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IDIOPATHIC SPONTANEOUS UTERINE RUPTURE - A CASE REPORT.

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ABSTRACT

Uterine rupture during pregnancy is rare but a catastrophic event. It is more common in a scarred uterus compared to an unscarred uterus. We report a case of rupture of an unscarred uterus in the second trimester with no known risk factors and emphasise awareness of this condition and immediate intervention for achieving a better prognosis.

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ABSTRACT

Uterine rupture during pregnancy is rare but a catastrophic event. It is more common in a scarred uterus compared to an unscarred uterus. We report a case of rupture of an unscarred uterus in the second trimester with no known risk factors and emphasise awareness of this condition and immediate intervention for achieving a better prognosis.

Keywords: Acute abdomen, Maternal mortality, Unscarred uterus, Spontaneous uterine rupture.

INTRODUCTION

Uterine rupture is a rare condition with a potentially fatal complication of pregnancy. A prospective study in India found that the incidence of uterine rupture in both scarred and unscarred uterus is 1.69% and 0.15% respectively.[1] The incidence has been rising for the past four decades.[2] The majority of uterine rupture cases were reported in women with a history of previous uterine surgery, for example after caesarean delivery and myomectomy. Most uterine rupture cases occur in pregnancy at term; however, a limited number of cases were reported to occur in the first and second trimesters. The diagnosis could be delayed especially if the clinical presentation is not straightforward. We report a case of a spontaneous rupture of an unscarred uterus in the second trimester with no known risk factors and emphasise awareness of this condition and immediate intervention for achieving a better prognosis.

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CASE REPORT

A 27-year-old lady, gravida 2 para 0+1 at 21 weeks' gestation presented with a complaint of abdominal pain. She had a spontaneous first-trimester miscarriage two years previously; no evacuation of the uterus was needed medically or surgically. For the current pregnancy, she had an uneventful routine antenatal check-up since the first trimester.

She began to have abdominal pain at 8 am on the day of admission. The abdominal pain was cramping in nature, started from the suprapubic area, and radiated to the epigastrium with a pain score of 8/10. Due to the excruciating pain, she went to have a body mas-

sage, and the pain was partially relieved. At noon, while walking up to her apartment, she nearly had a blackout. She was then brought up to her apartment unit by her husband and was left to rest. Three hours later she woke up due to pain and it was more severe this time with radiation to the right flank. She was unable to feel any fetal movement; otherwise, she did not have any bleeding or passing fluid vaginally. She was immediately brought to the hospital.

On examination, she was clinically in pain, tachycardic, and had a low-grade fever. She had generalised tenderness of her abdomen which was more severe on the right flank associated with guarding. A 20-week size, non-tender, and soft uterus was palpable. The vaginal examination was unremarkable. Transabdominal ultrasound revealed free fluid up to the Morrison's pouch (Figure 1).

Uterus appeared intact with a fundally located placenta. No retroplacental clots were visualised. There was a fetus without any fetal heart activity. Blood parameters showed haemoglobin level at 8 g/dl, platelet $323x10^9$/L, and total white cell count $32x10^9$/L. She was reviewed by the surgeon given possible other surgical causes of acute abdomen, as well as the anaesthetist for medical optimisation.

Emergency exploratory laparotomy was performed, and 2 liters of hemoperitoneum with blood clots were evacuated. The uterus was ruptured approximately 3 cm at the right cornu adjacent to the right fallopian tube insertion (Figure 2). Placental tissue was observed to be protruding through the ruptured area with slow oozing of blood. The right tube was detached from the uterus. The uterus was repaired in two layers as it was still salvageable, and the demised fetus was delivered through a median hysterotomy.

The placenta was delivered completely without any difficulty or resistance. A non-viable fetus and placenta were delivered. The stomach, liver, and entire bowel were normal. Total blood loss was 3 liters, and she was transfused with 4 pints of packed cells. She was discharged well after five days of hospital admission with a hemoglobin level of 13 g/dl.

Figure 1: Ultrasound image showed the free fluid occupying the Morrison's pouch indicating massive intraabdominal blood collection.

Subsequently, she was followed up at the outpatient clinic two months post-surgery and reported no complications. She was aware of her condition and the implications. She was advised to use contraception for at least two years and would require a cesarean

Figure 2: A transverse defect measuring 3cm on the right corner of the uterus with some of the placental tissue protruding out .

section for future pregnancies.

