

Bleeding in early pregnancy

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Definition:

- It's bleeding through the genital tract during pregnancy before the age of viability. (24 -28 ws)

Causes:

1. Abortion
2. Ectopic pregnancy
3. Gestational trophoblastic disease (Molar pregnancy)
4. Local gynecological causes

Abortion

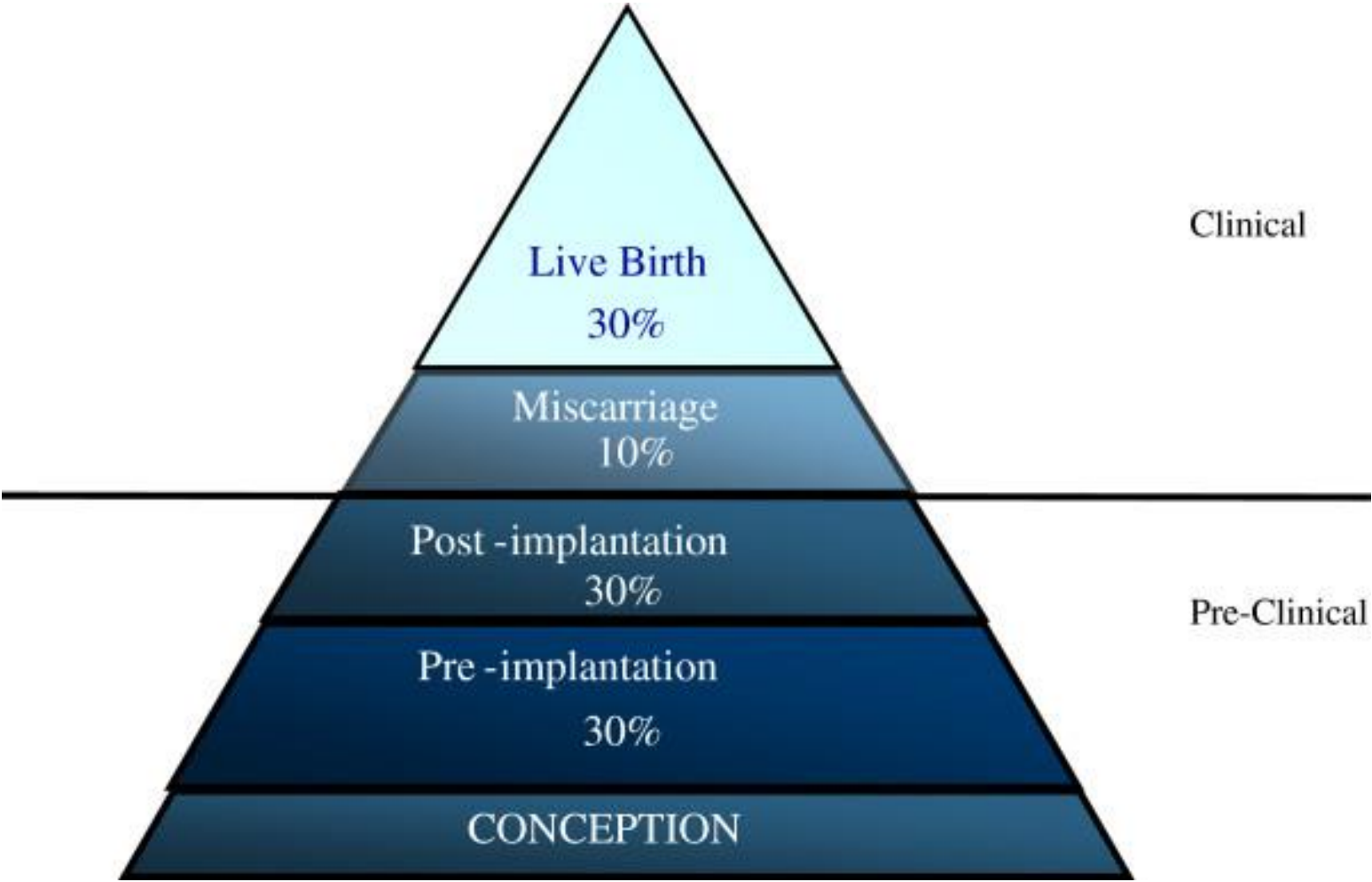
Abortion

- **Definition:**

Termination of pregnancy before the age of viability, either spontaneous or induced.

- **Incidence:**

1:10



Causes

1- Fetal factors

- Genetic abnormalities. e.g. aneuploidy and blighted ovum.

2- Maternal Factors

- Extremes of age.
- Infections.
- Corpus luteum deficiency.
- Uterine factors. e.g. anomalies, IU adhesions, polyp, myoma or cervical incompetence.
- Polycystic ovary syndrome.

- Endocrinological dis. : e.g. DM (poorly controlled) & hypothyroidism.
- Immunological: e.g. APA syndrome and SLE.
- Renal diseases.
- Obesity.
- Exogenous: Tobacco, Caffeine, Cocaine, Alcohol etc..

3- Paternal Factors

- Chromosomal abnormalities in the sperm
- Advanced paternal age.

Abortion

- **Clinical Types:**

- Missed abortion. إجهاض منسي
- Threatened abortion. إجهاض منذر
- Inevitable abortion. إجهاض حتمي
- Incomplete abortion. إجهاض غير مكتمل
- Complete abortion. إجهاض كامل
- Septic abortion/Criminal abortion.
- Medical abortion.
- Recurrent abortion / Recurrent miscarriage / Recurrent pregnancy loss.

