

**UNUSUAL PRESENTATION OF UTERINE RUPTURE: A REPORT OF FIVE CASES**

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ABSTRACT

Uterine rupture is an uncommon and severe obstetrical event, associated with high perinatal and maternal morbidity and mortality. The uterine rupture amongst women with prior one cesarean section reported to be 0.22% to 0.5% in developed countries. However, for unscarred uteri it is one in 17,000 to 20,000 deliveries the WHO reports 0.006%. Pregnancy in the presence of uterine anomalies is unusual and rare in clinical practice, and very few cases have been reported. **First Case:** 23 years old mother of 32 weeks and previous two caesarean sections came in emergency with complaint of pain in abdomen. Uterine contour was maintained, diffuse tenderness all over abdomen and fetal heart sounds were present at time of examination. Emergency cesarean section was done and intraoperatively we found, there was a full thickness rent in myometrium of 5x 5 cm size near the right cornua. Baby was delivered by lower segment incision on uterus and the rent was closed by interrupted sutures. The newborn weighing 1200gm cried immediately at birth. **Second Case:** Primigravida with a unicornuate uterus and rupture involving the right rudimentary horn. Obstetric hysterectomy was performed. **Third Case:** Multigravida woman with failed attempt at medical termination of pregnancy with fundal uterine rupture which was repaired. **Fourth Case:** Multigravida women with 2 previous LSCS delivered preterm at home and presented with ruptured uterus with early DIC. OH was done. **Fifth Case:** Multigravida women with previous 3 LSCS with anomalous baby, Foleys induction was tried but failed. Silent rupture of uterus with fetus and placenta lying in sac in the abdomen was found. Uterus was repaired. **Conclusion:** A WHO systematic review to determine the prevalence of uterine rupture worldwide identified uterine rupture as a serious obstetric complication being more prevalent and with more serious consequences in developing countries than in developed countries.

KEYWORDS : Uterine rupture, APH, Acute abdomen in pregnancy

INTRODUCTION:

Uterine rupture is spontaneous tearing of the uterus that may result in a catastrophic outcome for the mother and fetus.

Rate of caesarean section (LSCS) is rising internationally, and previous LSCS are at an increased risk of ruptured uterus in future pregnancies. However, the data is limited in developing countries about the incidence, risk factors and outcomes of uterine rupture in women with previous LSCS.^[1]

Uterine rupture is a rare, life-threatening obstetrical complication. This is attributed to severe maternal and perinatal morbidity and mortality.^[2] In rural India, the maternal mortality rate may be as high as 30% due to uterine rupture.^[3]

Usually uterine anomalies are asymptomatic and therefore difficult to diagnose. Pregnancy with asymptomatic uterine anomalies is rarely detected prenatally. But a higher incidence of uterine rupture in Mullerian anomalies has been observed. Usually the clinical presentation of uterine rupture is acute abdomen, loss of fetal heart sounds and fetal parts could be felt per abdomen. Women with morbid obesity, the clinical findings will be difficult to elicit. Here we report of five cases of atypical presentation of uterine rupture.^[3]

Maternal mortality due to uterine rupture is 0–1% in developed countries, whereas it is as high as 5–10% in developing countries.^[4] According to WHO, incidence of rupture uterus is 0.006%.^[2] Incidence of rupture is approximately 1 in 17,000–20,000 deliveries in an unscarred uterus whereas the incidence is 5 per 10,000 deliveries for a scarred uterus.^[4]

Presenting five cases of uterine rupture managed at our institute.

CASE 1

23 years old female having eight months of amenorrhea reported in emergency with sudden onset of pain in abdomen since one day. She had only one living child and another was a neonatal death. She was registered in our hospital during six months of amenorrhea.

