

Conservative Surgical Management of Post-Cesarean Uterine Incisional Necrosis: A Case Report

Zahra Jahani; M.D.¹, Zohreh Jahani; Ph.D.², Taraneh Arbabzadeh; M.D.³,
Jalal Taghizadeh; M.D.⁴, Behnaz Nouri; M.D.¹

1 Department of Obstetrics and Gynecology and Perinatology, Shohada-e-Tajrish Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran

2 Department of Biochemistry, Institute of Biochemistry and Biophysics, University of Tehran, Tehran, Iran

3 Clinical Research Development Unit, Shohada-e-Tajrish Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran

4 Department of Neurosurgery, Imam Khomeini Hospital Complex, Tehran University of Medical Sciences, Tehran, Iran

Received May 2026; Revised and accepted June 2026

Abstract

Objective: Myonecrosis is a complication of severe endometritis. The usual management of uterine incisional necrosis with dehiscence is hysterectomy. Conservative surgery, which involves wound debridement and resuture, presents a strong alternative to hysterectomy.

Case Report: In this study, a 27-year-old woman underwent an emergency cesarean section at 37 weeks due to fetal distress after labor induction for severe preeclampsia and intrauterine growth restriction. Five days after cesarean section, the patient developed purulent discharge from the incision, followed by tachycardia, leukocytosis, and fever. Imaging revealed endometritis with peritonitis symptoms. Her condition deteriorated in spite of broad-spectrum antibiotics, requiring an urgent exploratory laparotomy. Necrotic tissue was excised during surgery, and the uterine incision was effectively healed without necessitating a hysterectomy. She exhibited a satisfactory recovery, and a three-month follow-up revealed an unblemished uterus.

Conclusion: Uterine incision necrosis can be lethal if not appropriately recognized and treated. Conservative therapy can be a good alternative for properly chosen patients, even though hysterectomy is frequently required. Successful outcomes depend on early diagnosis, cautious patient selection, careful infection management, and surgical debridement. The long-term safety and reproductive implications of conservative treatment require further investigation.

Keywords: Myonecrosis, Hysterectomy; Postpartum Infection; Conservative Surgery; Fertility Preservation

Introduction

Cesarean section rates are increasing, leading to more

complications. These complications include short-term issues like post-partum hemorrhage, localized/generalized peritonitis, endomyometritis, and sepsis and long-term problems such as chronic pelvic pain, pelvic adhesions, and placental adhesion

Correspondence:

Dr. Taraneh Arbabzadeh

Email: tarbabzadeh@sbm.ac.ir



Copyright © 2026 Tehran University of Medical Sciences. Published by Tehran University of Medical Sciences.

This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International license (<https://creativecommons.org/licenses/by-nc/4.0/>).

Noncommercial uses of the work are permitted, provided the original work is properly cited.

disorders (1-3). A rare but serious complication is uterine incision necrosis, which can cause the scar to break open, letting uterine contents escape. The rate of this scar dehiscence is between 0.06% and 3.8% (4). Additionally, postpartum myonecrosis can occur due to Clostridial infections, which can be very deadly (5). In rare cases, necrotizing myometritis is observed after certain puerperal infections, mainly caused by *Streptococcus* and *Staphylococcus*, alongside *Clostridium* (6). Laparotomy confirms the diagnosis, with hysterectomy being the typical treatment. Concerns about future fertility exist for women are young and low parity. Conservative surgery offers a compelling substitute for hysterectomy, involving wound debridement and resuture (2, 7). Regretfully, there are few examples and no clear guidelines on candidates for uterine conservation.

In this case report, we describe a case of postpartum uterine scar dehiscence due to infection and necrosis, which was successfully managed conservatively. The treatment involved drainage and surgical debridement of the necrotic tissue with a course of broad-spectrum antibiotics. Ethical approval was obtained from Iran National Committee for Ethics in Biomedical Research (Approval No: IR.SBMU.RETECH.REC.1404.663).

