Disorders of Early Pregnancy

Physiology
Day 0 = fertilization
Day 1 = 2 cell stage
Day 4 = morula (8-cell stage) → blastocyst
Day 6 = implantation
Trophoblast formation = day 6-12 (12 weeks- placental morphology complete)
Week 4-5 = heartbeat (hence seen as viable on u/s)

Differential diagnosis of early bleeding:
1. Threatened miscarriage
2. Inevitable miscarriage
3. Gestational trophoblastic disease
4. Ectopic pregnancy

Spontaneous Miscarriage
= Expulsion or death of foetus before 24 weeks of pregnancy - majority occur before 12 weeks
→ 15% of recognised pregnancies, 50% of conceptions

Threatened miscarriage: Bleeding but foetus still alive- uterus size expected for dates and the cervical os is closed. 25% will go on to miscarry.

Inevitable miscarriage: Heavier bleeding; foetus may be alive; cervical os open; miscarriage about to occur.

Incomplete miscarriage: Some foetal parts been passed but os is open.

Complete miscarriage: All foetal tissue been passed; bleeding diminished; uterus no longer enlarged; os closed.

Septic miscarriage: Contents of uterus infected causing endometritis- vaginal loss offensive, uterus tender.

Missed miscarriage: Foetus not developed/ died in utero but this not recognized until after; uterus smaller than expected from dates and os closed.

Aetiology
- >60% chromosomal abnormalities
- Recurrent miscarriage: 3 or more in succession; autoimmune disease (antiphospholipid syndrome: lupus anticoagulant + raised anticardiolipin antibodies- due to thrombosis in uteroplacental circulation so Tx with aspirin & low dose heparin), thrombophilic defects, chromosomal defects, hormonal: PCOS & LH hypersecretion, anatomical abnormalities (uterine structural, cervical incompetence), infection, others (obesity, smoking, higher mat age)
Clinical Findings
- Bleeding
- incidental u/s discovery
- pain from uterine contractions

Ix: u/s, hCG, FBC, Rhesus

Mx:
- Admission if ?ectopic, incomplete/inevitable/septic
- Anti-D if Rh-ve (not if threatened <12wks)
- ERPC if heavy bleeding/ missed- hist examination to exclude molar pregnancy / misoprostol
- Conservative
- Ergometrine, swabs

Ectopic Pregnancy
= embryo implants outside uterus
- 1% of all pregnancies in uk: increasing
- More common with increasing maternal age and lower social class
- Sites: 95% fallopian tube, also cornu, cervix, ovary, abdominal cavity
- Trophoblastic invasion cannot be sustained; it bleeds or ruptures causing intraperitoneal bleeding, can also naturally abort
- Aetiology: idiopathic, tubal damage from PID/ surgery/ appendicitis/ assisted conception
- Clinical findings vary but typically: 4-10wks amenorrhoea, acute: collapse & shock / subacute: ab pain, scanty dark blood PV, syncope & shoulder tip pain suggest intraperitoneal blood loss, / incidental u/s finding
- O/E: lower ab rebound tenderness, cervical excitation, adnexal tenderness, small uterus than expected, cervical os closed, tachycardia/hypotension/collapse in acute extremes
- Ix: pregnancy test, TV u/s, serum B-hCG, laparoscopy
- Mx: acute- laparotomy + sapingectomy (tube removed). Subacute: laparoscopy + salpingostomy (ectopic removed from tube) / if unruptured + no cardiac activity + BhCG < 50000 → single-dose methotrexate / conservative
- Complications: >70% further pregnancy, 10% recurrence

Gestational trophoblastic disease
- Abnormal proliferation of trophoblastic tissue: Trophoblastic tissue infiltrates endometrium in a more aggressive manner than normal.
- Complete mole= paternal, one sperm fertilizes empty egg, diploid 46XX
- Partial mole: 2 sperm s + 1 egg, triploid
- Excess hCG
- Increased recurrence risk in subsequent pregnancies- 1/60 + malignancy
- Localized & non-invasive= hydatidiform mole
- Local invasion into uterus= invasive mole
- Metastasis= choriocarcinoma
- Rare, commoner extremes reproductive age
- Clinical findings: PV bleeding, vomiting
- O/E: very large uterus, early PET & hyperthyroidism
- Hist diagnosis, can be seen as ‘snowstorm’ on u/s
- Mx: ERPC by suction curettage