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RESEARCH ARTICLE

MATERNAL NEAR-MISS FROM SPONTANEOUS UTERINE RUPTURE AT THE FUNDUS OF AN UNSCARRED UTERUS: A CASE REPORT

*Mathew Olumide Adebisi, Adeniyi Adebayo Augustine, Adewara Olumide Emmanuel, Awoyinka Babatunde Sunday, Adewumi Bakare, Ogheneovo Ifedayo Okurumeh, Adekanye Emmanuel Adeola and Olalekan Oladipupo Rosiji

Department of Obstetrics and Gynaecology, Afe Babalola University, Ado-Ekiti, Nigeria / Federal TEaching Hospital, Ido-Ekiti, Nigeria

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ABSTRACT

Uterine rupture is an obstetric mishap with associated morbidity and mortality consequences for the fetus and the mother. Promptness and accuracy of diagnosis of uterine rupture will help in instituting interventions to reduce these complications. Sometimes, the clinical presentations such as abdominal pain, abnormal fetal heart rate or intrauterine fetal death, bleeding per vaginam and loss of previously noted fetal station in a parturient may not be typical in uterine rupture. Previous uterine surgeries such as caesarean section, dilatation and curettage, myomectomy or use of uterotonic agents for induction or augmentation of labour are the prominent risk factors. This case is unique because she has no such risk factors. However, there was sudden onset of generalized abdominal pain, readily palpable fetal parts, no fetal heart tone with ultrasound confirmation of intrauterine fetal death and the maternal hemodynamic status deteriorated rapidly raising the suspicion of a very rare occurrence of spontaneous uterine rupture with no obvious prior uterine scar. This atypical presentation delayed the diagnosis which might have accounted for the fetal loss, but emergency exploratory laparotomy saved the women with a maternal near-miss experience.

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INTRODUCTION

Uterine rupture is an obstetric accident that threatens the life of both the fetus and the mother during pregnancy, labour and delivery as a result of associated severe haemorrhage. Even though it is a rare obstetric event globally but it is still seen in most developing nations due to high parity, poverty, ignorance, previous uterine surgeries such as myomectomy and caesarean section, trial of scar after caesarean section and use of oxytocics in labour (1,2, 3). The incidence of uterine rupture is reported to be 0.7 to 5.1 per 10,000 deliveries in unscarred and scarred uterus respectively in Netherlands (4). The incidence in developing countries reported to be 1 in 106 deliveries in Ilorin (3), 1 in 124 deliveries in Ghana (1) and 5.35 per 1000 deliveries with perinatal mortality of up to 90% and maternal mortality of up to 30% in Lagos Nigeria (5). Most rupture of the uterus occurs at the site of previous uterine scar, the body of the uterus, the lower uterine segment or laterally (3,6, 7). Ruptured uterus is rare spontaneously and even more so in the fundus of unscarred uterus (6). Our case had fundal rupture in the uterus with no obvious prior scar.

THE CASE

The case old gravid 3 para 2 woman at gestational age of 32 weeks and 4 days who had a previous singleton and twin deliveries with perinatal mortality of one of the twins in her last delivery.

*Corresponding author: Mathew Olumide Adebisi,

Department of Obstetrics and Gynaecology, Afe Babalola University, Ado-Ekiti/Federal Teaching Hospital, Ido-Ekiti, Nigeria

She had earlier presented to a nearby General Hospital where she was diagnosed with severe anaemia in pregnancy with intrauterine fetal death. Her clinical presentation included generalized body weakness, dizziness, generalized abdominal pain with no prior labour pain and no bleeding per vaginam. Her 2 previous vaginal deliveries were at a primary health centre and at home respectively. The first was in 2020 with term vaginal delivery of alive male newborn at a primary health centre no labour complications while the second pregnancy was in 2022 with term vaginal delivery of a set of twins at home assisted by her neighbour who was a birth attendant. The leading twin was a male newborn while the second twin was a female fresh stillborn. The second delivery was also complicated by postpartum haemorrhage which was managed conservatively at a nearby General Hospital.

Aside the above obstetric adverse events, no other risk factors identified in our case. Examination revealed that patient was pale, lethargic, with temperature within normal range. Her pulse rate and blood pressure were initially normal but soon deteriorated rapidly despite resuscitative measures. Further abdominal examination revealed generalized tenderness, readily palpable fetal parts with no fetal heart tone (intrauterine fetal demise confirmed sonographically) and cervical os was closed. Surprisingly, no bleeding per vaginam and the fetal head was well applied on the cervix. The above findings raised the suspicion of ongoing haemorrhage likely from uterine rupture. Placental abruption and advanced abdominal pregnancy were differentials. She was subsequently worked up for emergency exploratory laparotomy under general anaesthesia with 4 units of blood grouped and cross-matched for the patient.

