

Case Report



Vasico Vaginal Fistula: A Case Report and Review of Literature

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Abstract

Women of middle age having a vesicovaginal fistula (VVF) after hysterectomy represent a devastating condition for the surgeon as well as patient in the society. Accurate diagnosis and proper preoperative planning are essential to see a successful outcome. Herein, we report a case of simple VVF developed after abdominal hysterectomy of middle-aged woman repaired successfully and reviewed of literature for simple VVF management and described the pathophysiology of fistula development. We performed a bibliography search carried on Pubmed using keyword "Vesicovaginal Fistula."

Keywords: Hysterectomy, Vesicovaginal Fistula, Management.

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Introduction

Regardless of the pathophysiology of vesicovaginal fistula (VVF) development, a woman having any type of VVF leads her to a devastating physical and psychological health; as a result, she becomes an out cast of society. It was found that VVF victims often live an unworthy life, abandoned or divorced by their husbands and become ostracized by families and societies because of their repulsive smell and inability to engage in sexual activity and bear child.¹

Here in, we described our method of VVF repair in a case, which developed after abdominal hysterectomy and did literature survey highlighting path ophysiology of VVF development.

Pathophysiology

Sudden bladder injury during a difficult hysterectomy or cesarean delivery may result in a vesicovaginal fistula. Most vesicovaginal fistulas are formed during dissection of the

bladder wall when the wall is mobilized, which causes devascularization or an unrecognized cut off the posterior bladder wall. Alternatively, if the vaginal cuff suture incidentally incorporated into the bladder, this can result in tissue ischemia, necrosis, and subsequent fistula formation. The ureter may become injured during the dissection around the infundibulopelvic ligament or ligation of the uterine vessels. Unexpected pelvic hemorrhage may obscure the surgeon's vision and result in a ureteral injury that manifests as delayed ureterovaginal fistula. Fistulas resulting from vaginal birthing occur during difficult or prolonged labor. The head of the fetus compresses the trigon or the bladder neck against the anterior arch of the pubic symphysis. This may result in tissue ischemia, necrosis, and eventual fistula formation.

Case report

A 40-year-old female admitted in urology department with the complaints of dribbling of urine per vagina with foul smelling of urine, inability to do normal household works since last 2

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years. The patient stated that she had no urinary problem since last 2 years. Later on, she developed incontinence of urine following abdominal hysterectomy for per vaginal bleeding which was not cured after a long treatment. On abdominal examination, a lower abdominal midline scar mark presents indicating the previous hysterectomy.

Weight of the patient was 55kg, height 151 cm, BMI 24, B.P -100/60 mm Hg, Pulse- 74/m, Respiration- 20/m, Body temperature 98°F, Hb% - 10 gm/100ml, Urine RME - Pus cells- plenty, RBC- Nil. Urine culture and sensitivity revealed E. Coli growth. Most of the common drugs were resistance to E. Coli except Imipenem, S. Cr-0.9 mg/dl, Serum electrolytes-within normal limit. Her blood group was B-ve (negative). USG of KUB was within normal, IVU was normal, no fistula tract could identify in cystogram. Her ECG was normal. Under spinal anesthesia with an aseptic precursion, per vaginal examination was done. A small opening was found in the vault near the left edge, fistula communicating with bladder, as urine coming out through the opening. Cystoscopy was done after an introduction of a 6F urethral dilator through the opening from the vaginal vault. The urethral dilator tip was seen inside the bladder, which came out through the fistula opening inside the bladder, just proximal to the trigone of the bladder. So, incontinence was confirmed due to VVF. Bladder mucosa was healthy. We plan for repair of the fistula through intravesical approach. The patient was placed on the operation table in the lithotomy position. An urethral dilator of 6F inserted through the fistula opening & fixed with thigh, Cystoscope sheath introduced per urethra, ureteric orifice identified. Two 6F ureteric catheters inserted into the ureters & fixed with thigh, Patient placed in supine position, a lower midline incision was given, entered into the bladder. Ureteric catheter and dilator was identified. A 12F Foley catheter introduced through the fistula, guidance with the dilator, inserted previously. Catheter balloon was inflated. After retraction of the catheter, incision was given around the catheter at fistula opening. Fistula tract incised carefully from bladder side. Bladder wall at fistula site closed tightly with 2-0 vicryl. Bladder closed with 2-0 Vicryl in two layers. A drain lodged at retro pubic space. Abdominal wall closed. A 16F Foley catheter inserted per urethra. Inj. Imipenem 50mg I/V stat and 12 hourly, injection Metronidazole 500 mg I/V 8 hourly injected I/V. NSAID with PPI injected for pain. One unit of blood transfused. Ureteric catheter removed on 7th POD, Foley Catheter removed on 11th POD. Abdominal stitches removed on the 10th POD. Complication encountered postoperatively is a loose motion on the 1st postoperative day. The occasional pain felt in operation area, which was managed successfully.

