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Journal of Medical Research and Innovation


*Case Report*

# Magnetic resonance imaging as a diagnostic tool for postpartum fistula-in-ano on episiotomy scar – A case report

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Received: 09 October 2021
Accepted: 11 January 2022
EPub Ahead of Print: 04 February 2022
Published: 07 February 2022

**DOI**
10.25259/JMRI_23_2021

**Quick Response Code:**

## ABSTRACT

The objective of this case presentation is to describe a rare case of fistula-in-ano at an episiotomy site and review the importance of magnetic resonance imaging as a diagnostic tool for the detection of perineal fistulas.

**Keywords:** Fistula-in-ano, Episiotomy, Transsphincteric fistula, Magnetic resonance imaging

## INTRODUCTION

Fistula-in-ano associated with episiotomy site is a rare condition, which needs to be suspected when a female patient presents with chronic perineal drainage. Magnetic resonance imaging (MRI) is an emerging tool in diagnosing and providing accurate information about the perianal fistula, which allows surgeons to choose the most appropriate surgical procedure.

In this case presentation, we discuss a case of missed postpartum fistula-in-ano and we highlight the importance of MRI as a golden tool in perianal fistula diagnosis. The patient in this case had no underlying health issues, presented with chronic perianal suppuration and pain, complicated with an abscess. MRI confirmed the missed diagnosis of perineal fistula seventeen months post-delivery, surgery was then performed and completely cured the patient.

## CASE REPORT

An otherwise healthy 27-year-old woman, gravida 1, para 2, presented with perineal pain and swelling 6 months postpartum. Clinical examination showed a right-sided perianal abscess on the episiotomy scar. The abscess spontaneously drained externally while she was waiting for medical review, it was cleaned and a course of antibiotics was prescribed. On further questioning, the patient admitted to having intermittent suppuration with moderate perineal pain on the episiotomy site since forceps delivery.

Following abscess drainage, there had been a recurrence of purulent discharge, therefore, the patient was referred to gynecology for further assessment and management. An

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infected episiotomy wound suture was suspected as anal endosonography did not demonstrate perianal fistula. A local surgery was performed to remove a nodule at the perianal skin. Two days after this procedure, the patient noticed recurrent suppuration, and therefore, an MRI was requested to rule out a perianal fistula.

Seventeen months post-delivery, the MRI was performed using a 1.5-tesla scanner (Optima, GE Healthcare 2014). The protocol used consisted of the following sequences: Three planes T2 (axial, coronal, and sagittal), axial diffusion, and then three-dimensional T1 fat saturation after injection of gadolinium. The imaging identified the right transsphincteric anal fistula. The primary orifice was depicted at 11 O'clock and the fistulous tract run from the medial aspect of the right labia majora to the anal canal. There were no associated abscesses, fluid collection, or secondary branches [Figure 1]. According to St. James University Hospital classification for MRI,[1] these findings correlated with Grade 3 of perianal fistula.

The patient underwent a two-stage seton placement. During examination in the first stage of the operation, an anal transsphincteric fistula was confirmed. The external opening of the tract was noted on the episiotomy site and the internal orifice explored by injection of methylene-blue dye found anterolaterally to the right of the anus. The fistulous tract was excised and the wound was left open to heal after placement of loose seton for drainage.

Two months after the first stage of surgery, the patient was readmitted for elastic seton placement. The seton was then gradually tightened externally over weeks. There have been no postoperative complications and the patient was satisfied with this treatment. The patient reported minor incontinence to gas 2 years after surgical procedures.

## DISCUSSION

Fistula-in-ano as a complication of episiotomy is uncommon and had only been documented in a few previous papers.[2-5] As the diagnosis of these fistulas is frequently missed or delayed,[6] this pathology should be suspected whenever a female patient with a previous episiotomy presents with persistent suppuration and perineal pain.[3]

MRI is currently thought to be the golden standard in anal fistula and is considered equal or superior to examination under anesthesia,[1,7] as it provides accurate information about fistulous tract location, relationships to the anal sphincters, and detection of any secondary tracts or abscess.[1] A grading system is used by radiologists to classify perianal fistulas, called the St. James's University Hospital classification.[7] The findings of MR will help surgeons to choose the appropriate surgical method to avoid recurrence and complications.[1] The treatment requires surgical management and further follow-up is needed to ensure that there are no short- or long-term surgery complications.

