

# Vesicovaginal fistula post-vaginal delivery late revelation: A case report

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## ABSTRACT

**Introduction:** This study presents a compelling clinical case involving a 43-year-old woman who encountered a vesicovaginal fistula subsequent to vaginal delivery. The narrative encompasses the occurrence, diagnosis, and subsequent management of this rare postpartum complication.

**Case Report:** A 43-year-old woman with an unscarred uterus experienced the conventional signs of postpartum recovery but developed hematuria and vaginal urinary leakage on the seventh postpartum day. Clinical assessment confirmed a vesicovaginal fistula due to partial uterine dehiscence. Diagnostic procedures and the subsequent successful surgical intervention are detailed, followed by the postoperative surveillance strategy and a one-month post-surgery evaluation.

**Conclusion:** This case study demonstrates the successful management of a postpartum vesicovaginal fistula through surgical intervention, resulting in complete closure of the fistula and significant improvement in urinary symptoms. It highlights the importance of timely diagnosis and appropriate surgical intervention in managing such rare complications following vaginal delivery.

**Keywords:** Postoperative follow-up, Postpartum, Surgical repair, Unscarred uterus, Vaginal delivery, Vesicovaginal fistula

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## INTRODUCTION

Vesicovaginal fistula (VVF), an abnormal communication between the bladder and vagina, is a rare yet consequential complication arising from childbirth. It can lead to profound physical and psychosocial distress for affected women. We present a compelling clinical case that underscores the significance of prompt identification and tailored management of VVF in a patient with specific obstetric history [1].

Childbirth-related VVF, while infrequent in modern obstetric practice, continues to pose significant challenges. The occurrence of a VVF in a patient with a history of scarred uterus, particularly following vaginal delivery, warrants meticulous clinical attention and thoughtful therapeutic strategies. The complexity of such cases highlights the need for comprehensive assessment, precise diagnostics, and individualized surgical approaches to ensure successful resolution [2].

In this report, we detail the case of a 43-year-old woman (G2P2) who experienced a postpartum vesicovaginal fistula following vaginal delivery. The patient initially displayed routine postpartum recovery but developed alarming symptoms on the seventh day, including hematuria and urinary discharge through the vagina. We emphasize the importance of timely diagnosis, thoughtful surgical planning, and vigilant postoperative care in addressing this challenging obstetric

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complication. The presented case not only contributes to the clinical literature but also underscores the necessity of a multidisciplinary approach for optimizing patient outcomes in similar scenarios.

## CASE REPORT

We present a clinical case of a patient G.A., 43 years old, blood type B positive, G2P2 (single uterine scar: first pregnancy with severe intrauterine growth restriction (IUGR) and oligohydramnios) resulting in a cesarean section. Second pregnancy without complications, vaginal delivery at full term with a newborn weighing 3 kg. Delivery progress: The patient presented with pelvic pain resembling contractions. On transvaginal examination, two wide fingers were inserted (from 2 to 3 cm), cervix was well-applied, and there was a cephalic presentation in a good bony pelvis. The labor induction was accepted, and there was progressive dilation, entering the active phase after an hour, which lasted for two and a half hours. The delivery was uneventful, placental expulsion was directed, and uterine revision was performed under antibiotic prophylaxis, revealing a weak scar from the previous cesarean section but no rupture. At 18 hours postpartum, the patient developed urinary retention, and it was decided to catheterize her, resulting in 500 mL of bloody urine. Subsequently, the urine cleared gradually, the catheter was removed on postpartum day 2, and the urine culture was negative. The patient's condition improved; she was hemodynamically stable, voided without issues, and was discharged on postpartum day 4.

On postpartum day 10, she returned with continuous involuntary vaginal discharge, confirmed by a speculum examination, and the methylene blue test was positive. The diagnosis of vesicovaginal fistula was established. An uroscan was performed, revealing a 2 cm anterior isthmus uterine discontinuity communicating with the bladder lumen (Figure 1). The decision was conservative management with continuous bladder drainage, with reevaluation after uterine involution. However, the patient declined catheterization for three months and consented to surgical treatment. Surgical repair of the vesicovaginal fistula was performed, with postoperative catheterization for 15 days. The patient's progress was favorable, with no fever, and the catheter was removed on postoperative day 15. She was followed up in our outpatient clinic with no functional complaints.

## DISCUSSION

The occurrence of a vesicovaginal fistula (VVF) following vaginal delivery is a complex and multifaceted challenge that necessitates careful evaluation, prompt intervention, and meticulous postoperative care. In the presented case, a 43-year-old woman with a history of a scarred uterus developed a VVF postpartum, highlighting

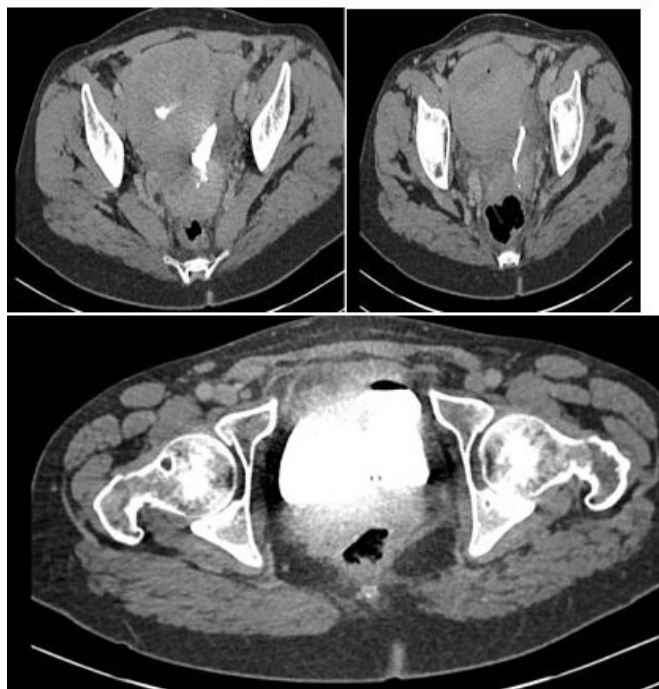


Figure 1: CT scan of a vesicovaginal fistula.

the need for comprehensive management strategies and highlighting the importance of individualized patient care [3].

