

Uterine Dehiscence Presenting as Postpartum Puerperal Sepsis Mimicking Abdominal Tuberculosis

VAISHNAVI LAKKIREDDY¹, MANJUSHA AGRAWAL², SMRUTI MAPARI³, AISHWARYA BEEDKAR⁴

ABSTRACT

Uterine dehiscence, characterised by the partial or complete separation of a previous uterine scar, is a rare but potentially life-threatening complication following Caesarean Section (CS). This condition often presents with non-specific symptoms and may mimic other diseases, delaying diagnosis and increasing morbidity. A 24-year-old postpartum female presented with abdominal distension, fever, vomiting, and purulent discharge from the surgical site. The initial diagnosis of abdominal tuberculosis was based on ascitic fluid analysis and elevated Adenosine Deaminase (ADA) levels. Imaging and further evaluations confirmed uterine scar dehiscence. Management included relaparotomy, debridement, and resuturing of the uterine scar, followed by antibiotic therapy. The patient improved significantly postoperatively, with resolution of symptoms and normalisation of laboratory parameters. She was discharged in stable condition 14 days after surgery. This case underscores the importance of considering uterine dehiscence in postpartum patients with sepsis and abdominal distension. Early diagnosis through imaging and timely surgical intervention is critical in improving outcomes and preventing long-term complications.

Keywords: Antibiotic, Caesarean section, Purulent discharge, Suturing

CASE REPORT

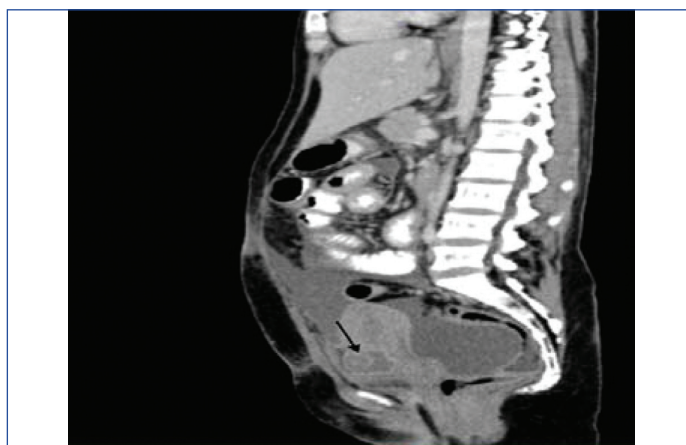
A 24-year-old female, para one, resident of Maharashtra, presented to the emergency department 24 days post-emergency Lower Segment Caesarean Section (LSCS) with complaints of abdominal distension, fever, vomiting, generalised weakness, and purulent discharge from the surgical site.

Her antenatal history was uneventful. There were no known comorbidities in her past medical history. She had undergone an emergency CS in a private hospital at 38 weeks and four days of pregnancy due to non-progression of labour with foetal distress. A lower uterine segment incision was closed in a single layer using 1-0 Vicryl sutures. The patient developed fever from day 4 post-LSCS, followed by abdominal pain, vomiting, generalised weakness, and abdominal distension from day 7, along with wound discharge from day 9 post-LSCS.

She initially sought treatment at the private hospital, where ascitic fluid analysis showed elevated ADA levels, leading to a misdiagnosis of abdominal tuberculosis. She was started on Anti-Tubercular Therapy (ATT) from day 10 to day 14 post-LSCS. However, the treatment was discontinued on day 14 after the CBNAAT of ascitic fluid tested negative for tuberculosis, yet her symptoms persisted, leading to her referral to a tertiary care center.

Upon admission, the patient was febrile (101°F), hypotensive (100/60 mmHg), and tachycardic (110 bpm). Abdominal examination revealed generalised tenderness, gross distension, and purulent discharge from the surgical wound. Laboratory findings showed leukocytosis (Total Leukocyte Count (TLC): 22,100/mm³), hypoalbuminaemia (2.9 g/dL), and elevated C-Reactive Protein (CRP: 92.61 mg/L). Imaging revealed gross ascites, fat stranding in the anterior myometrium, and a peripherally enhancing mixed-density collection along the lower uterine segment (5.8×3.2×2.3 cm) [Table/Fig-1,2].

