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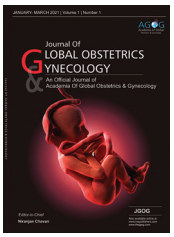
Case Report



Post-Cesarean Uterine Rupture with Secondary Sepsis: A Rare Case of Obstetric Emergency Managed with Surgical and Multidisciplinary Care

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ABSTRACT

Aim: To emphasize the importance of timely diagnosis and a multidisciplinary management approach in post-cesarean uterine rupture complicated by intra-abdominal sepsis and wound dehiscence to optimize maternal outcomes. **Background:** Uterine rupture post-lower segment cesarean section (LSCS) is a rare but life-threatening complication, particularly in patients with prior normal deliveries. Secondary sepsis and wound dehiscence further increase morbidity, requiring prompt surgical intervention and infection control strategies. **Case Description:** A 36-year-old multiparous female (G3P2IUFD1) with gestational diabetes mellitus presented on post-operative day 10 following LSCS for hand prolapse. She developed progressive abdominal distension, and imaging revealed uterine rupture with intra-abdominal sepsis. Emergency exploratory laparotomy confirmed a transverse uterine rupture with the purulent collection, necessitating an obstetric hysterectomy. Postoperatively, wound dehiscence required secondary suturing. With targeted antibiotics and intensive care, she recovered successfully. **Conclusion:** This case underscores the need for early recognition, timely surgical intervention, and a multidisciplinary approach in managing post-cesarean uterine ruptures complicated by sepsis and wound complications.

Key words: Intra-abdominal Sepsis, Multidisciplinary management, Obstetric hysterectomy, Post-cesarean uterine rupture, Wound dehiscence

INTRODUCTION

Uterine rupture is a rare but life-threatening complication, typically associated with prior cesarean deliveries or uterine surgeries. However, the rupture in patients with a history of previous normal vaginal deliveries following a lower segment cesarean section (LSCS) remains an uncommon yet critical scenario. Delayed presentation with signs of intra-abdominal sepsis further complicates management, increasing morbidity and the risk of secondary complications such as wound dehiscence and prolonged recovery.[1]

This case highlights a rare instance of post-operative uterine rupture in a patient with prior normal deliveries, complicated by intra-abdominal sepsis and wound dehiscence. The report emphasizes the importance of high clinical suspicion, timely imaging, and a multidisciplinary surgical and medical approach to ensure optimal maternal outcomes in such atypical presentations.

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CASE REPORT

A 36-year-old multiparous female (G3P2IUFD1) with a history of previous normal deliveries and gestational diabetes mellitus (GDM) presented on post-operative day 10 following an LSCS, which was performed at a peripheral hospital for hand prolapse. On post-operative day 3, she developed progressive abdominal distension with an increase in abdominal girth. Serial abdominal girth monitoring was initiated, and the patient was escalated to broad-spectrum antibiotics. A contrast-enhanced computed tomography (CECT) scan revealed uterine rupture with IUCD *in situ* involving the fundal wall with an encysted fluid collection in the ruptured uterus and an encysted abdominal collection in continuation with the collection in the uterine corpus at umbilicus mild free fluid in the abdomen with few free air foci

within the peritoneal cavity. Dilated small bowel loops suggestive of obstruction likely due to extrinsic compression through the collection. The patient was managed conservatively and referred to a higher center for further evaluation and management.

Upon admission, she reported intermittent abdominal pain for the preceding 3–4 days without associated fever or chills. Clinical examination revealed pallor, with the patient being alert and oriented. Her vitals were stable, with a SpO_2 of 95% on room air, pulse rate of 126/min, and blood pressure of 120/80 mmHg. Systemic examination findings were unremarkable. Abdominal examination demonstrated significant distension with a 28-week-sized tender uterus and an intact surgical dressing. Per speculum examination showed a pulled-up cervix and a healthy vaginal mucosa. Per vaginal examination revealed a closed cervical os with minimal, non-foul-smelling lochia.

Considering the high-risk profile, informed consent was obtained, and the patient was taken for an exploratory laparotomy with a possible obstetric hysterectomy under general anesthesia following a transfusion of two units of packed red cells and four units of FFP for a hemoglobin level of 6.3. Intraoperatively, copious foul-smelling purulent discharge was noted within the abdominal cavity. Pus samples were collected for culture and sensitivity. The uterus was enlarged (28–30 weeks' size) with B-Lynch sutures *in situ* [Figure 1]. Dense pus film deposits were observed over the uterine surface, anterior abdominal wall, pouch of Douglas, and bowel loops. A transverse uterine rupture measuring 5 × 3 cm was identified below the previous LSCS scar. The cervix and vaginal walls were intact. The decision for obstetrics hysterectomy is taken based on intraoperative findings. After appropriate counseling, the procedure was performed, and the resected specimen was sent for histopathological examination. An extensive peritoneal lavage with antibiotic wash was performed, and an intra-abdominal drain [Figure 2] was placed before transferring the patient to the intensive care unit for post-operative monitoring.Postoperatively, the patient was initiated on intravenous meropenem, metronidazole, and clindamycin for 7 days. Blood glucose levels were closely monitored, and an endocrinology consultation was sought. Insulin therapy (P1 10/10/10 and LI 8/0/8) was commenced for glycemic control. Pus culture indicates the growth of Streptococcus, which is sensitive to Linezolid, while the tissue culture reveals the presence of methicillin-resistant *Staphylococcus aureus*, also susceptible to Linezolid. By postoperative day 6, she was transferred to the ward, and her antibiotic regimen was de-escalated based on culture sensitivity reports to intravenous linezolid 600 mg BD and intravenous piperacillin–tazobactam (Piptaz) 4.5 g TDS. On post-operative day 12, abdominal stitch removal was performed, followed by complete suture removal (CSR) on day 14. However, a serous discharge from the surgical site with full-length wound dehiscence extending to the rectus sheath was noted [Figure 3]. A surgical consultation was obtained, and the patient was scheduled for secondary wound closure. Intravenous antibiotics were continued for 11 days, followed by a 7-day course of oral antibiotics. Moreover, CSR was repeated on day 14. Following an uneventful recovery, she was discharged in stable condition after CSR, with instructions for continued outpatient monitoring and wound care.

