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Case Report

A case report of rupture uterus in an unscarred uterus

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ABSTRACT

Uterine rupture in an unscarred uterus is a rare occurrence. It is defined as A complete disruption of all layers of the uterine wall (endometrium, myometrium, and serosa), often associated with extrusion of the fetus, placenta, or both into the peritoneal cavity. A 26- year-old, P2L2 at 38 weeks + 3 days of gestation with an unscarred uterus who was induced with misoprostol and oxytocin and delivered from a local hospital was referred to this tertiary care centre with provisional diagnosis of severe postpartum haemorrhage. She was diagnosed to have posterior uterine wall rupture with huge haematoma extending to cervix, broad ligament and lower uterine segment. Active management with emergency laparotomy and obstetric hysterectomy with bilateral internal iliac artery ligation led to complete recovery of the mother with uneventful 1 month follow up. The report highlights the need to consider uterine rupture as differential diagnosis even in an unscarred uterus in case of postpartum haemorrhage and urgent referral to higher centre for timely management. Early diagnosis and immediate surgical intervention may significantly improve the prognosis.

Keywords: Uterine rupture, Unscarred uterus, Postpartum haemorrhage, Misoprostol, Multiparity

INTRODUCTION

Uterine rupture is a catastrophic intrapartum or postpartum complication that carries an almost universally fatal outcome for the fetus (if intrapartum) and poses significant, potentially life-threatening risks to the mother. The condition is encountered more frequently in low-resource settings, likely due to the higher prevalence of grand multiparity, prolonged obstructed labour, contracted pelvis, and limited access to timely emergency obstetric care.

Spontaneous rupture of an unscarred gravid uterus is exceedingly rare, with an estimated incidence of approximately 1 in 17,000–20,000 pregnancies.[1] Posterior uterine rupture is even more unusual, with only a small number of cases documented in the existing literature.

This report of a rare posterior uterine rupture in an unscarred uterus underscores the diverse clinical presentations of uterine rupture and emphasizes the critical importance of prompt surgical intervention to mitigate maternal morbidity and mortality.

CASE REPORT

A 26- year-old gravida 2 with 1 live birth 5 years ago as normal delivery at 38 weeks +3 days gestational age with no known antenatal comorbidities delivered a live term un-asphyxiated female baby of birth weight 2.9 kg from nearby hospital and was referred from there in view of severe postpartum haemorrhage.

There was no history of intrauterine contraceptive device (IUCD) use, abortion, D and C or any other surgery on the uterus. For the present pregnancy, she had taken regular antenatal visits with no known antenatal complications. Regular intake of folic acid, iron and calcium supplements.

She was induced with 2 doses of oral misoprostol 25 microgram and labor augmented with oxytocin. Following delivery, she developed severe PPH along with loss of

consciousness. Injection oxytocin 25 U IV, 10 U IM and 5 U IV bolus, injection methergine 0.2 mg IM 3 doses, injection Prostodin 250 microgram IM given followed by Panicker's suction cannula insertion. 1st unit PRBC transfusion initiated. Total of 5 units of IV fluids were transfused. Around 340 ml of blood loss was noted from Panicker's cannula following which the bleeding stopped.

Hence it was removed after 2 hours of insertion. She developed hypotension. Cardiotonics were initiated. Higher centre was alerted from the hospital that shock index >1 hence they were ready with blood and blood products for massive transfusion protocol with alert to OT, anesthetist, labour room and critical care team.

When received in the tertiary care centre, she was pale and haemodynamically unstable GCS-E4V5M6, altered sensorium with heart rate 168 per minute and non-recordable blood pressure. Per abdominal examination revealed guarding and rigidity and uterine fundus was not palpable and was relaxed. Per-vaginal examination, there was heavy bleeding with clots. 2nd unit PRBC transfusion initiated. Inj. noradrenaline 10 ml/min started. ABG done which showed metabolic acidosis. Sodium bicarbonate injection was given. Injection Tranexamic acid 1 g in 100 ml normal saline (NS) and injection Oxytocin 20 U in 1-pint Pinger lactate (RL) started. She was started on Inj. piptaz and third pint PRBC transfusion started. All relevant blood investigations were sent.

