
Competing interests: none declared.
Conflict of interests: none declared.
All authors contributed to conception and design, manuscript preparation, read and approved the final manuscript.
All authors abide by the Association for Medical Ethics (AME) ethical rules of disclosure.
CASE REPORT

Spontaneous haemoperitoneum in mid trimester due to placenta accreta: the long-term risks of multiple caesarean sections

Essilfie P, Hussain M

Papa Essilfie\textsuperscript{1} MB ChB, DFFP, MRCOG

Munawar Hussain\textsuperscript{2} MD MRCOG

\textsuperscript{1}LOCUM CONSULTANT OBSTETRICIAN GYNAECOLOGIST
WIRRAL UNIVERSITY TEACHING HOSPITAL, UNITED KINGDOM

\textsuperscript{2}SENIOR CLINICAL FELLOW
ST MICHAEL’S HOSPITAL
BRISTOL, UNITED KINGDOM

Corresponding author:
Dr Papa Essilfie MB ChB, DFFP, MRCOG
jingo78@aol.com
ABSTRACT

Recent epidemiological studies have shown a dramatic rise in the rate of abnormal human placentation. The subsequent threat to maternal life because of the risk of massive haemorrhage at the time of delivery (usually at term) is already well established. Less well known is the risk that abnormal placentation poses to women at gestational ages remote from term and delivery. Caesarian section greatly magnifies the complications of abnormal placentation. With the ever increasing rise in the rates of caesarean delivery (particularly in Western countries), it is important that Obstetricians are made aware of even the rare complications of abnormal human placentation.

KEYWORDS

Placenta acreta, Nitabuch’s layer, B lynch suture, haemoperitoneum, Placentation

INTRODUCTION

Although not rare in 1st trimester of pregnancy, Haemoperitoneum in a patient in the mid trimester (after 20 weeks gestation) is quite rare and can present a diagnostic challenge to the obstetrician. Both Obstetric and non-obstetric causes can be responsible for the condition. Where blood loss is significant, shock and collapse can ensue rapidly with potentially hazardous consequences. Diagnosis is often delayed because of the ongoing pregnancy and laparotomy is often regarded as a last resort. We present an interesting and rare case of a 34 year old patient who presented with massive spontaneous haemoperitoneum at 23 weeks gestation. We also discuss the modern management of one of the unusual presentations of abnormal placentation.

CASE

A 36 year old patient G4 P3 presented at 23 weeks gestation with a day’s history of sudden onset of abdominal pain. Pain was moderate, generalized and constant. There were no aggravating or relieving factors. She had no urinary or bowel symptoms. She denied any vaginal bleeding. All her three children had been delivered by caesarean section. She was known to have insulin dependent diabetes and Rheumatoid arthritis. This pregnancy had been uneventful until the time of presentation. On physical examination at the time she was afebrile, had a B/P of 100/50 and a pulse of 100. Abdominal examination revealed some suprapubic tenderness. There was no rebound tenderness or guarding. Fetal heart beat was heard with sonicaid. Vaginal examination was unremarkable. Cervix was closed and there
was no blood in the vagina. Urinalysis showed no abnormalities. A FBC reported an Hb of 10.0 and a WCC of 22.0. Patient was admitted for observation and analgesia. Later that night the patient’s condition worsened. Abdominal pain became rather severe. Patient also started complaining of shoulder tip pain. Physical examination then revealed a B/P of 90/50, a pulse of 120, diffuse abdominal tenderness and guarding. Urine output was reduced. A pelvic ultrasound scan was requested and showed an intrauterine live fetus, placenta praevia, as well as moderate amount of free fluid in the abdomen. A diagnosis of peritonitis was suspected and hence surgical opinion was sought. After surgical review a CT scan was requested. Blood tests including FBC, U&E and LFT were repeated. The patient was started on intravenous broad spectrum antibiotics and I.V fluids. CT scan reported a gravid uterus and high density fluid anterior to the uterus in keeping with haemorrhage. The FBC reported an Hb of 5.0. Paracentesis yielded blood. Diagnosis of Spontaneous haemoperitoneum was then made. The origin of the blood however still remained a mystery. MRI was requested and reported considerable thickening of the placenta with invasion of entire thickness of the myometrium anteriorly and a suspicion of a breech in the serosa on the right lateral uterine wall. Laparotomy was performed and findings were-

Massive haemoperitoneum (about 2 litres), ruptured uterus with placenta extruding through anteriolateral serosal surface of uterus just superior to the previous uterine scar. There was active bleeding from the placental site. Fallopian tubes and ovaries were normal. There was extensive adhesions between the anterior surface of the uterus and bladder base. There was no bleeding from liver or spleen. A classical caesarean section was performed. Attempts at uterine repair were futile because of profuse haemorrhage. Subtotal hysterectomy was therefore performed. Intra-operative cell saver was used for autologous blood transfusion. Multiple units of red blood cells had to be transfused as well.
DISCUSSION

The occurrence of spontaneous haemoperitoneum after 20 weeks gestation (mid trimester) is rare. In our case, the cause was uterine rupture and placenta percreta. Other causes include hepatic or splenic injury, rupture of aneurysms, and spontaneous uterine artery rupture.