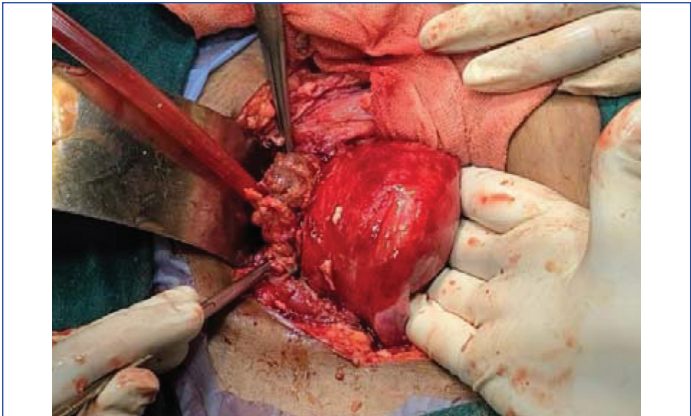
Given the clinical picture of sepsis with suspected uterine dehiscence, the patient was scheduled for relaparotomy, where uterine scar dehiscence with an infected collection was confirmed [Table/Fig-3]. Pus culture showed ceftriaxone-sensitive *Staphylococcus aureus* grown from wound swabs. Intraoperative findings included approximately 1.5 liters of yellowish ascitic fluid, pus strands in



[Table/Fig-1]: Computed Tomography (CT) imaging of uterine scar dehiscence with adjacent fluid collection.



[Table/Fig-2]: CT imaging highlighting uterine scar dehiscence with associated inflammatory features.



[Table/Fig-3]: Uterine scar dehiscence revealed during relaparotomy.

the pouch of Douglas, and complete uterine scar dehiscence with necrotic edges [Table/Fig-4]. A 1-0 Vicryl suture was used to resuture the uterine edges after the wound was debrided. Peritoneal lavage was performed, and drains were placed.

Postoperatively, the patient was managed with broad-spectrum antibiotics (linezolid and meropenem) and nutritional support to correct hypoalbuminaemia. The patient showed significant improvement postoperatively, with the resolution of fever and abdominal symptoms. Laboratory parameters normalised over the next two weeks. She was discharged in stable condition.



[Table/Fig-4]: Excised pus strands from uterus, pouch-of-douglas, and bowel.

DISCUSSION

Uterine dehiscence is a rare but potentially life-threatening postpartum complication involving the partial or complete separation of a previous uterine scar, often associated with CS [1]. CS, performed in approximately 21.1% of deliveries worldwide and 21.5% in India, has significantly reduced maternal and foetal mortality, but it increases the risk of complications such as uterine scar dehiscence [2,3]. The incidence of uterine scar dehiscence is approximately 0.6%, typically presenting with non-specific symptoms such as postpartum haemorrhage, peritonitis, and sepsis [4,5]. Infections remain a major contributor to surgical site complications, occurring in 1-2% of cases, with *Staphylococcus aureus* being the most frequently implicated pathogen [6]. A summary of a few cases is presented in [Table/Fig-5] [7-11]. Delayed diagnosis, as seen in this case, can lead to significant maternal morbidity or mortality [12].

| Study | Key findings | Population/ location | Significance to current case |
|-----------------------------|---|---|---|
| Kabiri D et al., 2021 [7] | Group A <i>Streptococcus</i> is a common pathogen causing puerperal sepsis. | Israel, case report | Relevant to identifying <i>Staphylococcus aureus</i> as an alternative causative agent in this case. |
| Demisse GA et al., 2019 [8] | Rural residence and low socioeconomic status increase risk of puerperal sepsis. | Ethiopia, 67 cases and 213 controls | Highlights socioeconomic and geographic disparities that may affect postpartum care. |
| Ngonzi J et al., 2016 [9] | Puerperal sepsis is a leading cause of maternal mortality in sub-Saharan Africa. | Uganda, tertiary university hospital | Demonstrates the critical need for early diagnosis and management to reduce morbidity and mortality. |
| Taskin T et al., 2016 [10] | Prolonged rupture of membranes (>24 hours) and caesarean delivery are significant risk factors. | Bangladesh, 35 participants | Confirms association of caesarean delivery and prolonged rupture of membranes with sepsis, as seen in this case. |
| Hussein J et al., 2011 [11] | Poor infection control practices in healthcare facilities contribute to maternal sepsis. | Developing countries, health systems review | Stresses importance of aseptic technique during and after Caesarean Sections (CS) to prevent complications like dehiscence. |

