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**Case Report**

# First trimester uterine rupture-a rare but catastrophic event: a case report

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## ABSTRACT

Uterine rupture is a rare but life threatening obstetrical emergency. It often occurs at term during trail of labour but rarely may occur during early pregnancy in first trimester. Here, we report a case of 28 years, G2P1+0L0 at 3 months of pregnancy with fundal rupture in shock with history of previous caesarean section. Ultrasound report revealed massive hemoperitoneum (2 litres) with dead fetus lying outside the uterine cavity. Emergency laparotomy was performed and uterine repair was done. The differential diagnosis for hemoperitoneum is early pregnancy includes bleeding corpus luteum, heterotropic pregnancy or ectopic pregnancy and molar pregnancy with secondary invasion. The possibility of uterine rupture should also be kept in mind. Prompt diagnosis and early management is important to reduce the morbidity and mortality.

**Keywords:** Uterine rupture, Early pregnancy, Obstetric emergency

## INTRODUCTION

Uterine rupture is a rare but life threatening obstetrical complication with increasing incidence due to increase in the number of caesarean section. It may be complete or partial, depending upon the separation of uterine layer. The incidence of uterine rupture is 1 in 4,800 deliveries in developed countries and the rupture of an unscarred uterus is as few as 1 in 10,000-15,000 birth.[1] The overall incidence of uterine rupture in women with previous cesarean section varies between 0.3 to 1 percent.[2] Uterine rupture has mostly been reported in third trimester of pregnancy during TOLAC (trail of labour after caesarean) but rarely spontaneous rupture has been noted during early pregnancy.

The first report of a spontaneous early pregnancy scar rupture was published in 1982 in Denmark.[3] Although early uterine rupture is associated with high maternal and fetal morbidity and mortality, there are few case reports of conservative management of the uterine defect with successful outcome.[4] The most relevant differential diagnosis is ectopic pregnancy, although bleeding from corpus luteum, miscarriage, heterotropic pregnancy and molar pregnancy with secondary invasion can be considered.[5]

## CASE REPORT

Here we report a case of a 28 years' female (gravida 2, para 1, live 0) with history of previous lower segment caesarean section 11 years back who presented in the emergency of GSVM Medical College, Kanpur in shock with history of 3 months amenorrhoea with acute onset of generalised abdominal pain for last 6 hours in April 2023. She was an unbooked patient with history of positive urine pregnancy test 1 week back. On admission, her general condition was low, pulse rate was 152 beats/min, blood pressure of 80/60 mm of Hg. Pallor was +++. On per abdomen examination, abdomen was diffusely tense and tender. On per speculum examination, no bleeding per vaginum was found. On per vaginal examination, size of the uterus could not be made out and cervical motion tenderness was present. Departmental ultrasound showed massive free fluid in the

pelvis with extension to the other compartments of the peritoneum with extensive internal echoes making the possibility of hemoperitoneum with fetus lying outside the uterine cavity. Uterine body and cervix was normally seen. However, the fundal region showed a defect and irregularity involving the myometrium which was highly suggestive of fundal uterine rupture. The patient was taken for emergency exploratory laparotomy under general anaesthesia. On laparotomy, approximately 2 litres of hemoperitoneum along with 500 cc of blood clots was removed. Fetus with placenta was seen lying in the peritoneal cavity. A transverse complete fundal rupture of approximately 6 cm extending from one cornua to the other was seen. Previous caesarean scar was intact. Uterus was closed in three layers with vicryl 1-0. Bilateral tubes and ovaries were normal. Saline washing was done with 1 lit of warm saline. Intraabdominal drain kept and abdomen was closed in layers. Patient was shifted to ICU for 24 hrs observation. During intraoperative and postoperative period, 4 units of PRBC and 4 units of FFP were transfused. Patient was discharged uneventfully on 7th post-operative day.