Case report

A 27-year-old pregnant woman, gravid 1 was hospitalized due to preclampsia 37 weeks. She had been receiving 250 mg of methyldopa for chronic hypertension. Due to the intrauterine growth restriction (IUGR) fetus and severe preeclampsia, her pregnancy was terminated. The cervix was ripped with foley ballon catheter, which is distended with 60 ml saline and traction, according to Bishop's score 2.

The patient experienced tachycardia PR: 135/min two days after the cesarean surgery, but no fever. The surgical site and clinical evaluation were both normal. The tests showed a high white blood cell count and elevated inflammatory markers (WBC: 14300 cells per microliter with a 70% neutrophil ESR of 90 mm/hr and CRP of 150 mg/L). According to the differential diagnosis of tachycardia in the postpartum period (infectious and thromboembolic), the antibiotics ceftriaxone 1 gram every 12 hours intravenously and clindamycin 900 mg every 8 hours intravenously were empirically recommended. After consulting with a cardiologist, bisoprolol 2.5 mg daily was initiated. Then Computed Tomography (CT) angiography of the lung was performed.

In CT angiography of the lung, evidence of thrombosis was seen in the anterior segmental branches of Left upper lobe (LUL) and the lower segment of left lower lobe (LLL) suggesting acute pulmonary thromboembolism (PTE). Therefore, the cardiologist ordered enoxaparin 80 mg subcutaneous ampoule every 12 hours, valsartan 80 mg tablet every 12 hours, and amlodipine 5 mg daily. Abdominal and pelvic ultrasonography revealed a uterus size of 96 x 166 mm with a normal myometrial echo, a 9 mm thick endometrium, and no free fluid present.

On the third day after cesarean section, a fever of 39.8°C was added to the patient's clinical symptoms, and her general condition was deteriorating. At presentation, the patient had a pulse rate of 135 beats per minute, a respiratory rate of 27, an oxygen saturation of 97%, and a blood pressure of 130/85 mmHg. The results of the general exam were not noteworthy. Examination of the abdomen revealed a subinvolved uterus, without guarding, and moderate tenderness over the suprapubic region. Scar and distension had not healed properly with the original plan. According to speculum, lochia was normal. High cervical and vaginal swab was obtained. Hb of 10.7 g/dl, a total count of 143000 cells Per microliter with a 73% neutrophil predominance, and normal renal and liver function tests were the results of laboratory studies while PR: 144_RR:35-O2Sat:97%. On the fifth day after surgery, the patient experienced an opening of the incision site and the release of purulent fluid.

After being worked up, the patient with sepsis was moved to the ICU and given broad-spectrum antibiotics: meropenem 1g every 8 hours intravenously, Vancomycin 1g every 12 hours, and clindamycin 900 every 8 hours were prescribed. Ceftriaxone was stopped, blood culture was negative, tests for vascular collagen diseases were normal, and gram-positive cocci were found in the skin incision.

Further verification with CT of the abdomen, pelvis and lungs was therefore suggested, which disclosed multi-focus air in the endometrial cavity along with increasing thickness, suggesting endometritis. There was mild to moderate free fluid in the abdomen and pelvis along with fat stranding of mesenteric and increased thickness of the peritoneum and it was recommended to match the clinical symptoms in terms of peritonitis. Abdominal wall without collection and no pathological lesion was seen in lung and mediastinum. According to the CT scan report, ascites fluid tapping was performed

under ultrasound guidance, and 13 cc of cloudy yellow fluid was removed (Data available but not shown). The laboratory tests of ascites fluid showed 1600 WBC/ μ L, mostly PMN (90%), and various other results, including 1.6 g/dl serum ascites albumin gradient, 3.98 g/ dl total protein, 41 mg/dl Glucose, 1433 LDH, 34 U/L Amylase.

The ninth day after delivery, Apixaban was stopped, and patient was taken to the operating room with a gynecologist, urologist, and general surgeon present due to sepsis and secondary bacterial peritonitis (Figure 1). The previous Pfannenstiel skin incision and fascia were opened. Then a midline incision was made, revealing severe adhesions of the lower uterine segment and intestinal loops to the anterior abdominal wall. One liter of ascitic and purulent fluid along with extensive necrotic tissue at the adhesion site and between the intestinal loops were removed and sent for analysis.