Clinical types of abortions:

Type	Clinical findings	Ultrasound findings	Management
Missed abortion	Cervix closed/ No bleeding/ No pain/ Symp. Of pregnancy disappear	Anembryonic pregnancy Fetal pole with no cardiac pulsations	Expectant management or Active termination either medical or surgical
Threatened abortion	Cervix closed \pm minimal bleeding or pain	Intrauterine gestational sac \pm fetal pole + cardiac pulsations	Expectant management, support to the mother, bed rest
Inevitable abortion	Cervix open \pm bleeding or pain	Intrauterine gestational sac \pm fetal pole \pm cardiac pulsations	Observant management, maintain good general condition.
Incomplete abortion	Possibly open cervix \pm bleeding or pain	Heterogenous intrauterine content $>$ 15 mm in diameter	Expectant management vs. medical ttt (ecobolics) or surgical ttt +maintain good general condition.
Complete abortion	Cervix closed with minimal or no bleeding or pain.	Empty uterus $<$ 15 mm endometrial thickness	Expectant management, support to the mother

Management of abortion:

- In all scenarios , always maintain good general condition of the mother, Keep an IV line in case of significant bleeding occur.
- Be ready to give blood transfusion if needed.
- Give anti-D if the mother is RH –ve and her husband is known RH+ve or unknown and when the pregnancy is more than 12 weeks gestation or there has been a surgical intervention.
- Give antibiotic if conditions were not optimum or if there are signs of infection.

Management of abortion: (Cont.)

- Expectant management: could be tried in recently diagnosed miscarriage and case is stable.
- Medical termination: Patient is anxious or expectant management is unacceptable. If there's a need for accelerated termination for fear of deterioration of general condition due to bleeding.
- Surgical termination: In emergency situations where abrupt evacuation of uterine content is necessary or in case of failed medical termination.

Other clinical types of abortion:

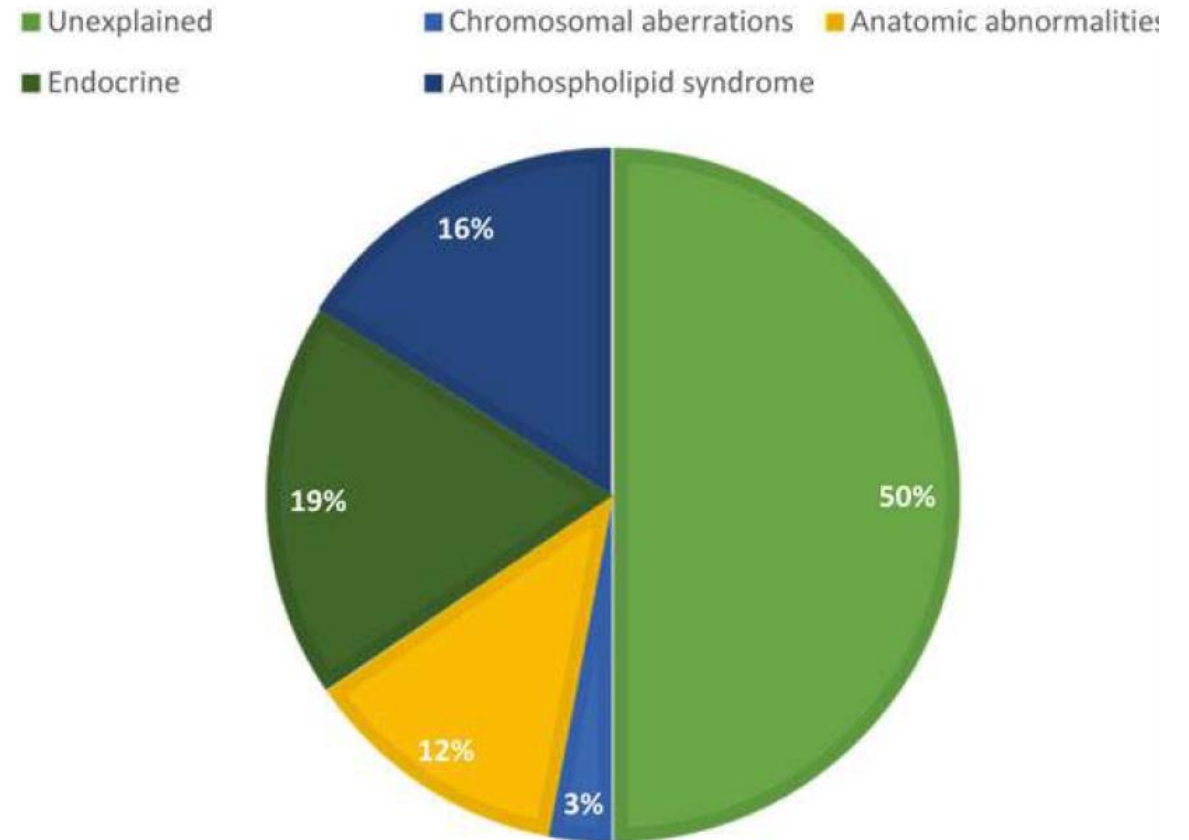
- **Septic abortion** is when abortion is complicated with intrauterine infection. This is common when abortion is done in sub-optimum conditions like in **criminal/ illegal** abortion.
- Septic abortion warrants active management in the form of antibiotics and evacuating uterine cavity for fear of systemic spread leading to septicemia and septic shock.

Other clinical types of abortion: (Cont.)

- **Medical Abortion** is when pregnancy was actively and intentionally terminated either medically or surgically for the purpose of sparing the life of the mother i.e. serious maternal medical condition, or when there's a fetal anomaly that is incompatible with life.

Other clinical types of abortion: (Cont.)

- **Recurrent pregnancy loss (RPL)** is when there's a history of 2 or more pregnancy loss.

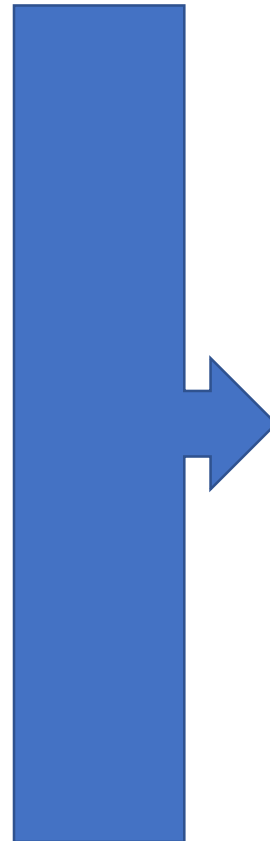


Diagnostic tools

- **Clinical**
- **Ultrasound**
- HSG
- Hysteroscopy
- MRI
- Cytogenetics
- Hormonal profile
- HbA1C



During
Current
pregnancy



In-between
pregnancies in
case of RPL

Treatment

TABLE 18-7. Some Techniques Used for First-Trimester Abortion^a

Surgical

- Dilatation and curettage
- Vacuum aspiration
- Menstrual aspiration

Medical

- Prostaglandins E_2 , $F_{2\alpha}$, E_1 , and analogues
 - Vaginal insertion
 - Parenteral injection
 - Oral ingestion
 - Sublingual
- Antiprogesterones—RU-486 (mifepristone) and epostane
- Methotrexate—intramuscular and oral
- Various combinations of the above

^aAll procedures are aided by pretreatment using hygroscopic cervical dilators.