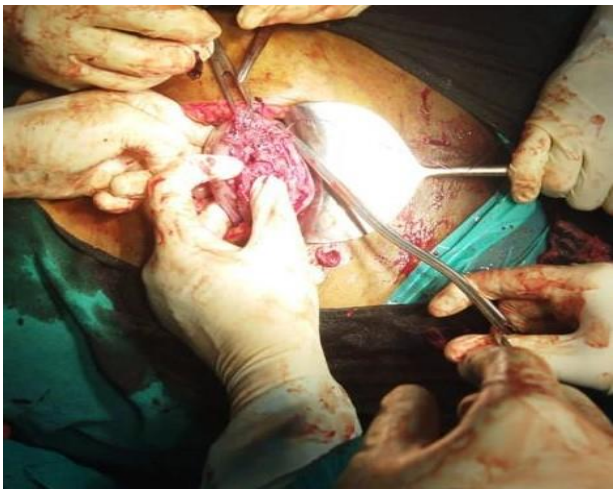

**Figure 1: Uterine rupture at fundus extending from one cornua to another.**

## DISCUSSION

Uterine rupture accounts for 14% of all haemorrahge related maternal mortality. Most often, uterine rupture occurs in third trimester of pregnancy during labour or mainly in a previous scarred uterus. Its occurance in early pregnancy is very rare even in the presence of predisposing risk factor but rarely it may also occur in patients with no presdisposing factor.[1,6] In such cases, fundus is the most common site of rupture during early pregnancy.

In term and near term pregnancies, most uterine ruptures occur at the site of previous cesarean section scar.[1,7]

In a case series by Vaezi et al, 8 cases of uterine rupture were reported in unscarred uterus at a gestational age below 20 weeks.[8] In all those cases, the fundus was the rupture site. Multiparity was suggested as the main predisposing factor in most cases.

Besides cesarean section, hysteroscopic resection of uterine septum, myomectomy, and cornual resection or iatrogenic uterine perforation were described as other risk factors for early uterine rupture. Other less common causes include multiparity, placenta increta, congenital anomalies, trauma and medical assisted pregnancy with embryo transfer.[9]

The differential diagnosis for hemoperitoneum is early pregnancy includes bleeding corpus luteum, heterotropic or ectopic pregnancy and molar pregnancy with secondary invasion.[10]

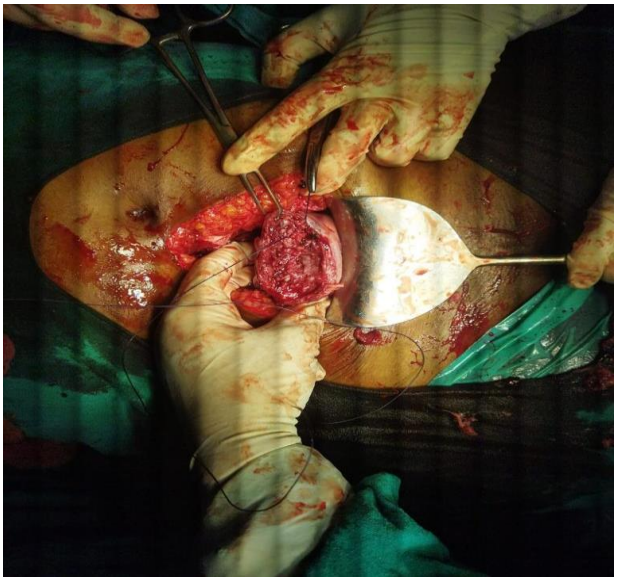

**Figure 2: Uterine rupture throughout the extent of fundus.**

In our case, the patient came in shock, had signs of hemoperitoneum and ultrasound findings were suggestive of uterine rupture. So, patient was immediately taken for exploratory laparotomy. Although the rupture was large, but with early diagnosis and prompt surgical intervention, repair was done and the patient could be saved. Although, the recurrence rate of uterine rupture is between 4% to 19% in subsequent pregnancies, but as the patient did not have any live issues and she wanted to preserve her fertility, so only uterine repair was done without tubal ligation.[11]

## CONCLUSION

Although fundal rupture in early pregnancy is a rare and potentially life threatening event, but with prompt surgical intervention, the morbidity and mortality can be reduced. So, patients with acute abdomen in early pregnancy, differential diagnosis of uterine rupture should always be kept in mind.

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