Antepartum Haemorrhage

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Learning objectives

- Define antepartum haemorrhage.
- Describe an appropriate management plan based on the probable cause.
- Differentiate the clinical features of placenta previa, abruptio placenta and other possible causes

Background

- Antepartum haemorrhage (APH) is defined as bleeding from or in to the genital tract, occurring from 24^{+0} weeks of pregnancy and prior to the birth of the baby.

- The most important causes of APH are placenta previa and placental abruption, although these are not the most common
  - Other causes include: incidental haemorrhage from a lesion of the cervix or vagina - infection, carcinoma, polyp, vasa previa

- APH complicates 3–5% of pregnancies and is a leading cause of perinatal and maternal mortality worldwide

Background

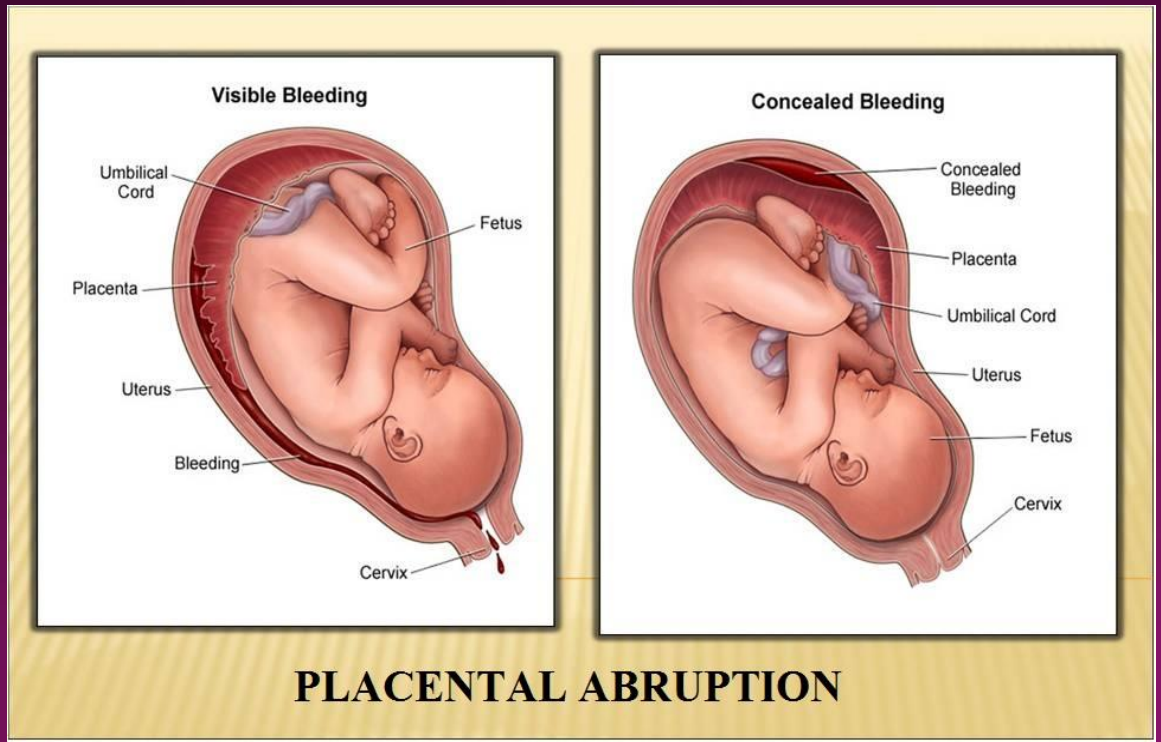
- There are no consistent definitions of the severity of APH
  - Spotting – staining, streaking or blood spotting noted on underwear or sanitary protection
  - Minor haemorrhage – blood loss less than 50 ml that has settled
  - Major haemorrhage – blood loss of 50–1000 ml, with no signs of clinical shock
  - Massive haemorrhage – blood loss greater than 1000 ml and/or signs of clinical shock

- Recurrent APH is the term used when there are episodes of APH on more than one occasion

Placental abruption

Pathophysiology:

- Bleeding into the decidua basalis leads to separation of the placenta. Hematoma formation further separates the placenta from the uterine wall, causing compression of these structures and compromise of blood supply to the fetus



Placental abruption

Risk factors

- abruption in a previous pregnancy
- pre-eclampsia
- fetal growth restriction
- non-vertex presentations
- Polyhydramnios
- advanced maternal age
- Multiparity

- low body mass index (BMI)
- pregnancy following assisted reproductive techniques
- intrauterine infection
- premature rupture of membranes
- abdominal trauma (both accidental and resulting from domestic violence)
- smoking and drug misuse (cocaine and amphetamines) during pregnancy

Placental abruption

Signs and Symptoms

- Vaginal bleeding
- Abdominal or back pain and uterine tenderness
- Fetal distress
- Abnormal uterine contractions (eg, hypertonic, high frequency)
- Idiopathic premature labour
- Fetal death
- Maternal cardio-vascular compromise