Treatment

TABLE 18-8. Comparisons of Some Advantages and Drawbacks to Medical versus Surgical Abortion

Factor	Medical	Surgical
Invasive	Usually no	Yes
Pain	More	Less
Vaginal bleeding	Prolonged, unpredictable	Light, predictable
Incomplete abortion	More common	Uncommon
Failure rate	2–5%	1%
Severe bleeding	0.1%	0.1%
Infection rate	Low	Low
Anesthesia	Usually none	Yes
Time involved	Multiple visits, follow-up exam	Usually one visit, no follow-up exam

Treatment

TABLE 18-9. Regimens for Medical Termination of Early Pregnancy

Mifepristone/Misoprostol

^aMifepristone, 100–600 mg orally followed by:

^bMisoprostol, 200–600 µg orally or 400–800 µg vaginally, buccally, or sublingually given immediately or up to 72 hours

Methotrexate/Misoprostol

^cMethotrexate, 50 mg/m² BSA intramuscularly or orally followed by:

^dMisoprostol, 800 µg vaginally in 3–7 days. Repeat if needed 1 week after methotrexate initially given

Misoprostol alone

^e800 µg vaginally or sublingually, repeated for up to three doses

^aDoses of 200 versus 600 mg similarly effective.

^bOral route may be less effective and have more nausea and diarrhea. Sublingual route has more side effects than vaginal route. Shorter intervals (6 hours) with misoprostol may be less effective when given > 36 hours.

^cEfficacy similar for routes of administration.

^dSimilar efficacy when given on day 3 versus day 5.

^eIntervals 3–12 hours given vaginally; 3–4 hours given sublingually.

BSA = body surface area.

Data from the American College of Obstetricians and Gynecologists, 2011c, 2013e; Borgatta, 2001; Coyaji, 2007; Creinin, 2001, 2007; Fekih, 2010; Fjerstad, 2009a; Guest, 2007; Hamoda, 2005; Honkanen, 2004; Jain, 2002; Pymar, 2001; Raghavan, 2009; Schaff, 2000; Shannon, 2006; von Hertzen, 2003, 2007, 2009, 2010; Winikoff, 2008.

Treatment

TABLE 18-10. Some Techniques Used for Midtrimester Abortion^a

Surgical

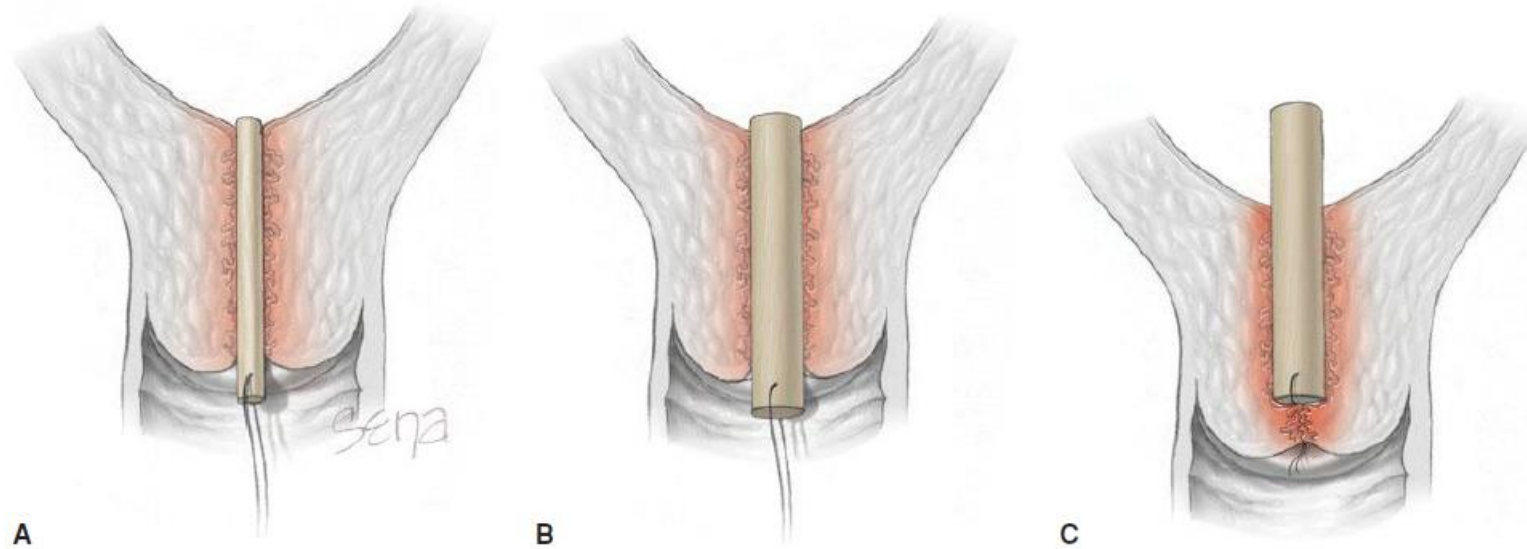
- Dilatation and curettage (D&C)
- Dilatation and evacuation (D&E)
- Dilatation and extraction (D&X)
- Laparotomy
- Hysterotomy
- Hysterectomy

Medical

- Intravenous oxytocin
- Intraamniotic hyperosmotic fluid
 - 20-percent saline
 - 30-percent urea
- Prostaglandins E₂, F_{2α}, E₁
 - Intraamniotic injection
 - Extraovular injection
 - Vaginal insertion
 - Parenteral injection
 - Oral ingestion

^aAll procedures are aided by pretreatment using hygroscopic cervical dilators.

