

PRETERM UNSCARRED UTERUS RUPTURE IN A MULTIPARA: A CASE REPORT

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ABSTRACT

Background: Uterine rupture is a life-threatening, infrequent obstetric event that contributes to peripartum foetal-maternal morbidity and mortality worldwide. Previous caesarean delivery, multiparity, abnormal presentation, dystocia occurring intrapartum, induction and augmentation of labour and congenital uterine abnormalities are considered risk factors.

Case: This is a case of a 28-year old, gravida 5 para 4 at 33 weeks gestation admitted with a one-day history of lower abdominal pain and spontaneous per-vaginal bleeding, with no history of trauma. A complete rupture of the uterus with a macerated foetus was found intraoperative. The overall presentation was non-specific and attenuated.

Conclusion: Due to diagnostic challenges brought about by non-specific attenuated presentation, a high index of suspicion is required in multiparous women, including during the antepartum period, to diagnose the condition promptly and institute timely appropriate care.

INTRODUCTION

Uterine rupture is defined as a full thickness break in the continuity of the uterine wall. It is a life-threatening, infrequent obstetric event that contributes to peripartum foetal-maternal morbidity and mortality worldwide through haemorrhage which is the leading cause of maternal mortality especially in resource-limited settings (1) and foetal anoxia. Studies have enlisted various predisposing factors which include previous caesarean delivery (2,3) multi-parity (2–5), abnormal presentation (4,6,7), dystocia occurring intrapartum (3,7), induction and augmentation of labour (4,5), assisted delivery (4), use of epidural anaesthesia (5) and congenital uterine abnormalities (8). A systematic review found a prevalence between 0.006-0.92%, 0.1-19% and 0.21-25% in developed, less developed and least developed countries respectively. (9) Most of the ruptures in developed countries were attributed to previously caesarian section-scarred uterus while less and least developed countries, 75% of the cases were associated with unscarred uterus. This was attributed to poor access to reproductive health services and proper guidelines

for reproductive care service provision. A multi-country survey assessing maternal complications and perinatal mortality a found prevalence of 0.1% in both perinatal mortality and liveborn neonates' groups. (10)

Case Presentation

A 28-year old, Gravida 5 Para 4, at 33 weeks gestation by last normal menstrual period, was admitted at Kenyatta National Hospital, with a one-day history of lower abdominal pain relieved by analgesia, with minimal spontaneous dark per-vaginal bleeding. No history of trauma was reported. She spontaneously delivered neonates of unknown weight at home in 2006, 2009, 2011 and 2013. She had no antenatal care clinic visit, and had unremarkable medical and surgical histories.

On clinical examination, she was sick-looking, emaciated, with moderate pallor. Her vital signs on admission were normal. This was an improvement after having blood transfusion on her way from the referring facility where she had a blood pressure of 87/56 mmHg, pulse rate of 147bpm, respiratory rate

of 29 bpm and oxygen saturation of 99%. Foetal heart tones were absent. Speculum exam showed pooling of blood clots in the posterior vaginal fornix, parous cervical os with no active bleeding. A prior speculum exam done at the referring facility had shown dark blood oozing from the cervical os.

Laboratory tests showed: white blood cells 15,380/mm³ (3,000-13,000/mm³) with neutrophils 13,650/mm³ (1,500-7000/mm³); platelets 115,000/mm³ (50,000-400,000/mm³); haemoglobin 5.0g/dl (12-15g/dl), MCV 76.6fl (86-110fl), MCHC 33.8g/dl (31-37g/dl) and RBC 1.93 million/mm³ (2.5-5.5 million/mm³). E.S.R 50mm/hour (0-20mm/hour) while I.N.R was 0.98 (0.9-1.2). Her renal and liver functions were normal.

An obstetric scan revealed a single right lower abdominal quadrant extrauterine foetus in transverse lie, with no foetal cardiac activity. Spalding sign and moderate foetal abdominal ascites were present. There was reduced amniotic fluid for gestation, extrauterine placenta and anterior uterine myometrium appeared disrupted. The gestational maturity by femur length corresponded to 32 weeks, 6 days.

A diagnosis of antepartum haemorrhage, severe anaemia with non-viable abdominal pregnancy was made. Patient was stabilized for surgery by receiving 5 units of whole blood, analgesia and antibiotics and taken in for laparotomy. Intraoperative, an intact amniotic sac with a 2,000g macerated male foetus was found lying on the anterior uterine wall, upon access into the peritoneal cavity through an extended midline incision (Panel A).

Foul-smelling liquor was drained and foetus delivered. A shrunken foul-smelling friable placenta found at the left lumbar area adherent to the left abdominal wall and bowel (Panel B). There was haematoma formation at the site of uterine rupture (Panel C), both outer and inner aspects of the uterus (Panels D and E). The lower uterus was extensively ruptured extending to the left cervical region (Panel E) with friable necrotic areas necessitating a subtotal hysterectomy.

The necrotic shrunken placenta was bluntly dissected off the interior abdominal wall and off the large bowel surface. Abdominal toileting was done with warm normal saline followed by metronidazole solution,

and a temporary abdominal drain fixed. Abdomen was then successfully closed in layers. Post-operative period was uneventful and was discharged on the 11th post-operative day for follow-up at her local postnatal clinic.

Discussion

Uterine rupture diagnosis can be challenging due to non-specific presentation that can result in delays in emergency obstetrics, the delay in receiving prompt and appropriate care. (11)

Our patient's history of lower abdominal pain that was not labour-like, and per vaginal bleeding are uncommon occurrences in uterine rupture. (12) Bleeding could have resulted from severed blood vessels at the rupture site and/or placental bed bleed during detachment from the uterine wall. Her anaemic state could be due to poor nutrition, that was reflected in her wasted status compounded by physiologic demands of pregnancy.

Elevated white cell count, neutrophils and E.S.R. could have been an inflammatory response to foetal death and/or an early infective process that was controlled by broad spectrum antibiotics administered.

Spalding sign indicated foetal death occurred at least 5 days prior to presentation at the hospital. (13,14) This was corroborated by intraoperative findings of a macerated foetus, friable placenta, reduced amniotic fluid volume and necrotic uterine tissue. A myometrial disruption visualized on the anterior uterine wall could have raised the suspicion of uterine rupture. However, an abdominal pregnancy with foetal demise was a more likely differential. (15,16)

An intact amniotic sac and placenta indicated gradual extrusion of uterine contents through the myometrial disruption. Localized hemoperitoneum at the rupture site acted as haemostatic plug.

Uncharacteristic features with our patient included singleton pregnancy, preterm gestation of 33 weeks and absence of labour. Previous studies have shown multigravidity, term gestation and active labour through its augmenting force as significant factors. (3,17) In addition, she had an unscarred uterus. A foetal weight of 2,000g categorized our patient's pregnancy as low risk based. A higher probability of uterine rupture has previously been noted for birth

weights between 2,500g and 3,999g. (3) Finally, gross and histopathological findings found no predisposing congenital uterine abnormalities. (3)

However, multiparity could be the potential cause of uterine rupture in our patient's case, corroborating with findings from previous multiple studies. (2,5,12,17–20) This sensitizes healthcare providers to increase their index of suspicion in multiparity including during the antepartum period.

Conclusion

Uterine rupture causes significant foeto-maternal morbidity and mortality. Due to diagnostic challenges brought about by non-specific presentation, a high index of suspicion is required throughout pregnancy to ensure prompt diagnosis and institution of timely appropriate care in health care institutions.

Acknowledgement & Conflict of Interest

No competing interests exist.

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