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# LEARNING OBJECTIVES

- *Understand the social and emotional context of early pregnancy loss.*
- *Understand why a high suspicion of pregnancy is needed in all women of reproductive age with symptoms.*
- *Obtain a detailed knowledge of the clinical presentation and management of miscarriage and ectopic pregnancy.*
- *Obtain an awareness of less common early pregnancy conditions, including recurrent miscarriage, gestational trophoblastic disease and hyperemesis gravidarum.*

causes

OF

EARLY  
PREGNANCY  
BLEEDING  
?



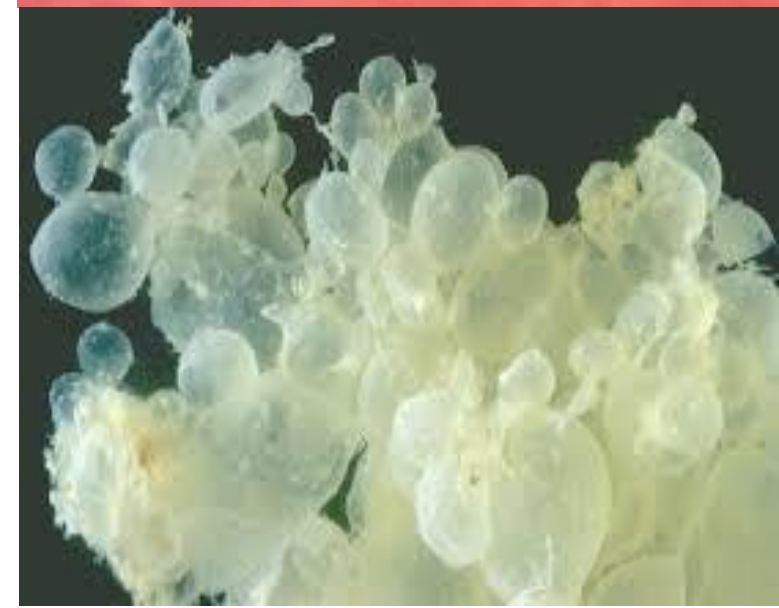
Miscarriage



ECTOPIC PREGNANCY



molar  
pregnancy





# Miscarriage

is a pregnancy that ends spontaneously before 24 weeks' gestation or ( or before viability).

❑ What is viability?

More than 24 weeks of gestation or more than 500 gms.