Vesicovaginal fistulas are abnormal communications between the bladder and the vagina, often resulting from prolonged or obstructed labor, traumatic deliveries, or surgical complications. While becoming increasingly uncommon due to improved obstetric care, VVFs remain a significant concern, primarily affecting the quality of life, urinary continence, and psychological well-being of affected individuals [4].

Vesicovaginal fistula represents a major global health issue, responsible for significant morbidity and influencing the social, physical, psychiatric, and sexual aspects of a patient's life. In Africa, between 30,000 and 130,000 new fistulas are recorded each year [5]. The etiologies of fistulas are diverse, including surgical causes (most common in wealthy countries, estimated at 83.2%, often resulting from an unrecognized vesical injury or extensive dissection that devascularizes the vesical wall, and therefore, they have a favorable prognosis), post-trauma, infectious, inflammatory diseases, and tumoral causes. Obstetric causes remain the most frequent, especially in impoverished countries. Fistulas result from ischemic compression of the bladder, urethra, perineum, and/or the use of forceps. The primary symptom is involuntary urinary leakage through the vagina. Other symptoms may include hematuria, burning during urination, dysuria, and lower back pain [2]. The methylene blue test is essential for a positive diagnosis and allows differentiation from vesicouterine fistulas. Additional necessary examinations include cystoscopy

(to locate the site of the fistula and determine its relation to the ureteral meatus and the vesical neck), retrograde cystography with contrast medium (URCM), and uroscan, particularly to check for ureteral involvement or a complex fistula tract. According to Benchekroun, fistulas can be classified into three types based on their location: type I urethrovaginal (30%), type II cervicovaginal (22%), and type III vesicovaginal (48%) [6]. Treatment is divided into two main approaches: medical and surgical. Medical treatment involves continuous urinary drainage with a vesical catheter and hormonal therapy inducing amenorrhea, which can promote the closure of small fistulas. Once the fistula is stabilized, surgical treatment is considered, usually performed 6–12 weeks after the causative event. Surgical treatment involves excising necrotic tissue and repairing the fistula [5]. Postoperative complications to be wary of include ureteral stenosis, urinary incontinence, recurrent urinary tract infections, and urinary retention. Postoperative monitoring should be regular and vigilant.

## CONCLUSION

The presented case of a postpartum vesicovaginal fistula (VVF) in a patient with a history of a scarred uterus underscores the clinical complexity and critical importance of tailored management. Vesicovaginal fistulas, while becoming rarer due to advancements in obstetric care, remain a distressing and potentially life-altering complication for affected individuals.

The collaboration between obstetricians, urologists, and gynecological surgeons in this case underscores the importance of a multidisciplinary approach in managing complex obstetric complications. Addressing both the anatomical and psychological aspects of VVF is essential for ensuring comprehensive patient care and optimizing outcomes.

While this case serves as a noteworthy example of successful management, it also highlights the need for ongoing research, education, and awareness in the field of obstetrics. Vigilance in recognizing and managing potential complications, even in cases of unscarred uteri, remains paramount to preserving maternal health and well-being.

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## Author Contributions

Montacer Hafsi – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Marwa Moussi – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Souhir Najar – Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Faten Dridi – Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Smaoui Maroua – Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Mechaal Mourali – Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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**Conflict of Interest**

Authors declare no conflict of interest.

**Data Availability**

All relevant data are within the paper and its Supporting Information files.

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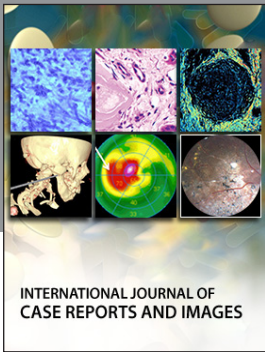
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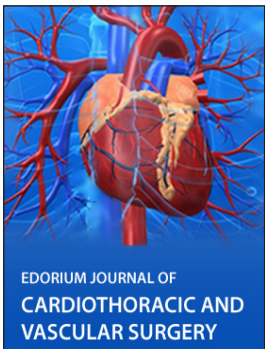
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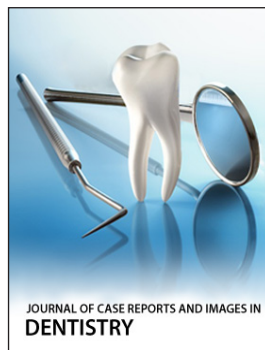
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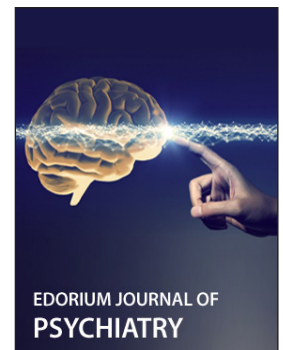
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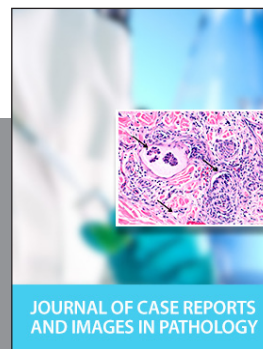
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