

UTERINE RUPTURE LEAD FOLLOWING FALL FROM HEIGHT: CASE REPORT

Case Report

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ABSTRACT

Background: Trauma during pregnancy poses significant risks to both maternal and fetal health, with motor vehicle accidents being the most common cause. Uterine rupture, although rare, is a potentially catastrophic complication that can occur even in unscarred uteri, particularly when associated with high-impact trauma.

Case Details: We report the case of a 39-year-old woman, G10 P9 at 40 weeks of gestation, who suffered a fall from a considerable height due to a motor vehicle accident. Initially presented with multiple traumas, the patient was hypotensive, tachycardic, and semi-conscious with severe abdominal pain and vaginal bleeding. Diagnostic evaluation using FAST ultrasound revealed free intraperitoneal fluid, indicative of internal bleeding. Emergency exploratory laparotomy confirmed a traumatic rupture of the uterus, with subsequent intrauterine fetal demise. The patient underwent successful surgical repair and stabilization but required extensive postoperative care, including blood transfusion and nephrectomy.

Conclusion: This case underscores the critical need for rapid assessment and intervention in pregnant trauma patients, highlighting the importance of considering uterine rupture in the differential diagnosis following significant trauma. The management of such cases requires a coordinated multidisciplinary approach to improve survival and outcomes for both the mother and fetus.

Keywords: Trauma, Pregnancy, Uterine Rupture, Fetal Demise, Emergency Surgery.

INTRODUCTION

Trauma during pregnancy is a significant cause of morbidity and mortality among expectant mothers, with motor vehicle accidents, falls, and assaults being the most common causes. These incidents account for the majority of severe maternal injuries and complications, challenging the resilience of both maternal and fetal health systems. Motor vehicle collisions alone are responsible for approximately 80% of all significant traumatic events during gestation, often leading to complex obstetric and non-obstetric outcomes (1). Among these outcomes, intrauterine fetal demise and maternal injuries are particularly concerning, with the former often overshadowed by the urgent and visible needs of the injured mother. The interplay between traumatic events and pregnancy complications, such as placental abruption, hemoperitoneum, and uterine rupture, is well-documented but remains a complex domain needing further exploration. Uterine rupture, although rare, presents one of the most dramatic and life-threatening complications following trauma, with a prevalence of less than 1% among all pregnancy-related injuries 2(). This condition is frequently associated with previous uterine scars but can occur in unscarred uteri under high-stress incidents like severe falls or direct impacts. The catastrophic nature of uterine rupture necessitates immediate clinical attention and surgical intervention to manage the severe maternal and fetal outcomes associated with this complication (3).

In the current case, the traumatic event leading to both maternal and fetal complications emphasizes the critical need for heightened awareness and preparedness to handle such emergencies. The case of a 39-year-old woman, pregnant at full term, who experienced a fall from a significant height due to a car accident, illustrates the severe implications of trauma during pregnancy. The patient's injuries resulted in intrauterine fetal demise and a complex surgical emergency, highlighting the multifaceted challenges faced by medical teams during such incidents (4). This case report aims to contribute to the existing literature by detailing the medical and surgical management of a traumatic uterine rupture with associated fetal demise. The objective of this report is to enhance the understanding of trauma management in pregnant patients, underscore the importance of rapid response and intervention, and ultimately improve maternal and fetal outcomes in similar contexts. By examining this case in the light of current medical knowledge and practices, it provides valuable insights into the intricate dynamics of trauma care in obstetric emergencies (5).

CASE DESCRIPTION

A 39-year-old pregnant woman, gravida 10, para 9 at 40 weeks of gestation, was involved in a severe motor vehicle accident which resulted in a fall from a considerable height. The patient, seated in the back of a car traveling at 40 km/h, experienced the vehicle losing control due to the wet, hilly terrain, resulting in a descent into a canyon. Upon emergency admission, the woman was semi-conscious and displayed multiple traumas including head injuries, thoracic contusions, abrasions on both knees, and significant bruising over her abdomen. Initial evaluation revealed a Glasgow Coma Scale of 12, indicating a moderate level of consciousness impairment. The patient was hypotensive with a blood pressure of 80/60 mmHg and exhibited tachycardia with a heart rate exceeding 120 beats per minute, accompanied by tachypnea with a respiratory rate of 27-32 breaths per minute. These symptoms, along with her severe abdominal pain, vaginal bleeding, and reported episodes of blackouts, raised immediate concerns for intra-abdominal injuries and compromised fetal status.

