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CASE REPORT

Two-stage surgical repair of anovaginal fistula following Bartholin abscess treatment

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ABSTRACT

Anovaginal fistulas (AVFs) are aberrant pathways located between the anal canal and the vagina. They frequently occur in resource-limited countries as a result of pressure necrosis on the rectovaginal septum caused by prolonged or obstructed labor. In addition, it is observed as a result of improper repair of third- and fourth-degree anal sphincter injuries after birth, injuries that are not noticed during delivery, and infections that develop in the episiotomy area. Delayed treatment of perirectal, perianal, and Bartholin abscess or cyst, and surgical interventions on the posterior vaginal wall, rectum, and perineum, are all contributing factors. The aim of this study was to describe the surgical treatment method applied to a patient with an anovaginal fistula, who was admitted with a complaint of gas and stool passage through the vagina for 3 months with the drainage of a Bartholin abscess in its etiology, which affects the anal sphincter complex trans-sphincterically and which was detected to be open to the distal dentate line on proctological examination. The development of an AVF has a considerable negative impact on an individual's quality of life. It is a difficult condition both individually and socially. Achieving successful results requires effective evaluation and examination.

Keywords: Abscess, Bartholin's glands, dissection, proctoscopy, rectovaginal fistula.

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INTRODUCTION

A fistula is an abnormal connection between two epithelial surfaces that is a suitable definition for the majority of known fistulas.[1] Thus, fistulas are distinguished from sinuses, abscesses, and other luminal pathways or extraluminal collections by this statement. Fistula originates on the affected side and extends to a nearby lumen or surface. Anovaginal fistula (AVF) arises in the anal canal and extends into the vagina. It is not a physiological condition and typically develops as a result of pathology, injury, or surgical procedure. The characteristics of AVF vary depending on its location, size, length, activity, cause, patient factors, and treatment. Radiotherapy, Crohn's disease, diverticulitis in older women, colon cancer, and fecal impaction are causes other than obstetric and gynecological conditions.[2,3] Pessaries used in pelvic organ prolapsus[4] and mesh repairs may play a role in its development.[5]

Different terms are used to name fistulas. Those located below the dentate line, within the first 3 cm of the anal verge, are called AVF, whereas anoperineal fistulas emerge when they open into the perineal body. Fistulas proximal to the dentate line are named true recto-vaginal fistulas (RVFs). As the AVF is found to be frequently associated with the anal sphincter complex, it is critical to distinguish AVF from RVF. Although there are various classification methods based on size, location, or etiology, clinical outcomes remain the same.[6–8] It is a potentially difficult surgical condition for both the patient and the healthcare team, and the prognosis is determined by the underlying etiology, the effectiveness of the evaluation process, and the surgical management success.

CASE REPORT

Written and verbal consent was obtained from the patient for the case report. A 41-year-old female patient who previously had two normal vaginal deliveries was admitted to our outpatient clinic with a complaint of vaginal gas and stool discharge. She stated that surgical drainage was performed due to Bartholin's abscess 6 months ago, and the treatment lasted for 3 weeks. Magnetic resonance imaging revealed that the AVF tract was trans-sphincteric, extending between the posterior vaginal fornix and the anterior wall of the anal canal (Fig. 1). The treatment plan was discussed with the patient, and a proctological examination was performed under general anesthesia. The opening of the fistula was detected in the posterior fornix of the vagina in the lithotomy position. The other opening of the fistula could not be observed under the anoscope. Thereupon, a clean gauze pad was inserted into the anal canal. Methylene blue was administered through the fistula opening in the posterior fornix of the vagina. The dye stained the gauze in the anal canal. While observing the exit point of the dye, it was advanced through the posterior fornix of the vagina using a ball-tipped stylet, and the opposite opening on the dentate line has been reached (Fig. 2). To provide drainage of the fistula tract and to reduce the surrounding inflammation, a seton made of two nonabsorbable 1/0 silk suture materials was prepared and placed through the fistula tract with the help of stylet wire (Fig. 3). The patient was instructed to sit regularly following defecation in a solution made by combining ethacridine lactate with warm water. The patient was operated on for the second time after a 6-week wait. In the lithotomy position,

Figure 1: Magnetic resonance imaging revealed that the AVF tract was trans-sphincteric, extending between the posterior vaginal fornix and the anterior wall of the anal canal.