In this paper, we report a case of missed fistula-in-ano complicating episiotomy, where MRI was the diagnostic tool. Very few similar cases have been reported in the literature to date, however, none of these studies contained MR images and all of them had their diagnosis confirmed under anesthesia [Table 1]. In our report, there had been a delay in diagnosis, until MRI was performed and confirmed the presence of fistula-in-ano. Following that the patient

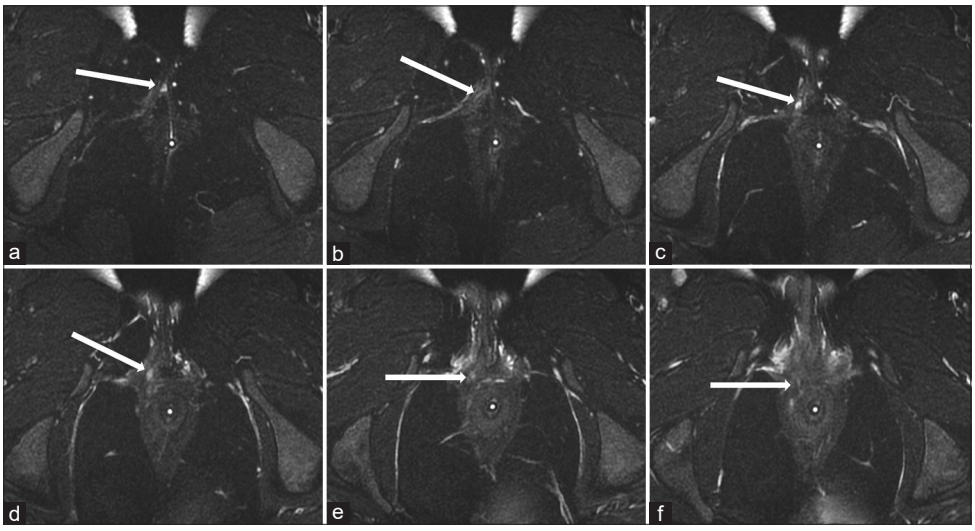


**Figure 1:** Six axial contrast-enhanced MRI images with fat saturation, (a) right fistulous tract starting at the inner aspect of the right labia majora (arrow). (b-e) The tract extends laterally and passes through of puborectalis muscle (arrows). (f) It ends at the outer aspect of the anal sphincter at 11 o'clock within the transsphincteric space without mucosal opening (arrow).

**Table 1:** Published cases of fistula-in-ano post-episiotomy with draining episiotomy scar from 1999 till present.

| Authors | Year | Age, y | Symptoms | Diagnosis/ confirmed by | Treatment |
|---|---|---|---|---|---|
| Howard *et al.* | 1999 | 24 | 2 years after delivery: Chronic perineal drainage and pain | Anterior fistula-in-ano was confirmed by anoscopy under anesthesia. | Fistulotomy and curettage |
| Barranger *et al.* | 2000 | 28 | 45 days after delivery: Chronic suppuration with perineal pain | Suprasphincteric anal fistula confirmed under general anesthesia 5 months after delivery | Fistulotomy |
| | | 27 | 2 months post-forceps delivery: Abscess near episiotomy scar<br>9 months postpartum: Recurrent chronic suppuration | Anal transsphincteric fistula confirmed under general anesthesia | Fistulotomy |
| | | 34 | 2 months after delivery: Abscess on episiotomy treated<br>2 years postpartum: Dyspareunia, perineal pain, and chronic suppuration | Anal transsphincteric fistula under general anesthesia | Fistulotomy |
| LeFevre *et al.* | 2010 | 29 | 6 months post-forceps delivery: Chronic vulvar pain and persistent perineal granulation | Fistula in ano confirmed under general anesthesia | Excision |
| Dorairajan *et al.* | 2014 | 32 | 4 years after delivery: Chronic sinus discharging from episiotomy scar. | Superficial perianal fistula confirmed under general anesthesia | Fistulectomy |
| Present case | 2021 | 27 | Chronic suppuration and pain after mediolateral episiotomy<br>complicated of abscess 6 months post-delivery, treated, recurrence of perineal discharge | Transsphincteric fistula, confirmed by MR imaging 17 months post-delivery | Seton placement |

underwent surgical treatment, which resolved the problem with no further complications.

## CONCLUSION

Fistula-in-ano caused by episiotomy is not a common condition. MRI is the best imaging modality for perianal fistulas which helps guide surgical management to avoid recurrence and complications. Our case report of missed postpartum fistula-in-ano at episiotomy scar demonstrates the importance of pre-operative MRI as a diagnostic tool.

### Declaration of patient consent

Patient consent is not required as the patient's identity is not disclosed or compromised.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

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**How to cite this article:** Touil SL, Beggah I. Magnetic resonance imaging as a diagnostic tool for postpartum fistula-in-ano on episiotomy scar – A case report. J Med Res Innov 2021;5:51-3.