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Case Report

Pre-term spontaneous uterine rupture in an unscarred uterus: a case report

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ABSTRACT

Uterine rupture is a life-threatening obstetrical emergency that needs prompt diagnosis and management. One of its leading risk factors is previous uterine surgical intervention like c-section or myomectomy. Most of these cases have predisposing factors, like trial of labour, prolonged neglected labour and injudicious augmentation/induction of labour. The risk of uterine rupture, in a pregnant unscarred uterus primarily without labour, is extremely rare. We present a case of spontaneous uterine rupture at 29+6 weeks. The patient was multigravida and presented with PPROM, followed by moderate APH and sudden onset of abdominal pain. There was no history of previous uterine surgery or any evidence of onset of labour. Her observations were normal. The CTG was showing deceleration. Category 1 c-section was done in view of placental abruption. Intraoperatively, midline rupture was diagnosed. The baby was born with good APGAR score. The postoperative recovery was smooth, and the patient was discharged after counselling on subsequent pregnancy. Obstetrician should keep a high index of suspicion of uterine rupture, in women with APH and abdominal tenderness, alongside the differential diagnosis of placental abruption.

Keywords: Uterine rupture, Unscarred uterus, Trial of labour, APGAR score

INTRODUCTION

The rupture of a pregnant uterus, like any internal organ, can be life-threatening. Both mother and fetus are at risk of serious morbidity and mortality. Most uterine ruptures occur in patients who have had a previous trans-myometrial surgical incision, typically for cesarean birth and trial of labour after c-section (TOLAC).[1] Other risk factors, which are even more rare and less well characterized, include a shortened inter-delivery interval, gestational age greater than 40 weeks, and a birth weight greater than 4000 gm.[2]

Mutiparity is considered a significant risk factor for uterine rupture in unscarred uterus if the patient is in labour or has induction/augmentation of labour. This is a highly unusual case, with spontaneous pre-labour uterine rupture in a pre-term pregnancy without the history of trial of labour.

CASE REPORT

The patient was 33 years of age, G6P3+3, with previous history of normal vaginal deliveries at term. She had previous spontaneous miscarriages with no history of surgical termination. She was booked at 9 weeks of pregnancy. Her first trimester was uneventful except for one admission due to hyperemesis gravidarum for which she was treated and discharged the next day. Her dating scan was normal showing single viable intrauterine pregnancy.

She attended hospital at 17+4 weeks with PV bleeding and passage of clots at home. She was examined and no active bleeding was seen. Cervical OS was closed. She was reassured after confirming fetal viability on scan. She attended again at 18 weeks, with painless vaginal bleeding soaking one pad. At the time of examination, the bleeding had already stopped. She was booked for USS the next

day, showing viable fetus; however, placenta was reported to be in posterior lower segment. Her anomaly scan at 21 weeks showed 30×13×12 mm clot / hematoma in-front of the cervix. The fetal anatomy and uterine artery dopplers were unremarkable. The placenta was still lying posteriorly in lower segment.

She had another attendance at 22+ weeks with painless APH. The speculum examination showed a small clot at the cervical OS which was removed. No further bleeding was noted. She was admitted for monitoring. Her HB and observations were normal. She was discharged after 24 hours, as no bleeding was observed during her stay.

The follow-up scan at 28 weeks showed that the placenta was now lying posteriorly in the upper segment. Also, there was no evidence of a clot/ hematoma anterior at the cervix, as was previously visualized. The EFW was at 16th centile and dopplers and liqour volumes were normal. There were no further episodes of APH, and the patient was happy with the fetal movements.

She presented with PPROM at 29+6 weeks. On speculum examination, OS was closed, and she was draining clear liqour. The CTG done at that time showed unprovoked decelerations, with reduced variability. The baseline was 150 bpm. The plan was made to repeat CTG and to give IV antibiotics. After 2 hours of review, it was noted that the liqour was blood stained. Her vitals were unremarkable (BP=126/74, pulse=106, RR 18, temp=Afebrile). She was reporting mild abdominal pain. Her bedside scan was done which showed breech presentation, posterior high placenta and absent liqour. No evidence of abdominal tenderness was found during this time. A plan was made to shift her to labour ward for close monitoring. While she was awaiting transfer, she started bleeding with clots and was reporting abdominal pain which was now moderate in intensity. There was loss of the presenting part on vaginal examination. Category 1 c section was done in view of placental abruption. Intraoperatively, hemoperitoneum was noted with some fetal parts extruding from uterus in the pelvic cavity. Uterine rupture was confirmed which was seen as a vertical tear of about 4 cm in length, extending from the fundus to the lower segment. The lower segment was noted to be thick and not formed. The transverse incision was given to deliver the baby completely. A live baby was born with a good APGAR score. Placenta came out spontaneously. The uterus was closed in double layer and rest of the caesarean section was completed routinely. The total blood loss was 1.3 litres. The patient had an uneventful postoperative recovery.

DISCUSSION

Rupture of the unscarred pregnant uterus is a rare event, estimated to occur in 1 in 5,700 to 1 in 50,000 pregnancies.[3] In a series of 75 ruptures (complete disruption of the uterine muscle and serosa) in unscarred uteruses (no previous cesarean or other uterine surgery), the incidence was 0.2 ruptures per 10, 000 births, 18 of the 75 ruptures occurred pre-term and 6 of the 75 ruptures occurred pre-labor (one was due to a ruptured horn of a bicornuate uterus at 18 weeks, the other five had no reported risk factors).[4]

As uterine rupture is a rare complication, few large studies have been done to understand its risk factors. However, one study examining women who gave birth in Norway from 1967 to 2008, sought to examine specific risk factors for uterine rupture. The researchers discovered that, among women with an unscarred uterus, those aged over 35 years, having a parity of at least 3, being born in a non-Western country, and having a previous surgical termination put them at a particularly high risk for rupture.[4]

Our patient had no previous uterine surgical procedures, however, was multigravida which could have increased her risk of uterine rupture. The APH, with blood stained liqour, led to the decision to proceed immediately to the operating room. At this time, placental abruption was originally thought to be the cause of her symptoms. There was a low suspicion of uterine rupture, and it was diagnosed only during c-section. The rarity of this case explains why clinicians keep a very low index of suspicion for uterine rupture in pre-labor pre-term unscarred uterus and almost always exclude this from diagnosis. Most ruptures occur in the lower uterine segment; however, this rupture involved the upper segment, which is very thick.[5] As she was at 29 weeks, and not in labour so her lower segment was also not formed and was thick as well. This case was analyzed by the risk team, and they confirmed that there were no uterine contractions during this period. The patient's obstetrical and surgical history was reviewed, and no additional risk factors regarding uterine rupture were identified.

Rupture of the unscarred uterus is rare, and the risk of maternal and neonatal serious morbidity is higher than that after rupture of the scarred uterus.[2] The key to management is diagnosing at the earliest followed by immediate surgery. It is prudent to note that outcomes of subsequent pregnancies can be favorable and typically involve planned late pre-term or early term cesarean birth, to avoid recurrence.[2] It is noteworthy that in women with unscarred uterus and who are not in labour, uterine rupture is sometimes unavoidable and unpredictable but early diagnosis and immediate intervention can make a difference in the management.

CONCLUSION

Muti-parity may be the independent risk factor for uterine rupture which can occur without previous c-sections or other uterine surgeries. It is rare without the woman being in labour, however, it is imperative for the obstetrician to keep a high index of suspicion of uterine rupture in a woman with APH and abdominal tenderness, alongside the differential diagnoses of placental abruption.

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