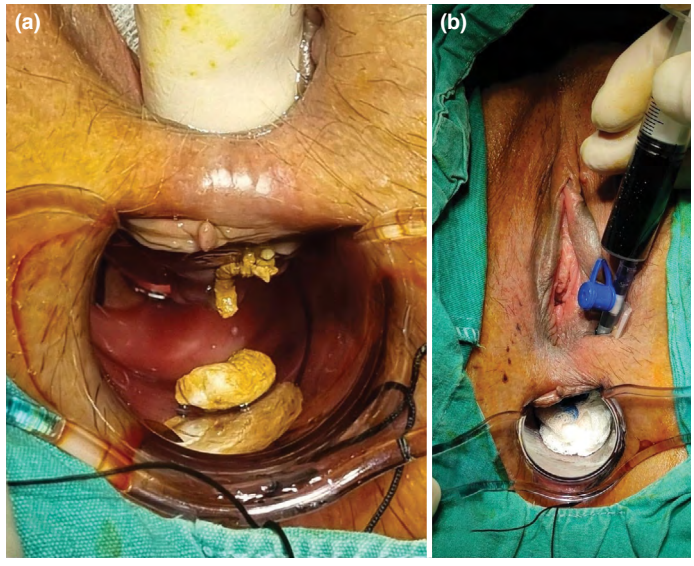

Figure 2: Opening of the fistula was detected in the posterior fornix of the vagina in the lithotomy position. The stool in the fistula tract was dropped into the anal canal by finger palpation. The other opening of the fistula could not be observed under the anoscope. Thereupon, a clean gauze pad was inserted into the anal canal. Methylene blue was administered through the fistula opening in the posterior fornix of the vagina. The dye stained the gauze in the anal canal. While observing the exit point of the dye, it was advanced through the posterior fornix of the vagina using a ball-tipped stylet, and the opposite opening on the dentate line has been reached.

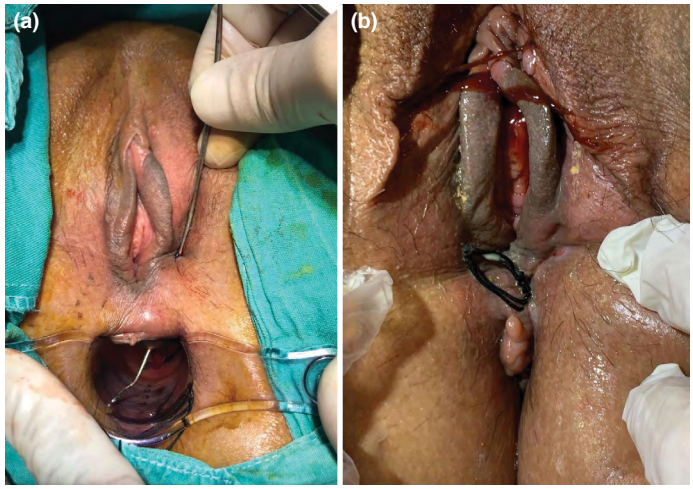

Figure 3: To provide drainage of the fistula tract and to reduce the surrounding inflammation, a seton made of two nonabsorbable 1/0 silk suture materials was prepared and placed through the fistula tract with the help of stylet wire.

