Uterine Rupture with Complete Inversion following Prostaglandin Induction of Labour in a Patient with Previous LSCS: A Case Report

H Muppala, A Meskhi, F Clarke, T Inglis

Citation

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Abstract

Uterine rupture is an infrequent event, which exposes both the mother and the foetus at risk of death. We are reporting for the first time the occurrence of spontaneous uterine inversion associated with rupture at caesarean section. Etiological factors for uterine inversion were identified, including proposing a hypothesis relating this case. Technical aspects of manual reduction of the inverted uterus are discussed.

CASE REPORT

A 25-year-old woman in her third pregnancy was admitted for induction of labour (IOL) at 39 weeks for intrauterine growth restriction (IUGR). She had one full term normal delivery, followed by semi-elective caesarean section at 38weeks of gestation for breech presentation complicated with IUGR.

As there were no contraindications she was induced with 1mg of PGE2 gel intra-vaginally and foetal monitoring commenced. Four and half hours later, an obstetrician was asked to review the patient in view of severe abdominal pain. Her observations were normal and no vaginal bleeding seen. The patient was in acute pain despite given analgesia, with abdomen tender to touch. Foetal bradycardia dropped to 60 beats per minute, slowly recovering to 90. As uterine rupture suspected, immediate laparotomy under general anaesthesia was performed.

Twelve minutes later by the Cohen's incision quick entry made into the abdominal cavity. There was fresh blood 1000–1200ml in the abdomen. The baby was found in the abdominal cavity wrapped in omentum. The uterus was completely inverted protruding through the ruptured scar with placenta still attached to it. The baby was untangled and delivered two minutes after incision and handed over to the paediatrician. The placenta was separated manually from the uterine fundus and removed. The inversion was corrected by continuous digital pressure to the cornual areas of the uterus and counter pressure at the ruptured scar edge (Figure). Reversion was accomplished over 2 minutes.

Careful assessment of the uterus revealed 4cm extension upwards from its left angle of the ruptured scar. The uterus was reconstructed in two layers and remained well contracted. The total blood loss was estimated to be around 2500mls. During the operation and immediate postoperative hours the patient received four units of blood. She was closely monitored on the high dependency unit for 24 hours.

The baby weighed 2800 grams at birth. Her APGAR scores at 1-5-10 minutes were 6-9-10. The cord blood gases recorded: arterial–pH 6.806 and venous–pH 6.815. The mother recuperated uneventfully from the operation and was discharged home with her baby on fifth postoperative day.

Figure 1

Figure 1: Complete uterine inversion through scar rupture. The arrows indicate traction (T) and counter traction (CT) for manual reduction.

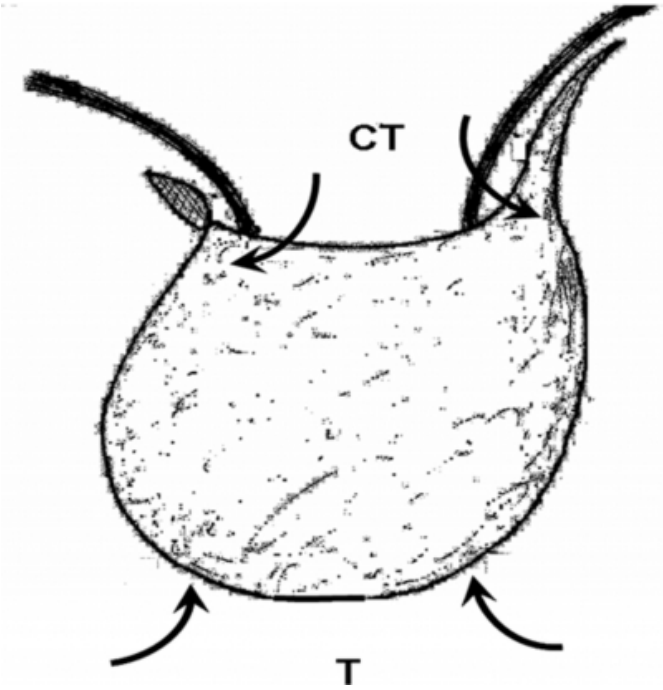
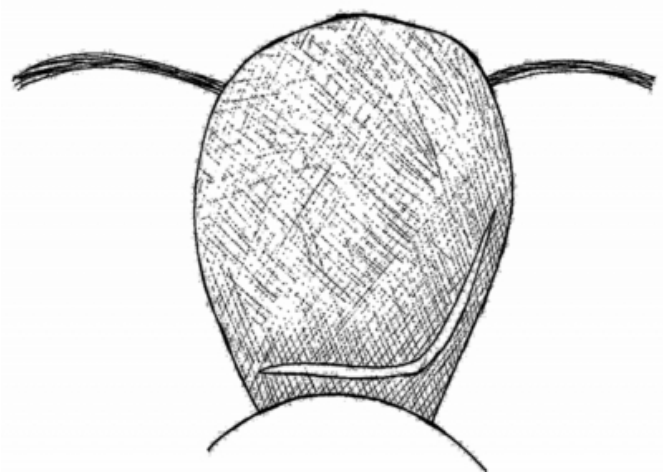


Figure 2

Figure 2: Uterine rupture over previous scar extending left laterally and superiorly.



DISCUSSION

This case highlights the risk of one of the most serious complications pregnant woman with previous caesarean section may face at subsequent delivery. The optimal way of managing patients with previous caesarean delivery keeps evolving as the new evidence emerges, and requires considering multiple factors during decision making about the mode of delivery.

It has been estimated that between 60% and 80% of women with lower uterine segment scar will achieve vaginal delivery if attempted. In women opted for trial of labour (TOL), risk of uterine rupture has been shown to be increased by 2.7, perinatal mortality by 1.4 and risk of hysterectomy by 3.4 per 10000 cases.[1] If the risk–reward ratio of the vaginal birth is more attractive than that of repeat caesarean section, additional risk to be considered is that of IOL.

Uterine inversion, although rare, can be life threatening obstetric emergency. It is associated with placenta praevia, fundal placentation, antepartum use of magnesium sulphate, manual removal of placenta which is adherent morbidly, short cord, uterine hypotonia and umbilical cord traction with vigorous fundal pressure.[2] Most often uterine inversion follows normal vaginal delivery and rarely at caesarean, causes being similar in nature. This is the first case in English literature where spontaneous complete inversion of uterus noted with its rupture in previous caesarean. The plausible explanation could be sudden ejection coupled with struggling of foetus in the peritoneal cavity with traction on its cord or placental separation causing uterus to invert, where support is lost on one side. Placental attachment and shorter interval between incident and delivery led to the survival of the foetus.

Management of uterine inversion has two components: the immediate treatment of the haemorrhagic shock and replacement of the uterus.[2] A high index of suspicion and prompt management can prevent further complications as prolonged inversion-reversion interval may lead to neurogenic shock as well as blood loss leading to cardiovascular instability and maternal death.[2,3]

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CORRESPONDENCE TO

Dr. Hari Muppala Women's Health Directorate Blackpool Victoria Hospital Whinney Heys Road, Blackpool FY3 8NR, Lancashire, U.K. Tel: +44(01253) 306940 Fax: +44(01253) 306979 electronic mail: drmuppala@dochdoc.com

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Author Information

H. Muppala
Women's Health Directorate, Blackpool Victoria Hospital

A. Meskhi
Royal Albert Edward Infirmary

F. R. Clarke
Burnley General Hospital

T.C.M. Inglis
Burnley General Hospital