Treatment



A

B

C

FIGURE 18-7 Insertion of laminaria before dilatation and curettage. **A.** Laminaria immediately after being appropriately placed with its upper end just through the internal os. **B.** Several hours later the laminaria is now swollen, and the cervix is dilated and softened. **C.** Laminaria inserted too far through the internal os; the laminaria may rupture the membranes.

Treatment

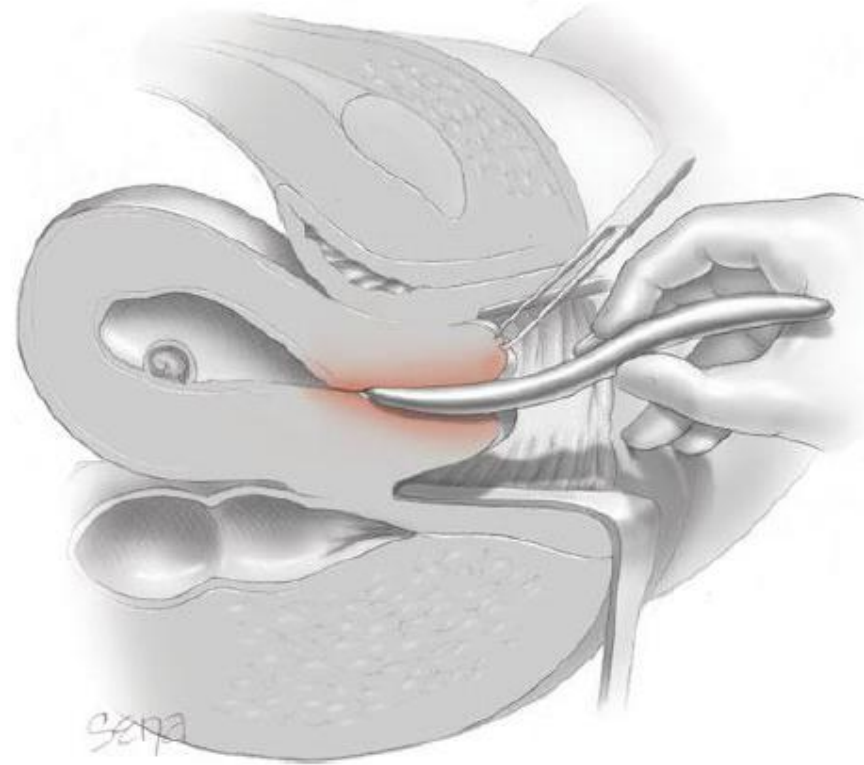


FIGURE 18-9 Dilatation of cervix with a Hegar dilator. Note that the fourth and fifth fingers rest against the perineum and buttocks, lateral to the vagina. This maneuver is an important safety measure because if the cervix relaxes abruptly, these fingers prevent a sudden and uncontrolled thrust of the dilator, a common cause of uterine perforation.

Treatment

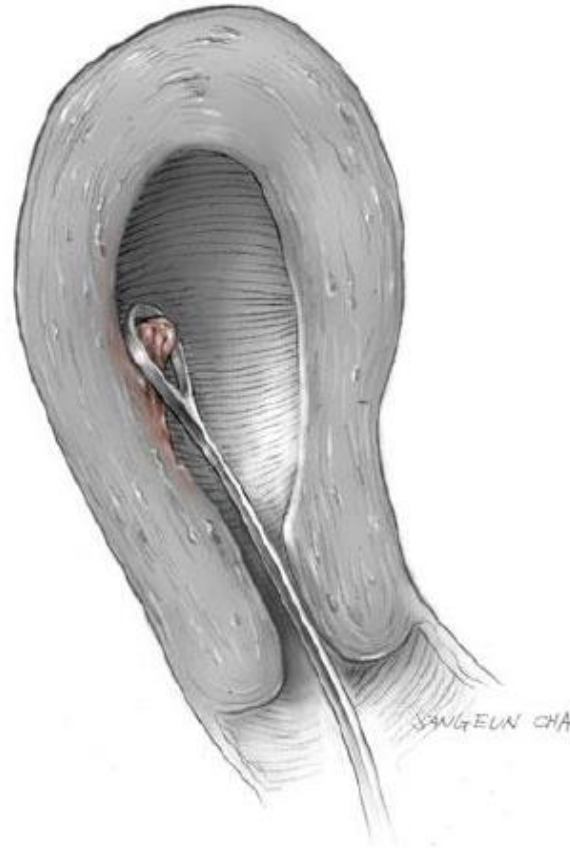


FIGURE 18-11 A sharp curette is advanced into the uterine cavity while the instrument is held with the thumb and forefinger as shown in Figure 18-9. In the movement of the curette, only the strength of these two fingers should be used. (From Word, 2012, with permission.)