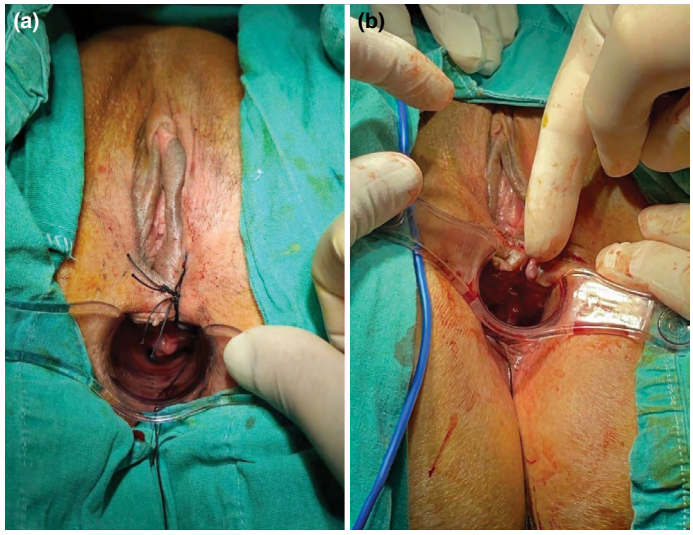

Figure 4: In the lithotomy position, the previously implanted seton was observed to be loosened and the inflammation in the surrounding tissue diminished. A stylet wire was inserted into the fistula tract under seton guidance; afterward, the seton was removed while the wire remained in place.

the previously implanted seton was observed to be loosened and the inflammation in the surrounding tissue diminished. A stylet wire was inserted into the fistula tract under seton guidance; afterward, the seton was removed while the wire remained in place (Fig. 4). A transverse incision of approximately 4 cm was made on the skin of the perineal body, which corresponds to the projection of the stylet wire. The fistula tract was isolated from the surrounding tissues and revealed by moving along the incision line (Fig. 5). The areas of the fistula tract close to the vagina and anus were sutured with 3/0 polyglactin suture material, and the tract in between was excised with the help of a scalpel and sent for pathological analysis. Epithelialization areas of both openings were curetted. The opening on the anus side was already attached with polyglactin suture material, which was closed with 3/0 polyglyconate 3/8 round suture. Pathological examination revealed an epithelial layer covering the fistula tract. Wound healing was successfully accomplished in the postoperative third month, sexual intercourse was permitted, and the process was completed without a complication of fecal incontinence.

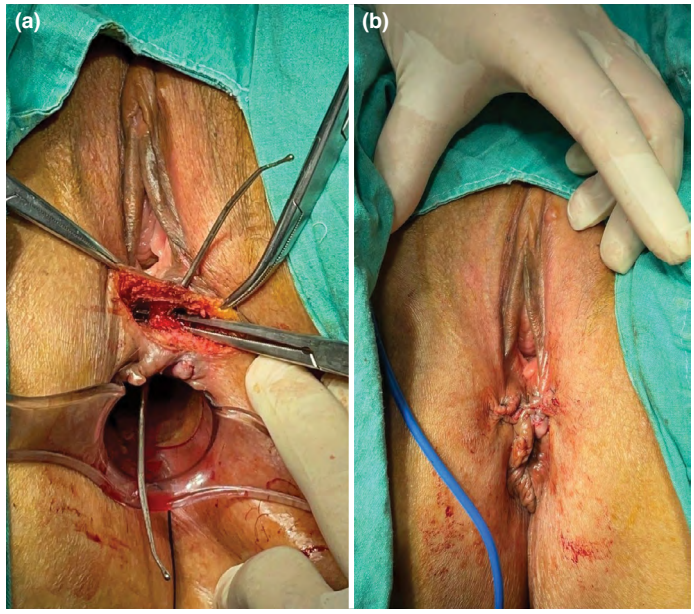

Figure 5: A transverse incision of approximately 4 cm was made on the skin of the perineal body, which corresponds to the projection of the stylet wire. The fistula tract was isolated from the surrounding tissues and revealed by moving along the incision line. The areas of the fistula tract close to the vagina and anus were sutured with 3/0 polyglactin suture material, and the tract in between was excised with the help of a scalpel and sent for pathological analysis. The opening on the anus side was already attached with polyglactin suture material, which was closed with 3/0 polyglyconate 3/8 round suture. The subcutaneous dissection area was approximated primarily using polyglactin with 4/0 round needle. Interrupted suturing was preferred to repair the skin using polydioxanone sutures with 4/0 sharp needles, and no drain was used.

