Obstetrics & Gynecology
TEAM

Bleeding in Early Pregnancy

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◆very important ◆mentioned by doctor ◆team notes ◆not important

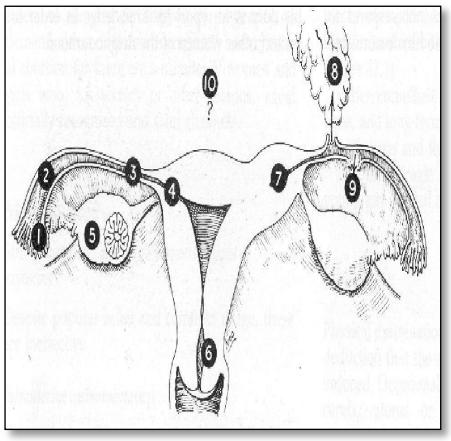
Is it important?? Yes because it can cause maternal death

Aims:

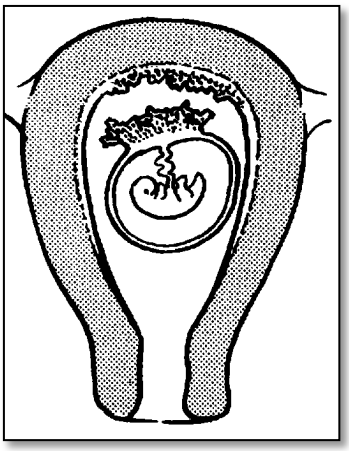
1- **To know that bleeding in early pregnancy is common and the differential diagnoses are extensive.**

2- **To critically assess the women with early pregnancy bleeding as this can kill the women.**

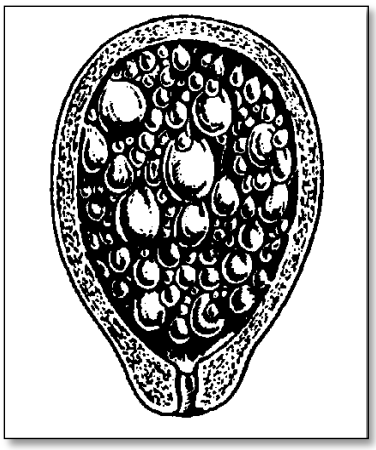
❖ **The underlying reasons of bleeding in early pregnancy:**



Ectopic pregnancy "most common"



Miscarriage



Local causes: in the cervix (polyps, infections or cancer),
Trauma (RTA)

❖ **Pregnancy Loss:**

- **Definition: Termination of the conceptus from the time of conception till the time of fetal viability (24 weeks). Why not 20 weeks?**

- **Biochemical pregnancy**
- **Clinical pregnancy**

Viability:

- **Fetal weight >500 grams**
- **Incidence: 15-20% of clinically recognized,**
- **Can be much higher if consider chemical pregnancies, before clinical recognition**

- Miscarriage is spontaneous while abortion is induced either by the doctor or the mother.
- Miscarriage or abortion is loss of pregnancy before 20 weeks which is the period of fetal viability (period of viability: can I resuscitate the fetus or not? Can he survive?)
- Because our country is following the WHO so we will say loss of pregnancy before 24 weeks (instead of 20 Ws) is miscarriage/abortion.
- Bleeding after 24 weeks is considered "antepartum hemorrhage"
- Biochemical pregnancy: by testing B HCG either in urine (urine pregnancy test) or blood with no sign of pregnancy in the US
- Clinical pregnancy: signs of pregnancy in US (first sign is the gestational sac).

❖ Pathology:

- **Hemorrhage into the decidua basalis.**
- **Necrotic changes and inflammation in the tissue, adjacent to the bleeding.**
- **Detachment of the conceptus.**
- **The above will stimulate uterine contractions resulting in expulsion.**

❖ Causes of abortion:

Maternal

Fetal

Immunological:

- Alloimmune response: failure of a normal immune response in the mother to accept the fetus for duration of a normal pregnancy.
- Autoimmune disease: antiphospholipid antibodies especially lupus anticoagulant (LA) and the anticardiolipin antibodies (ACL).

Uterine abnormality:

- Congenital: septate uterus → recurrent abortion.
- Fibroids (submucus)
- Polyp > 2 cm diameter.
- Cervical incompetence: → second trimester abortions. "The internal os is not constricted. This condition is diagnosed mainly by history. Patient will present with painless abortion."

Endocrine:

- Diabetes Mellitus
- Hypothyroidism.
- Luteal Phase Defect (LPD): a situation in which the endometrium is poorly or improperly hormonally prepared for implantation. (Questionable).