DISCUSSION

Uterine rupture is a rare but serious obstetric complication associated with high morbidity and mortality rates for both the mother and fetus. It can occur in women with a history of uterine surgery as well as those with an unscarred uterus. A recent study conducted among the Turkish population reported an incidence of one uterine rupture per 2770 deliveries in women with unscarred uteruses.[3]

Cases of unscarred uterine rupture have been linked to various factors such as myometrial weakness due to trauma, chronic steroid usage, congenital anomalies, or collagen deficiencies like Ehlers-Danlos disease.[4] In our case, we were unable to identify any specific risk factors. The patient had no known medical conditions and had not undergone any uterine surgeries. Although her first pregnancy resulted in a first-trimester miscarriage, it did not involve uterine instrumentation or the use of uterotonic agents. Additionally, there were no clinical indications of Ehlers-Danlos disease. While trauma to the abdomen during a body massage was suspected, the onset of pain occurred before the massage. Therefore, none of the mentioned risk factors were clinically associated with her uterine rupture.

The clinical presentation of uterine rupture in non-laboring pseudo-primigravidas can be unpredictable. Most cases present with abnormal fetal heart tracings, abdominal pain, vaginal bleeding, and hypotension. In advanced cases, hypovolemic shock may be the primary clinical feature. The range of potential differential diagnoses includes concealed placental abruption, subhepatic hematoma with or without rupture, perforated viscera such as the appendix or spleen, and ruptured vessels. Pre-operative assessment and consultation with a multidisciplinary team, including surgeons and anesthesiologists, are crucial for timely and appropriate management.

In the event of uterine rupture, the typical ultrasound findings are an empty uterus, presence of uterine wall defect with or without abnormal placentation, and fetus outside the uterine cavity. Other findings include bulging fetal membrane and free fluid in the peritoneal cavity. Ultrasound has been excellent in discovering some indirect signs of uterine rupture, nevertheless not so useful to demonstrate myometrial defects.[5] In our case, although the rupture site was not directly visualised by the ultrasound, the combination of a massive collection of free fluid and her clinical presentation was strongly suggestive of an acute abdomen, and a perforated viscus like uterus needed to be ruled out. Ultrasound should be considered as the initial investigation as it can be performed bedside, does not require ionising radiation, and is cost-effective. Other imaging methods like computerised tomography (CT) and magnetic resonance imaging (MRI) are less suitable in her case because of time delay. In hemodynamically stable cases, MRI can be used as it allows visualisation of the uterine wall defect and leads to a definitive diagnosis.[6]

Once the diagnosis of uterine rupture has been made, pregnancy usually will be terminated, and evacuation of the uterus is warranted. Some cases may require hysterectomy if the uterus is not salvageable. Otherwise, a uterine repair can be performed and can prolong the pregnancy if the fetus is still viable. Few interesting cases reported repair of mid-trimester uterine rupture and the pregnancy could be successfully stretched into the third trimester to deliver a healthy, good-weight newborn.[7] The case presented here needed hysterotomy to deliver the nonviable fetus and the rupture site was repaired using a double-layer closure technique with absorbable sutures.

Although no risk factor was established in this case, we did suspect that she might have underlying cornual or interstitial pregnancy which was not discovered during early pregnancy. Rare cases of this type of ectopic pregnancy have been reported to be able to last until advanced gestation before they rupture.[8] However, we did not have the information regarding her first-trimester scan to investigate further. Another suspicion was abdominal massage or uterine manipulation. A study reported a 9.52% of the risk of uterine rupture in 42 pregnant women presented as obstetrics emergencies associated with the traditional practice of abdominal massage during pregnancy.[9] As for our patient, as mentioned earlier, her complaint of pain was before the body massage and whether the massage worsened her condition remains a question.

The third suspicion would be potentially undiagnosed uterine anomaly specifically the Müllerian anomaly. At the point when the patient presented to us, she was already in her mid-trimester and limited information could be acquired by transabdominal ultrasound. During laparotomy, the uterus appeared normal: no bicornuate or didelphic uterus was noted. The diagnosis of Müllerian anomaly is better obtained in a non-gravid uterus via endo-vaginal sonography (EVS) and MRI. Further assessment is recommended to rule out this condition in this patient.

CONCLUSION

The rupture of the pregnant uterus is an obstetric catastrophe. Although spontaneous rupture of an unscarred uterus during pregnancy is a rare occurrence, it should always be considered in pregnant women presenting with acute abdomen, even in the absence of common risk factors. This case underlines the importance of awareness and immediate intervention in achieving a better prognosis.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

CONSENT

Consent has been obtained from patient for publication of this case report

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