## ➤ *Incidence:*

*15 - 20% of pregnancies .*

## ➤ *Classification:*

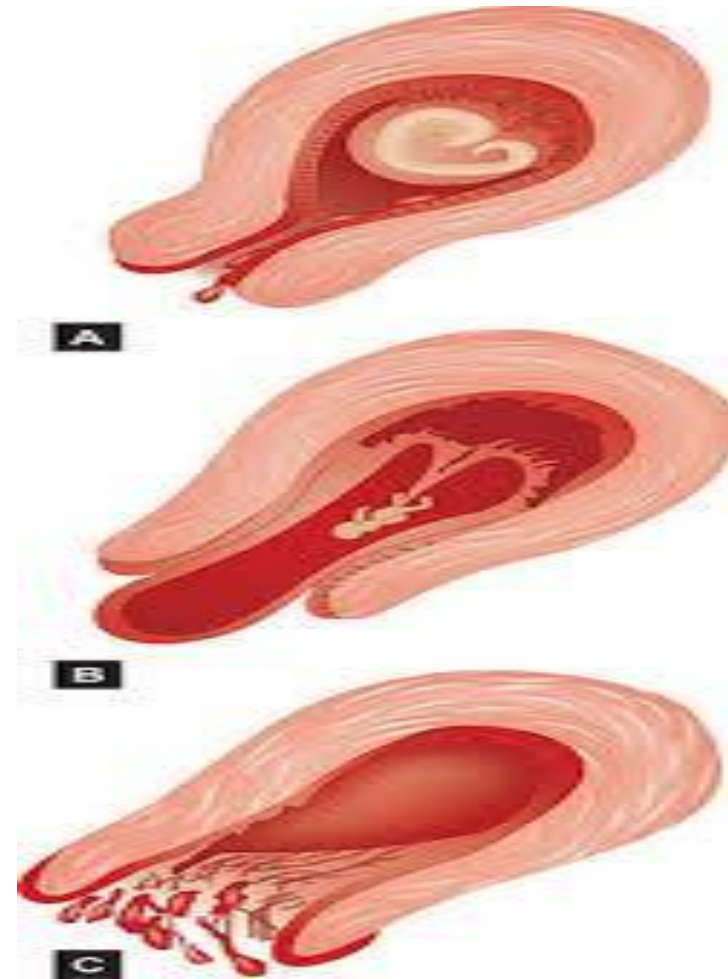
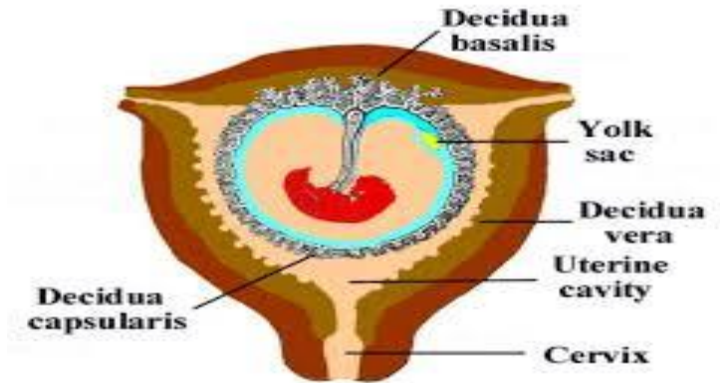
- 1. Spontaneous miscarriage:  
occurs without medical or mechanical.*
- 2. induced abortion.*



# Pathophysiology

*Haemorrhage into the decidua basalis lead to:*

- A. Necrotic changes in the tissue adjacent to the bleeding.*
- B. Detachment of the conceptus.*
- C. The above will stimulate uterine contractions resulting in expulsion.*

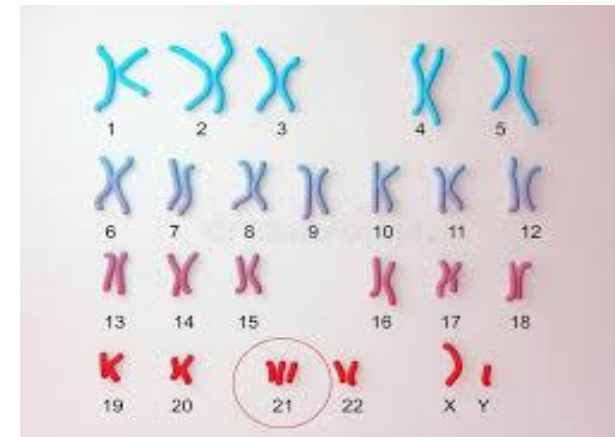
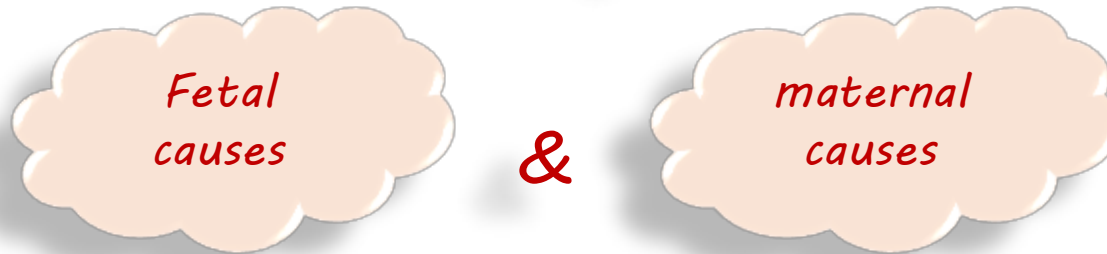




## RISK FACTOR

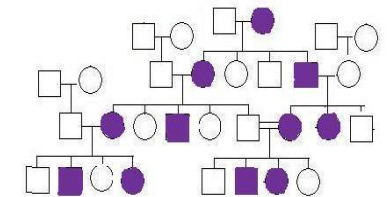
- *Maternal age - more than 35years.*
- *Increased gravidity.*
- *Previous history of miscarriage.*
- *Multiple pregnancy*

# Causes of miscarriage



## Fetal causes:

- ✓ Chromosomal e.g. Trisomy.
- ✓ Structural e.g. Neural tube defect.
- ✓ Genetic e.g. X- Linked diseases



X-Linked Dominant



## Maternal causes:

### ➤ Immunological:

Autoimmune diseases : APL.

