# BLEEDING IN EARLY PREGNANCY
# Prof. FOUAD AL-DAHHAN

**CAUSES**: The following are possible causes of early pregnancy bleeding

Spontaneous Abortion

Threatened Miscarriage

Inevitable Miscarriage

Implantation Bleeding: resulted when the trophoblasts burrow its self in one of the spiral arterioles.

Incidental Bleeding: Cervical Erosion, Cervical Polyp, Infection e.g. vaginitis ; Cervicitis ; Cervical Cancer.

Ectopic Pregnancy

Hydatidiform Mole & Choriocarcinoma

In this serial lectures the main causes of early pregnancy bleeding will be discussed in details (Abortion, Ectopic and Molar pregnancies.)

## ABORTION

ABORTION (MISCARRIAGE)

**Definition:** Expulsion or removal of the products of conception (foetus; placenta; Membranes) before foetal viability (500gm or less of foetal weight; gestational age less than 24 weeks).

**Incidence**:

The incidence of early pregnancy loss varies but the reported hospital incidence is thought that 15% of conceptions result in miscarriage.

Majority occur within first trimester,(within 12 week). About 75% of abortions occur before 16 week, and 62% of these before 12 week gestation.

Subclinical (undiagnosed) spontaneous abortion is an established entity that if included in the above incidence would increase the figure up to 25%.

**Classification of abortion** : Abortions are classified into the following

***Spontaneous Abortion*** : include

Threatened Miscarriage

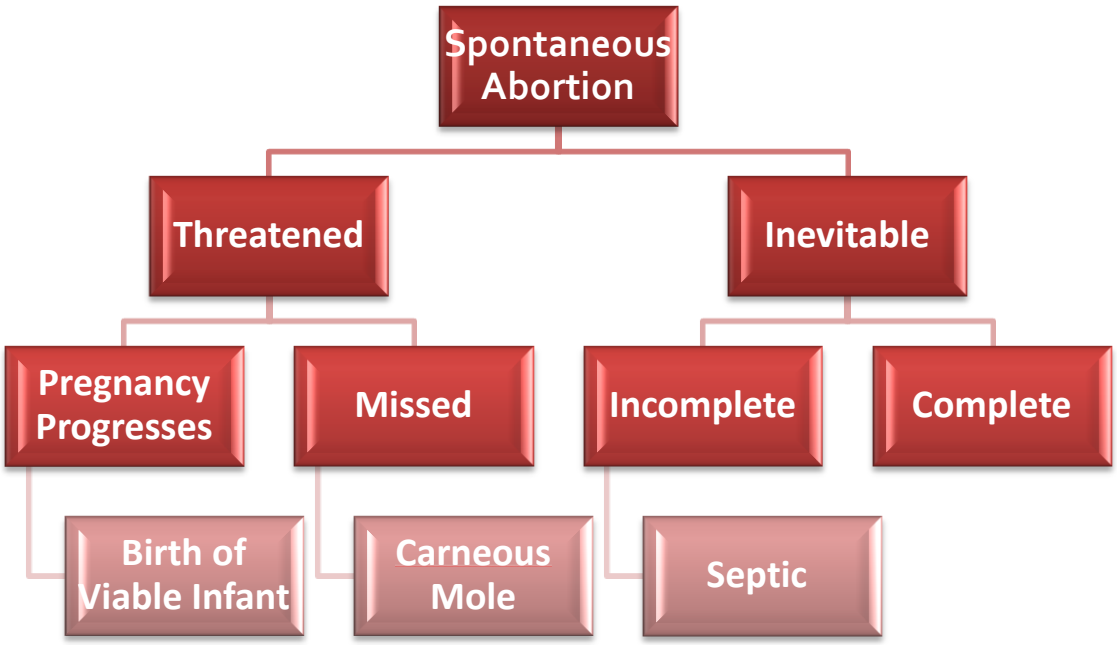
Inevitable Miscarriage

***Induced Abortion***: include

Medical

Criminal

**CLASSIFICATION OF SPOTANEOUS ABORTION**




Now each clinical varity of abortion will be discussed separately

## *Spontaneous Abortion*

The causes of spontaneous abortion are many, but the most common cause especially in the first trimester

**1-Chromosomal abnormalities account for 70% of defective conceptions** like monosomy , trisomy, chromosomal translocation or maldevelopment of the conceptus. Other causes are

2-Defective Implantation, which is resulted from defective deciduation due to corpus luteum insufficiency or the presence of endometrial lesions like fibroid or polyps

The other possible causes are

3-Genital Tract Infections like Bacterial vaginosis, Vaginal mycoplasma infection.

