Abortion

L Sekhavat MD
Ob & Gyn
Definition

Abortion (Ab), also known as miscarriage, refers to pregnancy loss before 20 weeks age or before fetal viability.
Definition

- **Early pregnancy loss**
  
  (<12 weeks)

- **Late pregnancy loss**
  
  (12 – 20 weeks)
Incidence

- Abortion is the most common complication of early pregnancy (at least 15% of pregnancies).
- The frequency decreases with increasing gestational age.
- At least 75% of miscarriages occur during the first trimester.
- Incidence of first trimester miscarriages is 25%
Spontaneous abortion
Pathology

Most miscarriages occur within a few weeks after the death of the embryo.

- Hemorrhage into the decidua basalis
- Inflammation in the region of implantation.
- The gestational sac is detached
- Uterine contractions and dilation of the cervix
- Expulsion of the products conception
Mechanism

Hemorrhage occurs in the decidua basalis leading to local necrosis and inflammation.

The POC, partly or wholly detached, acts as a foreign body and initiates uterine contractions. The cervix begins to dilate.

Expulsion complete. The decidua is shed during the next few days in the lochial flow.
Causes of Abortions

- Fetal
  - Genetic
  - Chromosomal
- Maternal
- Environmental
Fetal Factors

- Early spontaneous abortions commonly display a developmental abnormality of conceptus
- 60% causes of all abortions are chromosomal abnormality
- The rate of genetic abnormalities is higher in anembryonic miscarriages. (Blighted ovum)
Chromosomal abnormality

- Euploid fetuses tend to abort later in gestation than those with aneuploidy
- Autosomal trisomy is the most frequently identified
- Monosomy X (45X) is the single most common specific chromosomal abnormality
- Triploidy is often associated with hydropic placental (molar) degeneration
Maternal causes

- Medical conditions
- Infection
- Endocrinologic causes
  - Hypothyroidism
  - Diabetes Mellitus
- Immunological causes
- Uterine anomalies
  - Uterine leiomyoma
  - Developmental Defects
- Incompetent Cervix
Environmental Factors

- Smoking
- Alcohol
- Caffeine (five cups of coffee)
- Radiation
- Environmental Toxins
Clinical classification of spontaneous abortion
Threatened abortion

- Any vaginal bleeding that appears through a closed cervical os during the first half of pregnancy
- The embryo is usually alive
- A cramping abdominal pain or low backache that gradually increases
Incomplete abortion

- Passage of some products of conception or placental tissue from the uterine cavity
- Typically present with bleeding that can produce hemodynamic instability
- Usually there is no viable conceptus
Complete abortion

- When all products of conception have been expelled.
- When the entire products of conception have passed, pain and bleeding soon cease.
Inevitable abortion

Abortion is considered inevitable when:

- Gross rupture of the membranes,
- Cervical dilatation
**Missed abortion**

- **Fetal death without expulsion of any fetal or maternal tissue for at least 4 weeks thereafter.**
- **There may or may not be vaginal bleeding or other symptoms of threatened abortion.**
Septic abortion

Any type of abortion that is accompanied by uterine infection.
Endometritis is the most common manifestation but parametritis and peritonitis occasionally develop.
Septicemia and shock may occur if the local infection is left untreated.
Recurrent abortion

Traditionally defined as three or more consecutive first-trimester spontaneous losses

- **Primary** (without any prior successful pregnancy)
- **Secondary** (repetitive losses follow a live birth)

Affects up to 1% of couples
Causes of recurrent abortion

- Parental chromosomal abnormalities
- Structural Uterine Defects
- Immunological Factors
  - Autoimmune Factors
    - Lupus erythematosus
    - Antiphospholipid syndrome
- Endocrinological Factors
  - Luteal phase defect
  - Polycystic Ovarian Syndrome
  - Diabetes Mellitus
- Thrombophilic Disorders
Diagnosis
Diagnosis

**History**
- Amenorrhea
- Symptoms of pregnancy
- Vaginal bleeding
- Pain

**Vaginal examination**
- Dilated cervix

**Ultrasounograph**

**Pregnancy test**
- β-HCG
Management
Classification of miscarriage

- Normal pregnancy
- Blighted ovum
- Missed miscarriage
  - Threatened miscarriage
    - Continuing pregnancy
  - Inevitable miscarriage
    - Incomplete miscarriage
    - Complete miscarriage
Threatened abortion

- There are no effective therapies for threatened abortion
- Bed rest
- Sedation
- Serial evaluation
  - Ultrasound
  - β-HCG
Complete abortion

- complete abortion theoretically should not require therapy

Incomplete abortion

- Women with an incomplete, can be managed
  - Surgically
  - Medically
  - Expectantly.
Missed abortion

At the time of diagnosis

- surgical termination
  - First-trimester
    - suction curettage
  - The second-trimester
    - D&C (dilation and curettage)

- Induction of labor
  - Prostaglandin
  - Oxytocine
**Septic abortion**

- **Stabilizing the patient**
- **As soon as administering parenteral broad spectrum antibiotics**
  - Clindamycin 900 mg /8h + gentamicin 5 mg/kg daily
  - Ampicillin
  - Cephalosporin
  - Metronidazole
- **Surgically evacuating the uterine contents**
Incompetent Cervix

- **Pregnancy loss by painless cervical dilatation in the second trimester**
  - Prolapses of membranes into the vagina
  - Expulsion of an immature fetus
- **This sequence may repeat in future pregnancies**
Etiology

The cause of cervical incompetence is obscure

- Trauma to the cervix
- D/C
- Conization
- Cauterization
- Amputation
Treatment

Elective cerclage generally is performed between 12 and 16 weeks.