

Recurrent suprapubic abscess and vaginal fistula after anterior intravaginal slingplasty

Case Report

Funda Gungor^{1*}, Onay Yalcin²

¹ Dursunbey State Hospital, Balıkesir,
10800, Turkey

² Istanbul University Istanbul Medical Faculty,
Department of Obstetrics and Gynecology, 34093, Turkey

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Abstract: Anterior intravaginal slingplasty is a widely used procedure for the treatment of stress urinary incontinence. After the operation, defective wound healing, infection, and fistula formation may follow. We present an unusual complication of anterior IVS that is recurrent suprapubic abscess and vaginal fistula formation in a 72-year-old woman. Fistulography was obtained and revealed a fistula tract extending from the suprapubic incision through the entire length of the mesh. Removal of the mesh and obliteration of the fistula tract was performed. Although the symptoms were relieved, the patient started to have episodes of stress urinary incontinence three weeks after the procedure.

Keywords: IVS • Intravaginal slingplasty • Incontinence • Sling • Fistula

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1. Introduction

Anterior intravaginal slingplasty (IVS) is a minimally invasive procedure used to treat stress urinary incontinence. Generally the procedure has very promising postoperative results. However there are several cases of defective wound healing, erosion, and extrusion of the tape reported in literature. In this report we present an unusual case with recurrent suprapubic abscess and vaginal fistula formation along the entire length of the mesh following successful anterior IVS.

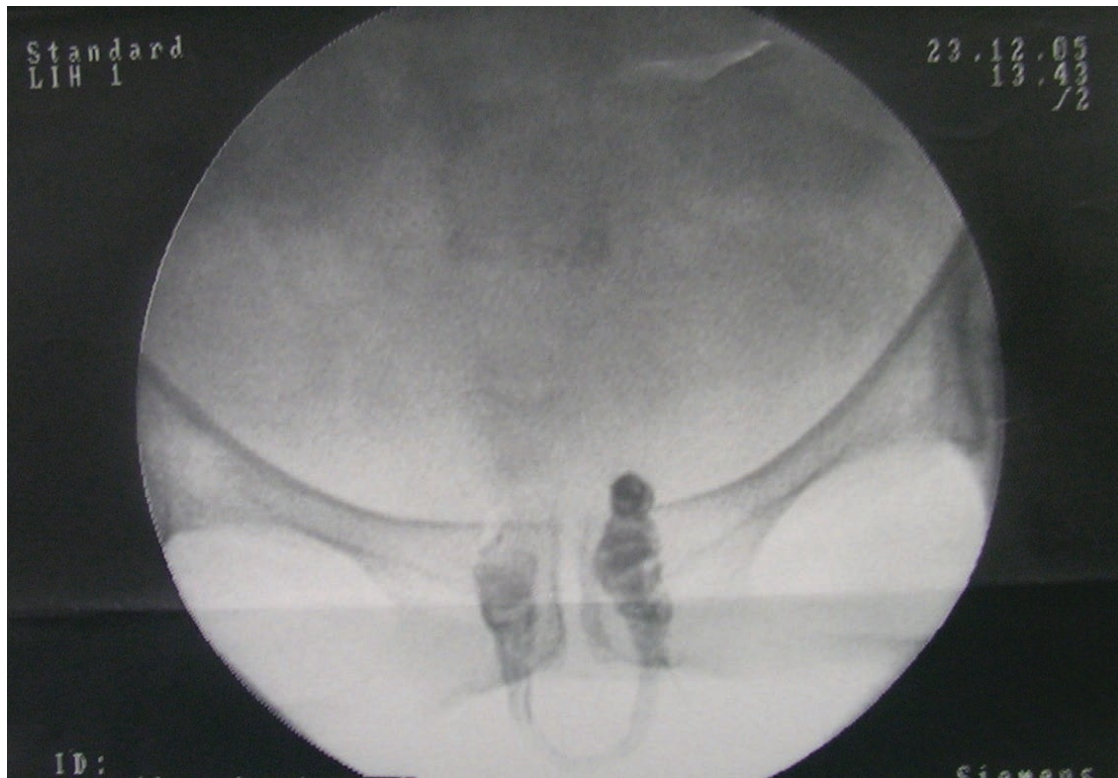
2. Case Report

A 72-year-old postmenopausal patient underwent IVS (Tyco Healthcare, UK) because of stress urinary incontinence in 2003. On the third postoperative day, she developed fever, chills, and suprapubic pain. A suprapubic abscess was diagnosed and drained under general anesthesia. For two years after the operation, recurrent episodes of vaginal discharge developed,

