuria and dyspareunia repeatedly and was treated for repeated urinary tract infection. The mesh was excised by cystoscopy, following which the symptoms were relieved. Thus, bladder perforation through a rare complication of TOT should always be ruled out in patients presenting with the failure of surgery or irritable detrusor activity such as dysuria and urgency.

Keywords: *Bladder perforation, dysuria, transobturator tape*

Introduction

Stress urinary incontinence (SUI) affects 16%–25% of the general adult female population.[1] With the advent of midurethral slings, the treatment of SUI has revolutionized from a major surgery to a simple day care procedure. The conundrum on the choice of sling still exists between transobturator tape (TOT) and tension-free transvaginal tape (TVT). TOT is still a better and a safer procedure with a less intraoperative complication such as injury to bowel and bladder. However, if not performed by skilled hands this procedure can also have major complication. We report a case of post-TOT bladder perforation which was left undiagnosed for 5 years and patients' symptoms were attributed to recurrent urinary tract infection (UTI).

Case Report

A 50-year-old posthysterectomy female presented to our outpatient department (OPD) with a complaint of leakage of urine on straining and dysuria in 2014. A detailed history was elicited which revealed history of total abdominal hysterectomy 2 years back followed by TOT 6 months after hysterectomy for stress incontinence. However, postsurgery, the SUI was not relived, and the patient had dysuria which was treated for recurrent UTI for 2 years.

Her routine investigations were done. A urine routine microscopy and urine culture was obtained which was negative. The patient was posted for a repeat TOT at our center. Post-TOT symptoms of stress incontinence resolved. Patient voided normally. Postvoid residual volume was insignificant.

Two months later, the patient presented to us with burning micturition and was again treated for UTI. There was interim resolution of symptoms which would reappear every 2–3 months. The patient presented chronically with lower abdominal pain, dysuria, and dyspareunia for 3 years in the OPD which was treated for recurrent UTI and local treatment for dyspareunia. However, for the past 6 months, there was exasperation of symptoms with tenderness below the bladder neck on per vaginal examination and lower abdominal pain and constant dysuria. Urine routine microscopy and urine culture were normal. The patient was thus posted for cystoscopy.

Cystoscopy revealed an old TOT tape measuring approximately 2 cm passed through the bladder base from right side to left side just beyond the bladder neck [Figure 1]. This tape was then cut and removed with the help of scissors through the operative channel of the cystoscope. Per urethral catheter was kept for 7 days and removed. Patient voided normally with

Address for correspondence: Dr. Vineet V Mishra, Department of Obstetrics and Gynaecology, Institute of Kidney Diseases and Research Centre, Asarwa, Ahmedabad - 380 016, Gujarat, India.
E-mail: vineet.mishra.ikdrc@gmail.com

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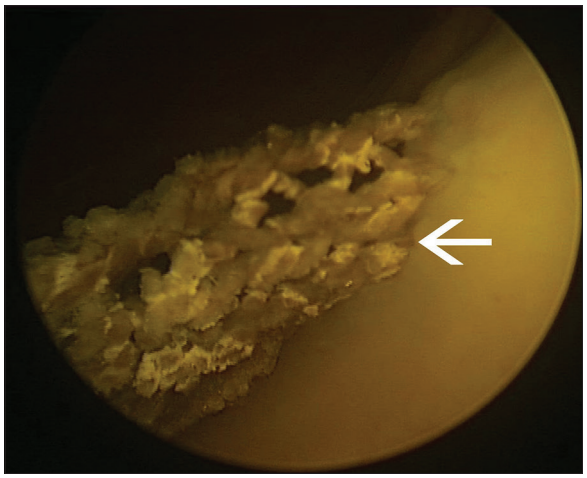

Figure 1: Old transobturator tape mesh piercing the bladder wall

insignificant postvoid residual volume. Symptoms of dysuria subsided. At 1-month follow-up, the patient was fully continent with no dyspareunia and no tenderness on per vaginal examination. The patient is on regular follow-up for the past 6 months with no recurrence of symptoms after the mesh removal.

Discussion

The treatment of SUI has changed to a newer frontier with a deeper understanding of urogynecology as a subject. Today, the tension-free midurethral tape is considered the gold standard treatment for SUI especially in cases with urethral hypermobility.[2] The tension-free vaginal tape (TVT) was introduced in 1995 and has revolutionized the treatment of SUI due to its simplicity, efficacy, and minimal invasiveness. However, it is associated with higher complication rates due to blind passage through the retropubic space causing bowel or bladder perforation or vascular injury.[3]

Delorme in 2001 developed a safer approach of mid-urethral sling through the obturator fossa, which is popularly known as TOT. The tape is placed through small incision in the vagina and the groin without entering the retropubic space, thus, diminishing the chance of bladder and bowel perforation to minimal. The TOT is a tension-free sling as the resting urethral angle is not changed by the procedure, nor is it necessary to correct urethral hypermobility.[4] TOT has an objective and a subjective cure rate up to 80% and 92% respectively and low morbidity.[3] The risk of bladder injury with TVT is 5% which is reduced to <1% with TOT.[5]

In our patient, during the first surgery for SUI, the TOT was placed through the bladder instead of being positioned below the mid-urethra. Thus, there was a failure of surgery and dysuria. This diagnosis of bladder perforation was missed at the second surgery done at our center for SUI as cystoscopy was not performed at this time which implicates the significance of cystoscopy in case of failed TOT. Kılınç and Akpak report a similar case of bladder perforation which was diagnosed after 5 months of the surgery. This patient also presented with dysuria, suprapubic pain, and urgency. This is probably due to the inflammation in the detrusor caused by the foreign body *in situ*. They extracted the mesh by a minilaprotomy approach by opening the anterior bladder wall.[6] However, in our case, simple excision of the mesh by cystoscopy was done which sufficed to improve the patient symptoms with minimal morbidity.

A proper surgical technique is essential to avoid bladder injury. Care should be taken that the incision is placed one cm below the urethral opening and above the bladder neck, which can be palpated after stretching the bulb of the catheter. The groin incision should be placed after proper surface marking. After dissecting the periurethral space in case of out to in method the needle should be guided over the finger through the vaginal incision. Caution should be taken in patients with paravaginal defect causing cystocele as there can be inadvertent bladder perforation with the trocar.

Conclusion

Bladder perforation, though a rare complication of TOT should always be ruled out in patients presenting with failure of surgery or irritable detrusor activity such as dysuria and urgency. Also in patients with suprapubic pain and dyspareunia, cystoscopy is a cost-effective and a minimal invasive technique which can provide a confirmatory diagnosis in these patients. Though not routinely indicated, it should be done in case of doubt or unskilled surgeon.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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