Treatment

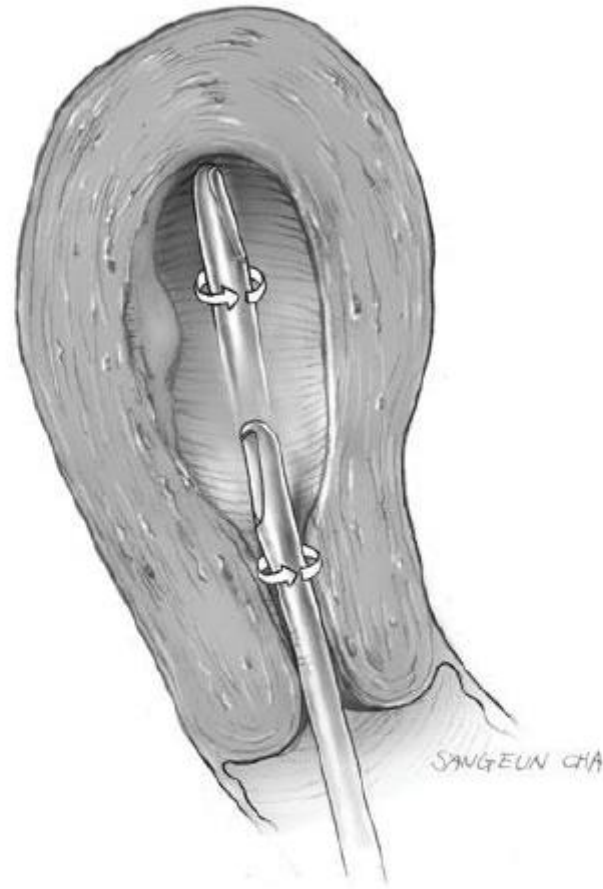


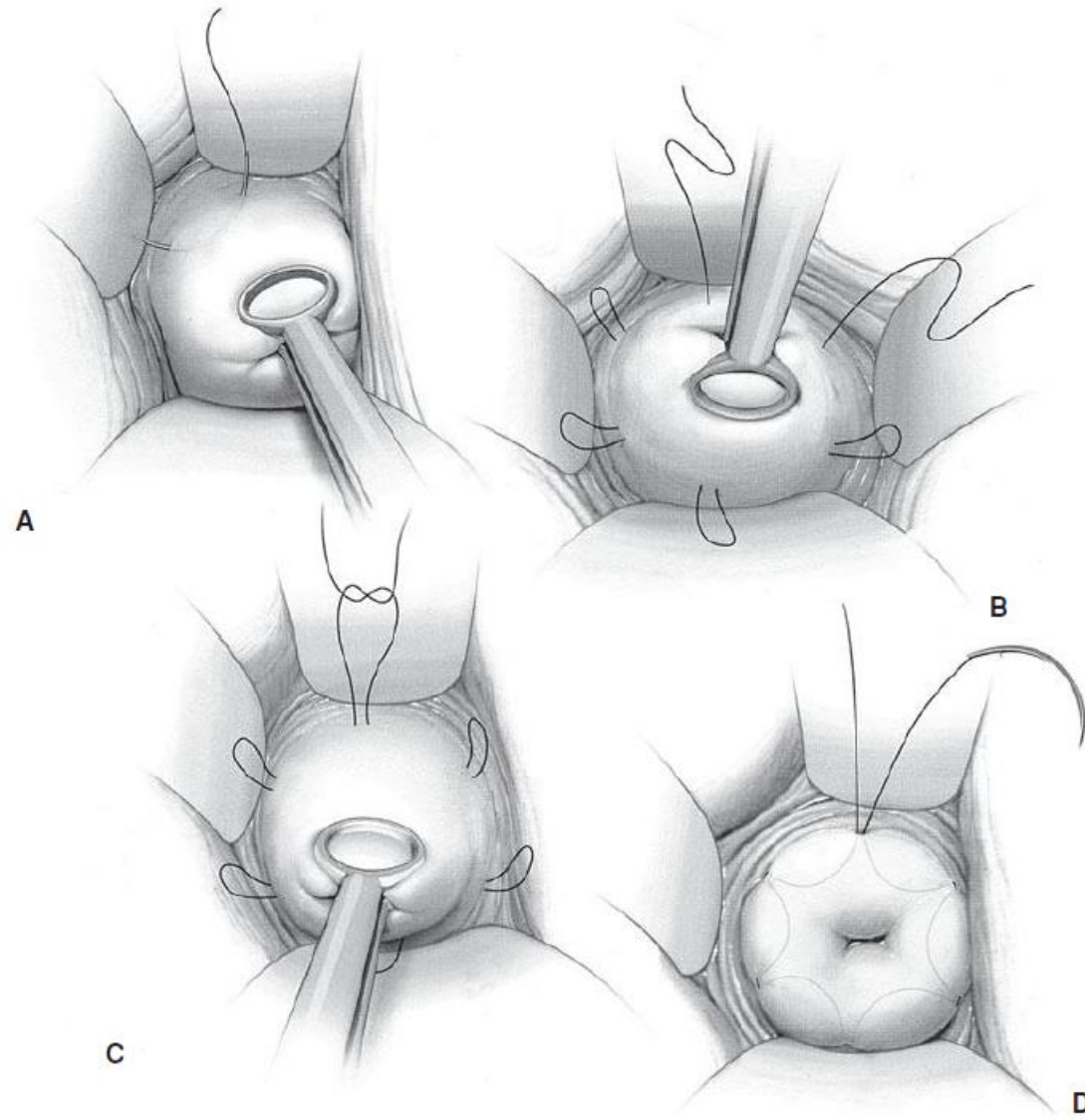
FIGURE 18-10 A suction curette has been placed through the cervix into the uterus. The figure shows the rotary motion used to aspirate the contents. (From Word, 2012, with permission.)

Cervical incompetence

- Mainly is a cause of second trimester abortion or preterm labour.
- Diagnosis during current pregnancy through pv examination (cervical shortening and dilatation). Or through U/S examination showing cervical shortening with or without funneling .
- Diagnosis by history of painless cervical dilatation and rapid progress of labour or second trimester abortion in a previous pregnancy.
- In-between pregnancy by HSG or the passage of No. 8 Hegar dilator without resistance (all subjective).
- Treatment options : Progesterone, Cerclage either prophylactic or rescue “emergency” cerclage (controversial).

