

Case 17 A 34-year-old woman with painless vaginal bleeding at 33 weeks' gestation

Mrs Chou, a 34-year-old woman in her third pregnancy, presents to the maternity day assessment unit with a history of bleeding per vaginam (PV) about an hour prior to presentation. She is 33 weeks' pregnant.

What differential diagnoses would you consider as a cause for the antepartum haemorrhage?

- Placenta praevia
- Placental abruption
- Local (cervical, vaginal) causes
- Preterm labour
- Bleeding of uncertain origin

KEY POINT

Antepartum haemorrhage (APH) is defined as bleeding from the genital tract after about 24 weeks' gestation and is seen in 3–5% of pregnancies. About half of cases turn out to be bleeding of unknown origin after the other causes listed above are ruled out with appropriate investigation and examination.

What specific questions would you wish to ask about her presenting symptoms?

- Has there been any abdominal pain?
- How much has she bled? Has it been fresh bleeding? Any clots? Any fluid leaking PV?
- Has she been feeling the baby move?
- Is this the first episode of bleeding?
- Did she have sexual intercourse prior to the bleed?

Mrs Chou says that there has been no pain. This was the first episode of bleeding. The bleeding has been fresh, but a

small amount, about two teaspoonfuls. She has been feeling the baby move well, and there has been no change in fetal movements from previously. There is no history of intercourse over the last week.

What other relevant information would you wish to obtain?

- Obstetric details of her last two pregnancies:
 - gestation at delivery (term or preterm)
 - mode of delivery (vaginal or caesarean section)
 - any complications (e.g. APH, premature rupture of membranes)
- Has she been up to date with her cervical smears?
- What is her blood group?

Mrs Chou's first delivery was 4 years ago when she had an elective caesarean section at 39 weeks for the indication of a breech presentation. There had been no other antenatal complications, and her daughter weighed 3250g at birth.

Her last pregnancy had been 2 years ago when she had an emergency caesarean section at 41 weeks for the indication of slow progress in labour. There had been no particular problems antenatally and she had gone into labour spontaneously. Her son weighed 3500g at birth and was well. She had made a good postoperative recovery after both caesarean sections.

Mrs Chou was up to date with her cervical smears and had her last smear a year ago. All her smears to date have been negative.

Her blood group is O-negative. She received anti-D immunoglobulin antenatally and postnatally in both her previous pregnancies. She was administered prophylactic anti-D in this pregnancy at 28 weeks' gestation.

What features would you look for in your examination?

- Does she look distressed or in pain?
- Any signs of pallor, pulse and blood pressure recordings

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- On abdominal palpation:
 - any tenderness
 - uterine tone and contractions
- Lie and presentation of the baby
- Doppler fetal heart check
- Check pads or undergarments stained with blood that the patient may have brought in, or for any signs of bleeding down her legs.

Mrs Chou appears comfortable. There is no obvious pallor, her pulse is 86 beats/minute and BP 130/76 mmHg. There is no tenderness on abdominal palpation, and the uterus is soft with no contractions. The baby is in the transverse position. The fetal heart is regular at around 140 beats/minute. She is wearing a pad stained with a small amount of fresh blood.

What would be your most likely differential diagnoses based on the history and examination?

Placenta praevia.

KEY POINT

- Placenta praevia must be considered in patients with painless APH. Other pointers or risk factors to consider in the diagnosis of placenta praevia:
- Previous caesarean section (especially multiple caesarean sections)
 - Fetal malpresentation or abnormal lie in the third trimester
 - Previous history of placenta praevia
 - Multiple pregnancy
 - Increasing age and parity
 - Placenta noted to be lying over the internal os at routine mid-trimester fetal anomaly scan

What would you do next?

- Fetal cardiotocography (CTG) to check fetal well-being
- Arrange an ultrasound scan for placental localization
- Kleihauer test and anti-D immunoglobulin as required
- *Avoid vaginal examination.*

The CTG is reassuring. The scan suggests a major anterior placenta praevia (grade III – placenta just extending over the cervical internal os; Box 17.1; Figs 17.1 & 17.2).

Box 17.1 Grades of placenta praevia as diagnosed on ultrasound

Grade I	The placenta encroaches into the lower uterine segment (within 5 cm of the internal os)
Grade II	The lower edge of the placenta reaches but does not cover the internal os
Grade III	The placenta covers the internal os partially
Grade IV	The placenta is centrally located over the internal os

Grade I and II are classified as 'minor' and grades III and IV as 'major' placenta praevia. The incidence of morbidity and mortality in the fetus and mother increases as the grade increases.

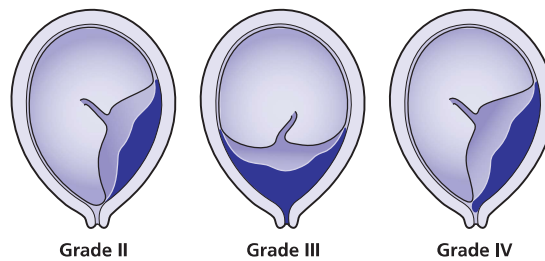


Figure 17.1 Grades of placenta praevia.

