

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, cigarretes,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