Past obstetrics history was suggestive of one full term caesarean delivery and one preterm caesarean delivery. General examination revealed that she was well oriented and afebrile. She was moderately pale (Hb-9.5 g %) and no icterus seen. Her pulse rate was 90 beats/min and blood pressure of 100/80 mmHg. On per abdomen examination, the fundal height was of 32-34 weeks, and FHS was 140 bpm regular. However, there was diffuse pain and tenderness all over the abdomen. There was no bleeding through cervix on per speculum examination and bishop score was poor on per vaginal examination. Due to severe abdominal pain and tenderness, we took her for emergency cesarean section. There was hemoperitoneum seen. A single live baby (wt.1200 g) delivered by breech extraction through transverse incision on lower uterine segment. The newborn cried immediately after birth. After exteriorization of the uterus, to our surprise there was a full thickness rent in myometrium of 5x 5 cm in size medial to the right Cornue (Fig. 1(A)). The hemoperitoneum of one liter was present and drained. Uterine incision was closed. The rent was closed with intermittent suturing technique (Fig. 1B). There was atonic postpartum hemorrhage, managed by uterotonics and Hayman compression sutures. Approximately 2 liters of blood loss into operatively calculated. As her INR was 1.8, blood components were transfused accordingly. The procedure was completed uneventfully and patient was shifted to AICU for observation. Mother and baby discharged healthy.

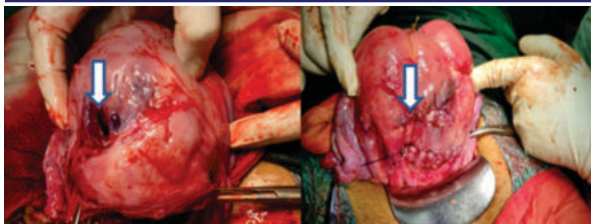


Fig. 1 (A) Arrow shows the rent

Fig. 1 (B) Arrow shows sutured rent

CASE 2

A 24-year primigravida with five months of amenorrhea reported obstetric triage with sudden onset of pain in abdomen and vomiting since morning. She was registered at our hospital and followed up for routine antenatal check-up and investigations. No history of intake of MTP pills or trauma. On general examination, pallor present, pulse rate of 100/min, and blood pressure of 90/60 mmHg. Uterine height corresponding to 20 to 22 weeks of gestation deviated to left side and fetal heart sounds could not be located by portable doppler. On Palpation, tenderness, guarding, and rigidity was noticed over the entire abdomen. Emergency obstetric ultrasound revealed intrauterine pregnancy of 20 weeks of gestation with moderate fluid collection in POD. Emergency laparotomy was performed for suspected rupture uterus. Intraoperative; there was about 2500 ml of hemoperitoneum. The dead fetus in intact amniotic sac and placenta were seen in the abdomen. The gestational products and placenta were removed with 300 g fetus. Dense adhesions were present between bowel and fundus. It was Unicornuate uterus with rupture of rudimentary and noncommunicating right horn [Fig 2]. Since the tissue was friable, therefore, obstetric hysterectomy performed. Blood and Blood components transfused according to protocol during perioperative period. Patient recovered well postoperatively.

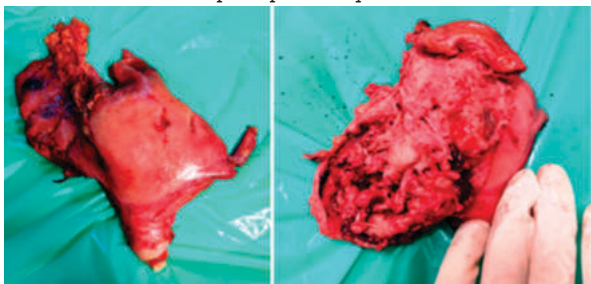


Fig. 2 Rupture of a rudimentary and noncommunicating right horn of uterus

CASE 3

31-year-old multipara with three living children (G4P3L3) reported in emergency with acute abdomen, nausea, and bleeding PV since evening. She has history of four months of amenorrhea and three normal deliveries. She was not registered anywhere during this pregnancy. She went for termination of pregnancy to local doctor, who gave her misoprostol 200 mcg PO. On admission, she was severely pale (Hb: 6.3g%) conscious, disoriented. Her pulse rate was 116/min, and BP of 96/58 mmHg. On examination, the abdomen was tender with guarding and rigidity. Therefore, uterus couldn't be appreciated. No active Bleeding per vaginam was seen during P/S examination, on P/V examination, cervical OS was closed. Urgent Ultrasound showed dead fetus with moderate free fluid in POD. Paracentesis revealed hemoperitoneum. Therefore, she was posted for emergency exploratory laparotomy for suspected uterine rupture. Intraoperatively, the fetus and placenta were in the peritoneal cavity (Fig.3B) with hemoperitoneum, of 1200 ml blood and clots; Placenta was seen partially popping from the site of rupture. Uterine rupture was at the side of Fundus (Fig. 3 A). Subtotal hysterectomy with bilateral salpingectomy was done. Blood and blood component were given accordingly. Post-operative recovery was uneventful.