Emergency bedside USG done which showed hematoma in the posterior aspect of uterus extending to lower uterine segment and to broad ligament with moderate haemoperitoneum with features suggestive of posterior uterine rupture (Figures 1 and 2). She was taken up for emergency laparotomy and proceed in view of hemodynamic instability. Active resuscitation done. On OT table she was intubated and initiated on mechanical ventilatory support.

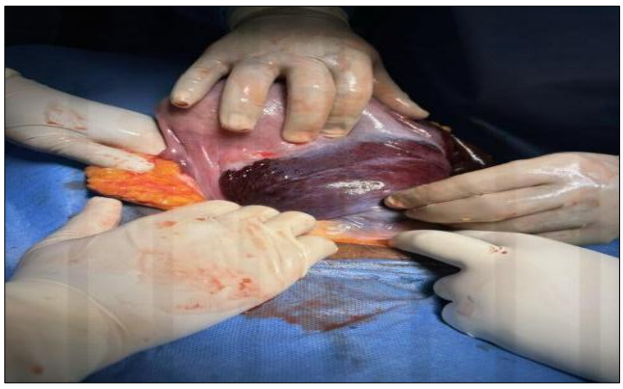

Figure 1: Hematoma in anterior wall of lower uterine segment.

Intra operatively, uterus was enlarged to 24 weeks size with hematoma extending from posterior uterine segment, anterior to bladder and to left retroperitoneum. Left ovary and tube was gangrenous. Bladder wall was oedematous. About 1.5 litres of clots were removed. Proceeded with hematoma evacuation. Torrential bleeding with rent noted in posterior left lower uterine wall hence proceeded to emergency obstetric hysterectomy with left salpingo-oopherectomy + bilateral internal iliac artery ligation (Figure 3). Diffuse retroperitoneal oozing was controlled with hemostatic sutures and surgicel. Hemostasis was achieved, peritoneal wash given, and abdomen closed in layers with an intra peritoneal drain. Blood pressure improved to 100/60 mm Hg with injection Adrenaline during surgery.

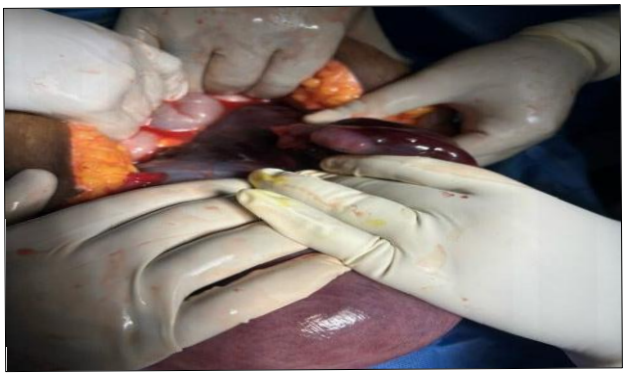

Figure 2: Hematoma in posterior wall of lower uterine segment.

Figure 3: Rent noted in posterior left uterine wall.

Blood investigations revealed Hb of 7g/dl which further deteriorated to 6 g/dl (as against Hb value of 11.8 g/dl on prior antenatal visit, 3 days earlier). Her liver and renal function tests and coagulation profile were within normal limits.

Three units of PRBC and FFP and two unit's platelets were transfused in the intra and immediate post-operative period.

Haemoglobin dropped to 6 g/dl in the immediate postoperative period following which 2 more units of PRBC transfusion was given. Haemoglobin raised to 8.3 g/dl on third postoperative day. Serial monitoring of haemoglobin and other lab parameters done. She was

managed with broad spectrum antibiotics. She was extubated on second postoperative day. Intraperitoneal drain was removed on 4th postoperative day.

Rest of the post-operative period was uneventful (Figure 4). Antibiotics were stepped down and changed to oral antibiotics. She started tolerating oral feeds. Bowel and bladder movements were regular. She was discharged on the eighth post operative day with appropriate advice and was regularly followed up for 1 month. The follow up period was uneventful.