Treatr

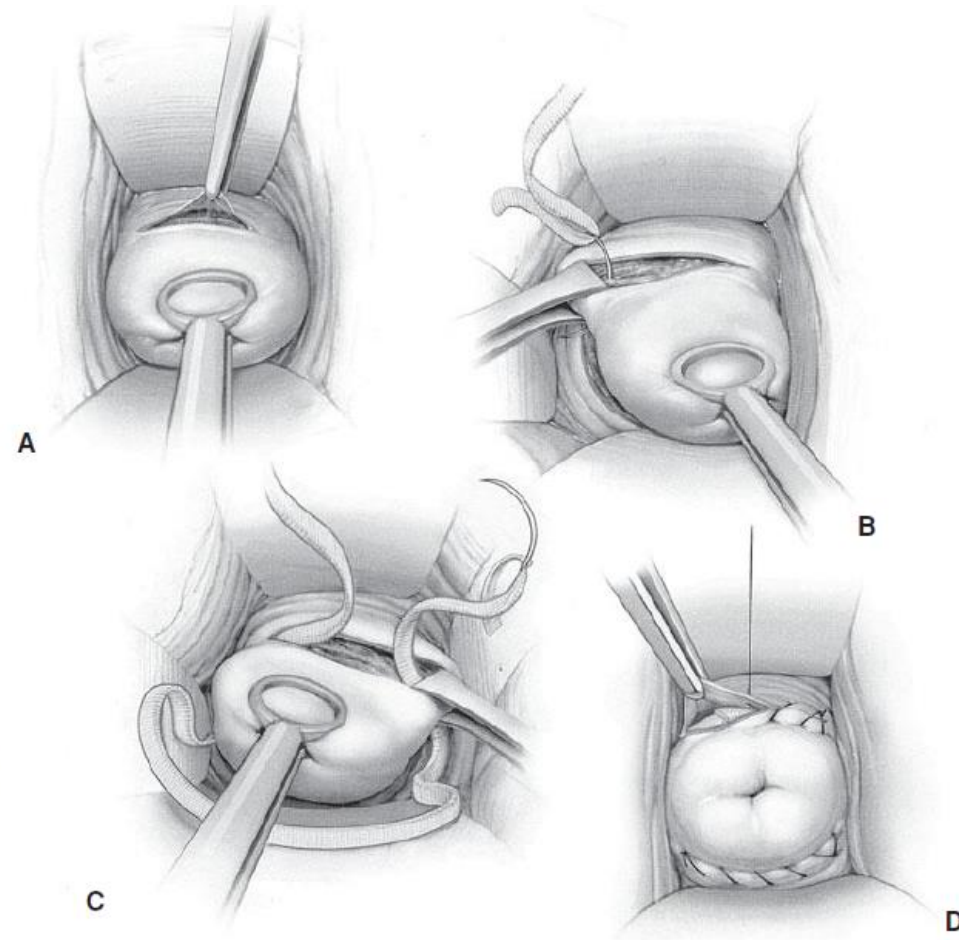
FIGURE 18-5 McDonald cerclage procedure for incompetent cervix. **A.** Start of the cerclage procedure with a No. 2 monofilament suture being placed in the body of the cervix very near the level of the internal os. **B.** Continuation of suture placement in the body of the cervix so as to encircle the os. **C.** Encirclement completed. **D.** The suture is tightened around the cervical canal sufficiently to reduce the diameter of the canal to 5 to 10 mm, and then the suture is tied. The effect of the suture placement on the cervical canal is apparent. A second suture placed somewhat higher may be of value if the first is not in close proximity to the internal os.



cervix into the uterus. The figure shows the rotary motion used to aspirate the contents. (From Word, 2012, with permission.)

Treatment

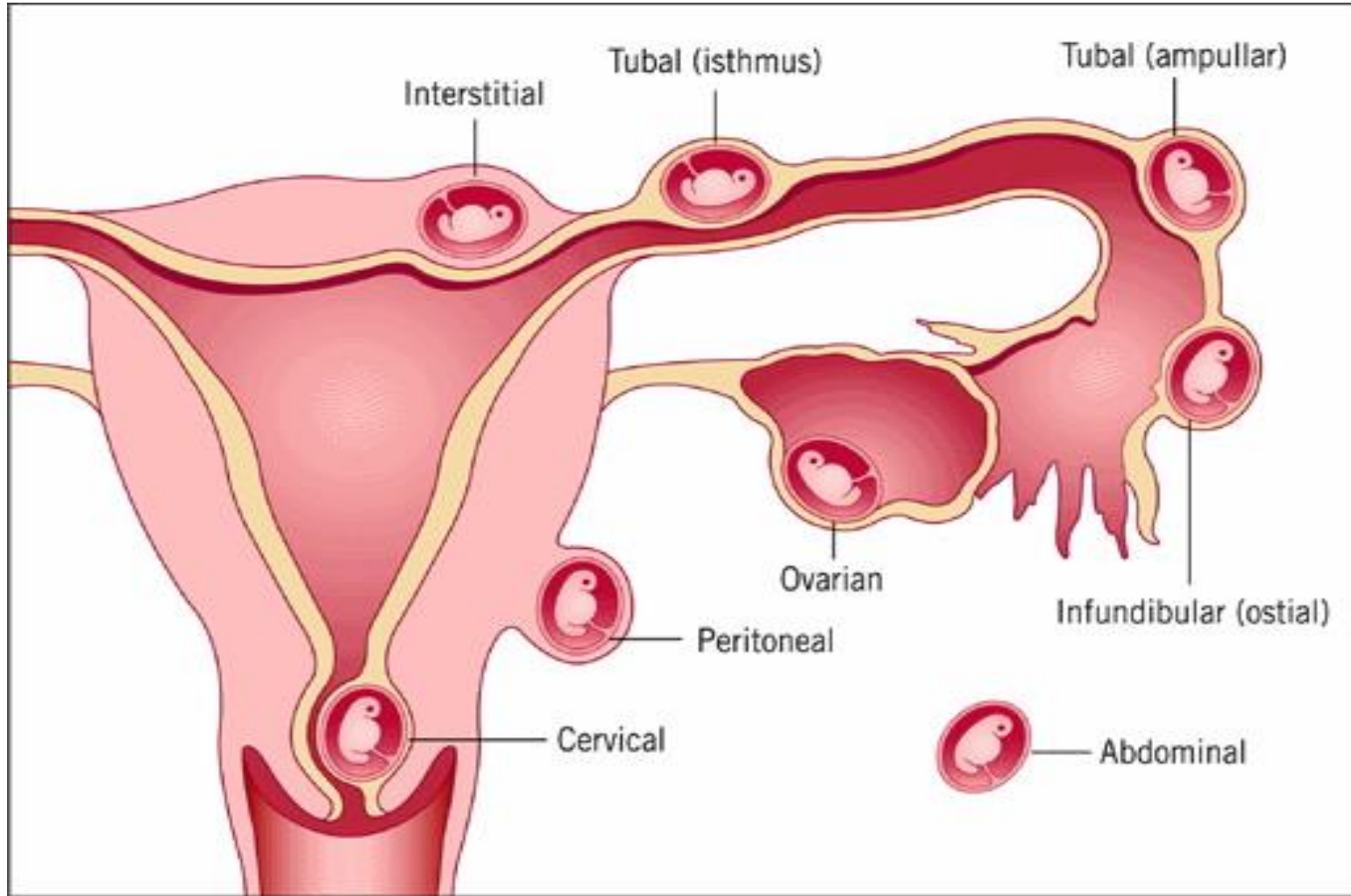
FIGURE 18-6 Modified Shirodkar cerclage for incompetent cervix. **A.** A transverse incision is made in the mucosa overlying the anterior cervix, and the bladder is pushed cephalad. **B.** A 5-mm Mersilene tape on a swaged-on or Mayo needle is passed anteriorly to posteriorly. **C.** The tape is then directed posteriorly to anteriorly on the other side of the cervix. Allis clamps are placed so as to bunch the cervical tissue. This diminishes the distance that the needle must travel submucosally and aids tape placement. **D.** The tape is snugly tied anteriorly, after ensuring that all slack has been taken up. The cervical mucosa is then closed with continuous stitches of chromic suture to bury the anterior knot.