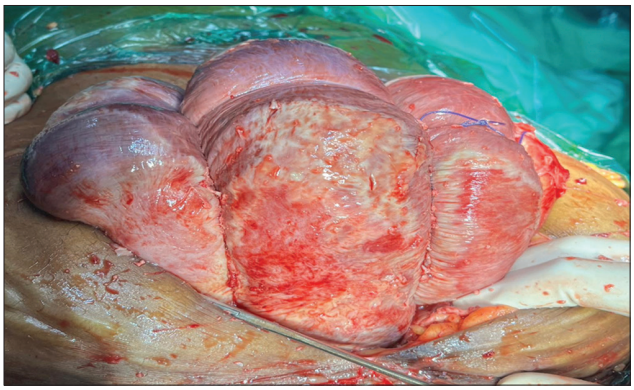

Figure 1: Uterus of 28–30 weeks' size with B-Lynch sutures *in situ*

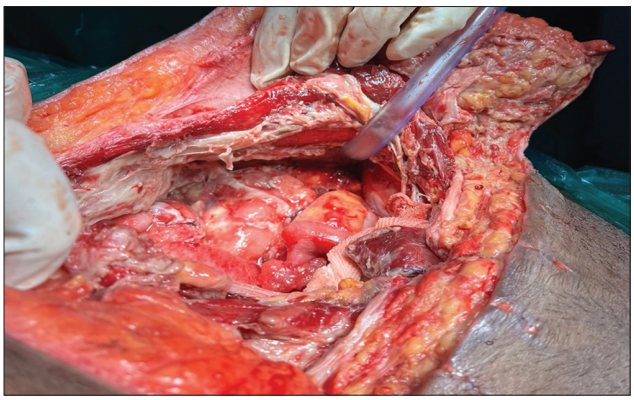

Figure 2: Intra-abdominal drain placed after obstetric hysterectomy during peritoneal closure

Figure 3: Full-length wound dehiscence up to the rectus sheath in a vertical scar

DISCUSSION

Uterine rupture is a rare but severe obstetric complication that can lead to significant maternal and fetal morbidity. It most commonly occurs in women with a history of uterine surgery, particularly LSCS, due to the weakened integrity of the uterine wall. Other risk factors include high parity, obstructed labor, previous myomectomy, uterine overdistension (e.g., multiple gestation or polyhydramnios), and injudicious use of uterotonic agents.[2]

The clinical presentation of uterine rupture varies but typically includes acute abdominal pain, hemodynamic instability, fetal distress, and in some cases, loss of uterine contractions. In postpartum cases, symptoms may be more insidious, presenting as abdominal distension, persistent pain, or signs of infection. Prompt recognition and intervention are critical, as delayed management can lead to catastrophic hemorrhage, peritonitis, and maternal shock.

Diagnosis is primarily clinical but can be supported by imaging modalities such as ultrasound and CECT in cases where presentation is atypical. Intraoperative findings often reveal uterine wall dehiscence, hemoperitoneum, and, in some cases, extensive adhesion formation due to prior surgery or infection.

Management strategies for uterine rupture depend on the extent of the rupture, the patient's hemodynamic status, and future fertility desires. Conservative management with uterine repair may be considered in hemodynamically stable patients with minimal tissue damage and no evidence of infection. However, in cases of severe rupture, uncontrollable bleeding, or sepsis, hysterectomy remains the definitive treatment. The decision is often individualized, balancing maternal stability with reproductive considerations.[3]

Post-operative care focuses on hemodynamic stabilization, infection control, and wound care. Broad-spectrum antibiotics are frequently required, especially in cases complicated by infection or abscess formation.[4] Patients with underlying conditions such as GDM require special attention, as poor glycemic control can predispose to wound infections and delayed healing. Secondary complications such as wound dehiscence or pelvic abscess formation may necessitate further surgical intervention.

Preventive strategies include careful selection of candidates for vaginal birth after cesarean, judicious use of augmentation agents, and individualized surgical planning in women with a history of uterine surgery.[4] A multidisciplinary approach involving obstetricians, anesthesiologists, and neonatologists is essential for optimizing outcomes in cases of uterine rupture.

CONCLUSION

This case highlights the uncommon occurrence of post-cesarean uterine rupture in a multiparous woman with prior normal vaginal deliveries complicated by intra-abdominal sepsis and wound dehiscence. The insidious onset of symptoms, progressive abdominal distension, and the absence of classic signs of uterine rupture contributed to the diagnostic challenge. The multidisciplinary approach, including obstetricians, general surgeons, anesthesiologists, endocrinologists, and infectious disease specialists, played a key role in managing this complex case.

This case underscores the importance of high clinical suspicion, vigilant post-operative monitoring, and a tailored management strategy in post-cesarean uterine rupture. Early diagnosis and timely intervention remain paramount in reducing maternal morbidity and mortality associated with this rare but serious complication.

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