

Fetal death associated with fundal uterine rupture in a non-labouring primiparous patient: a case report

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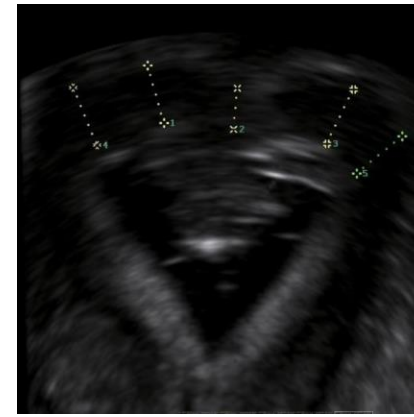
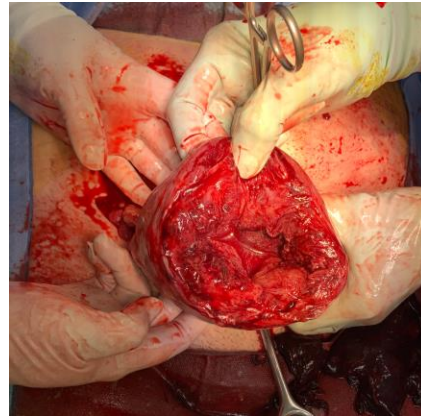
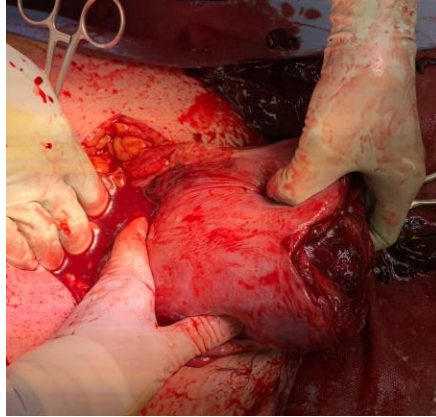
Background

Uterine rupture is an uncommon but potentially catastrophic event which is associated with significant maternal and fetal/neonatal mortality and morbidity. We present a case to highlight the risks of previous uterine surgery in subsequent pregnancies.

Case

A healthy 27yo G4P0 presented to a regional centre 4 hours by car from the nearest tertiary centre at 37 weeks gestation with a three day history of increasing left upper quadrant abdominal pain. On clinical examination she looked well with normal observations, no uterine activity and a reactive cardiotocograph. On first physical examination her abdomen was soft but tender in the left upper quadrant. Her pain was worse in a supine position. When oral analgesia did not provide any reprieve, she was referred for an inpatient ultrasound and a general surgical opinion.

Relevant gynaecological history includes one first trimester miscarriage and two first trimester medical terminations of pregnancy. The most pertinent history was a hysteroscopic resection for a septate uterus, interstate at a tertiary centre, 18 months earlier complicated by a uterine perforation. She had a repeat resection of a portion of remaining septum with the same surgeon two months later. She was not advised for the need for future delivery via Caesarean section or any other possible sequelae of uterine perforation.



This current pregnancy was complicated by a short cervix (23mm) detected early in pregnancy (at nuchal scan at 12 weeks), and managed with vaginal progesterone until 34 weeks.

The patient experienced increasing pain with tachycardia, and on ultrasound she was found to have had a fetal death in utero. Following this her clinical condition deteriorated quickly and she was taken for an emergency laparotomy where a haemoperitoneum of approximately four litres was found. The fetus was found in the abdominal cavity due to a fundal uterine rupture. A stillborn male weighing 3650 grams was delivered. The placenta remained unseparated to the anterior uterine wall and was delivered manually and the patient's uterus was dosed in three layers. Four units of packed red blood cells and two units of fresh frozen plasma were transfused.

Her post-operative recovery was uneventful. Imaging four months post partum showing no fundal defects and she has been referred for a tertiary review following these. She has been strongly advised to delay future pregnancy by at least 12 months. In the case of another pregnancy, careful monitoring in a tertiary centre is advised from 28 weeks and an elective caesarean delivery prior to 36 weeks.

Discussion

Rupture of the non-labouring uterus is rare and can be life-threatening for the mother and fetus. Uterine rupture complicates 0.2% of all pregnancies and is reported to occur in 1-2% of pregnancies following hysteroscopic septum resection (1). Uterine malformations are relatively common, occurring in 1 in 200 women, with a septate uterus comprising 35% of these (2). Damage to the myometrium during the hysteroscopic septum resection is the proposed mechanism of action, with electrosurgical techniques increasing the risk due to deeper thermal damage causing tissue necrosis and subsequent weakening at the site (1).

Risk factors for rupture include previous caesarean section, previous uterine surgery, trauma and oxytocin use. Uterine rupture can occur in labour or spontaneously, and the most common presenting signs include abnormal fetal heart patterns, maternal shock and abdominal pain. In this case there were no abnormal fetal heart rate abnormalities prior to rupture occurring, which was likely due to the placenta being situated away from the weakened, thinned or partially ruptured portion of the uterus.

The majority of data in the literature concerning caring for women with uterine ruptures after hysteroscopic surgery are collected from case reports. Small case series have been conducted to evaluate outcomes for women with previous uterine ruptures after caesarean section using serial ultrasound surveillance to monitor myometrial thickness, but women with previous uterine perforations from procedures such as hysteroscopies were excluded from this series (3).

Conclusion

This case highlights the importance of clinicians caring for pregnant women with previous uterine surgery to be vigilant for signs and symptoms of uterine rupture, as this may present atypically and does not necessarily involve fetal distress until after (large) rupture has occurred. There is very little information in case reports regarding the pathophysiology or symptoms associated with the prodromal phase prior to rupture. Management of future pregnancies, the optimal timing between pregnancies, and monitoring subsequent pregnancies with ultrasound and Magnetic Resonance Imaging surveillance also needs further research.

References

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