Infections:

TORCH infections,

Environmental:

Toxins: alcohol, smoking, drug abuse, ionizing radiation.

Chromosome Abnormality:

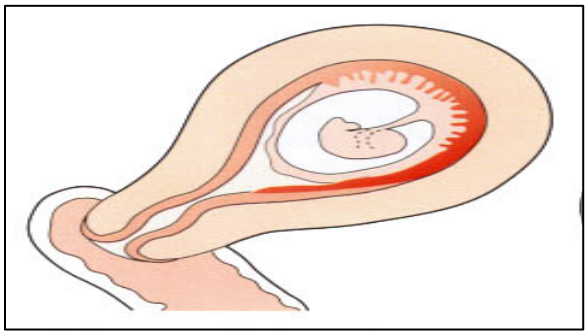
50% of spontaneous losses are associated with fetal chromosome abnormalities:

- Autosomal trisomy
- Monosomy
- Triploids

❖ Classification and subtypes:

1- Spontaneous "something goes wrong in her body or uterus"

a. Threatened abortion:



- 25% of pregnancies
- This refers to bleeding from placental bed, minimal bleeding.
- The pregnancy is sound. In practice any case of bleeding before the 24th weeks may be classified as threatened abortion in the absence of any other explanation.

The patient will come to your clinic with:

- A period of amenorrhea.
- Mild bleeding (spotting). "Might be heavy bleeding"
- Mild pain.
- Internal cervical os is closed.
- Gestational age/ pregnancy test/ Ultrasound
- **In bimanual exam:** Vulvae, Vagina and Cervix are healthy,
- Uterus corresponds to period of gestation,
- **USS:** viable intra uterine fetus.

- Closed internal os
- The fetus is intact. She might loose him.
- Diagnosed by history and examination.
- She DOES NOT pass any tissue.
- Confirmed by US

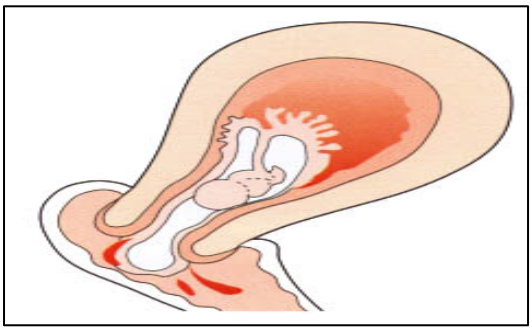
- 97% of the threatened abortions with viable fetus, reassurance and care will end up with normal delivery.

Management

- Expectant; reassurance.
- Anti D if Rhesus negative to protect the next pregnancy
- Hormones; Progesterone and Rest ??? "Prof. Lulu said no need to give her hormones"

b. Inevitable abortion:

Clinical features:



- A period of amenorrhea.
- Heavy bleeding accompanied with clots (may lead to shock).
- Severe lower abdominal pain no passage of tissue.
- Internal cervical os is open and product of conception may be felt in the cervical canal.
- **Bimanual Exam:** Vulvae, Vagina and Cervix are healthy
- Uterus corresponds to period of gestation.

- She does not pass any tissues but she will loose her fetus

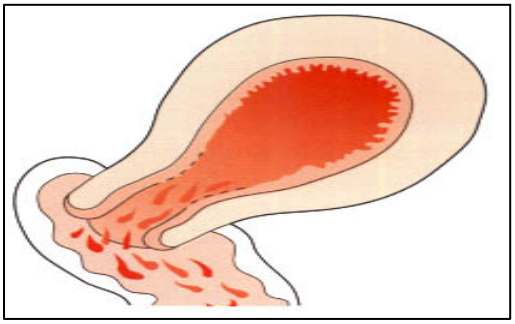
- If there is heavy bleeding we have to enhance the procedure by oxytocin

Management:

- Intravenous fluids
- Cross Match blood.
- Oxytocin; Syntocinon Intravenous infusion.
- Evacuation of the uterus
- Anti D if Rhesus negative

c. Incomplete abortion:

Clinical feature:



- Partial expulsion of products of Conception
- Bleeding and colicky pain continue.
- P.V.: cervix os is open, retained products of conception (RPOC) may be felt in the canal.
- Uterus is smaller.
- **USS:** retained products of conception.