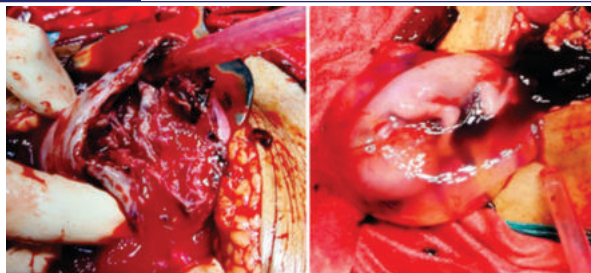


Fig. 3 (A) Side of rupture uterus

Fig. 3 (B) Fetus in peritoneal cavity

CASE 4

32-year-old patient, G3P2I2 reported in emergency after vaginally delivering a fetus at home.

She was complaining of per vagina bleeding. Her past obstetric history was suggestive of previous 2 full term LSCS. She was at 20 weeks of gestation and went into labor spontaneously and delivered the fetus at home. She was registered at a primary health center where she was following up regularly. There was no history of any medications used. On examination, she was pale, her pulse rate was 102/min, and blood pressure was 100/54 mm of Hg. No edema or icterus. On per abdomen examination, Uterus was well contracted, No other significant finding/S examination: bleeding with clots in vagina. PV bleeding was not responsive to misoprostol, oxytocin, carboprost, methergin and tranexamic acid. Tone of the uterus was good. Culdocentesis was done s/o hem peritoneum.

Emergency exploratory laparotomy was done i/v/o suspected rupture of uterus.

Intraoperative hem peritoneum was seen, ruptured uterus was confirmed. Lower segment of the uterus was damaged beyond repair with massive hemorrhage, so obstetric hysterectomy was done (Fig 4). Postoperatively, patient started responding to intensive care management. Patient was discharged on Day 10 post OH.

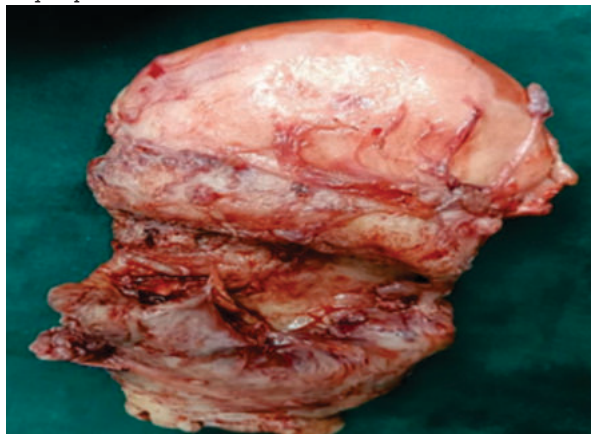


Fig. 4 - Specimen of Uterus

CASE 5

36 year old patient, G4P2L2D1, reported in OPD with USG s/o anomalous baby at 19 weeks of gestation. She wanted termination of the pregnancy as anomaly was incompatible with life. Her past obstetric history was three previous LSCS, one died issue due to congenital anomalies. Induction of labor was tried with Foley's catheter but failed. On examination, general condition was Fair, Pulse was 100/min, BP was 110/68 mm hg, Pallor was present and there was no edema or icterus. Per abdomen examination fetal parts felt prominently, uterine contour was not appreciated. On per speculum (P/S) examination, minimal bleeding was seen. On Per vaginal examination, minimal bleeding was present; multiple fetal

part felt and exact size of uterus could not make out due to pain all over abdomen. Emergency exploration was planned i/v/o ruptured uterus. Intraoperative, silent rupture of the uterus was diagnosed with fetus with placenta lying en sac inside the abdomen (Fig. 5 A&B). After delivery of the fetus, uterus was examined and ruptured uterus was confirmed. Uterus repaired (Fig. 5 C) and procedure was uneventful. Patient was discharged on fifth day post exploration.

