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CASE REPORT

# Spontaneous uterine artery rupture in pregnancy

## Introduction

This article presents an unusual case of a patient who collapsed when 31 weeks pregnant from a spontaneous rupture of the uterine artery. It is an extremely rare complication of pregnancy leading to massive haemoperitoneum, shock and collapse.

## Discussion

Spontaneous utero-ovarian vessel rupture is a rare cause of obstetric shock. While there have been many cases of utero-ovarian vein rupture, a literature search revealed only nine reported cases of uterine artery rupture in pregnancy. The aetiology is unknown. Arteriovenous malformations, aneurysms, degeneration, trauma or potentially traumatic stimulus, or collagen disorders may be responsible. These changes may be related to haemodynamic and hormonal factors. The haemodynamic changes arising from increases in cardiac output, stroke volume and peripheral resistance result in blood pressure fluctuations and redistribution of flow which can induce structural defects (Ginsburg et al, 1987). Structural changes in the intima and media of the arterial wall seen during pregnancy are similar to changes noted with the use of the combined pill, hence the suggestion that oestrogen and progesterone have a role to play (Barrett et al, 1982).

Typically, there is sudden onset of abdominal pain with signs of hypovolaemia, shock and acute abdomen. The differential diagnosis includes uterine rupture, placental abruption, hepatic or splenic injury, or rupture of aneurysms but the correct diagnosis is rarely made before laparotomy. Caesarean section may be required but the possibility of avoiding caesarean section in very preterm pregnancies with no fetal distress or placental abruption should be borne in mind (Achanna and Goh, 2003). The patient in this case had a caesarean section scar, hence uterine rupture was a possibility, but uterine artery rupture has been reported in women without a scarred uterus (Achanna and Goh, 2003) and can also co-exist with placental abruption. **BJHM**

## Case Report

A 24-year-old Asian woman booked at 12 weeks' gestational age. This was her third pregnancy having had one caesarean section for fetal distress followed by a normal vaginal delivery with both babies normal. Mid-trimester anomaly scan showed marked curvature of the fetal lower thoracic/lumbar region, one hemivertebrae, clenched fetal hands and polyhydramnios. Amniocentesis revealed a normal karyotype. The procedure itself went perfectly well with no evidence of trauma. The woman opted to continue with the pregnancy after detailed explanation of the structural abnormalities. A repeat scan at 28 weeks showed persistent polyhydramnios and confirmed the above findings.

She was admitted at 31 weeks' gestational age after having collapsed at home with a history of abdominal pain which worsened progressively over a 7-hour period. There was no vaginal bleeding, and no history of trauma or domestic violence. Examination revealed an acutely distressed woman with a blood pressure of 59/40 mmHg and a pulse of 110/minute. The abdomen was distended, tense and tender. The cervix was uneffaced, long, with a closed os. The cardiotocographic tracing showed repeated unprovoked decelerations. The initial impression was that of a concealed placental abruption. She was actively resuscitated and a decision made to proceed to surgery. At laparotomy there was 2 litres at haemoperitoneum. There was no pathology involving the liver or spleen. The previous caesarean section scar was intact, and the bleeding was coming from a branch of the left uterine artery. A lower segment caesarean section was carried out and a live female baby was delivered. The bleeding vessel was ligated once the ureter was identified. Her haemoglobin was 7 g/dl and four units of blood were transfused. The baby had multiple abnormalities and died within 2 hours of birth. Post-mortem was declined. The mother made an uneventful recovery.

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