The ovaries were found to be larger than normal, while the fallopian tubes were normal. There were distended small bowel loops. The myometrium at the old caesarean incision was necrotic and opened in three places, each 1.5 cm (Figure 1). Therefore, the previous uterine incision was opened again, and the uterine cavity was checked. A 2x3 cm septum was found in the fundus region along with 30 cc of tissue similar to the placenta removed. After the cervix was dilated, necrotic tissue was cleaned, and the myometrium was sutured with Vicryl 1 in a

continuous running fashion. An urologist checked the bladder for urinary leaks, which was normal. A thorough lavage of the abdomen was made sure of. Hemostasis was maintained and a hemovac drain was inserted Rectovaginal pouch, while a Nelaton drain was placed vesicouterine pouch. Pfannenstiel incision fascia debridement was also performed. The fascia was repaired by the Smith-Jones method. The bleeding volume at the end of the operation was 1.5 liters. After the operation, the Hb was 8.5 gm% (WBC (cell/ microliter: 16000)), and 3 units of packed cell and one unit of FFP were transfused to the patient, due to tachycardia during the procedure. Following surgery, the reoperation period was unremarkable. After a day, oral treatment was initiated. The antibiotics were changed to metronidazole 500 mg every 8 hours intravenously and linezolid 600 mg every 12 hours, and clindamycin and vancomycin were stopped. On the third post-operative day, the drain was removed (Hb: 8.5 gm%; WBC: 16000 cell/ microliter). 5 days after relaparotomy, the patient was discharged in good general condition with oral antibiotics, coamoxiclav 625 mg every 12 hours and metronidazole 250mg every 8 hours for 7 days. This process implies that the infection has been well managed, and the patient's condition has improved. Ascites fluid culture was reported as *Escherichia coli*. The pathology report confirmed myonecrosis, myometrial microabscess and placental remnants.

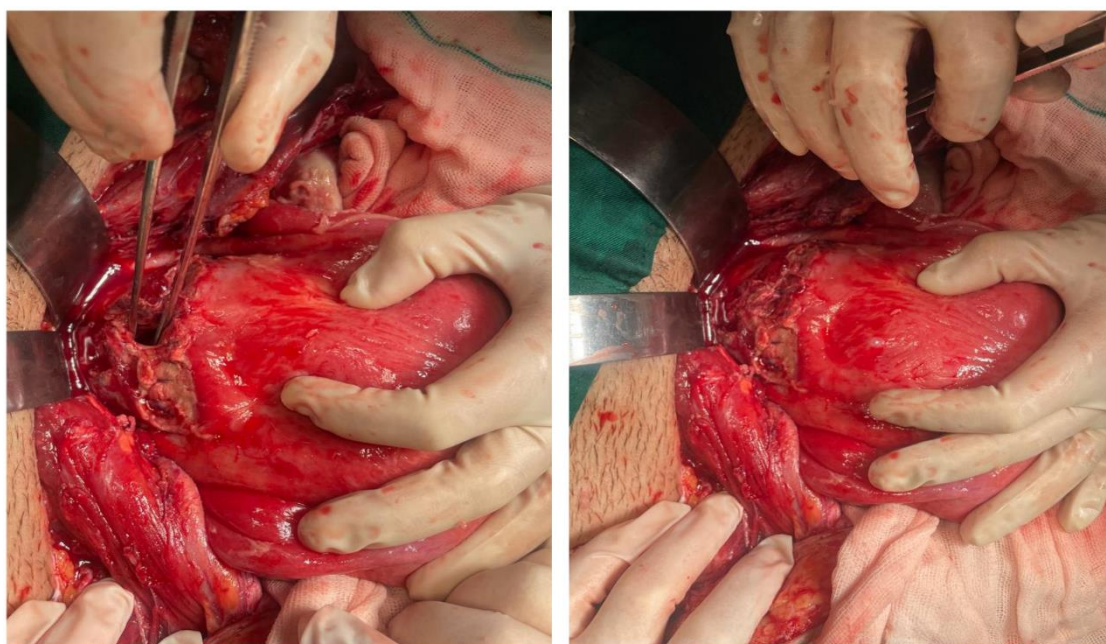


Figure 1: Intraoperative evidence of myonecrosis and dehiscence.