Management:

- If bleeding: go for Evacuation and Curettage (E&C). Complication of the procedure?
- If no bleeding: give oxytocic medication: Ergometrine/ cytotic and repeat the USS in 7-10 days.
- Give Anti D
- Check Rubella immunity
- Advices.

d. Complete abortion:

Clinical features:

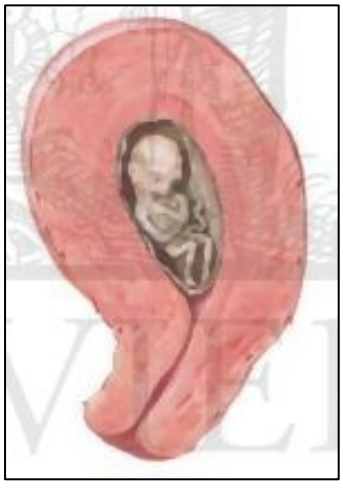
- A period of amenorrhea.
- Gestational age
- Heavy bleeding accompanied with +/-clots
- Severe lower abdominal pain with passage of tissue expulsion of all products of conception.
- Cessation of bleeding and abdominal pain.
- P.V.: cervix; internal os is closed
- Uterus is bulky smaller than gestational age.
- **USS:** empty uterus.

Management:

- Anti D, Rubella, Advises.

e. Missed abortion:

Clinical features:



- Gradual disappearance of pregnancy Signs and Symptoms.
- Brownish vaginal discharge.
- Pregnancy test: may be + ve for 3-4 weeks after the death of the fetus.
- **USS:** Absent fetal heart pulsations. Empty Gestational sac

Complications:

- Infection (Septic abortion).
- Disseminated intravascular coagulation (DIC).

Management:

- Wait 4 weeks for spontaneous expulsion
- Terminate the pregnancy if:
  Spontaneous expulsion does not occur after 4 weeks, or if there is: Infection or bleeding.

- Spontaneous expulsion means termination of pregnancy
- If abortion occurs before 4 weeks we have to worry about DIC, otherwise no.
- Less than 12 weeks: we can do surgery but there will be complications.
- More than 12 weeks: induce labor by medications
- Why 12 weeks? Because the fetus has bones at this time

- **Manage according to size of uterus:**
  - **Uterus < 12 weeks:** dilatation and suction evacuation (D&C).
  - **Uterus > 12 weeks:** Oxytocic medications, cytotic drugs.

f. Septic abortion:

- Uterine infection at any stage of abortion

Causes:

- Delay in evacuation of uterus
- Delay seeking advice
- Incomplete surgical evacuation followed by infection from vaginal organisms:
  - Anaerobic bacteroids
  - Clostridium welchin
  - Bacterial fragilis
  - Coliform bacillus

Infected abortion that becomes septic causing septicemia then death.

g. Recurrent abortion:

When a woman has had 3 consecutive miscarriages.

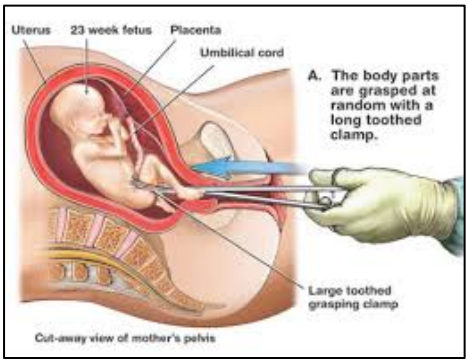
Etiology:

- **Genetic factors**
  Karyotyping of both partners will reveal chromosomal anomalies
- **Anatomical factors**
  Uterine anomalies.
  Cervical incompetence.
  Hysteroscopy & HSG – Septum / Fibroid
- **Endocrine problem**
- **Immunological factors**
  Recurrent miscarriage is common in couples with similar HLA types.
  Common in women with antiphopholipid antibodies syndrome.
  Anticardiolipid ant. & Lupus anticoagulant.

2. Induced abortion:

a. Therapeutic abortion:

Termination of pregnancy before time of fetal viability for the purpose of safe guarding the health of the mother.
For example in case of heart disease, invasive cancer of cervix.



An agreement for termination is given by 2 heart consultants and obstetricians.

b. Elective (voluntary)"criminal" abortion:

The interruption of pregnancy before viability at request of the women but not for reason of ill-health of either mother or fetus**.**
This is not done in this country

❖ Abortion technique:

- **Medical:**
  - Oxytocin
  - Prostaglandins; misoprostol
  - Anti progesterone RU 486: (Mifepristone)

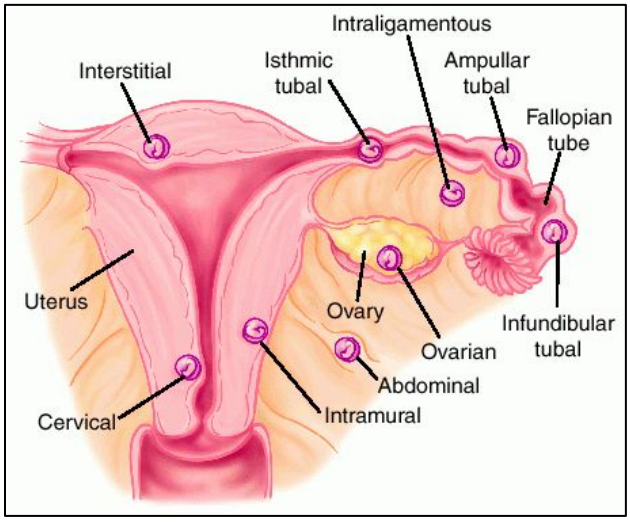
- **Surgical:**
  D & C, E&C, Suction Evacuation.

