Antepartum Haemorrhage

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ANTEPARTUM HAEMORRHAGE

Definition

Antepartum hemorrhage (APH, **prepartum hemorrhage)** is bleeding from or into the genital tract, occurring from 24+0 weeks of pregnancy and prior to the birth of the baby

(RCOG 2011)

Epidemiology

Affects 3-5% of all pregnancies
1/5th of preterm babies born in association of APH
occurs in 2.8/1000 singleton pregnancies & 3.9/1000 twin pregnancies

This definition of gestational age is based on the UK professional guidance for viability cut-off point of 24 weeks

CAUSES

- Placental abruption - Most common pathological cause (1/100)
- Placenta previa - Second most common pathological cause (1/200)
- Vasa previa- Often difficult to diagnose, frequently leads to fetal demise (1/2000-3000)
- Uterine rupture - (<1% in scarred uterus)

CAUSES CONT….

- Bleeding from the lower genital tract

  Cervical bleeding - Cervicitis
  Cervical neoplasm
  Cervical polyp
  Cervical ectropion

  Vaginal bleeding - Trauma
  Neoplasm
  Vulval varices
  Infection

- Inherited bleeding problems - Very rare, 1 in 10,000 women

- Unexplained - No definite cause is diagnosed in about 40% of APH

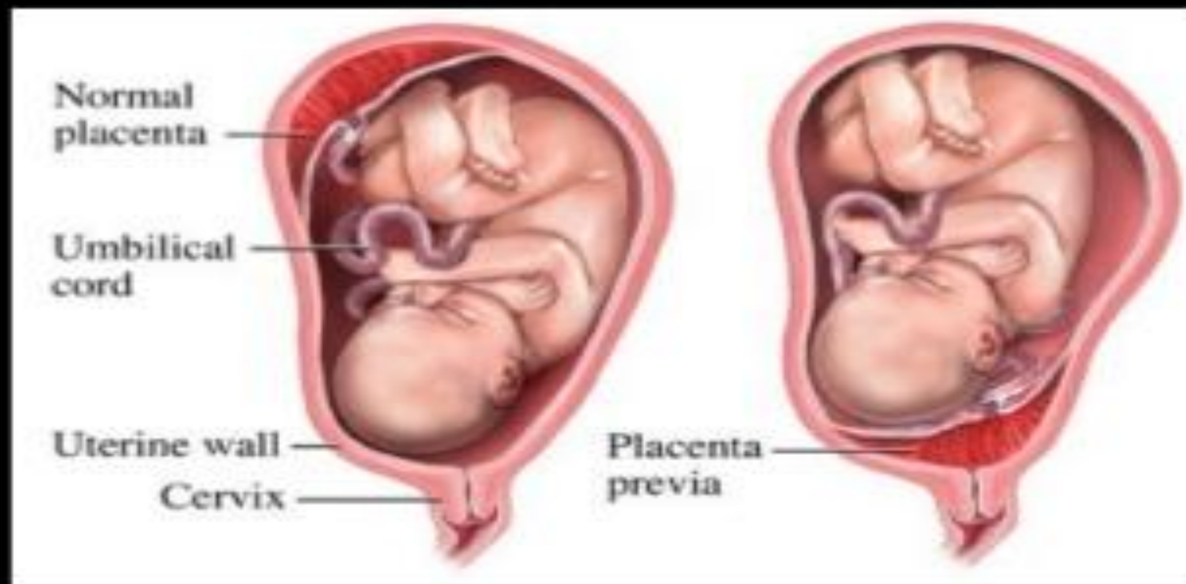
BLEEDING THAT MAY BE CONFUSED WITH VAGINAL BLEEDING

- GI bleed - Hemorrhoids, inflammatory bowel disease, etc.
- Urinary tract bleed - UTI, etc.