Three months post-procedure, she exhibited satisfactory clinical follow-up, and the pelvic MRI revealed a normal uterine cavity with an intact serosa (Data available but not shown).

Discussion

Uterine incisional necrosis after cesarean delivery is a rare but serious problem that often linked to maternal morbidity and mortality. Puerperal pyrexia and sepsis are common preventable causes. Postpartum infections often occur after childbirth, especially within the first 24 hours when patients go home. The American College of Obstetricians and Gynecologists (ACOG) maintain that a temperature of 39°C within 24 hours or a prolonged fever of 38°C can signal an infection. These infections are mostly caused by mastitis, wounds, endometritis, septic thrombophlebitis, and Urinary Tract Infections (UTIs), which is frequently exacerbated by unhygienic birth conditions (8, 9).

Uterine dehiscence, if undiagnosed and untreated, can lead to fatal consequences due to underlying infections. According to the mechanism, endomyometritis and infection can spread to the cesarean incision site, causing the uterine wall to weaken and potentially allowing blood or pus to leak out, resulting in inflammation and tissue death (10). Risk factors for uterine dehiscence include hematoma at the incision, a retrovesical hematoma, diabetes, extended cesarean section, infection, and suture technique (11). In our case, retained placenta, prolonged cesarean section, suturing technique were identified as risk factors. Moreover, we observed evidence of haematoma on the uterine incision line and retrovesical hematoma intraoperative.

Fever, tachycardia, suprapubic discomfort, uterine tenderness, anemia-related symptoms, and may signal an infection linked to uterine scar dehiscence (12). In patient with scarred uterus, the risk of uterine scar dehiscence or rupture should be considered with puerperal sepsis and peritonitis should elevate possibility. Imaging methods like computed tomography, magnetic resonance imaging, and ultrasound can help diagnose this condition (13). In our case, signs of peritonitis appeared two days after surgery and ultrasound revealed scar dehiscence. The posterior cul-de-sac showed no visible free fluid. A CT scan as a better diagnostic instrument confirmed multi-focus air in the endometrial cavity and thickening, indicating endometritis. In this case, gram-positive cocci were found at the incision site

after surgery for dehiscence complications.

Hysterectomy can significantly impact women of reproductive age who wish to keep their fertility. Conservative surgery may be an alternative, but it's not suitable for women with serious infections or complications. However, uterine conservation is possible when there is little infection and the uterus and surrounding tissues are healthy (2). Badr et al. showed that patients had smooth recovery after surgery using conservative management. They treated surgical uterine necrosis and rupture after cesarean delivery with debridement, drainage, and antibiotics, preventing bleeding (14). Similar to this, Rivlin et al. noted that debridement and suturing were successful in conservative surgery, but hysterectomy may only be needed for alternative specific patients (2). Nonetheless, patient selection is crucial, considering necrosis extent, infection severity, and overall health. In cases with less necrosis or stable infection control, conservative treatment can yield good results, as seen in the case reported by Thyagaraju et al., where early intervention and the use of broad-spectrum antibiotics contribute to good uterine protection (13). This approach may help maintain fertility, but requires careful monitoring and further research on reproductive outcomes.

Failure to diagnose postpartum uterine dehiscence and postpone treatment can cause septic shock, which can lead to a hysterectomy and increase morbidity and mortality. Hence, one step in the direction of conservative care and fertility preservation is the early choice to undergo a laparotomy and begin to use broad-spectrum antibiotics. The substantial risk of scar rupture in the second pregnancy even makes repeat cesarean sections necessary for these patients (15).

Conclusion

Surgical resection is the main treatment for postoperative uterine necrosis, but conservative surgery can be a good option in selected cases. Success relies on early diagnosis, proper patient selection, and good postoperative care. More research is needed to improve conservative treatment and ensure safety in future pregnancies. Additionally, we found that incision repair can lead to complete recovery if debridement is enough and the incision edges are healthy even with the Running method. On the other hand, we didn't use a drain inside the uterus unlike other cases because the cervix was dilated and there was concern about the presence of a foreign body in the uterus that could be susceptible to

infection. Moreover, dilation can help drain infection from the uterus.