### ➤ uterine abnormality:

septate uterus & cervical incompetence .

### ➤ Endocrine :

✓ Poorly controlled diabetes (type 1/type 2).

✓ hypothyroidism and hyperthyroidism.

### ➤ Infections (maternal/fetal):

✓ as TORCH infections.

✓ listeria

### ➤ Environmental toxins:

✓ alcohol.

✓ Smoking.

✓ drug abuse.

✓ ionizing radiation.



chromosomal abnormalities



placental problems



thrombophilia



congenital birth defects



infections



poorly controlled chronic conditions



cervical insufficiency



abdominal trauma



drug and alcohol use

## ❑ *Clinical presentation*

- ✓ *The most common sign of miscarriage is vaginal bleeding.*
- ✓ *Abdominal pain.*
- ✓ *Hypovolemic shock.*
- ✓ *Expulsion of products of conception.*
- ✓ *A symptomatic.*
- ✓ *Each type has its own symptoms*



# TYPES

## MISCARRIAGE

- threatened

incomplete



- inevitable



missed.





# Threatened miscarriage

## ❑ Clinical feature:

- Amenorrhea.
- Mild bleeding (spotting).
- Mild pain.

## ❑ On examination:-

- Uterus corresponding to the date.
- PV: closed cervical os.

## ❑ Investigations:

- Pregnancy test (hCG): + ve.
- US: viable intra uterine fetus.

## ❑ Management:

- reassurance.
- Rest.
- Repeated U/S
- Progesterone support.

## \* THREATENED MISCARRIAGE

~ COMMON & MOSTLY DOES NOT  
RESULT in a MISCARRIAGE





# Inevitable miscarriage

## ❑ Clinical feature:

- Amenorrhea.
- heavy bleeding accompanied with clots (may lead to shock).
- Severe lower abdominal pain.

## ○ On examination:

- P.V.: opened cervical os + product inside the cervical canal.

## ❑ Management :

- I.V fluids.
- Blood if need.
- Digital evacuation if possible.
- Ergometrine & syntocenon.
- evacuation of the uterus (medical/surgical).

~ ABDOMINAL CRAMPING PAIN  
~ UTERINE CONTENTS VISIBLE DURING PELVIC EXAMINATION



# Incomplete miscarriage

\* INCOMPLETE MISCARRIAGE

## ❑ Clinical feature:

- Partial expulsion of products
- Bleeding
- colicky pain continue.

## ❑ On examination:

- P.V.: opened cervix.
- retained products may be felt through it.

## ❑ Investigations:

- US: retained products of conception.

## ❑ Treatment :

- Medical or surgical.
- Surgical evacuation.
- Medical evacuation(prostaglandins , syntocenon).



# Complete miscarriage

## □ Clinical feature:

- Expulsion of all products of conception.
- Cessation of bleeding and abdominal pain.

## □ on examination:

- P.V.: closed cervix.

