CASE REPORT

Cocooned by complications: fetal survival through placental adherence

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SUMMARY

We report a case of a 31-year-old woman with 2 previous caesarean deliveries who presented a diagnostic dilemma. She underwent caesarean section where she was found to have a uterine scar dehiscence with an adherent placenta and required a hysterectomy. While individually representing high risk to the mother and/or fetus, the combination in this case protected the fetus.

BACKGROUND

Rising caesarean section rates have been associated with an increase in scar complications and adherent placentae exposing women to greater risk of massive haemorrhage,¹⁻⁴ and the obstetrician to a range of clinical challenges.

This case is of interest due to the coexistence of morbidities. The patient presented with non-specific symptoms, with abdominal pain as the main feature. Apart from mild pre-eclampsia there was no other abnormality. The obstetric team responded to a worsening clinical picture while results of investigations remained normal. While the final outcome for the mother and baby were acceptable, retrospective analysis of the case presents important learning points that may have influenced patient care.

CASE PRESENTATION

The patient was a 31-year-old woman in her fifth pregnancy. She had had two previous miscarriages managed medically and two caesarean deliveries. The first caesarean section was due to a failed induction of labour for pre-eclampsia and the second was an elective procedure.

The patient's early antenatal period was uneventful. Routine ultrasound scan at 20 weeks showed a posterior placenta extending anteriorly. No comment was made about a low-lying placenta. Subsequent scans described the placenta as posterior. The risk of an abnormally adherent placenta was therefore not considered significant. Amniocentesis was offered due to a high risk of Down syndrome on serum screening, but this was declined.

The patient had experienced two episodes of unprovoked vaginal bleeding at 23 and 28 weeks gestation. There was no clinical evidence of abruption; fetal heart monitoring and ultrasound scans confirmed a posterior placenta with no suggestion of a retroplacental clot or praevia. At the second admission, corticosteroids were administered. There was a further admission at 31 weeks gestation with bouts of uterine tightening and nausea. There was neither a maternal nor fetal cause of symptoms

identified in this episode and the patient was discharged after resolution of symptoms.

Her next admission was at 34 weeks gestation, when she presented with central abdominal pain, radiating to the back, associated with nausea. Apart from a moderately raised blood pressure of 150/94 mm Hg, there was no other abnormality. The urinary protein/creatinine ratio was elevated at 130 mg/mmol, with normal serum biochemistry and full blood count. A diagnosis of pre-eclampsia was made. Fetal monitoring on cardiotocography (CTG) was normal and the mother was asymptomatic except for infrequent uterine tightening. She did not require analgesia.

Two days after admission, the patient presented with sudden onset severe abdominal pain with blood pressure rising to 170/110 mm Hg, while other observations remained normal. On examination, the abdomen was diffusely tender with no localisation to the scar site. The uterine contour was maintained with normal fundal height. Vaginal examination was not suggestive of labour and the cervix was closed. The CTG was normal.

Over the next few hours, the patient's pain and blood pressure settled with analgesia and a further ultrasound scan showed appropriate fetal growth, normal amniotic fluid index and a posterior placenta. There was no evidence of abruption or free fluid in the abdomen. In view of the unclear clinical picture, she remained an inpatient, and the pain was relieved with regular analgesia. A plan for a scheduled caesarean section was made because of persisting pain with increasing analgesic requirements. On the night prior to the planned procedure, the pain worsened. The patient was experiencing contraction-type pain superimposed over a constant pain. The CTG remained normal and there was no maternal tachycardia.

DIFFERENTIAL DIAGNOSIS

Scar dehiscence and concealed placental abruption were the key differentials considered, particularly in view of the uterine irritability and pain. The background of pre-eclampsia made the possibility of abruption high. However, the absence of maternal tachycardia and normal fetal monitoring were factors against a significant abruption or scar dehiscence. The lack of localisation of pain made uterine dehiscence less likely. Subacute intestinal obstruction secondary to adhesions was considered. An ultrasound scan carried out on the day of onset of severe abdominal pain showed no evidence of an intra-abdominal collection and the absence of gastrointestinal symptoms was reassuring.

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TREATMENT

In view of the symptoms and a diagnosis of preterm labour in a patient with two previous caesarean sections, the team agreed the caesarean should proceed as an emergency.

OUTCOME AND FOLLOW-UP

Preoperatively, adhesions were encountered at entry. There was ~300 mL of altered blood on opening the peritoneum. There was evidence of uterine scar dehiscence. The placenta was visible when the uterovesical peritoneum was reflected. The exposed placenta was in the uterine defect and had to be incised to deliver the baby. The baby was delivered with good Apgar scores and a birth weight of 3010 g at a gestational age of 34 weeks and 5 days.

