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Management of a Rare Complication after Tension-free Vaginal Tape Surgery: A Case Report

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ABSTRACT

Introduction: Stress urinary incontinence surgery is a common procedure currently using mostly mesh materials, that is performed around the world. Lately, the debate concerning complications and safety issues began transforming the landscape of available treatment options worldwide. In our case study, we present a rare long-term complication, diagnosis and management of transobturator tape surgery.

Case presentation: A 62-year-old caucasian woman underwent transoburator tension free vaginal tape surgery for stress urinary incontinence 3 months prior in our clinic. She presented with a recurrence of her stress urinary incontinence after initially being asymptomatic after surgery. We suspected a urethral tape erosion in the perineal ultrasound and performed a diagnostic cysto-urethroscopy, which confirmed this finding. A transvaginal resection of the tape was performed with urethroplasty of the posterior urethral wall. After a convalescence period a retropubic tension free vaginal tape surgery was performed according to the patients wishes. Follow up after 8 months showed correct tape placement and no further stress urinary incontinence.

Conclusion: Transobturator tape surgery remains an effective treatment for stress urinary incontinence with few intraoperative risks; although in rare cases severe complications can be encountered. A correct diagnosis and treatment are key in the successful management of displaced mesh material and can lead to long-term patient satisfaction.

Keywords: Transobturator tape surgery; Stress incontinence; Uro-gynecology; Tape erosion; Case report

INTRODUCTION

Stress Urinary Incontinence (SUI) is a very common condition, affecting up to 50% of women [1] in their lifetime. After failure of conservative treatment options (physical therapy, pessary) a mid-urethral sling procedure has been the gold standard surgical option since its introduction in 1996 [2,3]. In 2008 the US Food and Drug Administration declared complications as common after surgical mesh implantation in SUI or prolaps surgery [4]. This triggered an international debate which resulted in the reevaluation of current standards in many countries [5]. It is therefore important to report on possible complications and their treatment options.

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CASE PRESENTATION

Initial referral of our 62-year old patient with Stress Urinary Incontinence (SUI) through her gynecologist. The patient was in good health with a body mass index (BMI) of 25.2 kg/m^2, without any prior vaginal or pelvic operations or prolaps. No history of diabetes mellitus. Urodynamic testing was performed and the suggested course of treatment was a transobturator tension-free vaginal tape which was carried out afterwards. An intraoperative cysto-urethroscopy showed no signs of intrauretral or intracystic position of the mesh. The postoperative period was uneventfull without short term complications and the patient was discharged the same day. The patient was satisfied and had no urine leakage or other symptoms for approximately one month after surgery. 3 months later she was referred to our hospital with a gradual recurrence of the SUI symptoms with leakage during most physical activities. She didn`t mention any urgency symptoms or recurring urinary tract infections. She also described a light, stabbing pain in the distal part of the anterior vaginal wall on physical exertion. Initial findings showed slightly decreased vaginal estrogenisation without the presence of a cystocele or other descensus, no mesh-protrusion into the vagina, the tape barely palpable on examination. The perineal ultrasound showed erosion of the mesh into the urethra in the middle section **(Figure 1)**. Hereafter, a cysto-urethroscopy was performed under general anaesthesia, which confirmed the findings of the initial examination with sling material crossing the posterior urethral wall from 5 to 7 o`clock **(Figure 2)**. The patient consented to the resection of the tape *via* transvaginal approach. We performed a re-incision of the vaginal wall 1 cm below the external urethral orifice and dissection of the paraurethral space to the left. We located the sling material and resected it moving from lateral to medial. The posterior urethral wall was opened in the process, as was to be expected. We perfomed a complete excision of the tape up until the paraurethral space on the right side. After removal of the sling material, the posterior urethral wall was adapted using single sutures and a transurethral catheter was placed. The catheter was left in place for 14 days. After removal the patient experienced no voiding dysfunction and the incision site was healing properly. The patient was still experiencing stress urinary incontinence and felt her quality of life greatly compromised. We discussed the possibility of placing another transoburator or retropubic tape, as well as the use of bulking agents. According to our patients wishes and her active lifestyle we opted for a retropubic tape placement and performed the operation in the usual manor. The intraoperative urethro-cystoscopy showed no irregularities of the urethral mucosa. There were no further complications after the surgery and the patient described good continence after 8 months. The last ultrasound after 8 months **(Figure 3)** showed perfect tape placement and the urethral wall intact.