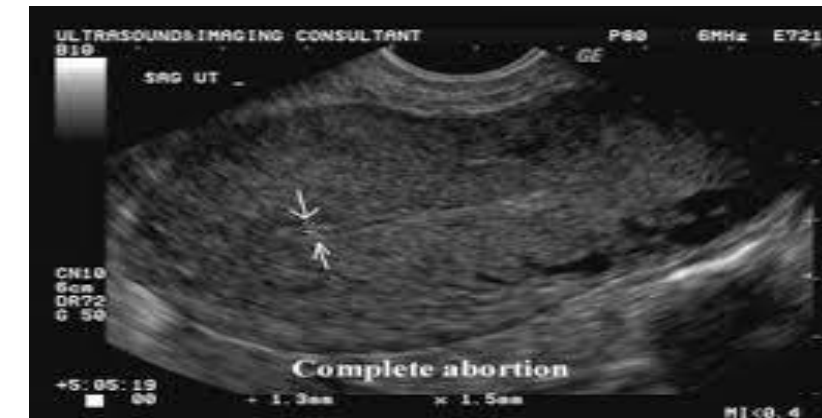
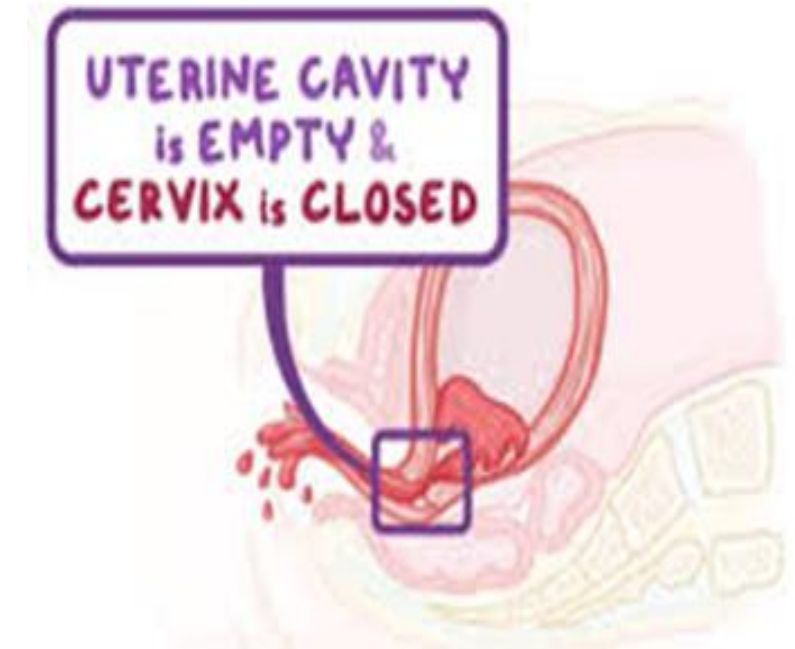
## □ Investigations:

- US: empty uterus.

## □ Treatment:

- Supportive.

## \* COMPLETE MISCARRIAGE



# Missed miscarriage

## ❑ Clinical feature:

- gradual disappearance of pregnancy Symptoms Signs.
- Brownish vaginal discharge.
- Milk secretion.

## ❑ Investigations:

- Pregnancy test: negative( but it may be + ve).
- US: absent fetal heart pulsations.

## ❑ Complications :

- Hypofibrinogenemia .
- Infection.
- DIC

## ❑ Treatment :

- conservative: Wait 4 weeks for spontaneous expulsion -
  - Surgical:( D&C) if Spontaneous expulsion does not occur after 4 weeks..
- Or if it's the choice of the pt .
- Medical: PGs.





