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Case Report

Spontaneous uterine rupture of an unscarred uterus in primigravida: case report

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ABSTRACT

A spontaneous rupture of the unscarred uterus in a primigravid patient is extremely rare and is associated with high perinatal and maternal morbidity and mortality. Study report a case of spontaneous rupture of an unscarred uterus at 36 weeks of gestation in a 22-years primigravid woman. Ultrasonography showed posterior low-lying placenta praevia with lower margin touching internal OS. Operative findings during emergent caesarean section revealed e/o 2 L of hemoperitoneum, uterus was bicornuate and pregnancy was in the right horn. There was fundal rupture of right horn measuring approximately 6-7 cm anteroposterior. Incision was taken on the lower part of right horn and placenta was seen on anterior wall. Baby delivered as breech after incising placenta. Postoperative recovery was uneventful. In conclusion, bicornuate uterus may be an independent risk factor for uterine rupture, which can occur in primigravid patients and at any gestation.

Keywords: Bicornuate, Hemostasis, Hemoperitoneum, Placenta praevia, Primigravid, Unscarred uterus

INTRODUCTION

Rupture of pregnant uterus is a very rare and one of the life threatening obstetrical emergencies.¹ It is commonly diagnosed with a history of previous scar on uterus, but rupture of the uterus in a primigravida with no high risk factors is extremely rare.² The incidence of ruptured uterus is 0.3 to 1.7% in women with scarred uterus, and 0.03 to 0.08% among women with unscarred uterus.³ A study from the US reported rupture of the unscarred uterus in 4.54 per 100,000 deliveries, or about 1 in 22,000 deliveries.⁴ The incidence of rupture in both scarred and unscarred uteri has increased in recent decades.⁵

The most common risk factor for ruptured uterus is previous caesarean section in scarred uterus and cephalo pelvic disproportion in unscarred uterus, with mortality rate ranging between 1 to 13% and perinatal mortality

between 74 to 94%.¹ Other risk factors include history of grand multiparity, oxytocin use, instrumental delivery, prostaglandin analogues, trauma, fetal malpresentation, congenital uterine anomaly, morbidly adherent placenta, uterine distension (polyhydramnios, multiple pregnancy), previous uterine surgery, connective tissue disorder.⁶

Here presenting a case of uterine rupture in a primigravid patient with an unscarred bicornuate uterus at term.

CASE REPORT

A 22-years-old, primigravid woman at 36 weeks of gestation came with abdominal pain. On examination uterus was relaxed, FHS were regular and os was closed. There was no bleeding or leaking pv. Ultrasonography showed posterior low-lying placenta praevia with lower margin touching internal os. Patient was kept under

observation for safe confinement. After 2 days, she started complaining of abdominal pain. On examination there was tenderness all over abdomen. FHS were 140 bpm. Patient had tachycardia but BP was maintained. Patient was shifted for emergency LSCS in view of placenta previa with abdominal pain. Intra-operatively we observed e/o 2L of hemoperitoneum, uterus was bicornuate and pregnancy was in the right horn. There was fundal rupture of right horn measuring approximately 6-7 cm anteroposterior, (Figure 1).

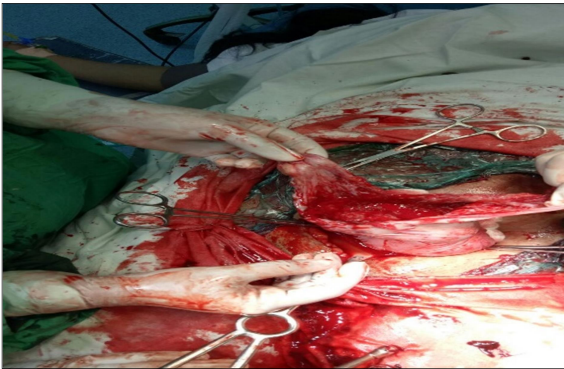


Figure 1: Fundal rupture of right horn of uterus.