❖ Ectopic pregnancy:

Fertilized embryo implanted outside the uterine cavity.

❖ Sites of ectopic pregnancy:

1. **Fallopian tube (98%)**
   - Ampullary (most frequent)
   - Isthmic
   - Infundibular and fimbrial
   - Interstitial (least frequent)
2. **Other sites**
   - Abdominal
   - Ovary
   - Cervical



**Step up to OB/GYNE

- Leading cause of maternal deaths in the first trimester
- Constituting 1-2% of all conceptions
- Subsequent infertility
- Incidence increasing
- Mortality decreasing with better detection and early awareness

❖ Risk factors:

Women are at higher risk for tubal pregnancy:

- Prior history of PID (pelvic inflammatory disease)

Tubal pregnancy:

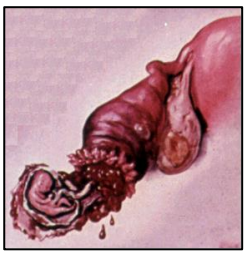
- **May occur before she misses her period**
- **A woman who had a history of previous ectopic pregnancy should inform her doctor immediately when misses her period**
- **She'll present with rupture**
- **No x ray pregnancy**
- **No intrauterine pregnancy on US**
- **Asymptomatic**
- **So check and repeat B HCG: if it is going down then it's dying pregnancy**
- **Repeat 48 platelet: if doubled then it's normal pregnancy. If not then it's abnormal pregnancy.**

- Tubal Surgery
- Previous Ectopic Pregnancy
- IUD (intrauterine device)
- Tubal abnormalities
- Assisted conception, IVF
- Tubal sterilization depends on type
- Pelvic surgery

- These are factors that lead to tubal damage or dysfunction and thus prevent or delay passage of the fertilized ovum into the uterine cavity.

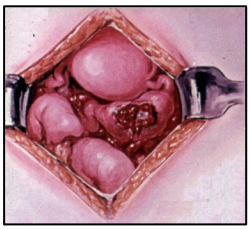
❖ **Outcome:**

1. Spontaneous resolution
2. Tubal abortion
3. Rupture of tubal pregnancy
4. Secondary abdominal pregnancy (may reach 9 months)



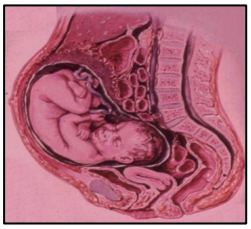
❖ **Symptoms:**

Ectopic pregnancy often confused with those of a miscarriage or pelvic inflammatory disease.



- The most common symptoms "classic triad":

  Amenorrhea
  Abdominal/pelvic pain
  Irregular vaginal bleeding



- A ruptured ectopic pregnancy is a true medical emergency.
- Common symptoms of a ruptured ectopic pregnancy include the following:

  Dizziness, pale complexion, sweaty, fast heart beat.
  Abdominal/pelvic pain.
  Shoulders tip pain.
  Pain at defecation

❖ **Examination:**

- Examine the woman from top to toe
- Vital signs
- Abdominal examination
- Pelvic examination; should be extremely careful

❖ **Diagnosis:**

- An ectopic pregnancy should be considered in any woman with abdominal pain or vaginal bleeding who has a positive pregnancy test. High index of suspicion
- An ultrasound showing:
  - Gestational sac with fetal heart in the fallopian tube is clear evidence of ectopic pregnancy.
  - Pseudo sac and a gestational sac in the tube
  - Empty uterus and positive pregnancy test
- An abnormal rise in blood β-hCG levels may also indicate an ectopic pregnancy.

❖ **Management:**

Once diagnosed, patient needs to be fully aware of the risks involved.