Discussion

Vesicovaginal fistula is an abnormal connection between the urinary bladder and the vagina for which, there is an uncontrollable leakage of urine into the vaginal passage. The affected women always remain wet and smelly. So, victims of

VVF work alone, eat alone and are not allowed to cook for anyone. They are bound to sleep in separate huts, even begging for survival. According to the WHO reports (2006) "the proper care of fistula, victim requires a holistic approach that pays a much attention to healing the psychosocial wounds inflicted on these women as it does to curing their physical injuries."²

The earliest and oldest evidence of obstructed labor and fistula was discovered in the remains of Queen Henhenit, wife of King Mentuhotep 11 of Egypt in 2050 BC when the Queen's mummy was thoroughly observed the vagina was normal, but there was a connection between bladder and vagina. Urinary fistulas have been well described as early as ancient times by Hippocrates and Rufus.

Vesicovaginal and ureterovaginal fistulas are perhaps the most feared complications of female pelvic surgery. More than 50% of such fistulas occur after hysterectomy for benign diseases such as uterine fibroids, menstrual dysfunction, and uterine prolapsed.³ Urinary incontinence resulting from these fistulas may mimic symptoms of stress urinary incontinence. The acute onset of urinary incontinence occurring shortly after a difficult hysterectomy should raise suspicions for vesicovaginal or ureterovaginal fistulas. It is found the most common cause of vesicovaginal fistula is gynecologic surgery (e.g., hysterectomy) in developed countries. Obstetric trauma resulting in fistula formation is most common cause of urinary fistulas in underdeveloped countries.

A fistula may be classified as a Supra trigonal fistula (fistula situated above the inter ureteric ridge) and infratrigonal fistula (fistula situated below the interureteric ridge). In this case, the fistula was supratrigonal.^{4,5} In some cases, fistula can be managed conservatively. If VVF is diagnosed within the first few days of surgery, a transurethral or suprapubic catheter should be placed and maintained for up to 30 days.

Small fistulas (<1 cm) may resolve or decrease during this period if caution is used to ensure proper continuous drainage of the catheter.⁶⁻⁸ If the fistula does not resolve within 30 days, surgery is necessary for correction. To excise or not to excise the fistula tract, there are many debates. Some authors prefer routine excision of fistula tract is not mandatory. They emphasize the risks of increasing the size of the fistula tract with attempts to resect it. These surgeons contend that the fibrous ring of the fistula may add to the strength of the repair and prevent postoperative bladder spasms.^{9,10} Some authors stated that a small fistula may be resected, but large tracts should only be freshened.⁸⁻¹¹

However, Iselin and colleagues strongly feel excision of the fistula tract ensures closure of all layers of viable tissue, thereby optimizing wound healing.^{12,13} Experts in the field caution that this procedure is efficacious only in the smallest of VVFs. Other methods used to de-epithelialize the fistula

tract include electro-coagulation and sharp knife dissection. The authors resected the fistula tract around a Foley catheter which was introduced through the fistula. To achieve successful repair is by using the type of surgery with which a surgeon is most familiar. Techniques of repair include the vaginal approach, the abdominal approach, electro-cautery, fibrin glue, endoscopic closure using fibrin glue with or without adding bovine collagen, the laparoscopic approach and using interposition flaps or grafts.¹³ Exposure and access to a VVF can be facilitated by catheterization of the fistula with a balloon catheter, such as a Foley's Catheter. Then traction is placed on the catheter to draw the VVF into the field. Gradually the track is resected out giving a circumferential incision, as we did in this case. The consensus is overwhelming in the literature that continuous bladder drainage postoperatively is vital for successful VVF repair. Most surgeons prefer the trans abdominal approach in the case of supratrigonal fistula and transvaginal approach for infratrigonal fistula. This case was a supratrigonal fistula, so it was repaired transvesically. The actual incidence of VVF is unknown. However, the incidence of vesicovaginal fistula resulting from a hysterectomy is estimated to be less than 1%. was repaired transvesically. The actual incidence of VVF is unknown. However, the incidence of vesicovaginal fistula resulting from a hysterectomy is estimated to be less than 1%.

About 10% of such fistulas may involve one or both ureters. Some fistulas may be more complex, involving adjacent organs. If the rectum is involved in the inflammatory reaction, a rectovaginal fistula may develop.⁵

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