

# 1. Early Pregnancy Bleeding - Prof Koigi Kamau

Friday, October 11, 2019 8:34 AM

## Definition

EPB: definition

- Key words: bleeding, possibility of extra-uterine viability

Basic: bleeding during pregnant state, when extra-uterine viability of conceptus is deemed unlikely - often taken to be bleeding at <28 weeks

## Differential diagnosis

- Pregnant states (pregnancy confirmable at some stage)
  - Abortion
  - Hydatidiform mole
  - Ectopic pregnancy
  - Coincidental causes - infections, neoplasms
- Non-pregnant states - bleeding with amenorrhoea; pregnancy test is negative
  - DUB - Dysfunctional Uterine Bleeding - e.g. metrorrhagia (bleeding in clots, on and off)
  - PCOS

## Abortion

### Abortion definition

- Termination of pregnancy before gestation commensurate with extra-uterine viability, often taken to be 28 weeks
- WHO - termination before 20 weeks of gestation or if fetus weighs <500g
- Variability affects comparative vital statistics between countries and regions since gestation based denominators vary

### Types of abortion

- Based on etiology
  - Spontaneous
  - Induced
    - Therapeutic
    - Criminal
    - Clandestine
    - Legal
- Clinical types
  - Based on stage in the progression of abortion process
  - Based on whether or not there is sepsis
  - Based on consistency of occurrence

### Spontaneous

- Definition - Occur without human intentional interference
- Incidence: about 15% of all known conceptions
- Pathophysiologic events may be as follows:
  - Hemorrhage into decidua basalis -> necrotic changes -> fetal demise
  - Fetal demise may be initial event
  - ROM may occur if gestation is beyond 14 weeks
  - Uterine contractions - to expel contents
  - Cervical dilatation
- Etiology
  - Fetal abnormalities
    - Chromosomal
      - Monosomies - e.g. 45 X - Turners
      - Trisomy's - e.g. XXY - Klinefelter's

- Polyploidy
- Gross abnormalities
  - NTDs
  - Anencephaly
- These fetuses survive poorly in the uterus
- Anatomical factors of uterus
  - Cervical incompetence
  - Mullerian fusion abnormalities e.g. bicornuate uterus
  - Fibroids
  - 'the uterus is not able to retain the concepts within the uterine cavity'
- Corpus luteum insufficiency
  - Inadequate endometrial preparation (corpus luteum of menstruation)
  - Inadequate pregnancy support (corpus luteum of pregnancy)
  - Reason: lack of adequate elaboration of progesterone
  - Hence, both attachment of the blastocyst onto the endometrium, decidualization and placentation are defective or inadequate.
- Maternal disease - 'fetal external environment'
  - TORCH complex
    - *Disadvantages of short hair that nobody told you about: it sometimes comes onto your face and, le shudder, into your mouth. When you go to remove it, it looks like you're volunteering to answer the question about what TORCH stands for.*
    - *Along that note, and also another something that nobody tells you (but you discover anyway): hair tastes NASTY.*
  - Febrile illness e.g. malaria - fever, placental parasitization, causes coagulation and placenta is full of vessels hence abortion occurs.
  - Listeria monocytogenes; brucella abortus
  - Mycoplasma, syphilis
  - Endocrine disease - DM, thyroid disease
  - Either the fetus, the placenta or both are affected adversely; fetal external environment i.e. mother's internal environment may also be hostile for fetal survival
- Environmental factors
  - Irradiation e.g. X-ray, radiotherapy
  - Embryotoxic drugs
  - Either the fetus, placenta or both are affected
- Trauma
  - Direct/indirect
  - Blunt/sharp - penetrating
  - Uterus, fetal membranes, placenta or fetus may be affected