Placental abruption

Investigations

- **Laboratory Studies**
  - Hemoglobin
  - Hematocrit
  - Platelets
  - Prothrombin time/activated partial thromboplastin time
  - Fibrinogen
  - Fibrin/fibrinogen degradation products
  - D-dimer
  - Blood type

- **Imaging Studies**
  - Ultrasonography helps determine the location of the placenta to exclude placenta previa
  - Ultrasonography is not very useful in diagnosing placental abruption.
  - Retroplacental hematoma may be recognized in 2-25% of all abruptions

Placental abruption

Management

- The management of this condition is largely dependent on the severity of the haemorrhage and the condition of the mother and the fetus
- Do not perform a digital examination until placenta previa is excluded

Placental abruption

Management

- Continuous monitoring of vital signs
- Continuous high-flow supplemental oxygen
- One or 2 large-bore IV lines with normal saline (NS) or lactated Ringer (LR) solution/ Blood transfusion sos
- Monitoring amount of vaginal bleeding
- Monitoring of fetal heart
- Treatment of hemorrhagic shock, if needed

Placental abruption

Management of mild abruption

- Admit
- iv line in situ
- Blood: cross-match, FBC, clotting studies
- Localize placenta by ultrasound scan
- Inspection of cervix with a speculum
- assess the risk factors for abruption and risk of recurrence
- The patient may be discharged after 4-5 days if the bleeding does not recur and no risk factors for recurrent abruption
- The pregnancy should be monitored using ultrasound measurements of fetal growth

Placental abruption

Management of severe abruption

- Closely observe the patient (Monitor vital signs/ urine output/ oxygen)
- Fetal monitoring.
- Fluid resuscitation to maintain adequate perfusion
- Cross-match 4 units of packed red blood cells (transfusion sos)
- Amniotomy could be considered to decrease intrauterine pressure, extravasation of blood into the myometrium.
- Immediately deliver the fetus by cesarean delivery if the mother or fetus becomes unstable.
- Treatment of coagulopathy or disseminated intravascular coagulation (DIC) may be necessary. Some degree of coagulopathy occurs in about 30% of severe cases of placental abruption.

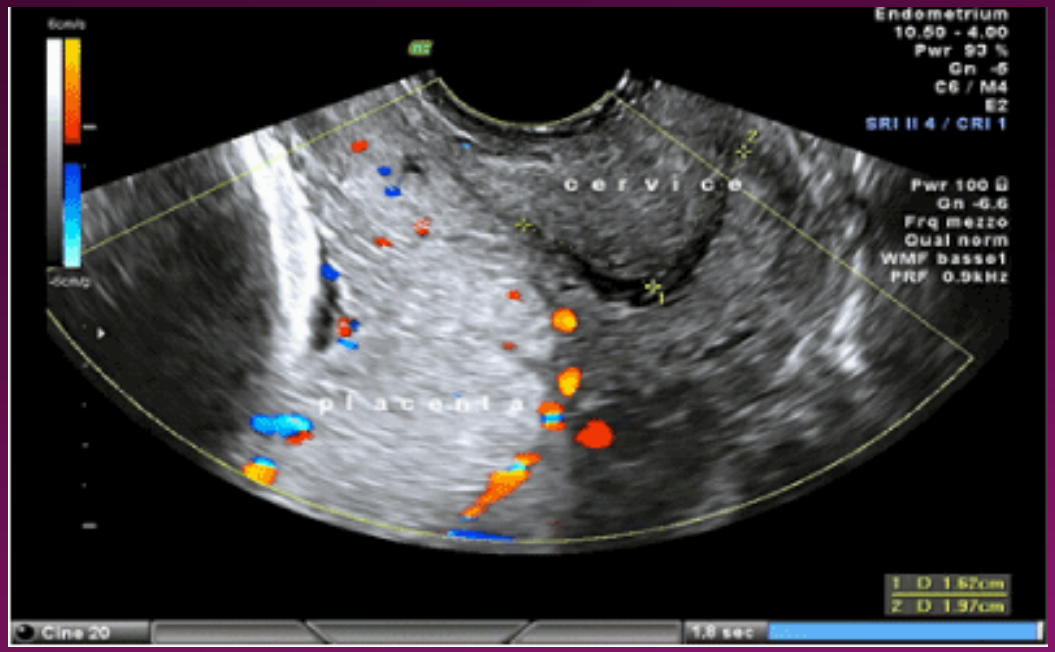
Placental abruption

Complications placental abruption

Maternal complications	Fetal complications
Anaemia	Fetal hypoxia
Infection	Small for gestational age and fetal growth restriction
Maternal shock	Prematurity (iatrogenic and spontaneous)
Renal tubular necrosis	Fetal death
Consumptive coagulopathy	
Postpartum haemorrhage	
Prolonged hospital stay	
Psychological sequelae	
Complications of blood transfusion	

Placenta previa

- Placenta previa is generally defined as the implantation of the placenta over or near the internal os of the cervix.
- Transvaginal sonography (TVS) for the diagnosis of placenta previa has become the gold standard