PLACENTA PREVIA

Definition

Insertion of the placenta, partially or completely, in the lower segment of the uterus



RISK FACTORS FOR PLACENTA PREVIA

- Previous placenta previa (adjusted OR 9.7) Rasmussen 2000

- Previous Caesarean section (RR 2.6, 95% CI 2.3, 3.0) Ananth 1997
  - One previous Caesarean section OR 2.2 (95% CI 1.4, 3.4) Hendricks1999
  - 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

CONT....

- Deficient endometrium due to presence or history of:
  - Uterine scar
  - Endometritis
  - Manual removal of placenta
  - Curettage
  - Submucous fibroid
- Assisted conception
- Smoking

(RCOG2011)

DEGREES OF PLACENTA PREVIA

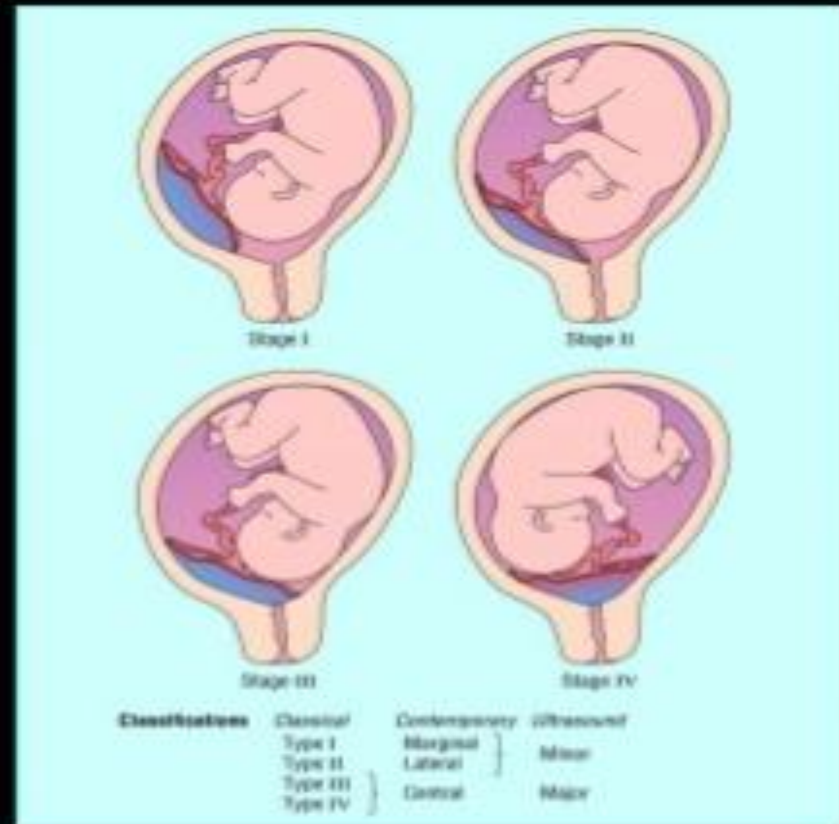
<u>Four types</u>:

<u>Type I</u>: Placenta encroaches lower segment but does not reach the internal os

<u>Type II</u>: Reaches internal os but does not cover it

<u>Type III</u>: Covers part of the internal os

<u>Type IV</u>: Completely covers the os, even when the cervix is dilated



PLACENTA PREVIA- CLINICAL FEATURES

- Recurrent painless vaginal bleeding (not always)
- Abdominal findings
    - Uterus- soft, relaxed, non tender & proportionate to POG
    - Contraction may be palpated
    - Abnormal presentations
    - High floating head in cephalic presentation
- Maternal cardiovascular compromise
- Fetal condition satisfactory until severe maternal compromise
- Vulval inspection- presence of bleeding, character of blood
- Vaginal examination- should not be done

INVESTIGATION

- Diagnosis by ultrasound scan (USS) showing placenta coming in to lower segment
- Transvaginal ultrasound (TVS) is safe & is more accurate than transabdominal ultrasound (TAS) in locating placenta
- Leading edge within 2 cm from internal os or completely covering internal os is incompatible with normal vaginal delivery
- Transperineal (TPS)
- Colour Doppler flow study
- MRI

PLACENTA PREVIA- COMPLICATIONS

Maternal

- _Major hemorrhage, shock & death
- Anemia in chronic hemorrhage
- Morbid adherence of Placenta : placenta accreta complicates approximately 10% of placenta previa cases
- Sensitization of mother for fetal blood in Rh (-) patients
- Post partum hemorrhage
- Renal tubular necrosis & acute renal failure

PLACENTA PREVIA- COMPLICATIONS CONT….