[Table/Fig-5]: Review of studies on puerperal sepsis: determinants and outcomes [7-11].

However, the misdiagnosis of abdominal tuberculosis in postpartum sepsis cases is not uncommon, particularly in regions with moderate tuberculosis prevalence, such as Maharashtra. Imaging modalities such as ultrasound and Computed Tomography (CT) are essential for detecting uterine dehiscence, especially in cases with atypical presentations mimicking other intra-abdominal infections [11]. This case highlights an unusual presentation where uterine scar dehiscence manifested as puerperal sepsis, initially misdiagnosed as abdominal tuberculosis due to elevated ADA levels in ascitic fluid. Given the high prevalence of tuberculosis in certain regions, misdiagnosis remains a clinical challenge.

A review of past studies suggests that risk factors for uterine dehiscence include improper suture techniques, infection, and prolonged labour [13-15]. The World Health Organisation (WHO) defines puerperal sepsis as an infection of the genital tract occurring between the rupture of membranes and 42 days postpartum, with common bacterial pathogens including *Escherichia coli*, *Klebsiella*, and *Staphylococcus aureus* [16,17]. These infections can spread to adjacent organs, leading to complications such as salpingitis, peritonitis, or septicaemia. Early surgical intervention, including debridement and resuturing, is crucial in preventing further complications and improving maternal outcomes [18,19]. This case underscores the importance of maintaining a high index of suspicion for uterine complications in postpartum women with sepsis, especially in high-risk populations.

CONCLUSION(S)

Uterine scar dehiscence is a rare but serious postpartum complication. Patients with sepsis and abdominal symptoms after giving birth should be treated with caution, particularly in tuberculosis-endemic regions. Timely diagnosis and intervention are essential to prevent severe morbidity and mortality.

REFERENCES

[1] Bahuguna G, Shaikh N, Anand A, Swain P, Thatikonda R. Post caesarean uterine scar dehiscence: A case report and a short review of literature. *J Gynecol Obstet.* 2022;10(4):176-82.

[2] Betran AP, Ye J, Moller AB, Souza JP, Zhang J. Trends and projections of caesarean section rates: Global and regional estimates. *BMJ Glob Health.* 2021;6(6):e005671.

[3] Tripathy B, Pandey AK, Mishra SS, Mishra C. Caesarean section delivery in India: A comparative assessment of geographical variability using nationally representative survey factsheet data. *Natl J Community Med.* 2023;14(04):260-6.