Threatened Miscarriage



Inevitable Miscarriage



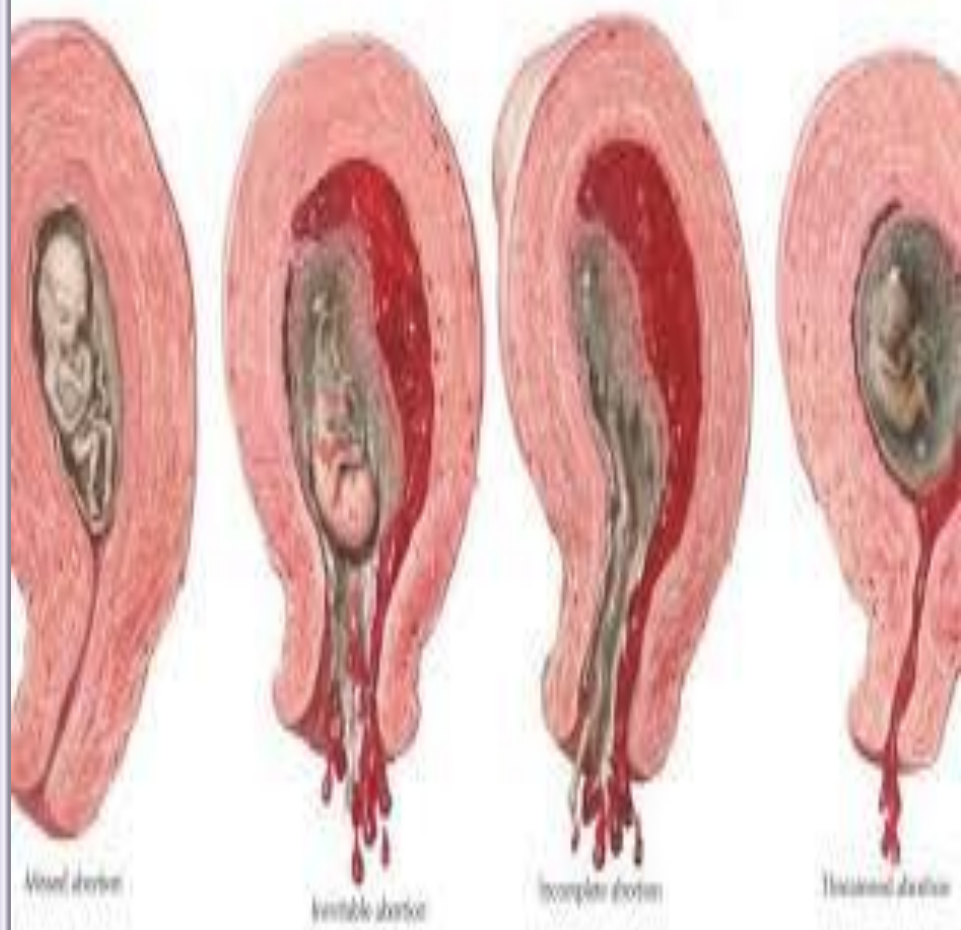
Complete Miscarriage



Incomplete Miscarriage



Missed Miscarriage



# Types of miscarriages with ultrasound findings and clinical presentation

Type of miscarriage	Ultrasound scan (USS) findings	Clinical presentation	Management
Threatened miscarriage	Intrauterine pregnancy with FH	Vaginal bleeding Abdominal pain Speculum cx os closed	Supportive
Inevitable miscarriage	Intrauterine pregnancy (with no FH)	Vaginal bleeding Abdominal pain Speculum cx os open	Expectant medical or surgical
Incomplete miscarriage	RPOC	Vaginal bleeding Abdominal pain Speculum cx os opened Retained products found in the os	Remove RPOC if possible at time of examination (speculum) Expectant medical or surgical
Complete miscarriage	Empty uterus Serum h CG to exclude EP (If no previous one with intrauterine pregnancy )	Vaginal bleeding & Abdominal pain resolved Speculum cx os closed	Supportive
Missed miscarriage	IUP No FH	A symptomatic often diagnosed at booking UUS	Expectant medical or surgical

## ❑ *Investigations*

- *Transabdominal/TVUSS:*

*a single ultrasound scan can diagnose a miscarriage if there is a pregnancy within the uterine cavity .*

- *Haemoglobin and 'Group and Save' (or cross-match if patient is severely compromised):*

- *Assess degree of vaginal loss and rhesus status.*



# Management

- expectant.
- medical
- surgical.

□ approach *depending* on clinical presentation and patient choice.

## ○ Expectant management

- To avoid surgery.
- urinary pregnancy test after 3 weeks and it is positive
- let pt. come again.

She may need surgical treatment if she start to bleed heavily.





## ○ *Medical management*

- Used in outpatient setting
- allow women to miscarry at home.

## ○ *It involves*

- prostaglandin E analogue (misoprostol).
- progesterone antagonist (mifepristone)(if >9wks').