Fetal

- Prematurity
- Low birth weight
- Chronic & acute fetal hypoxia
- IUD
- Congenital malformation- 3 times more common

PLACENTAL ABRUPTION

Definition

Premature separation of a normally situated placenta in a viable fetus

- Clinician should have high index of suspicion for diagnosis

RISK FACTORS FOR PLACENTAL ABRUPTION

- Increased age and parity
- Vascular diseases: hypertension in pregnancy, renal disease, SLE & APS
- Mechanical factors: Trauma, amniocentesis, sudden decompression of uterus, polyhydramnios, multiple pregnancy
- Smoking, cocaine use
- Uterine myoma, septum
- Supine hypotension syndrome

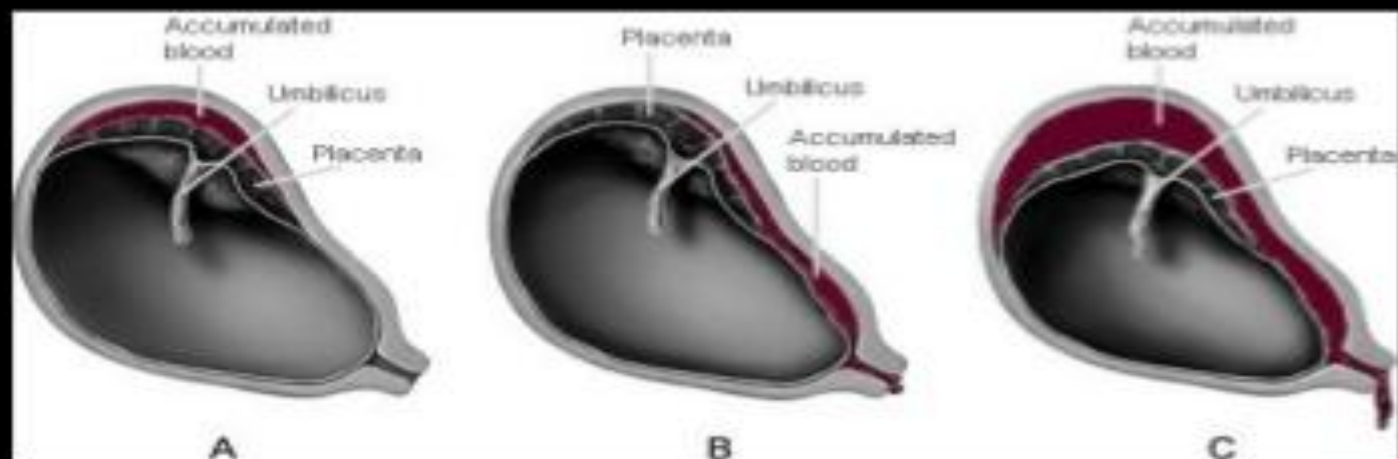
PATHOPHYSIOLOGY

Spasm of vessels in uteroplacental bed (decidual spiral artery) → anoxic endothelial damage → rupture of vessels & hemorrhage in decidua basalis → decidua splits → decidual hematoma (retroplacental) → separation, compression, destruction of the adjacent placenta