### Clinical types of abortion

- Based on the stage in the progression of abortion process
  - Threatened
  - Missed
  - Inevitable
  - Incomplete
  - Complete
- Based on whether or not there is sepsis
  - Septic abortion
- Based on consistency of occurrence
  - Habitual or recurrent
- Parameters in allotment of clinical stage of abortion process - 'the basis in evaluation'
  - Bleeding - presence, amount, color, clot
  - Lower abdominal pains - presence, character
  - Uterine size in relation to gestational age
  - State of cervix - consistency, length, if opened
  - Products of conception (POCs) - in utero, partially expelled, completely expelled
- **Threatened**
  - Presentation
    - Minimal bleeding
    - No LAP (lower abdominal pain)
    - Uterine Size = GA
    - All POC in utero

- Cervix long and closed
- Management:
  - Bed rest
  - Sedation
  - Antibiotics
  - Progestogens
  - Pelvis U/S to confirm viability
- **Missed**
  - Fetal demise but all Products of Conception(POC) in utero
  - Presentation
    - Bleeding irregular and dark
    - Uterine Size < GA
    - Cervix closed and firm because of estrogen
    - Regression of symptoms/signs of pregnancy
  - PUSS
    - Unembryonic collapsed gestational sac(GS) = blighted ovum
    - Collapsed GS + fetal pole but no Fetal Cardiac Activity
  - Management
    - Coagulation screen
    - Evacuation of POC
- **Inevitable**
  - Point of no return already reached
  - Presentation
    - Intermittent LAPs(lower abdominal pains)
    - Bleeding insignificant often if <16 weeks
    - Cervix dilated but all POCs in utero
    - Uterine size = GA
  - Management
    - If < 14 weeks, with bleeding - evacuation
    - If > 14 weeks and no bleeding - allow to progress +/- acceleration with syntocinon
- **Incomplete**
  - Presentation
    - LAP and bleeding in lumps/clots
    - US < GA
    - Cervix open
    - Retained POCs
    - Often incomplete if < 16 weeks
  - Mainstay management - uterine evacuation
  - Adjunctive - treatment of shock, hemorrhage (ergometrine, IVIs, blood, plasma expanders etc), antibiotics, analgesics
- **Complete**
  - Presentation
    - No LAP
    - All POC expelled
    - Post-abortion lochia
    - Uterine size << GA
    - Cervix closed
  - Management
    - Ergometrine +/- antibiotics
- **Induced abortion**
  - Due to intentional human interference
  - Therapeutic - medical benefit to mother accrued
  - Criminal - no medical benefit, contravenes law
  - Clandestine - unprofessionally done, inappropriate environment
  - Legal abortion - when life of mother is in danger
- **Septic abortions**
  - Presence of infection at any stage
  - Post-abortion sepsis - sepsis recognized after abortion process
  - Etiology: criminal/ clandestine abortion, prolonged pre-evacuation period
  - Infective agents: GP/GN, aerobes/anaerobes
  - Common organisms: staphylococcus, streptococcus, Bacteroides, clostridia perfringens/welchii, E. coli, pseudomonas, Klebsiella
  - Presentation

- Foul smelling POC, offensive PVD, tachycardia, pyrexia
- Uterine, adnexal, peritoneal tenderness
- Bacteremia -> septicemia -> infection dissemination +/- ARF
- Endotoxic shock
- DIC

### Complications of Abortion

- **Immediate**
  - Hemorrhage
  - Infection
    - Local, disseminated
- **Long term**
  - Medical - PID, ectopic pregnancy, infertility
  - Socioeconomic - marital disharmony due to infertility, stigmatization (infertility, abortion), economic (cost of treatment)