- [4] Bharatam KK, Sivaraja PK, Abineshwar NJ, Thiagarajan V, Thiagarajan DA, Bodduluri S, et al. The tip of the iceberg: Post caesarean wound dehiscence presenting as abdominal wound sepsis. *Int J Surg Case Rep.* 2015;9:69-71.
- [5] Ida A, Kubota Y, Nosaka M, Ito K, Kato H, Tsuji Y. Successful management of a cesarean scar defect with dehiscence of the uterine incision by using wound lavage. *Case Rep Obstet Gynecol.* 2014;2014:421014.
- [6] Choden N, Dorji N, Dem D, Lhaden K. Post-cesarean severe sepsis and uterine wound disruption presenting as abdominal wound abscess and peritonitis: A case report. *SAGE Open Med Case Rep.* 2022;10:2050313X221105922. Doi: 10.1177/2050313X221105922.
- [7] Kabiri D, Prus D, Alter R, Gordon G, Porat S, Ezra Y. Case report: An unusual presentation of puerperal sepsis. *Front Med.* 2022;9:990731.
- [8] Demisse GA, Sifer SD, Kedir B, Fekene DB, Bulto GA. Determinants of puerperal sepsis among post partum women at public hospitals in west SHOA zone Oromia regional STATE, Ethiopia (institution BASEDCASE control study). *BMC Pregnancy Childbirth.* 2019;19:01-6.
- [9] Ngonzi J, Tornes YF, Mukasa PK, Salongo W, Kabakyenga J, Sezalio M, et al. Puerperal sepsis, the leading cause of maternal deaths at a Tertiary University Teaching Hospital in Uganda. *BMC Pregnancy Childbirth.* 2016;16:01-07.
- [10] Taskin T, Sultana M, Islam T, Khan NA, Chowdhury SM. Socio-demographic factors and puerperal Sepsis: Experiences from two tertiary level hospitals in Bangladesh. *Int J Community Fam Med.* 2016;1(113):01-04.
- [11] Hussein J, Mavalankar DV, Sharma S, D'Ambruoso L. A review of health system infection control measures in developing countries. *Glob Health.* 2011;7(14):01-09.
- [12] Thakur G, Karmakar P, Gupta P, Saha SC. Uterine scar dehiscence: A rare cause of life-threatening delayed secondary postpartum hemorrhage—a case report and literature review. *J Obstet Gynaecol India.* 2021;71(6):629-32.
- [13] Chawanpaiboon S, Sompagdee N, Kaewsrinual S, Srikrisanapol K, Jitmuang A, Matrakool P, et al. Severe complications of uterine dehiscence post-lower segment cesarean section: A case report emphasizing the importance of timely diagnosis and intervention. *Am J Case Rep.* 2024;25:e943027-1.
- [14] Kumari MS, Kumari MC, Kaur J, Kaur MH. Puerperal sepsis among postnatal women & its treatment: A case study. *Int J Res Publ Rev.* 2024;5(10):2227-29.
- [15] Buddeberg BS, Aveling W. Puerperal sepsis in the 21st century: Progress, new challenges and the situation worldwide. *Postgrad Med J.* 2015;91(1080):572-78.
- [16] Kambugu L. Assessment of factors contributing to puerperal sepsis among mothers attending the obstetrics and gynecology clinical services at Fort Portal Regional Referral Hospital. Kampala International University, School of Health Sciences. 2018. Available from: <http://hdl.handle.net/20.500.12306/4295>.
- [17] Majangara R, Gidiri MF, Chirenje ZM. Microbiology and clinical outcomes of puerperal sepsis: A prospective cohort study. *J Obstet Gynaecol.* 2018;38(5):635-41.
- [18] El-Agwany AS. Conservative management of infected postpartum uterine dehiscence after cesarean section. *J Med Ultrasound.* 2018;26(1):59-61.
- [19] Jinturkar DAA, Sanap DSM. Post-caesarean surgical site infections: Case series of two cases. *Int J Clin Obstet Gynaecol.* 2019;3(5):298-301.

PARTICULARS OF CONTRIBUTORS:

1. Junior Resident, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College (JNMC), Wardha, Maharashtra, India.
2. Professor, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College (JNMC), Wardha, Maharashtra, India.
3. Junior Resident, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College (JNMC), Wardha, Maharashtra, India.
4. Junior Resident, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College (JNMC), Wardha, Maharashtra, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Vaishnavi Lakkireddy,
Junior Resident, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College (JNMC), Wardha-442107, Maharashtra, India.
E-mail: vaishnavilakkireddy77@gmail.com

PLAGIARISM CHECKING METHODS: [Jain H et al.]

- Plagiarism X-checker: Dec 19, 2024
- Manual Googling: Mar 19, 2025
- iThenticate Software: Mar 21, 2025 (4%)

ETYMOLOGY: Author Origin

EMENDATIONS: 5

AUTHOR DECLARATION:

- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: Dec 16, 2024

Date of Peer Review: Feb 28, 2025

Date of Acceptance: Mar 23, 2025

Date of Publishing: Sep 01, 2025