Surgical Management

Intraoperative care: Upon abdominal entry, copious amount of blood clots were evacuated (Figure 1) and further suction of blood from the abdominal cavity revealed an omental wrapping of the body of the fetus and the extruded placenta with the fetal head trapped at the fundus of a partially contracted uterus.

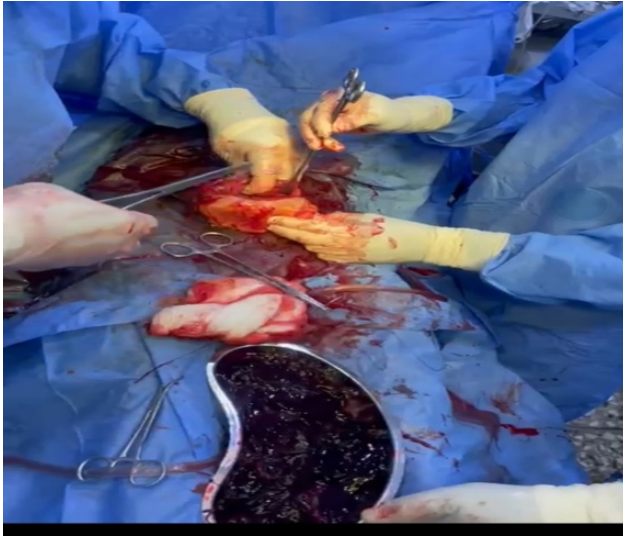


Fig. 1. Blood clots evacuated during surgery

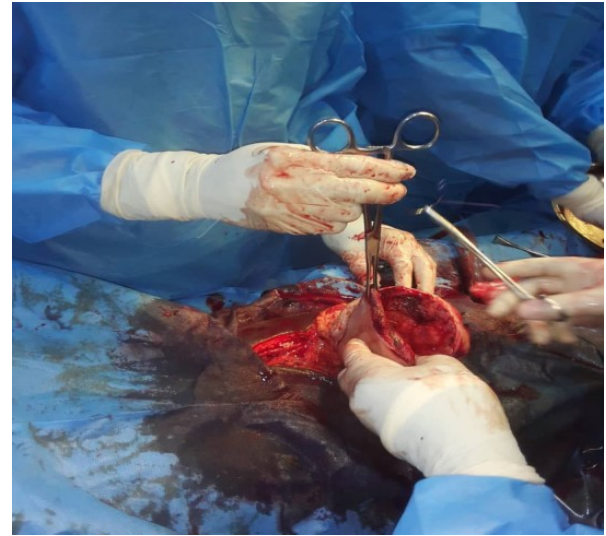


Fig. 2. Defect at the uterine fundus

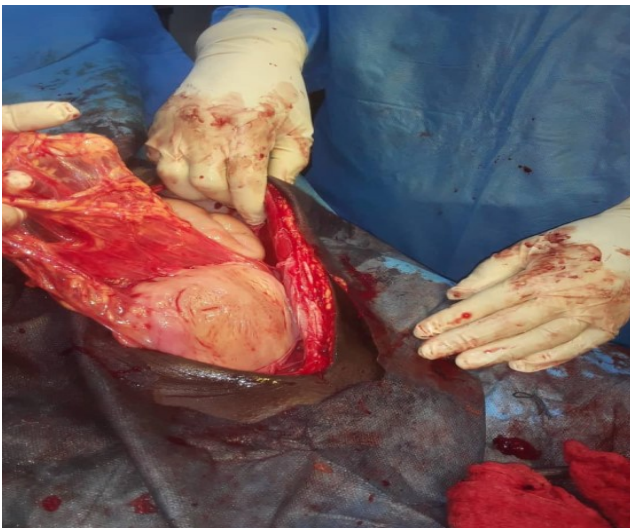


Fig. 3. Omentum attached to the uterus



Fig. 4. Attached omentum and site of uterine repair

The dead fetus and the placenta were extracted, thus revealing an obvious rupture of about 10 cm defect transversely on the fundus of the uterus as shown in *figure 2*. About 2 litres of hemoperitoneum were evacuated. The edges of the uterine rupture were smooth and there was no more active bleeding from the site. Fortunately, the anatomy of the uterus was not severely distorted (coupled with the aversion of the spouse to hysterectomy) necessitating the decision to perform uterine repair. Fluid and blood transfusion were maintained while the repair of the uterus was going on. The fundal defect was successfully repaired in three layers using delayed absorbable sutures. Haemostasis was secured and anterior abdominal wall was surgically closed. The general anaesthesia was reversed and the patient was transferred to the recovery room for continuous monitoring and administration of postoperative medications including broad spectrum antibiotics, multimodal analgesia and blood volume replacement. She had 3units of blood transfused and hemodynamic status was stable. The surgical procedure and intraoperative findings were documented.