Large retroplacental clot

TYPES OF ABRUPTION

- Concealed abruption
- Revealed abruption
- Mixed type

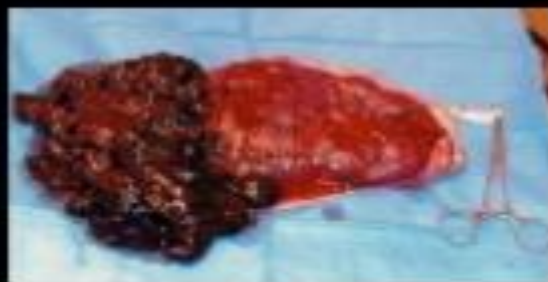


CLASSIFICATION OF PLACENTAL ABRUPTION

- Grade 0- Asymptomatic – small retroplacental clot
- Grade 1 (40%) - External vaginal bleeding present. Uterine tenderness and tetany may be present. NO SIGN OF MATERNAL SHOCK OR FETAL DISTRESS
- Grade 2 (45%) - External vaginal bleeding may or may not be present. NO SIGNS OF MATERNAL SHOCK, BUT FETAL DISTRESS IS PRESENT
- Grade 3 (15%) - External bleeding may or may not be present. Marked uterine tetany, a board-like rigidity on palpation. Persistent abdominal pain, MATERNAL SHOCK and fetal distress are present. Coagulopathy may become evident in 30% of cases.

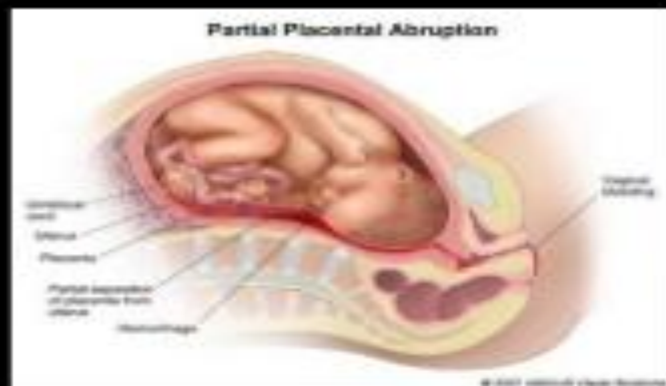
DIAGNOSIS- CLINICAL FEATURES

- Painful vaginal bleeding
- Pain- usually continuous



Mild type

- Abruption≤ 1/3
- Vaginal bleeding may be present or absent



Severe type

- Abruption > 1/3
- Large retroplacental hematoma
- Vaginal bleeding associated with persistent abdominal pain
- Tenderness on the uterus
- "Woody" hard uterus
- Change of fetal heart rate – CTG changes
- Features of hypovolemic shock

COMPLICATIONS OF PLACENTAL ABRUPTION

Maternal

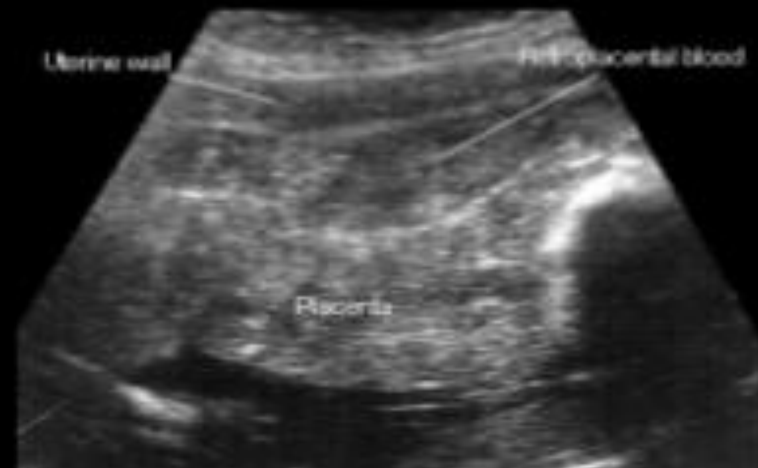
- Sensitization of Rh(-) mother for fetal blood
- Amnionic fluid embolism
- Post partum hemorrhage
- Hypovolemic shock
- Renal tubular necrosis & acute renal failure
- Disseminated intravascular coagulopathy (DIC)
- Puerperal sepsis
- Sheehan's syndrome
- Maternal death