RED FLAG

Avoid vaginal examination until the scan confirms that the placenta is not low lying. If placenta praevia is confirmed, avoid vaginal examination as it may trigger a torrential vaginal bleed.

Pain associated with APH should alert the clinician to a placental abruption or preterm labour (see Cases 18 and 19). In about 10% of women, placental abruption can occur with a low lying placenta and the two conditions can be present together.

If placenta praevia is ruled out on the scan, a speculum examination to visualize the cervix to look for lesions on the cervix (e.g. ectropion, polyp or, rarely, a malignancy) should be performed.

When the placenta is situated on the posterior wall of the uterus, transabdominal sonography may not be able to establish the grade of praevia adequately, especially if the patient is obese or the bladder is overdistended.

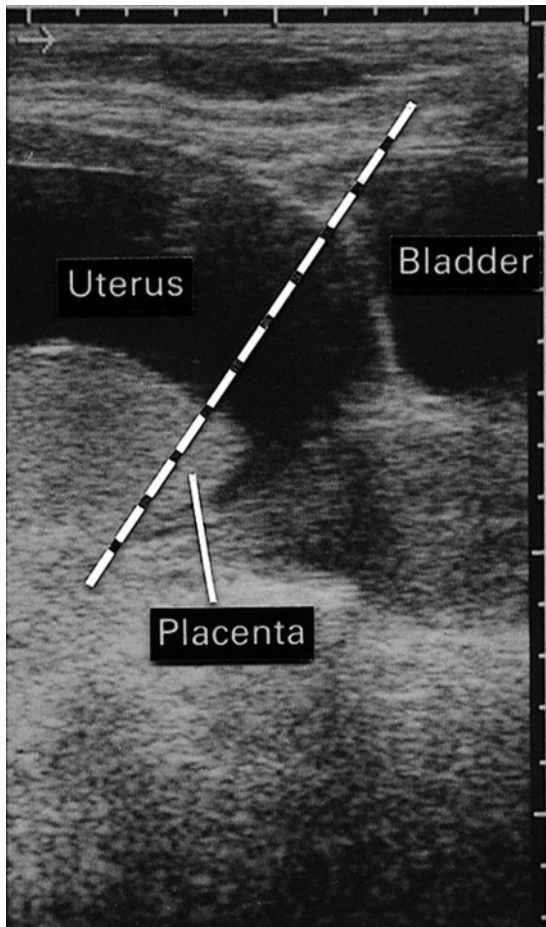


Figure 17.2 Posterior placenta praevia on transvaginal scan.

Transvaginal sonography may be required in these cases. There is no evidence that a gentle transvaginal scan triggers a vaginal bleed.

When placenta praevia is diagnosed with a history of previous caesarean section, an attempt must be made to look for scan features of placenta accreta or percreta. This includes indentifying a clear plane between the uterine wall and the placental bed. MRI imaging may also facilitate the diagnosis.

What features would you consider in making a management plan?

- Is there any further bleeding and if so, is it heavy?
- Are there any features of maternal or fetal compromise?
- What is the gestation?

There is no further bleeding. The mother's vital signs remain stable and fetal CTG remains reassuring.

What would be your management plan now?

Carry out expectant management until fetal maturity. Then plan for elective caesarean section at around 37–38 weeks if the placenta remains low lying.

Consider steroids for fetal lung maturity in case the bleeding becomes heavy, with fetal or maternal compromise, and delivery has to be considered before 36 weeks. Carry out serial scans every 2–4 weeks to check if praevia resolves as the uterus grows and lower segment increases. Group and save sample available at blood transfusion service at all times (preferably cross-matched blood if available). Discuss blood transfusion with the patient in the event of heavy bleeding. Give haematinics to maintain a normal haemoglobin.

Mrs Chou has two further small APHs and she remains in hospital. Scans at 35 and 37 weeks confirm that the placenta remains low grade III anterior. Her elective caesarean section is planned for 38 weeks' gestation. Scans do not suggest a placenta accrete or percreta.

Vaginal delivery may be considered in women where the placental edge is ≥ 2 cm from the internal os and the fetal head is below the placenta edge as seen on the scan.

RCOG guidelines (2005) advise that women with major placenta praevia who have bled should be admitted and managed as inpatients. 'Those with major praevia who remain asymptomatic, require careful counselling before contemplating outpatient care. Any home based care requires close proximity with the hospital (can get into hospital within about 20 minutes), the constant presence of a companion and full informed consent from the women.'

Even with minor praevia, if there are repeated episodes of PV bleeding, inpatient care may be recommended.

What might you discuss with her regarding the caesarean section?

There is an increased risk of bleeding at caesarean section for placenta praevia. Blood transfusion should be discussed. In view of the two previous caesarean scars and the placenta being situated anteriorly and over the old scars, there remains the risk of the placenta being

adherent, although the scans do not confirm this. An adherent placenta increases the risk and amount of postpartum haemorrhage (PPH) and if this is not controlled by conservative measures, a hysterectomy may be required to control the bleeding.

