



RECURRENT ANOVAGINAL FISTULA FOLLOWING OBSTETRIC ANAL SPHINCTER INJURY: A CASE REPORT OF COMPLEX SURGICAL MANAGEMENT

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ABSTRACT

Anovaginal fistula is an uncommon but distressing complication of severe obstetric perineal trauma. Recurrent fistula following failed primary repair presents additional challenges because of fibrosis, infection, distorted anatomy and possible sphincter involvement. We report a 29-year-old P2L2 who developed a recurrent anovaginal fistula following vaginal birth after caesarean complicated by a fourth-degree perineal tear, severe postpartum hemorrhage and subsequent perineal wound infection. The patient developed persistent purulent vaginal discharge, passage of flatus through the vagina, painful defecation and a non-healing perineal wound. Despite antimicrobial therapy and two previous attempts at surgical repair, symptoms persisted. Magnetic resonance imaging demonstrated a low fistulous tract measuring approximately 3 cm between the anal verge and posterior vaginal wall. Examination under anesthesia identified two communicating fistulous tracts, including an anterior intersphincteric tract and an anovaginal tract. Complex fistulectomy, tract excision, curettage and repair of the vaginal opening were performed with multidisciplinary involvement. Postoperative recovery was satisfactory, with progressive wound healing, resolution of discharge and preservation of bowel continence. This case emphasizes accurate fistula mapping, infection control and meticulous surgical management in recurrent obstetric anovaginal fistula.

KEYWORDS

Anovaginal Fistula; Obstetric Trauma; Fourth-Degree Tear; Recurrent Fistula; Fistulectomy

1. INTRODUCTION

Anovaginal and rectovaginal fistulas are uncommon but potentially debilitating complications of childbirth. Obstetric anal sphincter injuries, particularly third- and fourth-degree perineal tears, can result in persistent communication between the anorectal tract and vagina when primary healing is compromised. Patients may present with passage of flatus or fecal material through the vagina, persistent perineal discharge, pain and significant impairment of quality of life. [1,2]

Obstetric injury is an important cause of rectovaginal and anovaginal fistula. The risk of a persistent fistula may increase when the initial injury is unrecognized, inadequately repaired, complicated by infection or associated with wound breakdown. Previous failed repairs further increase surgical difficulty because of fibrosis and distortion of normal anatomical planes. [2,3]

Accurate preoperative assessment of the fistulous tract and its relationship to the anal sphincter is essential for treatment planning. Magnetic resonance imaging provides excellent soft-tissue contrast and can demonstrate the location and course of the fistula, secondary tracts, associated inflammation and sphincter abnormalities. [4,5]

We report a case of recurrent low anovaginal fistula following severe obstetric perineal trauma, complicated by persistent infection and two previous failed repair attempts, which was successfully managed by detailed anatomical mapping and complex fistulectomy.

2. Literature Survey

Obstetric anal sphincter injuries represent an important form of maternal pelvic floor trauma. Accurate recognition, appropriate primary repair and adequate postpartum follow-up are essential to minimize long-term complications. [1,2]

Rectovaginal and anovaginal fistulas may occur following severe obstetric injury and can be particularly challenging to treat when associated with infection, fibrosis or previous unsuccessful repair. A review of obstetric rectovaginal fistulas emphasizes the importance of controlling sepsis and assessing the fistula tract and sphincter before definitive repair. [3]

MRI is widely used for evaluation of anorectal-vaginal fistulas because it can delineate the anatomical course of the tract and its relationship with the sphincter complex. It may also identify associated inflammatory changes, abscesses and additional fistulous extensions. [4,5]

Previous repair attempts can make subsequent surgery more difficult because of scarring and distorted tissue planes. Surgical treatment therefore requires individualized planning based on fistula location, sphincter involvement, tissue quality and the presence or absence of

active infection. [3,6]

Multidisciplinary management involving obstetric/gynecological and colorectal surgical expertise can be particularly valuable in complex recurrent cases.

3. Problem Definition

The primary clinical problem was a recurrent anovaginal fistula following severe obstetric perineal trauma.

The patient had sustained a fourth-degree perineal tear during VBAC, followed by severe postpartum hemorrhage, perineal hematoma, wound infection and episiotomy wound dehiscence. Subsequent repair was complicated by persistent polymicrobial infection and recurrent fistula formation.