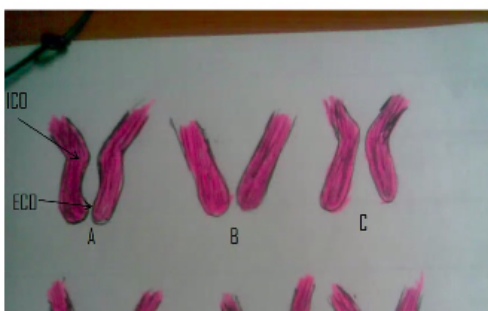
### Habitual/recurrent

- At least 3 consecutive abortions

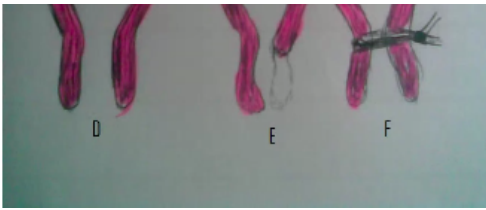
#### 1. Cervical incompetence

- Cervical weakness yields to weight of amniotic sac contents and expansion of sac
- AF sac fills uterine cavity at 14 weeks hence CI manifests in 2nd trimester
- Mild/moderate - ROM first event -> bleeding, contractions
- Severe - painless fall of amniotic fluid sac
- Etiology
  - Congenital - rare, normal shape
  - Physical damage
    - Overenthusiastic Dilatation & C
    - Fetal delivery before full cervical dilatation
    - Traumatic vaginal operative delivery
    - Precipitate labor
    - Obstructed labor (injury to cervix)
    - Annular tear / perforation of cervix
- Presentation
  - Recurrent mid-trimester abortions - GS weight and growth opens weak cervix or prolapses
  - Subsequent falling gestation - further weakening of cervix
  - ROM often initial event due to painless prolapse of the fetal membranes
  - Pain not a significant feature
- Clinical findings
  - Short cervix - indicates loss of ICO
  - Patulous cervix
  - Anatomical deficiency when there is a tear
  - Normal looking cervix
- Interval investigations
  - Cervicogram
    - Loss of cervical length
    - Loss of ICO
  - Net effect - funneling of cervix
- Management
  - Objective - strengthen cervix thus supports pregnancy after 13 weeks GA!
  - Methods -
    1. MacDonald stitch (sub mucosal pulse string suture)
    2. Shirodkar stitch - continuous submucosal mesylene tape
    3. Trachelorrhaphy

### *Cervical Incompetence: patho-physiology*



*A: normal looking cervix, which may be intrinsically weak and hence cant bear the weight of the growing GS*  
*B: short cervix with loss of ICO and hence becomes funnel shaped*  
*C: the internal cervical os is preserved but the external os is absent -> predisposes to premature labour as well*  
*D: patulous cervix due to loss of both ICO and ECO*



www.1000.org.uk

*E: cervical tear, sometimes with complete loss of tissue; annular tears also occur in cervical dystocia*

*F: The principle of the corrective action through cervical cerclage*

## 2. Uterine abnormalities

- Pathology
  - Reduced compliance of myometrium to expansive forces of growing AF sac
  - Inadequate endometrial preparation for implantation
- Types of abnormalities
  - Acquired fibroids
  - Congenital - bicornuate uterus ( mullerian fusion anomalies)
- Presentation
  - MTAs, rising gestation, uterine contractions an important feature
- Management
  - Anticipatory - rising gestation -> viability
  - Surgical
    - Myomectomy
    - Metroplasty (Strassman's operation)

## 3. Corpus luteum insufficiency

- Menstruation - inadequate secretory change, defective implantation
- Pregnancy - inadequate early pregnancy support
- Management - luteal phase support with progestogens

## Termination of Pregnancy

- First trimester
  - Dilatation & curettage
  - RU486 (mifepristone)
- Second trimester
  - Prostaglandins
    - Extra-amniotic, intra-amniotic (PGF2a)
    - Pessaries/gel (PGE2)
    - Misoprostol (PGE1)
  - Syntocinon
  - Hysterotomy

## Questions

### MVA vs D&C

- MVA is safer because of use of cannula and syringe
- D& C - use of sharp curette - associated with more complications - and may perforate the uterus
- But both use a vacuum to curette the uterus

### How long should you wait to conceive after an abortion

- Wait till body is back to normal - usually about 3 - 6 months
- But it depends on the timing and degree of development and the degree of damage to the uterus

### Corpus Luteum Insufficiency