Placenta praevia

Risk factors

- Previous placenta previa (adjusted OR 9.7)[45–47]
- Previous caesarean sections (RR 2.6, 95% CI 2.3–3.0 with a background rate of 0.5%)[46]
- One previous caesarean section OR 2.2 (95% CI 1.4–3.4 with a background rate of 1%)[47]
- Two previous caesarean sections OR 4.1 (95% CI 1.9–8.8)
- Three previous caesarean sections OR 22.4 (95% CI 6.4–78.3)
- Previous termination of pregnancy
- Multiparity

- Advanced maternal age (>40 years)
- Multiple pregnancy
- Smoking
- Deficient endometrium due to presence or history of:
    - uterine scar
    - endometritis
    - manual removal of placenta
    - curettage
    - submucous fibroid
- Assisted conception

Placenta previa

Classification

- Minor degree placenta previa
  - Placental edge is reaching lower segment but not on the os (partially or completely)
- Major degree placenta previa
  - Placental edge is on the internal os partially or completely

Management of asymptomatic placenta previa at term

- Distance between lower edge of the placenta and internal os:
    1. Lower edge is in the lower segment but 20 mm away from the internal os - vaginal delivery could be attempted
    2. 11-20 mm; lower likelihood of bleeding - CS
    3. 0-10 mm; higher likelihood of bleeding - CS
    4. overlaps the internal os by any distance - CS

Placenta previa

Symptoms

- Painless vaginal bleeding
- Initial bleeding is not usually profuse
- Contractions may or may not occur simultaneously with the bleeding

Placenta previa

Signs

- Hypotension
- Tachycardia
- Soft and nontender uterus
- Normal fetal heart tones (usually)
- Vaginal and rectal examinations
  - Do not perform these examinations in the ED because they may provoke uncontrollable bleeding.

Placenta previa

- **Transvaginal ultrasonography**
  - Recent studies have shown that the transvaginal method is safer
  - Also considered more accurate than transabdominal ultrasonography.
- **MRI – inconclusive posterior PP**

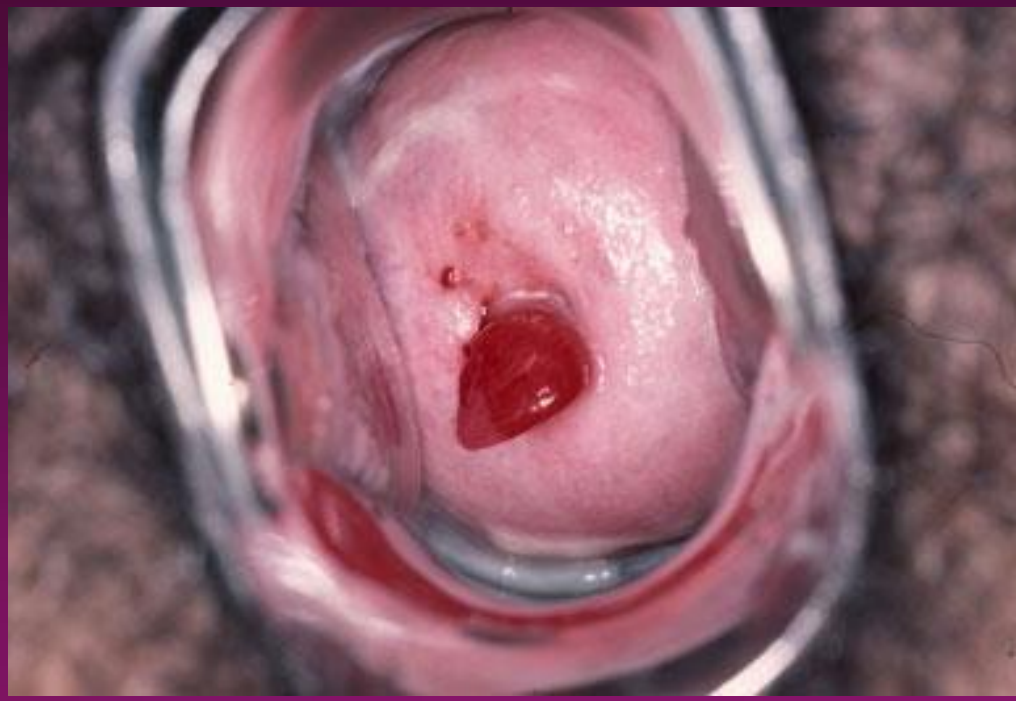
Placenta previa

Management

- Admit
- Initial resuscitation
- Basic blood tests
- Cross- match 4 units
- IV access
- Conservative management for mild cases with settled cases till 37 weeks
- Delivery in severe cases

Other causes for APH

- Vasa previa – common in MC twins – valamantous cord insertion
- Cervical lesions
- Vaginal Lesions
- Unexplained



Summary

- Antepartum haemorrhage (APH) is defined as vaginal bleeding from 24th week to term
    - Abruptio placenta (1 in 100 pregnancies) 30%
    - Placenta previa (1 in 200 pregnancies) 20%
    - Lower genital tract lesion 5%
    - Unclassified 35%
- Placental abruption is diagnosed clinically
- Placenta previa is diagnosed by ultrasound
- Management is to safe prolongation of pregnancy before term