Conflict of Interests

Authors declare no conflict of interests.

Acknowledgments

We gratefully appreciated the facility supports from Clinical Research Development Unit of Shahid Beheshti University of Medical Science (SBUMS) of Tehran.

References

1. Royo P, Manero MG, Olartecoechea B, Alcázar JL. Two-dimensional power Doppler-three-dimensional ultrasound imaging of a cesarean section dehiscence with utero-peritoneal fistula: a case report. *J Med Case Rep.* 2009;3:1.
2. Rivlin ME, Carroll CS, Morrison JC. Conservative surgery for uterine incisional necrosis complicating cesarean delivery. *Obstet Gynecol.* 2004;103(5 Pt 2):1105-1108.
3. Alwani M, Mishra S, Thakur R. Generalized peritonitis with uterine incision necrosis with dehiscence following cesarean section presenting as genitourinary fistula: a unique complication. *Journal of Evolution of Medical and Dental Sciences.* 2014;3(3):762-767.
4. Bahuguna G, Shaikh N, Anand A, Swain P, Thatikonda R. Post caesarean uterine scar dehiscence: a case report and a short review of literature. *Journal of Gynecology and Obstetrics.* 2022;10(4):176-182.
5. Jacques L, Kelly B, Soehl J, Wagar M, Rhoades J, Cowley ES, Pryde PG, Cutler A, Eschenbach D. Peripartum Uterine Clostridial Myonecrosis: A Report of Two Fatal Cases. *WMJ.* 2024;123(3):213-217.
6. Berghella V, Cahill AG. Optimal cesarean birth rate. In: UpToDate. Waltham (MA): UpToDate Inc.; 2023.
7. Chaudhary V, Singh M, Nain S, Reena F, Aggarwal K, Biswas R, et al. Incidence, management and outcomes in women undergoing peripartum hysterectomy in a tertiary care centre in India. *Cureus.* 2021;13(3):e14007.
8. Maharaj D. Puerperal pyrexia: a review. Part I. *Obstet Gynecol Surv.* 2007;62(6):393-399.
9. Amiel GJ. Puerperal pyrexia and infection. In: *Essential Obstetric Practice.* Berlin: Springer; 1981. p. 205-210.
10. Garg R, Agrawal R, Goel G. Puerperal sepsis with uterine scar dehiscence after cesarean section: a rare complication. *Journal of South Asian Federation of Obstetrics and Gynaecology.* 2018;10(2):435-437.
11. El-Agwany AS. Conservative management of infected postpartum uterine dehiscence after cesarean section. *J Med Ultrasound.* 2018;26(1):59-61.
12. Bharatam KK, Sivaraja P, Abineshwar N, Thiagarajan V, Thiagarajan D, 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.
13. Thyagaraju C, Makam M, Yedla D, Papa D. Conservative surgical management of immediate post-caesarean uterine dehiscence and pelvis abscess due to *Proteus mirabilis* infection: a rare complication of puerperal endomyometritis. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology.* 2021;10(7):2895-9.
14. Badr DA, Al Hassan JM, Ramadan MK. Conservative surgical management of uterine incisional necrosis and dehiscence after primary cesarean delivery due to *Proteus mirabilis* infection: a case report and a review of literature. *Journal of Clinical Gynecology and Obstetrics.* 2017;6(3-4):65-70.
15. Sengupta Dhar R, Misra R. Postpartum uterine wound dehiscence leading to secondary PPH: unusual sequelae. *Case Rep Obstet Gynecol.* 2012;2012:154685.

Citation: Jahani Z, Jahani Z, Arbabzadeh T, Taghizadeh J, Nouri B. **Conservative Surgical Management of Post-Cesarean Uterine Incisional Necrosis: A Case Report.** *J Family Reprod Health* 2026; 20(2): 149-53.