Ectopic pregnancy

Ectopic pregnancy

- **Definition:** Pregnancy outside the uterine cavity.
- **Types:**
 - Most common site is the fallopian tubes (95%)
 - Other possible site: Ovary, cervix, CS scar, uterine cornu, Abdominal
- **Incidence:** 1:100-1:200



Risk factors:

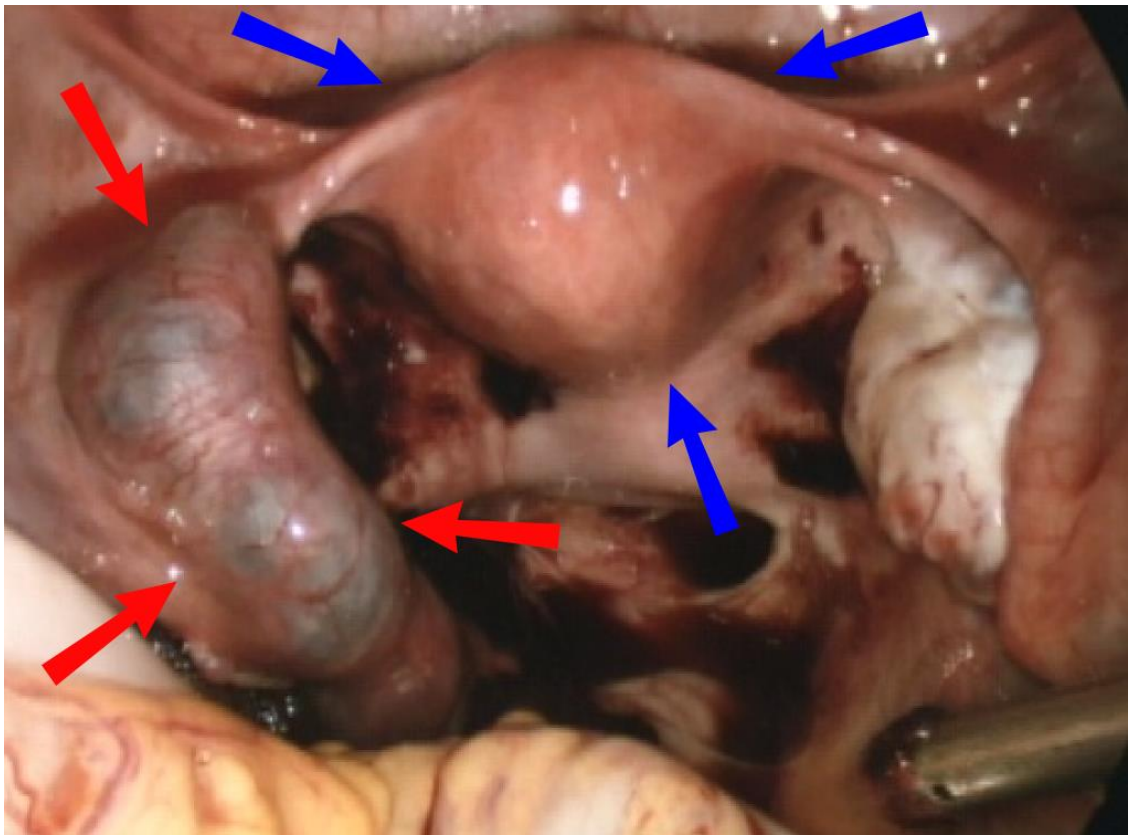
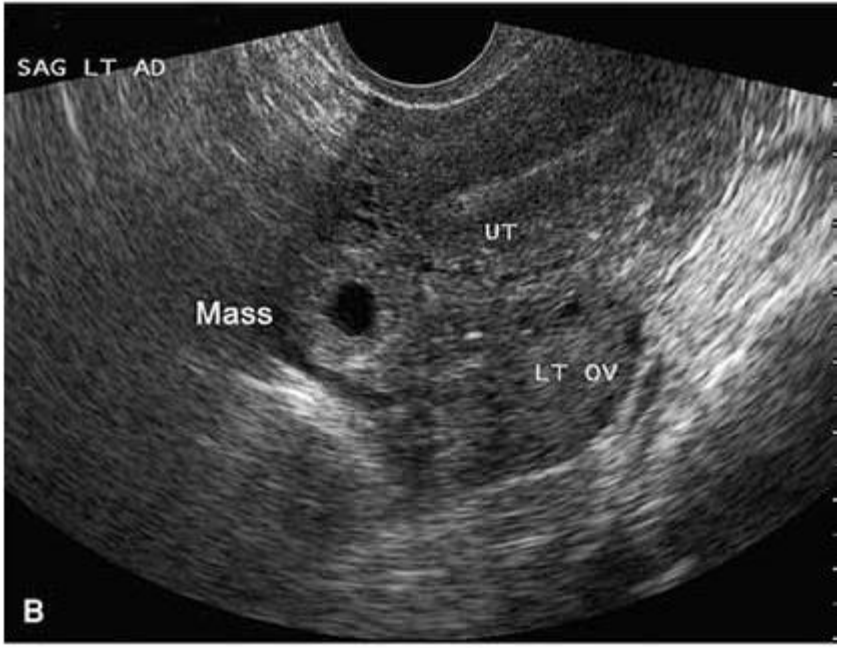
- Prior tubal surgery.
- Prior ectopic.
- History of PID.
- Current IUD use.
- DES exposure.