4-Medical Disorders ,which include diabetes mellitus, thyroid disease (hypo & hyperthyroidism), hypertensive disorders and renal disease.

5- **Maternal Infection**

Due to high temperature relating to general metabolic effect of fever, or as a result of transplacental passage of viruses, e.g. Influenza, rubella, pneumonia, toxoplasmosis , cytomegalovirus, listeriosis, syphilis, brucellosis, and appendicitis

**STORCH is an abbreviation for the name of the microorganisms that could be a cause for recurrent abortion. S=syphilis, TO= toxoplasmosis, R= rubella, C=cytomegalovirus and H=herpes virus.**

**6- Endocrine Abnormalities**

Poor development of the corpus luteum, inadequate secretory endometrium, low serum progesterone levels, thyroid disease and diabetes.

**7-Uterine Abnormalities** ▪

Structural abnormalities implicated in 15% of early pregnancy losses e.g.

Double uterus, Unicornuate, bicornuate, septate or subseptate uterus and failure of uterus to develop to adult size, i.e. remaining infantile.

8- **Retroversion of the Uterus**, does not itself cause abortion

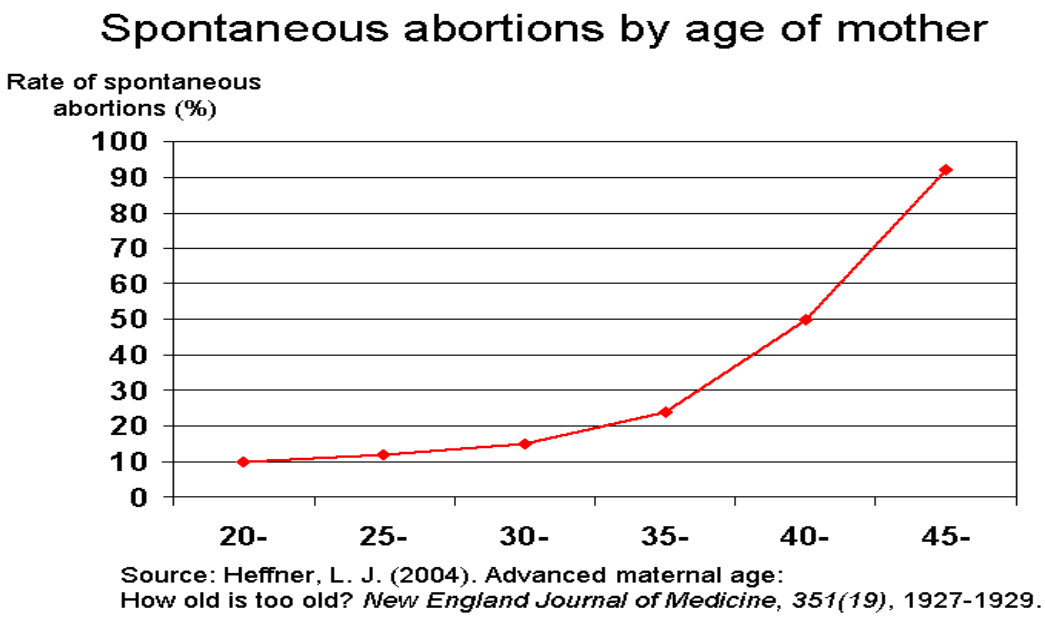
As uterus fails to enlarge into abdomen, vaginal and abdominal, manipulation to correct the retroversion causes abortion

**9-Cervical Weakness**

Caused by laceration of cervix or undue stretching of internal os as a result of previous medical abortion or childbirth, usually the membranes bulge through cervical canal and rupture.(Characterised by recurrent late pregnancy losses)

**10- Maternal Age**

Women in late 30’s and older at higher risk, irrespective of previous obstetric history.