Placenta accreta refers to a condition in which there is abnormal infiltration of placental villi into the uterine wall. It occurs when there is a partial or complete absence of the uterine deciduas basalis at the site of placental attachment. This results in placental villi attaching directly to the myometrium without an intervening decidua or Nitabuch’s layer. The extent of placental penetration is determined by the character of the uterine tissue at the area of implantation.

The incidence of placenta accreta has been reported to range between 1 in 540 to 1 in 93000 pregnancies (1). Risk factors for the condition include previous caesarean section, placenta praevia, history of dilatation and curettage (D&C), history of manual removal of placenta, advanced maternal age and high parity. Our patient therefore had multiple risk
factors for placenta acreta (having had 3 previous caesarean sections as well as a low lying placenta). In patients with multiple caesarean deliveries and placenta praevia the incidence of abnormal placentation has been quoted to be as high as 60% (2). The risk of uterine rupture or dehiscence is also 12 times higher in women who have had a previous caesarean section.(3)

Placenta acreta usually presents as severe post partum haemorrhage in the third trimester (when an attempt is made to remove the placenta after delivery of the baby). The bleeding is quite dramatic often necessitating hysterectomy. Spontaneous uterine rupture (in the absence of uterine contractions) as occurred in our patient is a rather rare complication. When the whole thickness of the uterus is penetrated by chorionic villi (i.e- Placenta percreta ), other surrounding structures e.g. the bladder may be penetrated and spontaneous haematuria has been reported.

Antenatal imaging can help establish a diagnosis of placenta accreta. Ultrasound, power amplitude ultrasonic angiography, MRI and colour flow Doppler are all useful techniques that can aid diagnosis. Colour flow Doppler demonstrates abnormal blood flow patterns at the uteroplacental interface and is the investigation of choice in diagnosing placenta acreta. On ultrasound, there is loss of normal retroplacental hyperechoic zone, thinning or disruption of the hyperechoic serosa and focal projections beyond the uterine margin. MRI can be very helpful in delineating the placental interface. In our patient MRI was crucial in clinching the diagnosis of both morbidly attached placenta and uterine rupture. Antenatal diagnosis is crucial as pre-operative preparation (e.g. preoperative ureteric stenting, pre operative scheduled hysterectomy without attempted placental removal) reduce maternal morbidity (4)

Patients who present with the suspicion of haemoperitoneum (particularly those with unstable vital signs- hypotension/tachycardia) need aggressive resuscitation. IV access, preferably with 2 large bore canulae should be obtained and intravenous fluids started. FBC, clotting studies, should be performed and at least 4 units of blood cross matched.

Once the diagnosis of uterine rupture is made (or strongly suspected), prompt surgical intervention is essential. Two main forms of surgical treatment are described for morbidly attached placenta –(a) Hysterectomy and (b) Conservative management. Immediate caesarean section followed by hysterectomy is associated with lower mortality rates(1) and is often the only sensible treatment option if bleeding is torrential (as occurred in our case). Conservative management can be considered in patients who are haemodynamically stable, do not have excessive bleeding, and desire preservation of uterus for future fertility. It involves manual removal of the placenta by excision of the placenta in situ, surgical repair of the uterine defect and administration of uterotonics. Removal of the placenta by curettage, as well as leaving the placenta in-situ and administering methotrexate have also been
described. B-Lynch suture or bilateral uterine ligation may also be used in conjunction with conservative treatment (5). Women who have conservative treatment are at risk of developing placenta acreta with future pregnancies and this point should be made quite clear to them before they are discharged from hospital. Follow up appointment is essential for appropriate debriefing. Where conservative management was adopted, discussion of the management of future pregnancies is also crucial at this time.

Although rare, abnormal placentation and consequent uterine rupture (pre-labour) should be considered in the differential diagnosis of a mid-trimester pregnant patient with abdominal pain and signs of haemorrhage especially (but not exclusively) in women who have had a previous caesarean section. A recent case control study by M. Kamara et al in 2013 has suggested that abnormal placentation occurs more commonly if placenta praevia follows an elective primary caesarian section as compared to primary caesarean section performed after the onset of labour (9). Severe complications (such as the one suffered by this patient) should encourage Obstetricians to limit primary elective caesarean sections to cases in which there really is no alternative.

LEGEND

FIGURE

Uterus with breeched anterolateral surface secondary to Placenta percreta.

REFERENCES


2. S. Topuz. Spontaneous uterine rupture at an unusual site due to placenta percreta in a 21 week pregnancy with previous caesarean section: Clinical and experimental Obstetrics and Gynaecology 2004: 31; 239-241


5. A. Gupta, S. Nanada, P. Dahiya, M. Chauhan, K. Sangwan; Placenta percreta causing spontaneous uterine rupture in late pregnancy - Conservative management; Australian and New Zealand journal of Obstetric and Gynaecology 2003; 43; 334-335

6. V. Hlibczuk. Spontaneous uterine rupture as an unusual cause of abdominal pain in early second trimester of pregnancy. The journal of emergency medicine; 2004; 27; 143-145