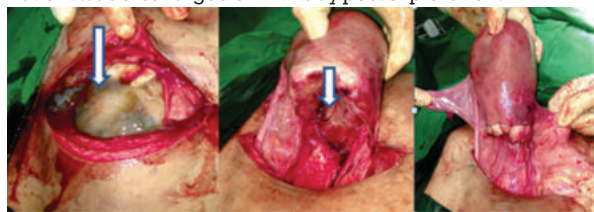


Fig. 5 (A) Rupture of the uterus with fetus & placenta lying en sac inside the abdomen Fig. 5 (B) Arrow shows ruptured site Fig. 5(C) Sutured uterus

DISCUSSION

Unscarred uterine rupture early in pregnancy is a rare event, therefore, it requires high index of suspicion and expertise is required to make a clinical diagnosis. However they may be associated with catastrophic hemorrhage and are clinically challenging, especially during early pregnancy.^[5]

In certain cases there could be confusing symptoms like nausea, vomiting and pain in epigastrium. Their patient reported with spontaneously ruptured uterus in the early pregnancy when no high risk factors were associated. In our case series three patients reported with same symptoms. Rupture of uterus earliest reported at 12 weeks in Unicornuate and 24 weeks in unscarred uterus. This was the spontaneous event observed in the early pregnancy.^[6]

In our series, case no. 2 had Unicornuate uterus and the functional right sided, non-communicating horn was ruptured [Fig 2]. Uterine anomalies are usually detected in patients with infertility or repeated miscarriages. Incidence of pregnancy in a rudimentary uterine horn is 1:40, 000. The rudimentary horn of a unicornuate uterus with communicating horn has the risk of pregnancy developing in the horn, which is at risk of rupture.^[7]

Uterine rupture in such cases occurs early; usually second trimester of pregnancy.^[5]

Ultrasound by an expert sonologist can be a crucial tool in about 90% cases. However, MRI has the almost 100% detection rate for uterine anomalies and hence considered the best modern technique. But this imaging service may not be available in public health services in developing and underdeveloped countries at large. Lovelace *et al.* reported such a case of ruptured communicating horn of a unicornuate uterus. It has 50–70% rate of rupture in the second trimester. They usually don't present with per vaginal bleeding, even though there may be a massive hemorrhage on the site of rupture.^[8] Our case also presented with massive rupture site hemorrhage with no per vaginal bleeding. Intraoperative findings were consistent with spontaneous rupture of rudimentary horn in the second trimester of pregnancy.^[8]

An unscarred uterine rupture may be associated with anomalies in uterus, placenta or fetus (macrosomic-hydrocephalic fetus). Other high risk factors include grand multipara, obstructed labor and trauma. Excessive use of drugs such as oxytocin, prostaglandins or misoprostol may also be associated factors.^[6]

In our series, case no. 3 the potential risk factors were multiparity and use of misoprostol. Sun *et al.* reported a similar case where no risk factor was associated except

multiparity.^[6] On literature review, it was observed only two-third cases had identifying risk factors. The rate of rupture of the fundus is 50% whereas of the cornua is 33%.^[6] All our cases reported rupture in second trimester, except one and uterus was salvaged in only 60% of cases. 4 out of 5 fetuses couldn't survive due to extreme prematurity. One fetus survived where the rupture occurred at 34 weeks of gestation.

The severity of outcome depends on the site of the rupture and the time interval between operative intervention. Rupture of the uterus on the lateral wall has a worse outcome; possibly due to the presence of the uterine artery and its branches near the lateral uterine wall. Best maternal and fetal outcome depends on the instant diagnosis, operative intervention and resuscitation.^[9] In our first case, lateral rupture was noted, but with quick diagnosis and early surgical intervention, both mother and baby survived.

Maternal mortality rate is higher in unscarred uterus, i.e., 10% when compared to scarred uterus, i.e., 0.1%; whereas neonatal mortality rate is 6% to 25% in cases of ruptured uterus.^[10] There was no maternal death in our reported cases, however, two cases reported maternal morbidity.

In our first case, she was diagnosed on time and saved both mother & baby. Other four cases, the fetus was not salvageable, but we were able to save all mothers. An interdisciplinary team is required for optimum results and least maternal and fetal morbidity.

CONCLUSION

Ruptured uterus is one of the most catastrophic complications in obstetric care. The risk is likely to increase for multiparous women, women with uterine anomalies and scarred uterus. Emphasizing the importance of counseling, early prediction and prevention wherever possible.

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