cultures were obtained and appropriate antibiotics were given. In the second and third postoperative years, an abscess was diagnosed at the same localization that required antibiotherapy and drainage. Six months after the last drainage, the patient presented to our institution with a green-yellow vaginal discharge and suprapubic pain. A suprapubic mass measuring three centimeters in diameter at the previous drainage site just above and lateral to the symphysis pubis was palpated. Ultrasonography revealed a suprapubic 3.2 x 4.3 x 4.6 cm cystic mass located mediolaterally above the symphysis pubis. The periurethral incision scar was intact. A methylene blue dye test performed through the suprapubic mass revealed a fistula tract opening at the left lateral vaginal wall and the fistulograms showed that the fistula tract extended for the entire length of the polypropylene tape (Figure 1). The patient was admitted to the hospital with the diagnosis of suprapubic abscess and vaginal fistula. She had no fever and her leukocyte count was 7000/ml. Her past medical history was unremarkable for diabetes or vascular disease. She had no history of pelvic inflammatory disease, abdominal or

* E-mail: fgungor@yahoo.com

Figure 1. Fistulograph revealing a fistula tract for the entire length of the IVS tape.



pelvic surgeries, and anti-incontinence surgeries. Her body mass index (BMI) was 27.3-kg/m². Surgery was scheduled.

Under general anesthesia, the periurethral incision scar was incised, but the tape could not be visualized. Then, the suprapubic abscess wall was excised. The dissection was continued through the space of Retzius where the tip of the tape was seen. Sharp dissection was performed until the entire length of the tape could be exposed. The tape was removed, the space created was obliterated, a drain was inserted, and the periurethral incision and the vaginal fistula opening were sutured (Figure 2). The postoperative course was uneventful. Parenteral amoxycillin and clavulonic acid was administered in therapeutic doses for seven days followed by oral treatment for another week. The vaginal discharge and the suprapubic mass resolved; but three weeks after the procedure, the patient started to have episodes of stress urinary incontinence.

3. Discussion

Suburethral sling procedures are the most popular form of treatment of stress urinary incontinence, because of high success rates and low risk of severe postoperative

complications. Various studies have been performed in order to determine the ideal sling material with the lowest complication rate. In a recent study performed by Bazi et al. over the biological and biomechanical performances of the sling materials in the rat, it has been suggested that the success of surgery depended both on the surgical technique, the biomechanical properties of the tape, and the biocompatibility of the material that is used [1]. Inherent mesh characteristics; including material, filament, pore size, and elasticity create differences between various types of sling material.

For sling procedures, various synthetic materials have been described, but polypropylene is the most widely used. Polypropylene meshes are designed as monofilament and multifilament. Monofilament macroporous polypropylene meshes have pores larger than 75 µm in order to allow the accumulation of fibroblasts, collagen, macrophages and blood vessels. Theoretically this should provide improved incorporation and decreased infection rates. On the other hand, multifilament meshes have pores that are 10 µm in diameter. IVS meshes are generally multifilament whereas tension-free vaginal tape (TVT) operations involve monofilament macroporous polypropylene mesh.

Figure 2. The extracted propylene tape and the excised abscess wall and fistula opening.



Numerous studies have compared the complication rates including infection and abscess formation following various sling operations using polypropylene mesh. In a study involving 127 cases of TVT and 42 cases of IVS, Glavind and Sander described only one (0.8%) case of sling erosion in the TVT group, but six (14.3%) cases of defective healing, erosion or extrusion in the IVS group [2]. The increased risk of tape complications was suggested to be a result of the microporous component of IVS tape. In a study comparing properties of IVS and TVT, the long-term complications including infection were found to be higher in the IVS group (9.2%, n=11) [3]. All of these patients presented with an abscess in the Retzius space, required removal of the tape. In a recent multicenter randomized trial comparing TVT (n= 95) and IVS (n= 95), eight patients in the IVS group (9%) had vaginal erosion / infection compared with none in the TVT group [4]. All cases needed removal of the exposed segments of the tape after conservative treatment with topical estrogen and antibiotics. Despite treatment, still three patients developed purulent collections in the retropubic space and removal of the entire tape was performed in these patients.

Ijland et al. performed a telephone interview to evaluate urinary symptoms 2 years after IVS surgery on 52 patients [5]. Previous clinical examination 12 months after surgery had shown no vaginal erosions in any patient. But about two-thirds of the patients complained about persisting stress urinary incontinence, urge incontinence, and/or voiding difficulties. No clinical examination was performed after 2 years in these patients and no specific questions about purulent vaginal discharge or recurrent genitourinary infections were asked. Thus, it is not known whether these patients suffered from late mesh erosion. Balakrishnan et al. studied the incidence of delayed erosions and infections following IVS operation in 62 patients [6]. Seven of the eight erosions in these patients developed during 12-34 months of follow-up.