COMPLICATIONS OF PLACENTAL ABRUPTION

Fetal

- Prematurity
- IUGR in chronic abruption
- Hypoxic ischemic encephalopathy
- Cerebral palsy
- Fetal death

INVESTIGATIONS



Ultrasonography

- Mainly to exclude placenta previa
- Can detect
  - Retroplacental hematoma
  - Fetal viability

Most of the time findings will be negative

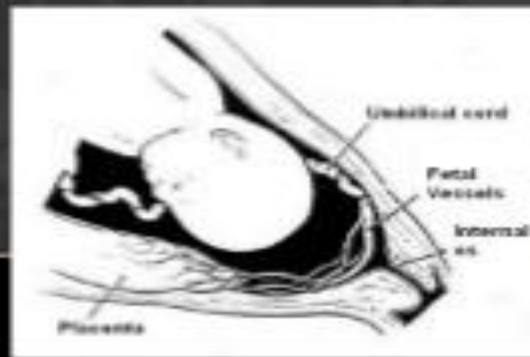
Negative findings does not exclude placental abruption

CTG - Sinusoidal pattern, Fetal tachycardia or bradycardia

Laboratory investigations

- Investigation for Consumptive coagulopathy - Platelet count/BT/CT/PT/INR & APTT
- Liver and Renal function tests

VASA PRAEVIA



Fetal blood vessels from placenta or umbilical cord cross the internal os beneath the baby

Rupture of membranes lead to damage of the fetal vessels leading to exsanguination and death

High fetal mortality (50-75%)

DIAGNOSIS - VASA PRAEVIA

- Moderate vaginal bleeding + fetal distress
- Vessels may be palpable through dilated cervix
- Vessels may be visible on ultrasound (TV colour Doppler ultrasound)
- Difficult to distinguish from abruption
- Can look for fetal Hb (Kleihauer-Betke test) or nucleated RBC's in shed blood
- Tachycardia or bradycardia in CTG

MANAGEMENT OF APH

- Advised to report all vaginal bleeding to antenatal care provider
- Admit to hospital for clinical assessment & management
- Senior staff must be involved – Senior obstetrician, anesthetist, neonatologist
- May need resuscitation measures if in shock or severe bleeding
- Airway(A), breathing(B) & circulation(C)
- Two wide bore cannula
- Take blood for Grouping, CBC, coagulation profile, Liver & renal function
- Volume should be replaced by Crystalloid /colloid until blood is available
- Severe bleeding or fetal distress: Urgent delivery of baby irrespective of gestational age

MOTHER IS THE PRIORITY IN ABOVE MENTIONED CONDITION

PLACENTA PRAEVIA - MANAGEMENT

- Near term / Term

  Delivery is considered

  Type Ia, Ib & IIa - May be able to deliver vaginally

  Type IIb, III and IV - Will require caesarean section by senior obstetrician

  Should anticipate PPH

- Pregnancy below 34 weeks POG

  Continuation of pregnancy better if possible

- Need bed rest
- Educate patient regarding condition & risk
- cross matched blood should be reserved till delivery
- Fetal well being & growth should be monitored -BPP,CTG,USS
- Medications may be given to prevent premature labor- Nifedipine, Atosiban

PLACENTAL ABRUPTION – MANAGEMENT

- Small abruption
  - Conservative management depending on gestational age
  - Careful monitoring of fetal condition
- Moderate or severe placental abruption

- Restore blood loss
- Ideally measure central venous pressure (CVP) & adjust transfusion accordingly
- Prevent coagulopathy
- Monitor urinary output
- Delivery
  1. Caesarean section
  2. Vaginal- If coagulopathy present
     If fetus is not compromised
     If fetus is dead

VASA PREVIA MANAGEMENT

- Urgent delivery
- Most of the time urgent LSCS
- Neonatologist involvement
- Aggressive resuscitation of the baby with blood transfusion following delivery

Thank you