Antepartum Hemorrhage
Objectives

- Definitions and Incidence
- Etiology and Risk Factors
- Diagnosis
- Management
  - maternal and fetal assessment
  - appropriate resuscitation
  - no vaginal exam prior to determining placental location
- Individual Causes
Antepartum Haemorrhage

Definition

• vaginal bleeding between 20 weeks and delivery

Incidence

• 2% to 5% of all pregnancies

• various causes of antepartum haemorrhage
  - abruptio placenta 40% - 1% of pregnancies
  - unclassified 35%
  - placenta previa 20% - ½% of pregnancies
  - lower genital tract lesion 5%
  - other
Etiology of APH

• Cervical
  – contact bleeding (e.g. intercourse, pap, neoplasia, examination)
  – inflammation (e.g. infection)
  – effacement and dilatation (e.g. labour, cervical incompetence)

• Placental
  – abruptio
  – previa
  – marginal sinus rupture

• Vasa previa

• Other - abnormal coagulation
Diagnostic Procedures

- History and physical - No digital pelvic exam
- Ultrasound
  - definitive test for previa
  - less useful in abruptio
- Electronic Fetal Monitoring
  - for fetal compromise and uterine tone
- Speculum
  - do ultrasound first if possible
  - No digital pelvic exam
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Keep your bloody fingers off the cervix!
Laboratory

- CBC, blood type, Rh, Coombs
- coagulation status
  - INR, PTT, fibrinogen or TCT
- 2-4 units of PRBC cross matched as appropriate
- bedside clot test
- Kleihauer-Betke or Neirhaus test
  - vaginal and/or maternal blood
- fetal lung maturity indices if appropriate
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Vaginal Bleeding

Risk Factors \(\rightarrow\) Tests (No vaginal exam) \(\rightarrow\) Fetal / Maternal Assessment

- Mother or fetus \textit{unstable}
  - Hemodynamic Resuscitation
    - Mother or fetus \textit{unstable}
      - Delivery
  - Labs / Fetal Monitoring
    - U/S \(\pm\) vaginal exam
      - Expectant
        - consider ongoing loss, etiology, gestation

- Mother and fetus \textit{stable}
  - Labs / Fetal Monitoring
    - U/S \(\pm\) vaginal exam
      - Expectant
        - consider ongoing loss, etiology, gestation
Management - ABC’s

• talk to and observe mother and fetus
• large bore IV access
• crystalloid (N/S)
• CBC and coagulation status
• cross-match and type
• get HELP!
Hemodynamic Resuscitation

• early aggressive resuscitation to protect fetus and maternal organs from hypoperfusion and to prevent DIC
• stabilize vital signs
• large bore IV crystalloid infusion
• follow hemoglobin and coagulation status
• oxygen consumption is up 20% in pregnancy
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Fetal Considerations

• lateral position increases cardiac output up to 30%
• consider amniocentesis for lung indices
• external fetal and labor monitoring
• Kleihauer-Betke if suspected abruption
• post-trauma monitor at least 4 hours for evidence of fetal insult, abruptio, fetal maternal transfusion
Antepartum Haemorrhage

Abruptio Placenta - Definition

• premature separation of normally implanted placenta

Abruptio Placenta - Classification

• Total - fetal death
• Partial - fetus may tolerate up to 30-50% abruption
Risk Factors for Abruption

- hypertension: gestational and pre-existing
- abdominal trauma
- cocaine or crack abuse
- previous abruption
- overdistended uterus
  - multiple gestation, polyhydramnios
- smoking, especially >1 pack/day
**Clinical Presentation of Abruption**

- vaginal bleeding usually painful, unremitting
- presence of risk factor
- hemodynamic status may not correlate with amount of vaginal blood loss - concealed abruptio
- may be evidence of fetal compromise
- uterus - tender, irritable, contracting or tetanic
- ultrasound rules out previa and may show clot
ABRUPTION

Live Fetus

Dead Fetus ± coagulopathy
  Delivery (watch for DIC)

Assess Maturity

Maturity
  Vaginal delivery or C/S

Immaturity
  Steroids plus expectancy
  Transfusion? Transfer?
Placenta Previa - Definition

- placenta covers or lies near the cervix

Placenta Previa - Classification

- total - entirely covers the os
- partial - partially covers the os
- marginal - close enough to the os to increase risk of bleeding as cervical effacement and dilatation occur
Risk Factors for Previa

- previous placenta previa
- previous caesarean section or uterine surgery
- multiparity (5% in grand multiparous patients)
- advanced maternal age
- multiple gestation
- smoking
Clinical Presentation of Previa

- vaginal bleeding usually painless (unless in labour)
- maternal hemodynamic status corresponds to amount of vaginal blood loss
- well tolerated by fetus unless maternal instability
- uterus - non-tender, not irritable, soft
- may have abnormal lie
- ultrasound shows previa
PREVIA

Assess maturity

Maturity
- Delivery by C/S (consider accreta)
  - May try vaginal if marginal

Immaturity
- Steroids plus expectancy
  - Transfusion? Transfer?
Vasa Previa - Definition
- blood vessels in the membranes run across the cervix
- requires a vellamentous insertion or succenturiate lobe

Complication
- exsanguination following amniotomy or ROM

Diagnosis
- Apt test or Kleihauer test on vaginal blood
- terminal fetal bradycardia ± initial tachycardia or sinusoidal FH

Prognosis
- fetal mortality as high as 50-70%
Conclusions

- assess maternal status and stability
- assess fetal well-being
- resuscitate appropriately
- assess cause of bleeding - avoid vaginal exam
- expectant management if appropriate
- deliver if indicated based on maternal or fetal status