## ○ *The side-effects include:*

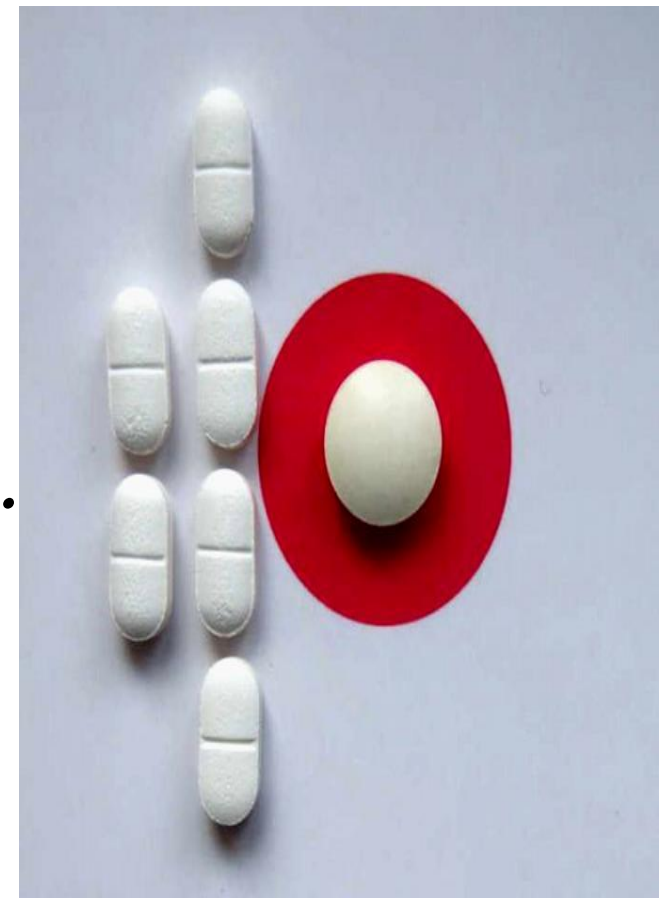
✓ Pain.

✓ Vomiting

✓ Diarrhoea.

✓ women are routinely provided with pain relief and antiemetics).

○ post-treatment pregnancy test is recommended.



Women may need surgical treatment if medical treatment fail.