Other causes

**Stress and Anxiety**

Severe emotional upset may disrupt hypothalmic and pituitary functions

**Paternal Factors**

Poor sperm quality,

Source of chromosomal abnormalities

**Immunologocial Factors**

,Maternal lymphocytes with natural killer cell activity may affect trophoblast development

Autoimmune diseases such as antiphospholipid syndrome.

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## CLINICAL VARIETY OFABORTION

**Threatened Miscarriage:** in this clinical variety of abortion the conceptus is retained within the uterine cavity.

Presentation: lower abdominal pain, the pain is variable in intensity, possibly lower abdominal pain and backache.

Bleeding: scanty during the first 3 months.

Cervical os: closed, no dilatation.

Uterus: if palpable, soft and not tender.

Clinical management:

No vaginal assessment as may provoke uterine activity

No evidence that bed rest is effective

Woman should be referred for medical attention straight away

A pregnancy test is carried out preferably assessment of beta hCG and ultrasound performed to assess viability

Heavy or increased amount of bleeding in an ominous sign and may precede inevitable abortion.

**Inevitable Miscarriage:** This is another clinical variety of abortion when the pregnancy is no longer sustained.

**Signs and Symptoms**:

The pain in this form of abortion is more severe and rhythmical and felt in the supra pubic region and the lower back.

The bleeding is heavy and associated with clots.

The cervical os is opened and the uterus, if palpable, will be smaller than the expected gestational age.

Management: As name indicates, it is unavoidable pregnancy loss

Gestational sac separates from uterine wall and uterus contracts to expel the contents of conception. Woman may collapse from blood loss.

Speculum examination in hospital, input from obstetrician or gynaecologist

Oxytocic drug may be given after products expelled.

**Incomplete Miscarriage:**

The signs and symptoms in this type of abortion

The pain is severe and is located in the supra pubic region, associated with severe vaginal bleeding and backache. The cervical os is opened with dilatation and tissue may protrude from the cervix. Hypovolemic shock associated with 20% of the cases and may require blood transfusion. The condition is managed by surgical evacuation of the retained products of conception (ERPC)

**Complete Miscarriage:**

The pain is diminished or absent, with some or no vaginal bleeding.

The cervical os is closed and the uterus if palpable is firm and contracted.

No action to be taken in the management.

**Missed Miscarriage:**

Also known as delayed or silent abortion usually follows threatened abortion.

Bleeding occurs between uterine wall and gestational sac and embryo dies

Layers of blood clots form and later become organised, retained of foetus inhibits menses. Other signs of pregnancy diminish and the death of the foetus is confirmed by ultrasound scan.

**Clinical Findings**:

Symptoms and signs of missed abortion is manifested by loss symptoms of pregnancy and decreased in uterine size. The embryo or foetus has been dead for weeks, or months but no tissue is passed. There may be a brownish vaginal discharge but no fresh bleeding.

Pain or tenderness is unlikely. A bizarre configuration of the foetal bones may be seen on x-ray. Ultrasonography is effective in following a pregnancy suspected of being missed abortion. The cervix is firm and closed, and no adnexal abnormality can be identified.

Laboratory findings: The β-hCG is falling. In midtrimester abortion, the plasma fibrinogen level is abnormally low with high fibrin degradation product (FDP).

Especially if the foetus is retained in utero for more than four weeks.

