

## **Abortion (miscarige)**

### **Definition:**

- Is the spontaneous end of a pregnancy at a stage where the embryo or fetus is incapable of surviving independently, generally defined in humans at prior to 20 weeks of gestation.

### **Classification**

- Threatened abortion
- Inevitable abortion
- Complete abortion
- Incomplete abortion
- Missed abortion
- Septic abortion
- Recurrent abortion (Habitual abortion)

❖ Things you need to know before studying abortion

### **HCG hormone**

- Time of production:
  - Appears at 1st day of implantation
  - Can be detected within 10 days of fertilization (conception) i.e. before missing a period
- Level:
  - It increase rapidly in early pregnancy; level **doubles** every 2 days
  - Reaches a peak at 70 day (**10 wk**) gestation
  - Then it decrease at 100 d (**14 wk**) & remains as such till term
- Disappear at:
  - 1-2 weeks after abortion
  - 2-8 weeks after labor
  - 8-12 weeks after vesicular mole evacuation
- Assed by urine or serum

### **US in diagnosis of pregnancy:**

- Transvaginal U/S  $> 5$  wks (white ring)
- Transabdominal U/S  $> 7$  wks
- Detection of cardiac activity  $> 8$  wks

### **Signs and Symptoms of Pregnancy**

#### **Signs:**

1. Bluish discoloration of vagina and cervix (Chadwick sign)
2. Softening and cyanosis of the cervix at or after 4 wk (Goodell sign)

3. Softening of the uterus after 6 wk (Ladin sign)
4. Breast swelling and tenderness
5. Development of the linea nigra from umbilicus to pubis
6. Telangiectasias
7. Palmar erythema

#### **Symptoms:**

1. Amenorrhea
2. Nausea and vomiting
3. Breast pain
4. Quickening—fetal movement

#### **Threatened miscarriage**

- Definition: an attempt of the uterus to expel the fetus leading to partial separation of the fertilized ovum with slight haemorrhage into the chorio-decidual space
- Clinical Picture:
  - Symptoms:
    1. **Amenorrhea** with symptoms of early pregnancy
    2. **Bleeding** (slight: spotting)
    3. **Pain +/-** (mild lower abdominal colicky pain)
  - Signs:
    1. Signs of early pregnancy
    2. Uterus: corresponds to the period of amenorrhea
    3. Cervix: **closed**
- Investigation:
  1. U/S (TV or TA)
  2. B-HCG: doubled every 2 days
- Fate:
  1. Continue pregnancy (70-80%)
  2. Bleeding increase > Inevitable abortion
  3. Fetal dies but retained: Missed abortion
  4. Infection occur: Septic abortion
- Treatment: Rest & observation , progestin?!

#### **Inevitable abortion**

- **Definition:** complete separation of the fertilized ovum with progressive cervical dilatation & fetal expulsion
- **Symptoms**
  1. **Amenorrhea** + symptoms of early pregnancy
  2. **Bleeding:** moderate to severe
  3. **Pain:** marked Lower abdominal Colicky pain (uterine contractions) with backache (cervical dilatation) = sacral pain
- **Signs**

1. General: Pallor / shock (according to amount of bleeding)
2. Abdominal: uterus corresponds to period of amenorrhea
3. Local: opened cervix (products of conception may be protruding)

- **Treatment:** medical or surgical evacuation

### **Complete abortion**

- **Definition:** all products of conception have been expelled
- **Symptoms:**
  1. **Amenorrhea** + symptoms of early pregnancy
  2. **Bleeding** -+ moderate or severe
  3. **Pain** -+ marked lower abdominal colicky pain with backache
    - followed by expulsion of the conception ; bleeding & pain **decreased**
- **Signs**
  1. **General** : Pallor / shock according to amount of bleeding
  2. **Abdominal**: uterus smaller than period of amenorrhea
  3. **Local**: Cervix closed
- **Investigation:** U/S shows empty uterus
- **Treatment:** Observation

### **Incomplete abortion**

- **Symptoms & Signs:**  
As inevitable abortion but part of the products of conception have been expelled > therefore the uterus is < period of amenorrhea (confirm by US)
- **Treatment:** Evacuation (medically or surgically) or expectant

### **Missed abortion**

- When the embryo or fetus died in uterus, but a miscarriage has not yet occurred.
- **Symptoms:**
  1. **Amenorrhea**: symptoms of pregnancy disappear.
  2. **Bleeding**: rarely mild dark brown
  3. **Pain**: usually absent + absent fetal movements
- **Signs:**
  1. No general signs of pregnancy
  2. Uterus: less than period of amenorrhea
  3. Cervix: closed firm '
- **Investigations**
  1. Ultrasound: collapsed pregnancy sac, no fetal pulsation
  2. BHCG & repeat in two days for doubling
  3. CBC, PT, PTT, fibrinogen level (very important) to r/o DIC
- **Complications**
  1. **Infection**: septic abortion
  2. **DIC** (hypofibrinogenemia) -+ after 4-6 weeks
- **Treatment:**
  - If fibrinogen is normal: Evacuation (medically or surgically) + antibiotics
  - If fibrinogen is decreased: elevate it by fibrinogen, FFP, fresh blood then evacuate

### **Septic abortion**

- When the tissue from a missed or incomplete abortion becomes infected
- Symptoms & signs of septicemia
- Treatment: Evacuation after antibiotic cover.

### **Recurrent miscarriage (Habitual abortion):**

- Is the occurrence of three ( two) consecutive miscarriages.
- Causes:
  - A. Un-explained (50%)
  - B. Explained:
    1. Genetic factors ( Paternal Karyotype, Fetal cytogenetic)
    2. Anatomical factors( uterine anomalies, cervical incompetence, fibroid & uterine synechiae).
    3. Endocrine causes (diabetes, Thyroid diseases, polycystic ovary syndrome)
    4. Immune factor (anti-phospholipid syndrome, Rh-isoimmunization))
    5. Inherited thrombophilic defects
    6. Environmental factors (social drugs, cigarettes,alcohol and caffeine)
    7. Infective agents (bacterial vaginosis & B-haemolytic strept.)

### **Termination of pregnancy (evacuation):**

- a. Medical evacuation: **Misoprostol**
  - 2 x 200 mcg Misoprostol into the posterior fornix
  - Repeat in 4-6 hrs if required
  - Must scan or evaluate clinically to confirm that evacuation is complete
- b. Surgical evacuation: recommended when:
  1. The patient is febrile ( $>37.5^{\circ}$  C); after appropriate antimicrobial management
  2. The patient has miscarried twice before; collect tissue for chromosomes