DISCUSSION

The foul-smelling discharge and the contamination of underwear with fecal contents caused by AVF become more prominent, especially during periods of reduced bowel movements. In such circumstances, anal sphincter functions and defecation habits should be assessed, and endoanal ultrasonography should be performed if needed.[9] The treatment approach is determined by the presence or absence of anal sphincter function. One-third of patients with AVF had concurrent external anal sphincter injury.[10,11] Pinpoint fistulas can be difficult to detect, so a colposcope, anoscope, Sims retractor, lacrimal cannula, and silver stylet are used to locate them as necessary. While the administration of methylene blue through the fistula allows the pathway to be seen, the use of hydrogen peroxide prevents the staining of the tissues.[12] Differential diagnosis include anal fistulas, fecal incontinence, perianal abscesses, and infectious diseases causing foul-smelling vaginal discharge. AVF is mostly confused with anal fistulas, which

develop between the anal canal and the perianal skin, usually after episiotomy, perianal abscess, and trauma.[10] In anal fistulas, there is a purulent discharge and pain episodes in a regular pattern, as well as pain that worsens with palpation. Additionally, the fistula tract is typically located lateral to the midline and is surrounded by chronic inflammatory granulation tissue. However, in the case of AVF, the fistula is typically located in the midline and is surrounded by epithelial tissue. In our case, the opening of the fistula on the vaginal side was located on the left border of the midline. This opening was assumed to be the inner opening and developed from previous Bartholin abscess treatment, and it was difficult to differentiate from an anal fistula. The presence of an epithelial layer covering the fistula tract allowed the diagnosis to be made during the pathological examination.

Women with minor fistulas and presenting hardly any symptoms are treated with nonsurgical treatment methods. The main purpose of the medical approach is to optimize bowel functions. Patients experiencing unbearable symptoms due to AVF require surgical intervention. The type of surgical technique is determined by the etiology, location, and size of the fistula, the quality of the surrounding tissue, the underlying comorbidities of the patient, and previous surgical repair attempts. Most of the studies in the literature are small case series,[13] and therefore the standard surgical technique cannot be defined. Standard surgical principles apply: broad mobilization of adjacent anatomical tissues, full excision of the fistula tract, multilayered closure that approximates tissue surfaces without tension or leaving a "dead space," and precise repair timing. In case of necessity, a seton is applied to ensure drainage of the fistula tract, and it waits until tissue inflammation regresses. In our case, a two-stage surgical treatment plan was applied. The main purpose of the first attempt was to perform a proctological examination and a seton placement in relation to the findings. The second surgical intervention was a fistulotomy as a permanent solution to the issue.

Transverse transperineal repair is the choice of surgical method that sustains an intact external anal sphincter and enables extensive mobilization of rectal and vaginal tissues. A transverse incision is made along the perineal body above the sphincter complex, and dissection is performed between the anterior rectal wall and the posterior vaginal wall. Following isolation of the fistula tract, the excision is done with Metzenbaum scissors or a scalpel. The anal canal defect is usually closed longitudinally with 3/0 late-absorbing suture material, interruptedly to reverse the anal mucosa without tension. Thus, the length of the anal canal is extended, which contributes to the reconstruction of the high-pressure region of the anal canal.

Following surgery, patients are hospitalized for one night, and within one week of discharge, they are examined for wound control. The main complication associated with AVF repair is the recurrence of the pathology. Additionally, wound and urinary tract infections, vaginal and anal stenosis, fecal incontinence, and sexual dysfunction can be seen. To reduce the possibility of complications, patients should be educated about wound care and taught how to take a sitz bath 2–3 days after the procedure. To keep the surgical site dry, a heat lamp or a blow dryer on a cold setting can be used.

CONCLUSION

Before AVF interventions, the patient should be informed in detail about the proctological examination, which will be performed under general anesthesia, as well as the significant treatment process and success rate of treatment, which depends on many factors. The most critical component affecting success is an accurate diagnosis, which will allow the surgical treatment to be performed at the appropriate time with the right method.

Statement

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