**Management:**

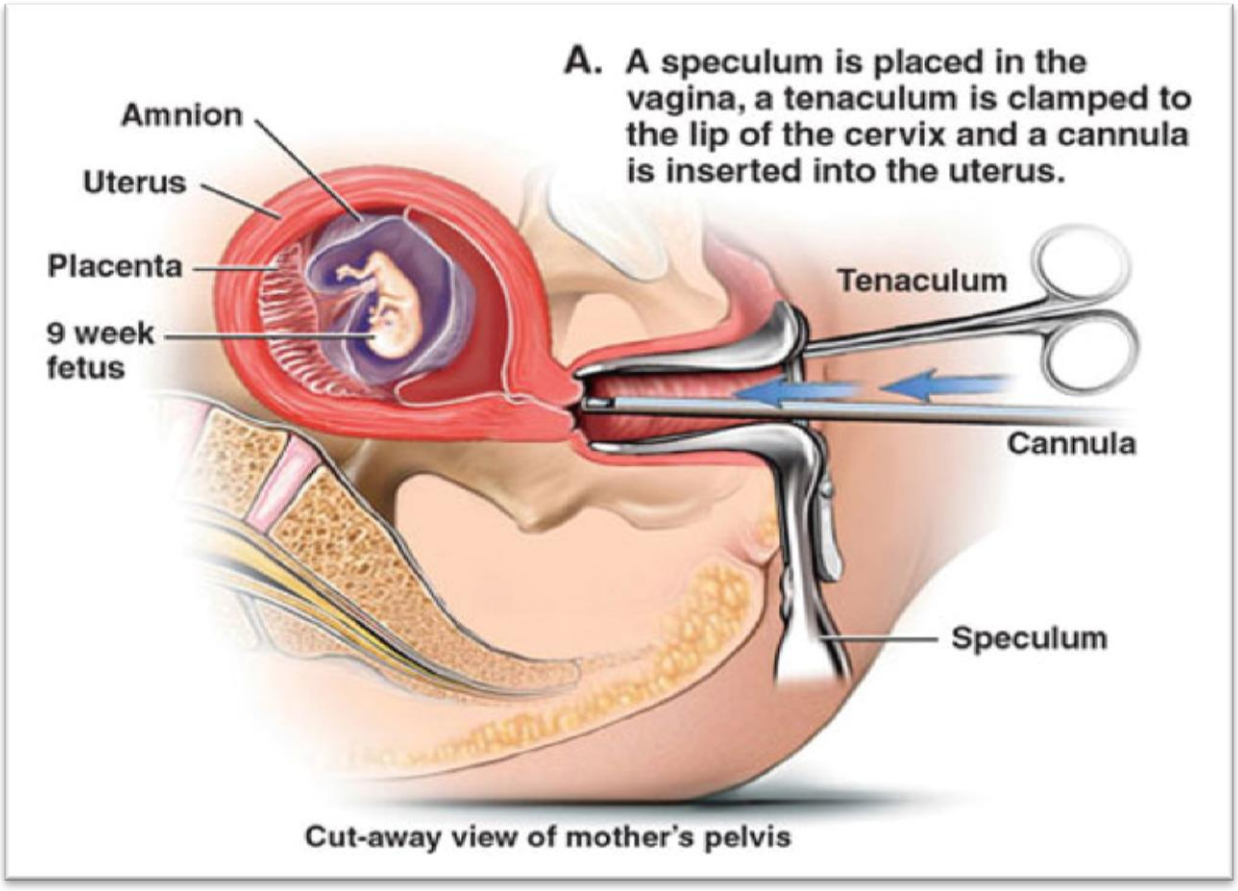
Surgical evacuation or expectant management possible.