In a recent long-term follow-up study, out of 25 operated patients, seven patients experienced erosion up to 5 years after the primary operations [7]. All of these patients experienced purulent vaginal discharge. Mesh removal had to be performed in all the patients. Only one of the patients remained continent after mesh removal. The methods of mesh removal included vaginal and

abdominal approaches; in some cases a combination of the two methods had to be used. Six of these seven patients had to undergo more than one operation for removal of parts of the mesh. In this article, because of high- risk of infectious complications and erosion formation, it was strongly recommended to abandon IVS operation and performance of long-term follow-up on previously operated patients.

Similar to the findings in these studies, our case had recurrences after all conservative treatment efforts. Thus, removal of the entire tape seems to be the best option in cases resistant to conservative treatment, as removal of only the exposed parts of the tape is not sufficient in most patients. Bafghi reported removal of the polypropylene tape in Retzius space abscesses by laparotomy or transvaginally in 60 and 40% of cases, respectively [8]. Baessler et al. reported mesh removal vaginally in four, vaginally-laparoscopically in four, and combined vaginal-laparotomy in four patients [9]. Exposure and removal of the tape from the periurethral incision was not possible in our case. Therefore to avoid a laparotomy, an incision over the abscess was performed and the Retzius space was dissected. Our case started to have recurrent episodes of stress urinary

incontinence after extrusion of the tape. In a case series of vaginal mesh extrusion associated with monofilament Mentor ObTape™ (Santa Barbara, Calif), which is very similar to IVS sling, Siegel et al reported two patients with recurrent stress urinary incontinence that were treated with secondary sling placement [10]. It was stated that it might be better to avoid secondary slings in patients with risk factors for poor wound healing and infection; slings with the most favorable biochemical properties should be preferred, such as nonsynthetic slings, macroporous monofilament polypropylene meshes or a composite sling with an absorbable suburethral component. Our patient did not want to undergo another operation and conservative treatment was given instead.

In conclusion, we presented a rare complication of the frequently performed IVS procedure that is recurrent suprapubic abscess and vaginal fistula with a fistula tract along the entire length of the mesh. When conservative measures are ineffective in cases with defective wound healing, recurrent vaginal discharge, and mesh extrusion, further diagnostic tests, surgical treatment, and removal of the mesh should be considered. However, this may take the patient all the way back to urinary incontinence.

References

- [1] Bazi TM. , Hamade RF., Abdallah Hajj Hussein I., Abi Nader K., Jurjus A., Polypropylene midurethral tapes do not have similar biologic and biomechanical performance in the rat, *Eur. Urol.* , 2007, 5, 1364-1373
- [2] Glavind K., Sander P. , Erosion, defective healing and extrusion after tension-free urethropexy for the treatment of stress urinary incontinence, *Int. Urogynecol. J. Pelvic. Floor. Dysfunct.* , 2004, 15, 179-182
- [3] Bafghi A., Valerio L., Benizri EI., Trastour C., Benizri EJ. , Bongain A., Comparison between monofilament and multifilament polypropylene tapes in urinary incontinence, *Eur. J. Obstet. Gynecol. Reprod. Biol.*, 2005, 122, 232-236
- [4] Meschia M., Pifarotti P., Bernasconi F., Magatti F., Vigano R., Bertozzi R., Barbacini P., Tension-free vaginal tape (TVT) and intravaginal slingplasty (IVS) for stress urinary incontinence: a multicenter randomized trial, *Am. J. Obstet. Gynecol.*, 2006, 195, 1338-1342
- [5] Ijland MM., Fischer DC. , Kieback DG., McGrath G., Farnsworth B., Midline intravaginal slingplasty for treatment of urinary stress incontinence: results of an independent audit up to 2 years after surgery, *Int. Urogynecol. J.*, 2005, 16, 447-454
- [6] Balakrishnan S., Lim YN., Barry C., Corstiaans A., Kannan K., Rane A., Sling Distress: a subanalysis of the IVS tapes from the SUSPEND trial, *Aust N Z J Obstet. Gynecol.*, 2007, 47, 496-498
- [7] Glavind K., Larsen T., Long-term follow-up of intravaginal slingplasty operation for urinary stress incontinence, *Int. Urogynecol. J.*, 2008, <http://www.springerlink.com/content/9w4007x33g025231>
- [8] Bafghi A., Benizri EI., Trastour C., Benizri EJ., Michiels JF., Bongain A., Multifilament polypropylene mesh for urinary incontinence: 10 cases of infections requiring removal of the sling, *BJOG*, 2005, 112, 376- 378
- [9] Baessler K., Hewson AD., Tunn R., Schuessler B., Maher CF., Severe mesh complications following intravaginal slingplasty, *Obstet. Gynecol.*, 2005, 106,713-716
- [10] Siegel AL., Vaginal mesh extrusion associated with use of Mentor transobturator sling, *Urology*, 2005, 66, 995- 999