Despite two previous attempts at local surgical repair, the patient continued to experience passage of flatus through the vagina and persistent perineal symptoms. Examination and MRI demonstrated a persistent fistulous communication requiring definitive surgical management.

4. METHODOLOGY

This was a retrospective case report based on the patient's clinical presentation, examination, microbiological investigations, pelvic imaging, operative findings and postoperative follow-up.

A 29-year-old P2L2 presented with persistent purulent vaginal discharge, involuntary passage of flatus through the vagina, painful defecation and a non-healing perineal wound. Symptoms had persisted for approximately three months following delivery. The preceding vaginal delivery occurred after a previous caesarean section and was complicated by a fourth-degree perineal tear and severe postpartum hemorrhage. The patient developed a perineal hematoma, wound infection and episiotomy scar dehiscence. She subsequently required antimicrobial therapy and attempted repair of a rectal injury. Persistent polymicrobial infection was documented, including *Klebsiella pneumoniae*, *Enterococcus faecium* and later *Escherichia coli*. Two previous local surgical repair attempts failed, following which the patient was referred to a tertiary care centre. Clinical examination demonstrated persistent perineal discharge, tenderness and a suspected fistulous communication. Per vaginal and rectal examination suggested a small fistulous opening with surrounding perineal inflammation. MRI pelvis with perineal imaging demonstrated a linear fistulous tract measuring approximately 3 cm, extending from the anal verge to the posterior vaginal wall, with T2 hyperintensity, tiny air pockets and surrounding inflammatory changes. The findings were consistent with a low anovaginal fistula. Because of the recurrent nature of the fistula and history of persistent infection, the patient was optimized with infection control, nutritional support and detailed fistula mapping. Definitive surgery was subsequently performed.

5. RESULTS AND DISCUSSION

5.1 Clinical Findings

The patient presented with four major symptoms: persistent purulent vaginal discharge, involuntary passage of flatus through the vagina, painful defecation and a non-healing perineal wound. These symptoms were suggestive of a persistent communication between the anorectal tract and vagina.

The history of fourth-degree perineal trauma followed by wound infection and dehiscence provided an important etiological basis for fistula formation.

5.2 Imaging Findings

Pelvic ultrasound did not clearly demonstrate the fistulous tract. MRI was subsequently performed and demonstrated a 3-cm tract extending from the anal verge to the posterior vaginal wall, with surrounding inflammatory changes.

MRI is particularly useful in complex anorectal-vaginal fistulas because it provides information regarding the location and course of the tract, associated inflammatory changes and its relationship to the anal sphincter complex. [4,5]

In this case, MRI provided important anatomical information for surgical planning.



Figure 1- a and b-MRI PELVIS with contrast with MRI perineum showed Linear fistulous tract measuring approximately 3 cm from anal verge to posterior vaginal wall -Hyper-intense on T2-weighted imaging and Presence of tiny air pockets and surrounding perineal inflammatory changes Diagnosis: Low anovaginal fistula

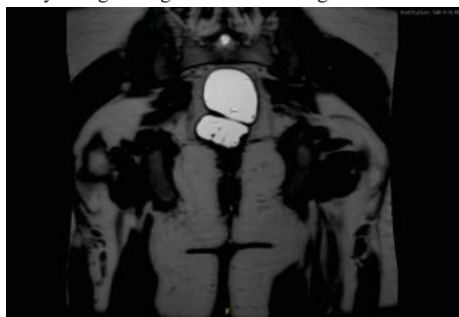


Figure 2- This coronal MRI section demonstrates the pelvic anatomy with the urinary bladder superiorly, the vagina in the midline, and the anal canal posteriorly. MRI revealed a linear fistulous tract extending from the anal verge to the posterior vaginal wall measuring approximately 3 cm, confirming the diagnosis of a low anovaginal fistula



Figure 3- Ultrasound pelvis performed as part of initial evaluation and showed normal uterine and cervical morphology without obvious pelvic collection. However, the fistulous tract was not clearly visualized on ultrasound. MRI pelvis was subsequently performed, which demonstrated a 3-cm fistulous tract extending from the anal verge to the posterior vaginal wall

5.3 Operative Findings

Examination under anesthesia demonstrated two communicating fistulous tracts.