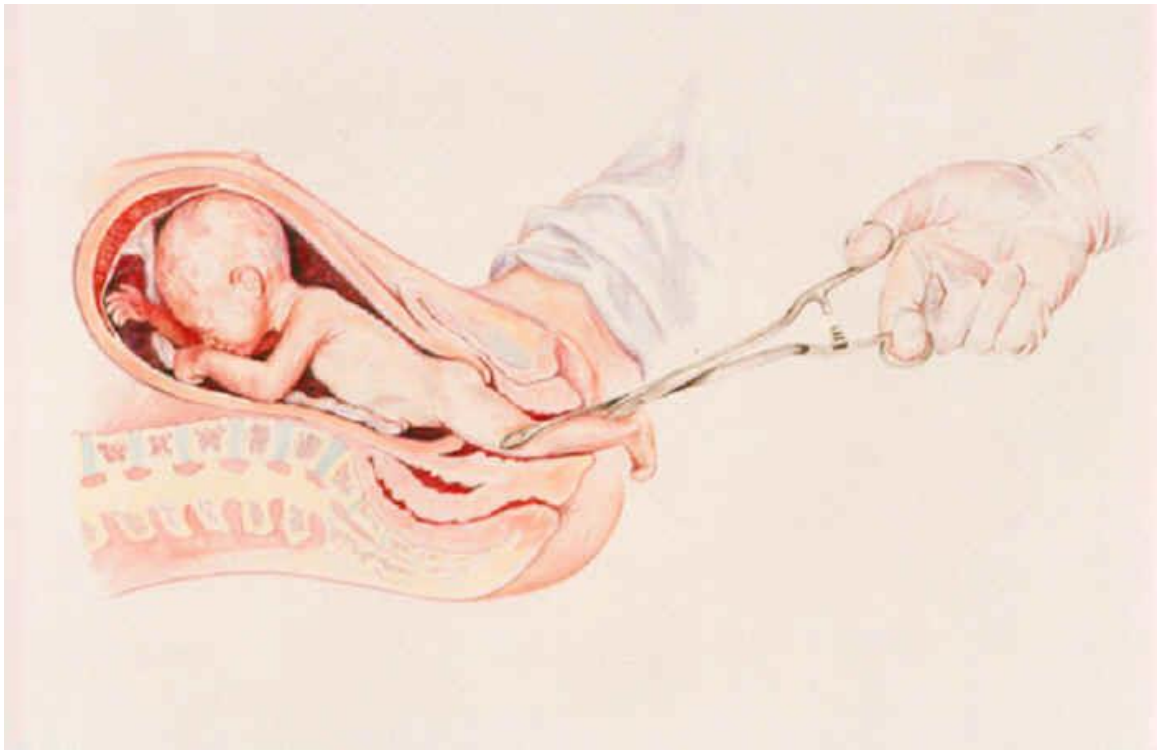
TERMINATION OF PREGNANCY

Depend on the size of the uterus.

If the uterine size is12 weeks & below, surgical evacuation by dilatation & curettage done under general anesthesia.

But if the uterine size is above 12weeks, then prostaglandins ( Vaginal , or Extra-amniotic) , Extra-amniotic saline infusion or Foley's catheter alone followed by Oxytocin infusion is used and be followed by surgical evacuation if there is retained products are still within the uterine cavity.





***Evacuation of missed abortion***

**Recurrent Miscarriage**: Defined as three or more spontaneous successive miscarriage.

Aetiology:

1. Chromosomal-Translocation. balanced translocation or Robertsonian translocation

2- Antiphospholipid Syndrome

(antiphospholipid antibodies), anticardiolipin antibodies.

Thrombophilia commonly factor V Leiden and prothrombin G20210A mutation

3-Uterine Anomalies like double or septate uterus.

4- Cervical Incompetence.

5-Ovarian Factors: Reduced ovarian reserve and luteal phase defect.

6- Infection: Caused by STORCH, Malaria, brucellosis can also cause recurrent abortion.

**Treatment:** directed to the possible cause

For the of the antibodies- Aspirin in a low dose or Heparin.

Uterine anomalies- Correction of the anomalies by surgery.

Cervical Incompetence: **Cervical cerclage** (**tracheloplasty**) usually done by **McDonald cerclage in some cases Shirodkar cerclage**, when the suture is inserted at the level of the internal os, and occasionally **abdominal cerclage**. The procedures are done under general anesthesia.

**Septic Miscarriage**:

May occur after spontaneous or induced abortion, more likely after incomplete miscarriage

Causative organisms include *Staphyloccus aureus*, *Clostridium welchii, Escherichia coli, Klebsiella, Serratia* and *Bacteroides* species, and group B haemolytic streptococci

**Clinical features**: Septic abortion is manifested by an odorous discharge from the vagina and cervix, pelvic and abdominal pain, marked suprapubic tenderness, signs of peritonitis, tenderness upon movement of the uterus or cervix, fever of 37.8-40.6 $^{0}$C , though hypothermia often heralds or accompanies endotoxic shock and jaundice due to haemolysis or oliguria secondary to septicaemia. Trauma to the cervix or upper vagina may be recognized if there has been a clumsy attempt to induce an abortion.

**Laboratory tests** include a complete blood count, urinanlysis, culture of discharge from the uterus, blood cultures, chest x-ray for diagnosis of septic emboli, and abdominal x- ray for the diagnosis of perforation or uterine foreign body. Serum and plasma sodium, and potassium and arterial pH should be recorded.

**Treatment:** Always hospitalize the patient and start high dose triple antibiotic therapy intravenously. Given whole blood transfusion as required and intravenous 5% glucose in water with 10 units of oxytocin and misoprostol rectal or vaginal. ERPC should be done after at least 24hrs antibiotic cover if on ultrasound scan shows retained product of conception.