Upon further examination, no fetal heart tones were detectable, and the patient's rapidly deteriorating condition prompted the initiation of aggressive fluid resuscitation with 1000ml of Ringer's lactate and an equal volume of colloids. Concurrently, diagnostic efforts included a Focused Assessment with Sonography for Trauma (FAST) which confirmed the presence of free intraperitoneal fluid, a critical finding suggestive of internal bleeding. Laboratory tests were notable for a hemoglobin level of 8 gm/dl, further supporting the diagnosis of significant hemorrhage. Given the patient's unstable condition and the sonographic findings, the decision was made to proceed with an emergency exploratory laparotomy. The surgical intervention revealed a catastrophic rupture of the uterus, which had sustained tears on both the anterior and posterior aspects. Despite the extensive damage, the fetus was still contained within the uterine cavity. The baby was delivered stillborn, with no signs of life and an Apgar score of 0 at 1 and 5 minutes. Examination of the fetus showed no external trauma, indicating that the fetal demise was likely due to acute maternal hemorrhage and shock rather than direct

fetal injury. The placenta was found to be partially separated with approximately 500 ml of retroplacental clots, which were surgically removed (6).

During the surgery, the ruptured uterus was meticulously repaired, and hemostasis was achieved. The patient required transfusion of four units of blood during the procedure. Postoperatively, she was transferred to a tertiary care facility for further management, which included a nephrectomy due to sustained renal damage. Following intensive monitoring in the high dependency unit for 24 hours, she was stable enough to be moved to the ward. This case highlights the severe implications of trauma in a full-term pregnancy, presenting a complex challenge involving immediate multidisciplinary management to address both maternal and fetal distress. The successful stabilization of the patient post-surgery underscores the critical importance of prompt and coordinated trauma care (7).



DISCUSSION

Trauma remains a leading cause of non-obstetric maternal mortality, accounting for approximately 20% of maternal deaths, with motor vehicle accidents being the most common precipitator (4). The presented case offers a significant contribution to the existing literature by underscoring the complexities involved in managing trauma in pregnant patients, particularly when it leads to rare but catastrophic events like uterine rupture. Typically, uterine ruptures are associated with a history of cesarean delivery or uterine surgery, but in the context of trauma, even an unscarred uterus can be at risk, especially during the late stages of pregnancy (11). This case not only highlights the precariousness of late-term pregnancy but also showcases the critical importance of swift diagnostic and therapeutic interventions (8). Comparatively, while the literature extensively documents uterine ruptures due to obstetric causes, reports of trauma-induced ruptures are scarce, making each case invaluable for medical research and practice. The current case is aligned with findings that traumatic uterine rupture, although infrequent, necessitates immediate surgical intervention due to the high risk of maternal and fetal mortality (11). This aligns with previous reports where maternal outcomes depended heavily on the timeliness of the response to the initial trauma and subsequent complications (2).

In terms of clinical practice, this case reinforces the necessity for emergency departments to have protocols in place for the rapid assessment and management of pregnant trauma patients. It also highlights the need for a high index of suspicion for intra-abdominal injuries in pregnant women following significant trauma, as traditional symptoms and signs might be masked by the physiological changes of pregnancy. The use of FAST ultrasound as an initial diagnostic tool, as demonstrated in this case, is vital for quickly identifying free fluid and guiding further management decisions, such as the need for exploratory laparotomy (5,9). The strength of this report lies in its detailed account of the surgical and medical management, providing a learning platform for healthcare providers on the nuances of handling high-risk, high-stress obstetric cases in a trauma setting. However, the case also carries limitations, including the lack of immediate comprehensive trauma imaging, which could have offered earlier insights into the extent of the uterine damage and potentially influenced the speed of intervention (10-12). This report adds to the growing body of evidence that trauma in pregnancy can lead to severe complications, necessitating a multidisciplinary approach to management. For future research, this case underscores the importance of continued investigation into the best practices for trauma care in pregnant patients, aiming to improve both maternal and fetal outcomes. The insights gained emphasize the critical role of rapid assessment and intervention in such high-stake scenarios, contributing to better preparedness and potentially life-saving strategies in similar future incidents.

CONCLUSION

This case report elucidates the severe and multifaceted impact of trauma during pregnancy, particularly highlighting the rare occurrence of uterine rupture from non-obstetric causes. The findings emphasize the necessity for emergency and obstetric care teams to maintain a high degree of vigilance and preparedness when dealing with pregnant trauma patients. Quick diagnostic processes like the FAST ultrasound, coupled with prompt surgical intervention, are crucial in managing such cases effectively. This report serves as a critical reminder of the complexities involved in trauma care for pregnant patients and reinforces the need for specialized training and protocols to enhance outcomes for both mother and child. By integrating the lessons learned from this case into clinical practice, healthcare providers can improve their response strategies, potentially saving lives in similar high-stakes scenarios.

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