## ○ *Surgical management*

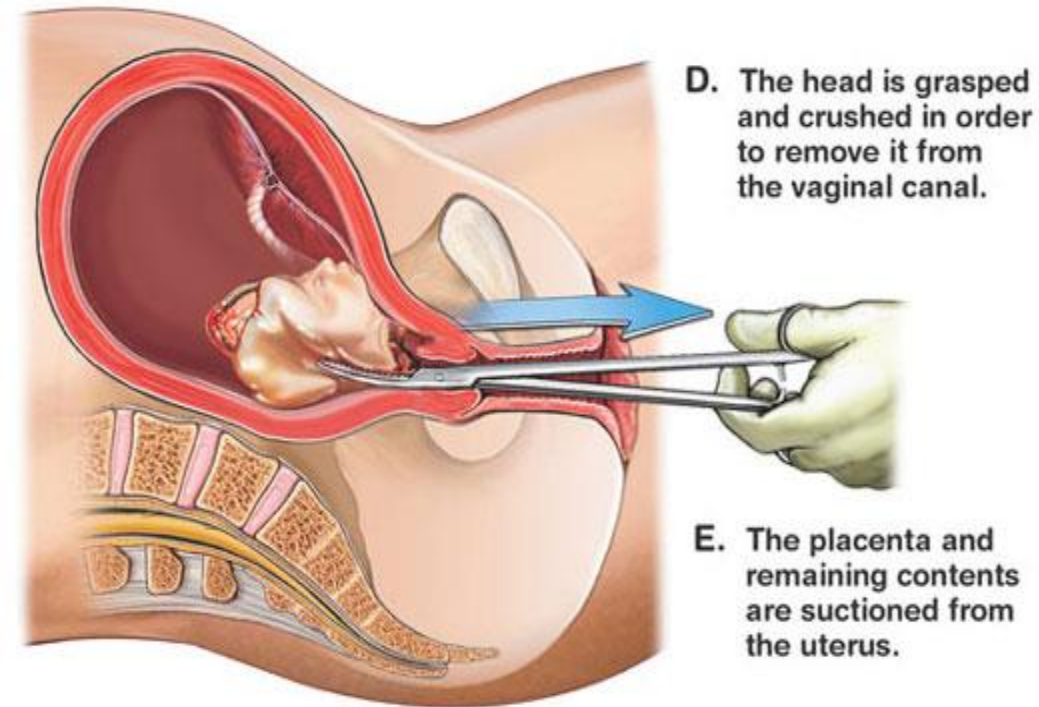
□ *if there is:*

- ✓ *persistent excessive bleeding.*
- ✓ *haemodynamic instability.*
- ✓ *if women favour it.*

□ *It can be **done** by Surgical evacuation.*

□ ***Evacuation risks:***

- ✓ *uterine perforation.*
- ✓ *postoperative pelvic infection .*
- ✓ *cervical trauma and subsequent cervical incompetence.*



# Recurrent miscarriage

## ❑ Definition:

Loss of three or more consecutive pregnancies.

## ❑ Incidence:

- 1% of pregnancies.

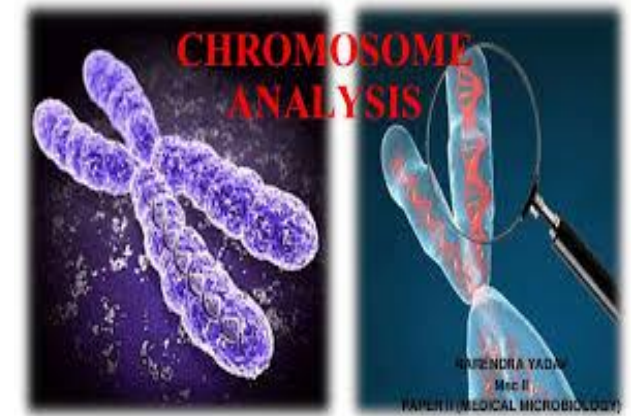
## ❑ Risk factors:

- Advancing maternal and paternal age.
- Obesity.
- Balanced chromosomal translocations.
- Congenital abnormalities.
- Uterine structural anomalies and cervical incompetence .
- Antiphospholipid syndrome (APS).



# □ Investigations

- testing for antiphospholipid antibodies
- imaging of the uterus.
- Products of conception should be sent for cytogenetic analysis to detect chromosomal abnormality.
- peripheral blood karyotyping of both partners should be performed.



*Most couples have normal investigations*



## ❑ Diagnosis of cervical incompetence:

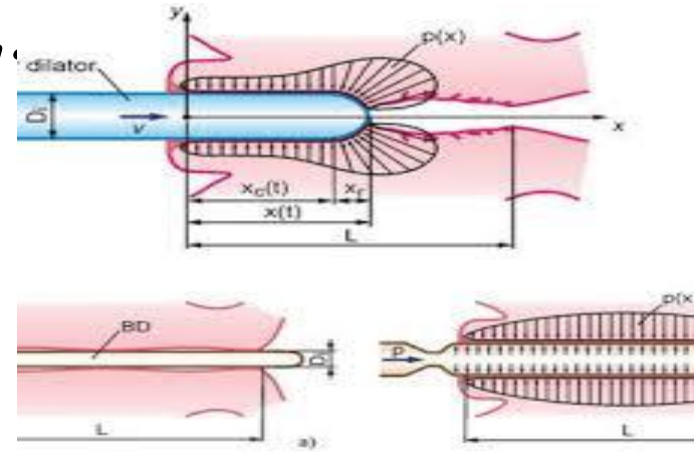
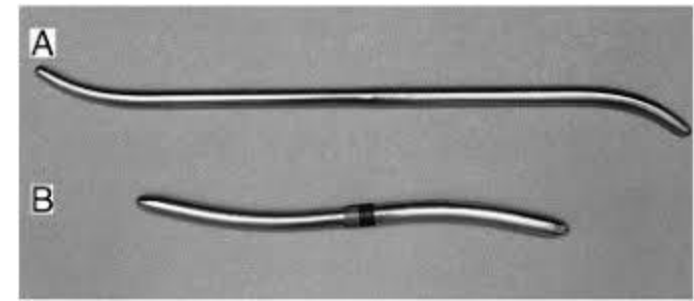
- From history
  - Three or more miscarriages.
  - Painless vaginal bleeding.
  - decreased gestational age in subsequent pregnancy.

