MISCARRIAGE

Expulsion or extraction of a fetus (embryo) weighing less than 500 g equivalent to 20-22 weeks gestation or as termination before 24 weeks of gestation with no evidence of life.

The incidence is 15% of clinically apparent pregnancies, 25% of women will have 1 or more miscarriage.

Path physiology

- Disturbance of placentation: in most cases of early pregnancy failure there is inadequate placentation,

- there is a defective transformation of the spiral arteries and reduced trophoblastic penetration into deciduas.

Causes

- Fetal abnormality: 40% or more are abnormal (structural, chromosomal or genetic). The incidence of chromosomal abnormalities about 30-60%, the commonest chromosome, abnormality is trisomy followed by monosomy, triploidy and tetraploidy.

Most trisomies are secondary to non-disjunction during the first meiotic division of the oocyte; structural abnormalities including neural tube defects are also

associated with increased incidence of miscarriage. Abnormalities of implantation: these occur with intra uterine device.

- Multiple pregnancies.
- Intra uterine adhesion: after post-partum curettage, surgery or endometritis.
- Endocrine abnormalities: Diabetes, hypothyroidism, luteal phase deficiency, poly cystic ovarian syndrome.

- Uterine abnormalities: uterine septa, bicornuate uterus ,sub mucous fibroids by interfering with implantation.
- Infections: like toxoplasmosis Chlamydia trachomais, salmonella typhi, syphilis and mycoplasma hominines.

- Maternal disease: pyrexia infection, systemic lupus erytheromatosis and others.
- Chemical agents: tobacco, an anaesthetic gases, benzene.

- Immunological disorders: like anti phospholipids syndrome, hereditary thrombophilia Antiphospho lipid syndrome: Recurrent abortion with complication like intrauterine death,

accidental hemorrhage and thrombosis due to autoimmune antibodies that increased the risk of fetal wastage.

Cervical incompetence: either due to congenital causes or equired causes like over dilatation of cervix more than 10mm,

- obstetric injuries, cervical amputation, cauterization or cone biopsy. Both cervical incompetence and uterine abnormalities leads to mid trimester abortion.

- Trauma: after pelvic surgery.
- Psychological disorders.

TYPES OF ABORTION:

- THREATENED ABORTION:

Is defined as a painless vaginal bleeding occurring at any time between implantation and 24 weeks of gestation with the cervix not dilated and the fetus alive,

it must be well differentiated from ectopic pregnancy. D.DX: other causes of bleeding:

1. Cervical polyp.
2. Cervical carcinoma.
3. Vaginitis.
4. Haematuria or rectal bleeding miss diagnosed as vaginal bleeding.

Diagnosis:

- By clinical presentation and examination .ultrasound plays its important role in reassuring the patient that the fetus is alive and developing normally.

Treatment

- There is no specific treatment for threatened abortion may include bed rest, tonics, sedative, avoid heavy work and sexual intercourse.

Patients with threatened abortion at high risk to many complications in future like premature labor, low birth weight and perinatal death.

MISSED ABORTION:

- Is a gestational sac containing a dead embryo fetus before 20 weeks gestation without clinical symptoms of expulsion?
  Presentation:

- Signs of threatened abortion.
- Signs and symptoms of pregnancy regress.
- Uterus ceases to grow or may diminish in size.
- Brownish vaginal discharge.

- level of HCG fall
- On ultrasound a fetal heart action is not seen and the gestational sac may be collapsed after 16 weeks, there may be radiological evidence of fetal death including collapse of the fetal skeleton.

Complications of missed abortion:

a) Infection.
b) major coagulation disorder (DIC).
c) Psychological distress to the mother.

Treatment

In the first trimester, suction evacuation is performed, in the second trimester uterine activity is stimulated by oxytocin infusion after pretreatment with vaginal prostaglandin.

INEVITABLE ABORTION

- Bleeding from the uterus prior to 24 weeks with pain and cervical dilatation, can be complete or incomplete .depending on whether or not all fetal and placental tissues have been expulse from the uterus.

- INMPCOLETE ABORTION

Part of the concepts has been expelled but there is continuing bleeding due to tissues retained.

- COMPLET ABORTION:

The whole conceptus has been expelled, the typical features of incomplete abortion are heavy some time intermittent bleeding with passage of clots and tissue,

togther with lower abdominal cramps if these symptoms Improve spontaneously a complete abortion is more likely. Ultra sound examination is important in determining the absence or persistence of conception products inside the uterine cavity.

If the diagnosis is established its incomplete abortion or inevitable abortion the uterus should be evacuated in the first trimester the process is often incomplete and evacuation by curettage , in the second trimester this may not necessary

if ultrasound scan shows empty uterine cavity. The bleeding can be controlled by combination ergometrine (0.5) and 5 unit of oxytocin.

Supportive therapy:

I. Correction of blood loss.
II. Analgesia.
III. Antibiotics for infection.

If the mother is Rh-ve antiD immunoglobulin (250 units) should be given.

RECURRENT ABORTION:

Three or more consecutive miscarriage, occur in 1% of pregnancy, the risk of further miscarriage after 3 consecutive miscarriage has been estimated as (30-70%).

Investigations:

- Parental karyotyping.
- Pelvic U/S.
- HSG.
- Mid follicular LH\FSH
- Lupus anti-coagulant , anti-cardiolipin antibodies.

- High vaginal swab.
- Activated protein c-resistance.
- Thyroid function test.
- VDRL, toxoplasma test.
- Blood sugar estimation.

- Treatment:

According to the cause, in case of cervical incompetence, the most commonly performed procedure is the insertion of a strip of un absorbable

material in the substance of the cervix (Mac Donald suture) after U\S confirmation of fetal viability the optimum time is at 10 weeks of pregnancy, the suture should be removed if:

I. The membrane rupture.
II. Expulsive uterine contractions.

- In absence of these removal should be at 38 weeks, in case of congenital abnormalities of uterine cavity treatment by surgical removal of

uterine septum if present and reconstruction of uterus (Strassmanns Metroplasty) or removal of septum by hysteroscopy.

if any medical disorders are the cause by good control of this disorder like D.M or hypothyroidism.

- SEPTIC ABORTION:

Infection may occur with missed abortion and with incomplete abortion

that resulting from inadequate surgical evacuation in the first trimester or inexpert mechanical interference, there is may be a history of criminal abortion and evidence of lower genital tract injury is suggestive.

The commonest organism is E. coli, streptococci, staphylococcusMaureus, clostridia welchi, tetani and CL. perfringers.

Complications

- Endometrit is (infection of uterine cavity).
- Salpingo- ophrit is (infection of ovaries and tubes).
- Infection of other pelvic organs and general circulation (bacteremia and septicemia).

- Local and general peritonitis.
- Septic shock.
- Renal failure and liver failure.
- Maternal death with DIC.
- Late complications like. infertility, Asherman syndrome and cycle disturbances.

Investigations

- Vaginal and cervical swab.
- Blood and urine cultures.

Management

- The bleeding can be controlled by combination ergometrine (0.5) and 5 unit of oxytocin Uterus should be evacuated after antibiotic therapy,

if patient presented with endotoxic shock. The patient should be transferred to intensive care unit, cover antibiotics by I.V penicillin and gentamicin and metronidazole.

Large doses of hydrocortisone may be given (10gm. over24hr.) I.V fluid and blood if necessary close observation of vital signs,

urine output (30-60 of urine/ hr.) Metabolic acidosis can be corrected by bicarbonate. Dialysis may needed in sever renal cortical necrosis.