The first was an anterior intersphincteric fistula with an internal opening at approximately 8 o'clock and an external opening at approximately 11 o'clock, around 3 cm from the anal verge.

The second was an anovaginal fistula with an opening on the posterior vaginal wall at approximately 6 o'clock.

A hydrogen peroxide dye test demonstrated free communication between the external opening and vaginal opening. The tract was carefully probed and laid open along its length. Curettage was performed to remove unhealthy granulation tissue, and diseased tissue was sent for culture and sensitivity.

The fistulous tract coursed behind the external anal sphincter and required careful dissection. The involved external anal sphincter fibers were divided to allow adequate exposure and complete excision of the fistulous pathway. Following debridement and irrigation, the vaginal opening was repaired.

5.4 Postoperative Outcome

Postoperatively, the patient received intravenous antibiotics followed by oral antibiotics, regular sitz baths, daily perineal dressings and nutritional supplementation. She was monitored for infection, wound healing and sphincter function.

Follow-up demonstrated healthy granulation tissue, progressive wound healing and resolution of discharge without evidence of recurrent infection.

Importantly, the patient did not develop fecal incontinence or sphincter dysfunction. Subsequent transperineal ultrasound demonstrated complete healing of the fistulous tract with no residual communication between the anal canal and vagina. The patient remained asymptomatic with normal bowel control.

5.5 DISCUSSION

The present case demonstrates several important challenges in the management of recurrent obstetric anovaginal fistula.

First, the initial fourth-degree perineal injury was followed by hematoma, wound infection and wound dehiscence. Obstetric anal sphincter injuries require accurate identification, appropriate repair and close follow-up because inadequate healing can result in persistent structural and functional complications. [1,2]

Second, persistent infection was an important feature in this patient. Recurrent fistula in the presence of infected and unhealthy tissue can compromise healing. Literature on rectovaginal fistula management emphasizes the importance of controlling sepsis and ensuring adequate tissue quality before definitive reconstruction. [3]

Third, previous failed repairs resulted in a complex surgical field. Fibrosis, granulation tissue and distorted anatomical planes can make identification of the fistulous tract and preservation of sphincter function challenging. [3,6]

MRI was particularly valuable in this case. The imaging identified the approximate length and anatomical course of the fistula and demonstrated inflammatory changes. Published imaging literature supports MRI as an important modality for characterization of anorectal-vaginal fistulas and associated sphincter abnormalities. [4,5]

The operative identification of two communicating tracts further emphasizes the importance of detailed fistula mapping. Complete identification and excision of the tract, removal of unhealthy tissue and repair of the vaginal opening were essential components of treatment.

Finally, the successful preservation of bowel continence is clinically important. Repair of obstetric fistulas must aim not only for anatomical closure but also for preservation of anal sphincter function. Contemporary literature supports careful anatomical assessment and individualized repair according to fistula location and sphincter involvement. [2,6]

6. CONCLUSION

Recurrent anovaginal fistula is a rare but complex complication of severe obstetric perineal trauma.

Previous failed repairs, persistent infection, fibrosis and sphincter involvement can substantially increase the complexity of definitive treatment. Accurate clinical examination and preoperative imaging are essential for identifying the fistulous anatomy and planning surgery.

In the present case, MRI facilitated preoperative mapping, while examination under anesthesia identified two communicating fistulous tracts. Complete tract excision, debridement, repair of the vaginal opening and appropriate postoperative care resulted in satisfactory healing without fecal incontinence or recurrent fistula.

Early recognition of severe obstetric perineal injuries, appropriate primary repair, infection control and timely referral to a multidisciplinary centre may help prevent progression to chronic recurrent fistula.

7. Future Scope

Further prospective studies are required to establish standardized algorithms for the diagnosis and management of obstetric anovaginal and rectovaginal fistulas.

Greater emphasis should be placed on systematic postpartum assessment following third- and fourth-degree perineal tears, early recognition of wound breakdown and access to specialist pelvic floor and colorectal services.

Future research should also evaluate the role of MRI and endoanal/transperineal ultrasound in preoperative fistula mapping and in assessing postoperative healing.

Long-term follow-up focusing on fistula recurrence, anal sphincter function, continence, sexual function and quality of life would provide important information regarding functional outcomes after repair.

8. REFERENCES

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