Regional anaesthesia may lower the blood pressure, which may worsen things if there is active bleeding, so a general anaesthetic is the usual anaesthetic of choice when bleeding is anticipated.

KEY POINT

Postpartum haemorrhage may occur after the separation of a low lying placenta, owing to the inability of the lower segment to contract efficiently and arrest bleeding from vascular sinuses.

Previous reports on the Confidential Enquiries into Maternal Deaths have recommended that a senior anaesthetist and obstetrician must be available at the caesarean section. Cross-matched blood must also be available.

Mrs Chou has her lower segment caesarean section performed electively at 38 weeks' gestation. The placenta is encountered on making the uterine incision and is sheared away from the uterine wall to get to the baby. The baby is delivered feet first as it is still in the transverse position. The placenta is removed complete. There is increased bleeding from the lower segment placental bed. An oxytocin bolus is administered soon after delivery of the baby and an infusion of oxytocin is ongoing to facilitate uterine contraction. Some of the larger vascular areas on the lower segment are controlled with haemostatic sutures. The bleeding is brought under control, and the operation completed satisfactorily. Blood loss at surgery is 2000 mL.

Her haemoglobin checked on day 1 postoperatively is 9.8 g/dL (preoperative level was 12.1 g/L). She is given dalteparin prophylaxis until fully mobile on day 5 postoperatively for the prevention of thrombosis (risk factors for thrombosis include the pregnancy, surgery, increased blood loss and prolonged hospitalization which might have resulted in reduced mobility). She is also continued on her haematinics with advice to continue these until her haemoglobin is rechecked 4–6 weeks later and confirmed as normal.

CASE REVIEW

Mrs Chou developed a major placenta praevia diagnosed on scan at 33 weeks' gestation when she presented with painless bleeding PV and a fetal malposition (transverse lie). Her two previous caesarean sections increased her risk of having a low lying placenta. She was managed conservatively until fetal maturity. In view of repeated APHs she was managed as an inpatient.

Repeat scans showed the placenta to remain as a major praevia and an elective caesarean section was planned for 38 weeks. In view of her risks of PPH at caesarean section, a senior obstetrician and anaesthetist were present at her surgery with cross-matched blood available. While she did have a blood loss of 2000 mL, the surgery proceeded without event and she made a good postoperative recovery.

In view of this being her third caesarean section, future deliveries would be advised through an elective caesarean section. She would also be counselled about the increased risks of both a low lying and an adherent placenta and of an uncontrolled PPH that might necessitate a hysterectomy.

When the blastocyst implants low in the uterine cavity, placenta praevia may occur. Scarring of the uterine cavity (e.g. from previous caesarean section) or a large placenta (e.g. with multiple pregnancy) predispose to a placenta that lies in the lower uterine segment.

While around 25% of placentae are seen to be low lying at the second trimester scan, this reduces to 5% at 32 weeks and <0.5% at term with increasing development of the lower segment. The recurrence of placenta praevia is approximately 2%.

There is usually some bleeding in the third trimester to suggest a low lying placenta, along with a fetal malpresentation in one-third of women. However, in fewer than 2%, bleeding is seen only in labour.

Antepartum or postpartum haemorrhage is the main cause of maternal morbidity, and premature delivery the main cause of fetal problems. Most of the episodes of APH settle spontaneously and conservative treatment to attain fetal maturity beyond 36 weeks may be attempted to the extent of blood transfusions for the heavier bleeds, with careful observation of mother and fetus.

KEY POINTS

- Placenta praevia must be considered in those with painless vaginal bleeding
- Risk factors for or associations with placenta praevia include previous caesarean section (especially multiple caesarean sections) and malpositions of the fetus
- Vaginal examinations must not be performed where there is a suspicion of placenta praevia until an ultrasound scan has ruled it out
- A transvaginal scan may provide clearer views of the placenta in the lower segment (especially with a posterior placenta) than a transabdominal scan
- If the bleeding settles and there is no maternal or fetal compromise, expectant management until fetal maturity is advised
- With grade II, III and IV placenta praevia, elective caesarean section around 38 weeks is the preferred mode of delivery. Vaginal delivery may be considered if the lower edge of the placenta is 2cm or more from the internal cervical os, with the fetal head below the placental edge
- There is the risk of PPH with a low lying placenta as the lower segment does not contract as effectively as the upper segment after separation of the placenta

Further reading

Bhide A, Prefumo F, Moore J, Hollis B, Thilaganathan B. Placental edge to internal os distance in the late 3rd trimester and mode of delivery in placenta praevia. *Br J Obstet Gynaecol* 2003; 110: 860–864.

Royal College of Obstetricians and Gynaecologists Guideline (Green Top) no 27. *Placenta praevia and placenta praevia accrete: diagnosis and management*. RCOG Press, London, October 2005.