**Abortion/Miscarriage**

- **Definition**: any fetal loss from conception until the time of fetal viability at 24 weeks gestation.
  
  *OR:*
  
  Expulsion of a fetus or an embryo weighing 500 gm or less when it is not capable of independent survival
  
- **Incidence**: 15 - 20% of pregnancies
  
- **Classification**:
  1. spontaneous: occurs without medical or mechanical means.
  2. induced abortion

**Pathology**

- Most commonly, necrotic changes occur in the decidual tissue about the placenta site and result in hemorrhage into this area
- As bleeding continues, the sac and the placenta become detached from the uterine wall and are expelled by uterine contractions

**Common causes of abortion**

- 1st trimester
  - Genetic factors
  - Endocrine disorders
  - Immunological disorders
  - Infection
  - Unexplained

- 2nd trimester
  - Anatomic abnormalities
  - Cervical incompetence
  - Mullerian fusion defects
  - Uterine synechiae
  - Uterine fibroids
  - Maternal medical illness
  - unexplained

**Types of spontaneous abortion**

- Threatened abortion.
- Inevitable abortion.
- Incomplete abortion.
- Complete abortion.
- Missed abortion
- Septic abortion: Any type of abortion, which is complicated by infection
- Recurrent abortion: 3 or more successive spontaneous abortions
Clinical features/management

- **Threatened abortion:**
  - Short period of amenorrhea.
  - Corresponding to the duration.
  - Mild bleeding (spotting).
  - Mild pain.
  - P.V.: closed cervical os.
  - USG: viable intra uterine fetus.
- **Management**
  - Reassurance.
  - Rest.
  - Repeated USG.

Inevitable abortion

- **Clinical feature:**
  - Short period of amenorrhea.
  - Heavy bleeding accompanied with clots (may lead to shock).
  - Severe lower abdominal pain.
  - P.V.: opened cervical os.
  - USG: non-viable fetus and blood inside the uterus.
- **Management**
  - Fluids, blood.
  - Ergometrin & syntocinon.
  - Evacuation of the uterus (medical/surgical).

Incomplete abortion

- **Clinical feature:**
  - Partial expulsion of products
  - Bleeding and colicky pain continue.
  - P.V.: opened cervix; retained products may be felt through it.
  - USG: retained products of conception.
- **Treatment**
  - as inevitable abortion.

Complete abortion

- Expulsion of all products of conception.
- Cessation of bleeding and abdominal pain.
- P.V.: closed cervix.
- USG: empty uterus.

Missed abortion

- **Feature:**
  - Gradual disappearance of pregnancy symptoms sign.
  - Brownish vaginal discharge.
  - Milk secretion.
  - Pregnancy test: negative but may be +ve for 3-4 weeks after the death of the fetus.
  - USG: absent fetal heart pulsations.
- **Complications**
  - Infection (Septic abortion)
  - D&C
- **Treatment**
  - Wait 4 weeks for spontaneous expulsion. Evacuate if:
    - Spontaneous expulsion does not occur after 4 weeks.
    - Infection/DIC
    - Manage according to size of uterus:
      - Uterus < 12 weeks: dilatation and evacuation.
      - Uterus > 12 weeks: try Oxytocin or PGs.

Septic abortion

- **Infection of the uterus and the surrounding structures**
- **If bleeding is minimal**
  - Treat infection with broad-spectrum antibiotics (anaerobic and aerobic)
  - D&C
- **Bleeding is severe**
  - The products of conception from the cervix are removed with a sponge holding forceps.
  - Broad-spectrum antibiotics intravenously
  - When infection is controlled → D&C
Habitual abortion (recurrent)

- Sequential 3 or more times of spontaneous abortion
- Treatment: Rest
- Increase nutrition: VitB, VitC, VitE...
- Medical treatment
  - Hypofunction of corpus luteum—progesterone
- Surgical treatment
  - Correction of congenital anomalies of uterus, removed of myomas
  - Repair of the incompetent cervix: 12~20w

Complications

- Excessive blood loss: severe or persistent hemorrhage
- Sepsis: develops after self-induced abortion
- Infection
- Intrauterine synechia
- Infertility
- Perforation of uterine wall: during dilatation and curettage
  - Injury to the bowel and bladder
  - Hemorrhage
  - Infection
  - Fistula formation

Relationship between every stage

Normal pregnancy → Threatened abortion → Inevitable abortion

Missed abortion

Incomplete abortion → Complete abortion

Septic abortion