1. **Expectant**
   There are conditions that needs to be fulfilled
2. **Surgical** (if there is sever abdominal pain or bleeding and no medical therapy. "Laparoscopy or laparotomy")

   - Laparoscopy is performed for:
     Symptomatic patient
     Fluid/blood in the Pouch of Douglas
     Negative laparoscopy: follow-up with β HCG for the reasons:
     - Intrauterine pregnancy
     - Ectopic pregnancy that has been missed

   - Laparotomy
   - Salpingostomy/ salpingotomy
   - Salpingectomy

3. **Medical** (chemotherapy because they are chorionic villi (rapidly dividing cells)).
   Methotrexate (1 mg/kg): is an anti metabolite that interferes with the synthesis of DNA by inhibiting the action of Dihdrofolate reductase.

❖ **Indications:**

- Haemodynamically stable, no active bleeding, no haemoperitneum, minimal bleeding and no pain
- No contraindications to methotrexate
- Able to return for follow up for several weeks
- Unruptured adenexal mass < 4 cm in size by scan
- No cardiac activity by scan
- βhCG does not exceed 5000 IU/L
- Willing for treatment
- Facility for USS monitoring
- Facility of βhCG monitoring

❖ **Contraindications:**

- Breastfeeding
- Immunodeficiency / active infection
- Active pulmonary disease
- Peptic ulcer or colitis
- Blood disorder
- Hepatic, Renal or Haematological dysfunction

❖ **Side effects:**

- Nausea & Vomiting
- Stomatitis
- Diarrhea, abdominal pain
- Photosensitivity skin reaction
- Impaired liver function, reversible
- Severe neutropenia
- Reversible alopecia
- Haematosalpinx and haematoceles

❖ **Treatment Effects:**

- ↑ Abdominal pain (2/3 of patient) "it will be dislodged so uterus will contract expelling the products".
- ↑ βhCG during first 3 days of treatment
- Vaginal bleeding
- Increase in the size

❖ **Signs of Treatment failure and tubal rupture:**

- Significantly worsening abdominal pain, regardless of change in serum βhCG, check CBC)
- Haemodynamic instability
- Level of βhCG does not decline by at least 15% between Day 4 & 7 post treatment
- ↑ or plateauing βhCG level after first week of treatment

❖ **Follow up:**

- Repeat βhCG on Day 5 post injection if <15 % decrease – consider repeat dose
- If βhCG >15 ↓ recheck weekly until <25 ul/l
- Surgery is considered in women presenting with severe pain in the first few days after methotrexate and careful clinical assessment is required. If there is significant doubt surgery is the safest option

❖ **Tubal procedures:**

- **Salpingotomy (or -ostomy):** Making an incision on the tube and removing the pregnancy.
- **Salpingectomy:** Cutting the tube out.
- **Fimbrial expression:** "Milking" the pregnancy out the fimbrial end of the tube. Care of bleeding

- In the future: The chance of recurrent ectopic pregnancy is about 10%.

SUMMARY

- Ectopic pregnancy is the most common cause of bleeding in early pregnancy.
- Pregnancy loss: before 24 weeks
- Biochemical pregnancy: testing B hCG in urine/blood. Clinical pregnancy: US signs
- Causes of abortion: (fetal): chromosomal abnormality. (maternal): uterine abnormalities such as, septate uterus (recurrent abortion), polyps, fibroids and cervical incompetence.
- We have two types of abortion:

1. **Induced:** elective (voluntary, criminal) and therapeutic.
   - Abortion techniques:
     Medically by: oxytocin, prostaglandins (misoprostol) or anti progesterone RU 486: (Mifepristone).
     Surgically: D & C, E&C and Suction Evacuation.
2. **Spontaneous:**
   a. **Threatened:** Closed internal os, the fetus is intact (she might loose him), she DOES NOT pass any tissue, mild pain and confirmed by US.
   b. **Inevitable:** Heavy bleeding with clots, severe pain, no passage of tissue, internal cervical os is open and she will lose her fetus.
   c. **Incomplete:** Partial expulsion of products of conception, bleeding, colicky pain and cervical os is open.
   d. **Complete:** Heavy bleeding, severe pain with passage of tissue expulsion of all products of conception, internal os is closed and uterus is empty on US.
   e. **Missed:** Gradual disappearance of pregnancy Signs and Symptoms, brownish vaginal discharge, absent fetal heart pulsations and empty gestational sac on US.
   f. **Septic.**
   g. **Recurrent:** 3 consecutive miscarriages.

- Sites of ectopic pregnancy: fallopian tube common (ampullary, isthmic, infundibular and interstitial), ovary, abdomen and cervical.
- Risk factor: prior history of PID.
- Symptoms: classic triad (amenorrhea, abdominal/pelvic pain and irregular vaginal bleeding)
- Managed by:
  a. Expectant therapy
  b. Medical (methotrexate)
  c. Surgical (laparoscopy and laparotomy)