## From investigations:

- Hagar dilator (No. 8).
- HSG.
- During pregnancy: US Funnel shape, short cervix.

## ❑ Management:

Cervical cerclage.



# SEPTIC MISCARRIAGE

- ✓ Following an incomplete miscarriage due to ascending infection.
- ✓ Or following criminal abortion.

## □ Clinical picture: -

### ○ Symptoms:

- ✓ Offensive bloody vaginal discharge.
- ✓ Increased body temperature.
- ✓ Lower abdominal pain (pelvic peritonitis)
- ✓ generalized peritonitis.

### ○ Signs:

- ✓ Increased pulse rate.
- ✓ Dehydration.
- ✓ toxicity.



## ❑ Investigations:

- ✓ Blood.
- ✓ FBC.
- ✓ BHCG.
- ✓ Renal profile. (2ry to septic shock).
- ✓ Blood grouping & cross matching.
- ✓ ESR.
- ✓ High vaginal swab for C/S.
- ✓ Blood culture & sensitivity (if needed).

## ❑ Treatment:

- ✓ Antibiotic.
- ✓ iv fluids.
- ✓ blood transfusion.
- ✓ Evacuation of retained product.



# SEPTIC SHOCK

Tachypnea  
Tachycardia

Hypotension  
Hypothermia

Oliguria

Sepsis

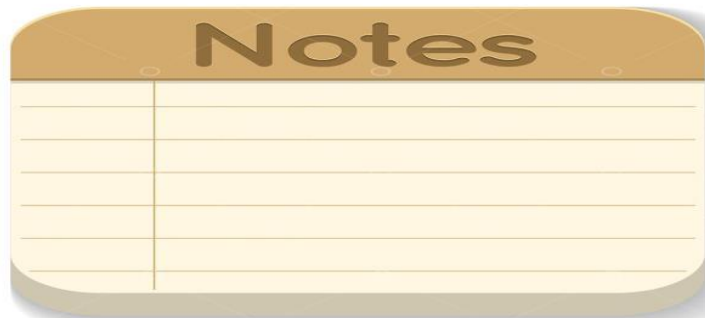
Multi organ  
failure



# Anti-D administration

- All rhesus-negative women who have a surgical procedure to manage an EP or miscarriage should be offered anti-D immunoglobulin.
- *Anti-D is not required for*
  - ✓ Threatened miscarriage.
  - ✓ complete miscarriage.
  - ✓ medical management of miscarriage or EP.
  - ✓ but guidelines differ, and prophylaxis is often given





*In all form of miscarriages:*

*general clinical assessment should be made:*

- vital signs.*
- abdominal examination.*
- vaginal examination.*
- All needed investigations + / - u/s.*
- Send product for histopathology.*
- Management should be according to clinical Type & gestational age.*



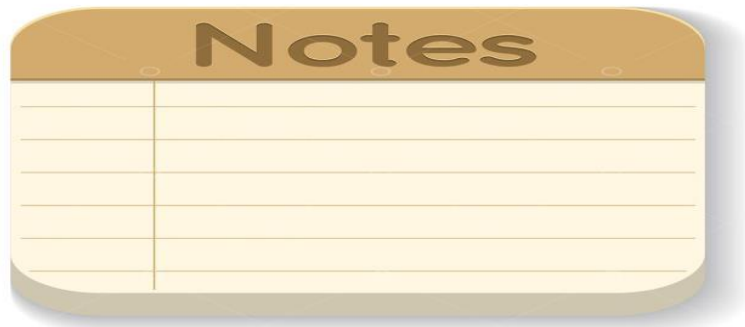
➤ Pt emotionally distressed by her physical symptoms & loss of her baby.



So

➤ Support her.  
➤ Explain the causes & reassure her she is not guilty





*In all form of miscarriages:*





Any  
Questions?