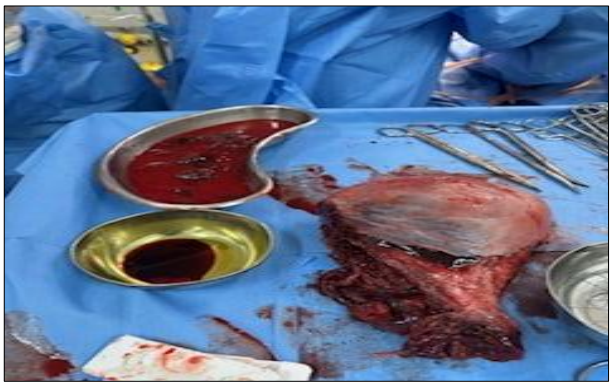

Figure 4: Postoperative specimen of uterus along with clots.

DISCUSSION

Spontaneous uterine rupture is a rare and life-threatening complication during pregnancy. While it is more commonly associated with a previously scarred uterus, particularly after a previous caesarean section or uterine surgeries like myomectomy, spontaneous rupture of an unscarred uterus is exceedingly uncommon.

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.[2] Thus uterine rupture is a rare but serious obstetric complication. The overall incidence of uterine rupture is 0.05% of total deliveries.[3]

Common sites of rupture include the posterior uterine wall, the anterior wall, the lateral aspect of the uterus, the fundus and the lower uterine segment.[3] 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.[4]

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.[4]

The incidence of rupture of uterus also depends on level of medical care and presence of previous surgeries on uterus. Approximately 90% of these cases occur in women with a uterine scar, most commonly from a previous caesarean section. The incidence of spontaneous rupture in a previously intact uterus is approximately 1 in 15,000.[5] Advanced maternal age, grand multiparity, macrosomia, multiple gestation, prolonged labor, uterine anomalies, abnormal placentation, trauma, obstetric maneuvers (e.g. internal version and breech extraction, instrumental delivery), labour induction and augmentation are the other risk factors for uterine rupture.[6] Multiparty was the only possible risk factor in this patient.

In India, rupture of an unscarred uterus occurs rarely with an estimated occurrence of 1 in 17,000–20,000 deliveries. Clinical signs of uterine rupture during pregnancy are nonspecific, and very variable. It is not always easy to distinguish uterine rupture from other abdominal emergencies like appendicitis, pancreatitis and cholecystitis.[7]

Early surgical intervention is essential for the successful treatment of uterine rupture. The therapeutic management is a total or subtotal hysterectomy.[8] Repair may be performed as to preserve reproductive function in nulliparous women though they have been reported to have a recurrence risk of 4-19% in a subsequent pregnancy.

This case highlights the importance of maintaining a high index of suspicion for uterine rupture even in woman with an unscarred uterus, particularly in the setting of labour induction, postpartum haemorrhage or unexplained maternal shock. Strict vigilance, early identification of high-risk cases, judicious use of oxytocics, early suspicion in case of non-progress of labor or postpartum hemorrhage and urgent referral to higher centre can reduce maternal and foetal morbidity and mortality significantly.[9] Early detection, timely referral to a well-equipped tertiary care facility and appropriate surgical intervention are essential to improve maternal outcome and prognosis.

CONCLUSION

Uterine rupture of an unscarred uterus, though rare, is a potentially catastrophic obstetric emergency that can present with atypical and misleading clinical features, especially in the postpartum period. The absence of a uterine scar often leads to delayed diagnosis, increasing the risk of severe maternal morbidity and mortality. This case underscores that uterine rupture should always be considered as a differential diagnosis in cases of severe postpartum haemorrhage or unexplained maternal shock, even in women without prior uterine surgery.

Health care workers including primary health care workers should be trained in diagnosing such cases and well equipped to provide preliminary resuscitation and timely referral to higher centre. Overall socioeconomic development with special emphasis on awareness of public

in general and mothers in particular and efficient health care delivery system in underdeveloped areas remain long term goals.

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