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Case Report

Spontaneous rupture of an unscarred uterus during second trimester: a rare occurrence

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ABSTRACT

The rupture of the uterus is one of the most serious obstetric complications a pregnant uterus can experience. Most ruptured uteri are associated with one or more risk factors and occur more frequently during the third trimester. As an obstetric emergency, it requires a high level of suspicion for prompt diagnosis and urgent intervention due to its life-threatening nature. We reported a 29-year-old primigravida without any known risk factors presenting with abdominal pain and vomiting at 20 weeks of pregnancy. Ultrasonography (USG) revealed free fluid in the paracolic gutter and Morrison's pouch with a live intrauterine fetus. An exploratory laparotomy was planned in view of tachycardia and anemia. During laparotomy, hemoperitoneum was observed, and there was a 5 cm transverse fundal rent with placenta popping out from it. Emergency surgical management, including removal of the placenta and fetus along with fundal repair, was performed, and the patient recovered well. Symptoms such as acute abdominal pain during pregnancy should alert the surgeon to the possibility of uterine rupture, even in the absence of known risk factors. A prompt diagnosis and immediate intervention are crucial for achieving a good outcome in such cases.

Keywords: Second-trimester uterine rupture, Spontaneous rupture, Hemoperitoneum

INTRODUCTION

Uterine rupture is a rare, life-threatening obstetrical emergency associated with significant maternal and fetal morbidity and mortality. While it is well documented in uteri with prior procedures like myomectomy and cesarean section, its occurrence in an unscarred uterus is exceedingly rare.[1] Prompt clinical diagnosis remains challenging, especially in the early stages, due to nonspecific symptoms such as abdominal pain, guarding, and vomiting. Although uncommon, the possibility of uterine rupture should be considered in any pregnant patient presenting with acute abdominal pain, as early intervention is crucial for favourable outcomes. We report a case of a 29-year-old primigravida at 20 weeks of pregnancy presenting with uterine rupture in an unscarred uterus.

CASE REPORT

A 29-year-old primigravida with 20 weeks of pregnancy presented with complaints of pain in the abdomen and vomiting for the last two days. Her pregnancy was a spontaneous conception and has been uncomplicated to date, with no history of any uterine procedure. There was no prior history of any uterine procedure or intervention. On general physical examination, the patient exhibited pallor, tachycardia (130 beats per minute), and a blood pressure of 90/60 mmHg.

On palpation of the abdomen, it was tense and tender, with a uterine size consistent with 20 weeks, and the contour was maintained. Abdominal guarding and rigidity were present. Point-of-care ultrasonography revealed moderate free fluid in the paracolic gutter and Morrison's pouch. There was a single live intrauterine pregnancy of 20 weeks

with normal amniotic fluid. Her blood tests showed a hemoglobin level of 6 g/dl, which had decreased from 10 g/dL the previous day. Her COVID-19 GeneXpert test was positive. During exploratory laparotomy under general anesthesia, there was hemoperitoneum of approximately 800 ml, with 1300 cc of blood clots. A 5 cm transverse fundal rent was observed, with placenta protruding from it (Figure 1A). After extending the existing rent, the placenta and fetus were removed. Uterine fundal repair was performed in two layers (Figure 1B). After achieving hemostasis, the abdomen was closed in layers. She received three units of packed red blood cells intraoperatively. Her postoperative period was uneventful, and she was discharged on the third day. She opted for an injectable contraceptive at her postpartum visit.

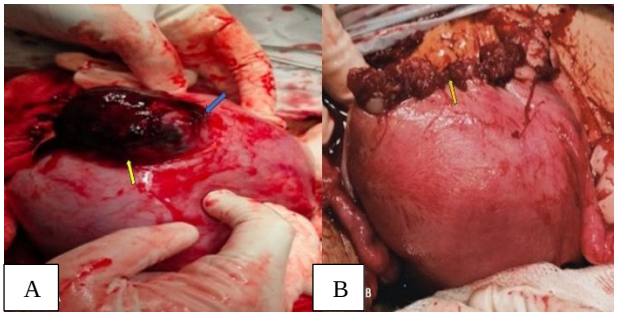

Figure 1: Clinical photograph of the uterus with rupture and after repair. (A) Clinical photograph of the uterus showing a 5 cm transverse tear with protruding placenta at 20 weeks of pregnancy. (B) Clinical photograph of uterus after removal of placenta and fetus, followed by fundal repair.

DISCUSSION

Spontaneous uterine rupture is a rare and life-threatening complication during pregnancy. It typically occurs during labor, especially after a previous caesarean section or uterine surgeries like myomectomy. Other risk factors include a short interval between deliveries, pregnancy extending beyond 40 weeks, neonatal birth weight over 4000 g, or the use of prostaglandins to induce labor.[1]

Early pregnancy signs of uterine rupture often include abdominal pain, vaginal bleeding, and vomiting. These symptoms can be challenging to diagnose because they are nonspecific and resemble other urgent conditions like hemorrhagic ovarian cysts, ectopic pregnancy, or a ruptured appendix.[2] The risk factors associated with uterine rupture include a history of placenta accreta spectrum, blunt abdominal trauma, and surgical procedures like dilation and curettage for miscarriages, compression sutures for postpartum hemorrhage.[3]

During the third trimester or at delivery, rupture occurs in the lower uterine segment, whereas it is commoner in the fundal region if it occurs in early part of the pregnancy. The index case had a uterine rupture at the fundus. This situation was unusual because it happened in a patient without prior uterine incisions. Reports of uterine rupture in an entirely unscarred uterus with no clear risk factors are rare. Possible reasons could include a birth defect or the patient's concealment of their medical history. In any case, symptoms like sudden abdominal pain in a pregnant woman should alert a surgeon to the possibility of uterine rupture, regardless of any previous uterine procedures.

Early diagnosis and a lowered threshold for suspicion are essential in the management of rupture of the uterus during the early part of pregnancy. Although ultrasound offers limited diagnostic value because of common symptoms and pregnancy-induced changes in anatomy, imaging modalities such as MRI can aid diagnosis. Nonetheless, it is usually diagnosed during laparotomy, emphasizing the importance of timely surgery to avoid serious complications and optimize maternal and fetal outcomes.

For pre-viable gestations, repairing a ruptured uterus and prolonging the pregnancy have been documented in hemodynamically stable patients, whereas, in hemodynamically unstable patients, fetal delivery via hysterotomy or hysterectomy can also be considered.[4] In this situation, due to hemodynamic instability and a pre-viable fetus, a hysterotomy with fetal evacuation was carried out.

Postoperative considerations encompass hemodynamic stabilization, infection control, thrombosis prevention, contraception advice, and patient counselling.

CONCLUSION

Spontaneous uterine rupture in an unscarred uterus is very rare and poses an obstetric emergency that is difficult to diagnose due to non-specific symptoms. It is relatively uncommon during the first and second trimesters of pregnancy and more frequently occurs during the third trimester or labor. The maternal and fetal outlook depends on timely diagnosis and prompt surgical intervention. Ultrasonography is crucial for rapid diagnosis.

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