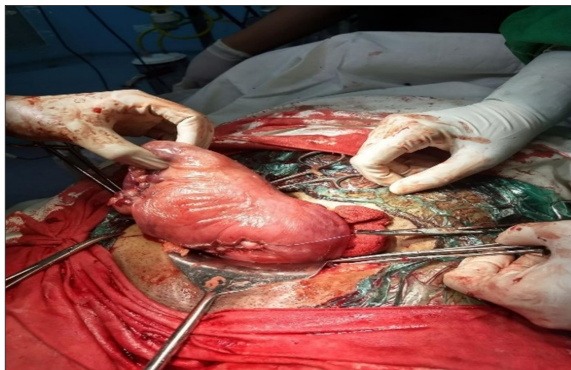


Figure 2: Ruptured bicornuate uterus after repair.

Incision was taken on the lower part of right horn and placenta was seen on anterior wall. Baby delivered as breech after incising placenta. Baby cried immediately after birth. Rupture was sutured. Hemostasis was achieved. Uterus was well contracted. 3 Packed cells and 6 FFPs were transfused. Post-operative recovery was uneventful.

Patient was counseled on the high risk of recurrence and was advised to avoid future pregnancies. After 2 weeks, CT Abdomen and pelvis was done. It showed bicornuate uterus with post-partum status in right horn Figure 2.

DISCUSSION

The rupture in primigravida in first or second trimester generally occurs in congenitally malformed uteri like

unicornuate or bicornuate uterus with or without rudimentary horn. Cases of spontaneous rupture of an unscarred bicornuate uterus have been reported, however, the majority involve an essentially ectopic pregnancy in a rudimentary horn that resulted in a spontaneous first or second trimester uterine rupture, although they have been reported up to 34 weeks.^{7,8} In this case it was bicornuate uterus, with rupture of right horn. Rupture was due to inability of malformed uterus to expand and axial torsion of bicornuate uterus around one of its horns which was held by congenital band. A mid trimester rupture generally occurs at fundus as against the medial wall rupture found in this case without any prior history of interference. This site of rupture might be due to maximum stress at medial wall of uterus due to torsion around congenital band. Authors are reporting this case as it is very rare occurrence and only few other cases of ruptured bicornuate uteri associated with pregnancy have been reported.^{9,10}

The role of ultrasound in the diagnosis of spontaneous uterine ruptures has been reviewed by a cohort study. In institutions with rapid access to sonography services, ultrasound may be considered as a tool in patients who are hemodynamically stable to support or establish the diagnosis. Importantly, the scan findings have to be interpreted and taken in context with clinical findings as well. Emergency laparotomy with extraction of the fetus and hemostasis is the cornerstone of treatment. Hemostasis may be achieved with either primary repair of the defect or hysterectomy if the bleeding could not be adequately controlled.¹¹ In this case, baby was delivered as breech after incising placenta. Rupture was sutured and hemostasis was achieved.

Higher rates of uterine rupture have been reported in patients with Mullerian duct abnormalities undergoing a trial of labor after cesarean delivery when compared with patients without Mullerian duct abnormalities, suggesting these anomalies may be an independent risk factor for uterine rupture. The reason for this increased risk is unclear, although a less developed lower uterine segment, as well as uneven strain on the lower uterine segment from the irregular shape, has been proposed.¹² In a review article, Nahum reported that congenital uterine anomalies affected approximately 1 in 200 women.¹³ In such cases, the walls of the abnormal uteri tend to become abnormally thin as pregnancies advances, and the thickness can be inconsistent over different aspects of the myometrium.¹² Additional wall thinning can occur as a result of uterine contractions. In this case, early diagnosis and prompt management helped to avoid maternal as well as fetal morbidity and mortality.

CONCLUSION

Bicornuate uterus may be an independent risk factor for uterine rupture, which can occur in primigravid patients and at any gestation.

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