Figure 1: Tape material visible in the urethra in the perineal ultrasound.

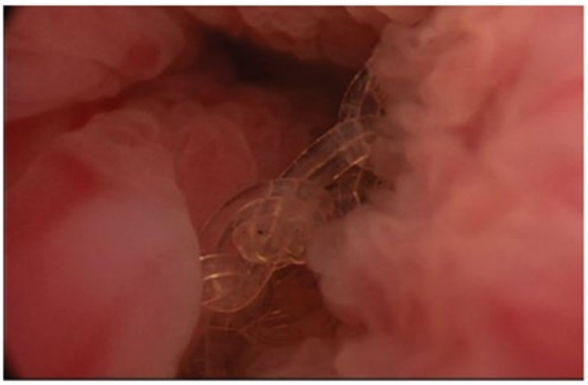

Figure 2: Cystoscopic image of displaced tape material in the urethra.

Figure 3: Postoperative ultrasound after 8 months with correct mesh placement.

DISCUSSION

There are a lot of possible complications following the surgical treatment of SUI, but the incidence rates reported in different studies are controversial [6]. Among the most common seem to be postoperative voiding dysfunctions, haematomas, do novo urgency and persistent SUI [1]. The reported incidence rates for tape exposure after transobturator tape surgery seem to range from 3.8% to 15% [7]. Urethral erosion of sling material

is a rare and serious long term complication following TVT-O surgery with few cases presented as of date. In literature, a transurethral mesh excision is described as successful and less damaging to the urethral tissue [8] than a transvaginal approach. Sergouintis F, et al. [9] reported a series of 9 cases with urethral mesh erosion where 5 out of 9 patients didn't require further SUI surgery after mesh removal. In our case we opted for a transvaginal resection and urethroplasty because the patients main complaint was the recurring SUI. Treatment using a bulking agent was discussed with the patient but since she led a very active lifestyle and wanted a permanent solution, we opted for a new mid urethral sling implantation. In a prospective, randomised noninferiority trial Ikonen FAM, et al. [10] found that patient satisfaction was significantly lower 1 year after bulking agent than after TVT surgery but the the complication rate was significantly higher in the TVT group [10]. Our patient was willing to take the risk. Bulking agents seem to be a feasable option for patients with relative or absolute contraindications for a repeat TVT surgery, such as neuological bladder voiding problems, history of oncologic gynaecological surgery or radiation, as well as contraindications for local or general anaesthesia [11]. This wasn´t the case with our patient. Sabadell J, et al. [12] published a retrospective study in 2019 on the long-term outcomes of retropubic TVT after TVT-O failure and found it to be an effective alternative, although a more frequent overall complication rate occured (tape erosions and de novo urgency). The other main difficulty with tape erosions seems to be the delay of diagnosis due to a wide range of possible symptoms and a lack of clearly defined risk factors. An inexperienced surgical team, presence of cystocele or pelvic surgery prior to the procedure, as well as a low body mass index or advanced patient age, diabetes mellitus or tobacco smoking have been identified as possible predisposing factors [13]. In our case, none of these were present. An intraoperative cysto-urethroscopy is recommended, but can't completely rule out intraurethral mesh material due to restricted visibility or future displacement after surgery [13].

CONCLUSION

Urethral mesh erosion after TVT-O surgery is a rare complication. Displaced material can be resected transurethrally or transvaginally and mostly resolves symptoms such as vaginal pain or urgency. At the moment we don't have a universally accepted treatment option for the recurring SUI. These patients, as seen in our case, can still be very active and extremely limited by SUI in their quality of life. Since they already underwent a surgery for this issue, they are looking for a definitive solution, which as of now doesn't exist. A de novo sling implantation initially yields good results with elevated risk of complications and reoperation and the use of bulking agents usually doesn’t lead to long term patient satisfaction. With the rise of new and old surgical procedures foregoing mesh material it is important to compare long-term results and evaluate safety and patient satisfaction in the future.

DECLARATIONS

Ethics Approval and Consent to Participate

Not applicable.

Consent for Publication

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

COMPETING INTERESTS

The authors report no competing interests.

AVAILABILITY OF DATA AND MATERIALS

Not applicable.

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AUTHOR CONTRIBUTIONS

All authors read and approved the final manuscript.

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