The placenta was low-lying, extending from the posterior to anterior lower segment, where it was adherent. There was no spontaneous separation of the placenta at the site of adherence (figure 1). As there was partial separation of the placenta with ongoing bleeding, a decision was made for hysterectomy in view of the high risk of massive haemorrhage. This was undertaken without complications. The mother recovered well and was discharged home with her baby on the third postoperative day.

Histopathological examination confirmed placenta accreta.

DISCUSSION

The undiagnosed placenta praevia may have been the cause of the two episodes of antepartum haemorrhage. The fetal anomaly scan, carried out at 20 weeks gestation, is the usual point at which women at a higher risk of placenta praevia are identified. A low-lying or anterior placenta in a woman with a uterine scar is a trigger for further scans. Despite the increased sensitivity of transvaginal ultrasound scans for the detection of placenta praevia over transabdominal scans,^{5 6} access to such a service in our unit is limited. Although this patient had subsequent scans because of recurrent antepartum haemorrhage, the placenta praevia was not detected. In retrospect, considering her risk factors and symptoms, a transvaginal scan would have been helpful. MRI may have added to the diagnosis of adherence if findings on a transvaginal scan were inconclusive. Expert review of the ultrasound images suggested that the anterior praevia component of the wrap-around placenta could have been suspected.

Various studies have examined the role of ultrasound to assess scars and predict uterine rupture.⁷⁻⁹ This patient had a further ultrasound scan after onset of symptoms—the scan did not raise

any suspicion. The low anterior adherent placenta prevented herniation of the bag of membranes through the defect, which made detection more challenging.

The raised aneuploidy risk on antenatal serum screening is of interest as studies have shown raised serum alpha fetoprotein (AFP) to be a possible marker for adherent placenta in the absence of fetal abnormalities.^{10 11} This could have been an additional trigger for further investigation.

A number of cases of adherent placenta and uterine rupture have been reported in recent years possibly commensurate with rising caesarean rates. While most of these led to evident intra-abdominal haemorrhage with extrusion of the fetus in many cases,¹²⁻¹⁵ necessitating urgent laparotomy, the unique aspect of our case was that the abnormally adherent placenta prevented catastrophic haemorrhage and cocooned the fetus. The normal CTG may have distracted the clinical team from actively considering uterine scar dehiscence.

Although maternal and fetal outcomes were good in this case, we considered it a near miss, where outcomes could have been poor. While hysterectomy is considered as one of the last measures to stem postpartum haemorrhage, the combination of uterine dehiscence with an unhealthy lower uterine segment, partial separation of the placenta in the upper segment with bleeding and adherence in the lower segment, and the fact that the patient was not keen on further pregnancies, led us to make an earlier decision in this case. This led to an improved outcome since the patient experienced neither haemodynamic nor haematological instability and hence recovered very well. Accurate preoperative diagnosis would have enabled maternal

Learning points

- Presentation of uterine scar dehiscence varies from asymptomatic to catastrophic haemorrhage. Early diagnosis in the subacute cases is dependent on a high level of suspicion. Community staff should be aware that even vague abdominal pain in cases as complex as this may be significant and mandates referral for further evaluation.
- While the ultrasound findings at 20 weeks is the usual trigger for further follow-up in cases of placenta praevia, clinical suspicion should be high in women presenting with unprovoked vaginal bleeding irrespective of previous findings on imaging.
- In our unit, ultrasounds are performed by the radiographers—better communication between the radiographers and obstetricians could have increased clinical awareness and triggered more detailed imaging in this patient, which may have brought out the diagnosis earlier allowing planned management and anticipation of complications.
- A normal cardiotocography (CTG) does not exclude uterine scar dehiscence. Therefore, we should not be falsely reassured by a normal CTG if clinical features suggest scar dehiscence.
- Frequent reassessments of the patient are crucial in patient care. After the differentials of uterine dehiscence, abruption or other intra-abdominal pathology were ruled out following the initial acute presentation, the team was falsely reassured. It took 3 days before it came to notice that the pain was only controlled with significant doses of regular opioid analgesia, and subsequently a decision was taken to perform a caesarean preterm.

Figure 1 Hysterectomy specimen showing dehiscence scar and adherent placenta praevia.

counselling and planning of delivery with appropriate arrangements in place.

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