Postoperative care: After 48hours, intravenous antibiotics and parenteral analgesics were converted to tablets to complete 7 days. Her packed cell volume postoperatively was optimal. She was

discharged to be seen in 2weeks at the follow-up clinic where she was subsequently given long acting reversible contraceptive. She was also counseled on the need to maintain the contraception in view of the couple unwillingness to embrace permanent contraception and that in case of any pregnancy, early booking and antenatal care in tertiary centre with the knowledge of the surgery done was advised.

DISCUSSION

Uterine rupture occurs in about 1% of women with previous caesarean section, making it a rare complication of labour and delivery process in the developed countries (4). The incidence has been reported to be high in developing or low income countries due to the prevailing risk factors such as prolonged obstructed labour, grand multiparity, previous myomectomy, previous caesarean section, dilatation and curettage, unsupervised births, injudicious use of oxytocin, aversion for caesarean section, trial of labour after caesarean section, obstetric manoeuvres (such as external cephalic version, manual removal of placenta, breech extraction, fundal pressure e.t.c) (1,2,3,8,9). Rupture of gravid uterus prevalently occurs in the third trimester at gestational greater than 30 weeks (10) which is similar to the gestational age of 32 weeks and 4days at the time of spontaneous uterine rupture in this patient. She was a multipara with history of twin delivery at home with possible unrecognized traumatized uterus in her last pregnancy as evident by the omental adhesions to the uterine fundus (Figures 3 and 4). Complications such as severe haemorrhage, haemorrhagic shock, disseminated

intravascular coagulopathy, delayed or wrong diagnosis are some of the reasons for the high mortality associated with uterine rupture (1,3,8). This case had severe haemorrhage that required immediate resuscitative measures (intranasal oxygen, blood transfusion and fluid therapy) to save her life. Unfortunately, the fetus was already dead prior to presentation to our facility which is similar to findings in most studies on uterine rupture (2,3,11). The management of uterine rupture following the diagnosis includes emergency laparotomy with options of uterine repair, bilateral tubal ligation or hysterectomy if the uterus is ragged with distorted anatomy (8). In addition, blood transfusion to replace blood volume depletion, broad spectrum antibiotics and multimodal analgesia are also important parts of the management (1,3,8). This case had emergency laparotomy, uterine repair, 3 units of blood, intravenous broad spectrum antibiotics and analgesics. Our case posed a diagnostic dilemma, (with differentials of concealed placental abruption or advanced abdominal pregnancy), resulting in a delayed diagnosis and fundal uterine rupture was only confirmed when the abdominal cavity was surgically entered. We present this patient to create awareness on the possibility of uterine rupture at the fundus even if there seems to be no obvious uterine scarring. Indeed, it was a near-miss experience for the patient who was saved by interventions instituted by the managing team.

CONCLUSION

Uterine rupture is an obstetric accident with great tendency to result in morbidity and mortality for both the fetus and the mother. The site, extent, amount of haemorrhage and the absence of scarred or unscarred uterus can determine the catastrophic end. This patient had a near-miss experience in which her clinical presentation was unusual and high index of suspicion helped in the diagnosis. The uterine rupture at the fundus of the uterus with no obvious scar is similar to classical caesarean section and the decision to perform uterine repair was premised on the ability to return the uterus to the normal uterine anatomy and the aversion of the couple to hysterectomy or bilateral tubal ligation. Hence, the need for long acting reversible contraception and if the couple still desire pregnancy, the woman should book under specialist care.

RECOMMENDATION

Home delivery and unsupervised labour should be discouraged, as the only risk factor identified for such fundal uterine rupture in our case is the previous twin delivery under the care of a birth attendant that ended with perinatal death of second twin and postpartum hemorrhage which might be from a subtle unrecognized uterine rupture. All high risk pregnancies are thus advised to have specialist care to prevent catastrophic events. All professionals caring for pregnant women before labour, during labour and in the puerperium should be girdled with skills to recognized life threatening conditions in order to reduce obstetric mishaps.

AUTHORS' CONTRIBUTIONS

Conception: Mathew Olumide Adebisi, Adeniyi Augustine Adebayo, Adewara Emmanuel Olumide

Intraoperative Management: Mathew Olumide Adebisi, Awoyinka Babatunde Sunday, Ogheneovo Ifedayo Okurumeh

Postoperative care: Adekanye Emmanuel Adeola, Olalekan Oladipupo Rosiji, Adewumi Bakare

Manuscript writing: Mathew Olumide Adebisi, Adewumi Bakare, Adeniyi Augustine Adebayo

All authors read and approved the final manuscript

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