Clinical picture

- Difficult to diagnose because symptoms often mirror those of a normal early pregnancy. These can include missed periods, breast tenderness, nausea, vomiting, or frequent urination.
- The first warning signs of an ectopic pregnancy are often **pain** and/or **vaginal bleeding**.
- One important clinical sign is **cervical motion tenderness** and adnexal tenderness.
- Sometimes the case is presented with shock due to internal haemorrhage following ruptured ectopic pregnancy.

Investigations

- Ultrasound:
 - shows empty uterine cavity.
 - Adnexal mass could be seen. (Ring of fire on doppler)
 - May show peritoneal collection denoting internal hemorrhage.
 - In rare occasions there could be heterotopic pregnancy.
- Serum Beta hCG:
 - If level is above 2000 mIU, a GS must be seen intrauterine by TVS. (known as discriminatory level or zone).
 - If less repeat after 48-72 hrs. for comparison as long as maternal condition is controlled.
- Laparoscopy:
 - Sometimes diagnosis could only be made by laparoscopy which can be both diagnostic and therapeutic.



Differential Diagnosis:

- Threatened abortion
 - Acute or chronic PID
 - Ovarian cysts (torsion or rupture)
 - Acute appendicitis
-
- Some cases end up with no definite diagnosis and termed: Pregnancy of unknown location (PUL)

Fate of ectopic pregnancy

1. Tubal abortion.
2. Tubal rupture.

MANAGEMENT OF ECTOPIC PREGNANCY

1. Hemo-dynamically unstable surgery

- Surgical : **salpingectomy (preferred)**, salpingotomy or salpingostomy
(only if one tube or the other tube looks unhealthy with future desire of pregnancy)

laparoscopic or via Laparotomy

2. Hemo-dynamically stable :

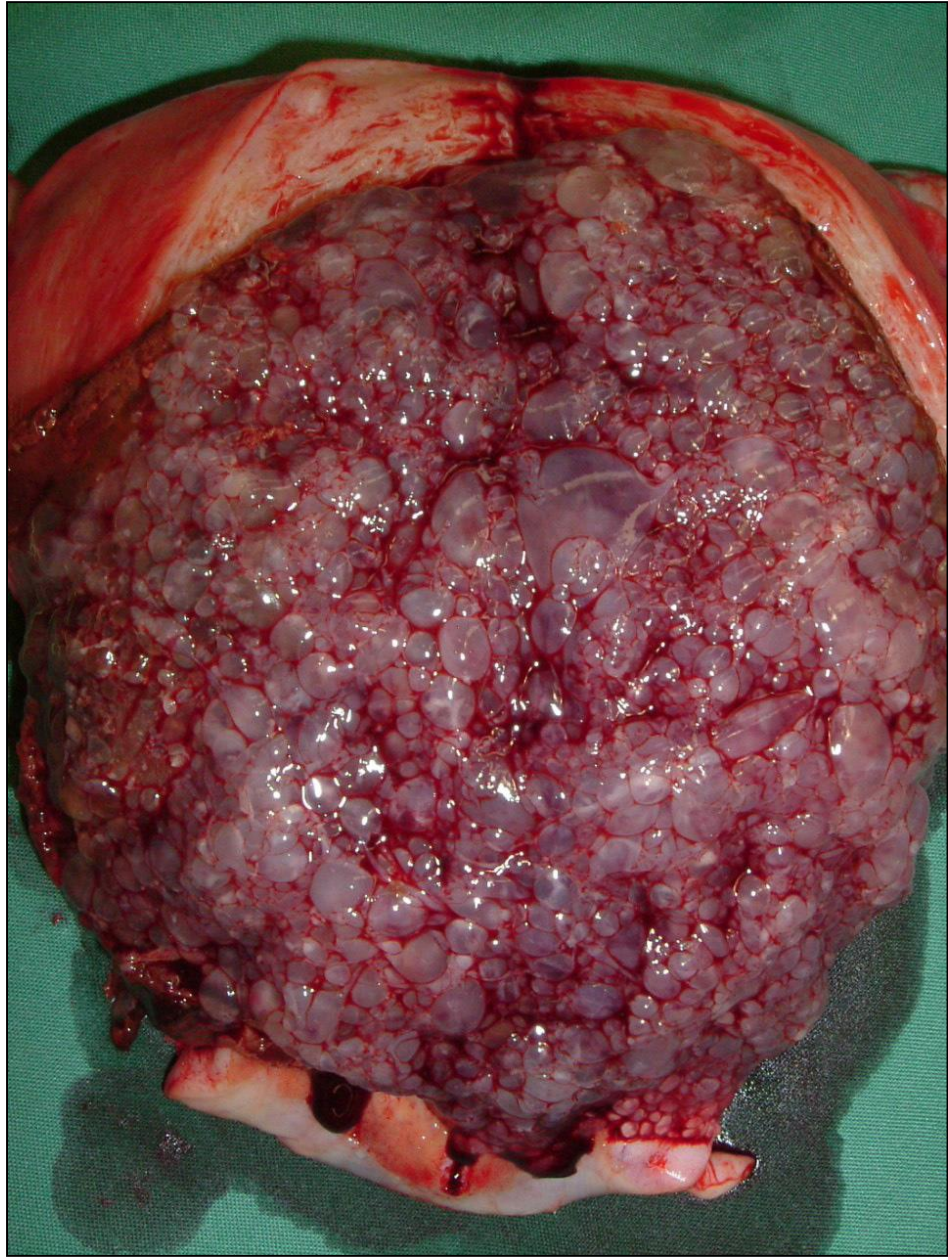
- Medical : Asymptomatic, small ectopic, low Bhcg levels, undisturbed.
Methotrexate
Need observation
- Conservative - only if haemo-dynamically stable, asymptomatic, suggestive of tubal miscarriage.
- Also surgical option is viable especially in case of failed medical ttt and still rising or plateauing b-hCG.

Molar pregnancy

الحمل العنقودي

Molar pregnancy

- Molar pregnancy or hydatidiform mole is a relatively rare condition in which tissue around a fertilized egg (trophoblasts) that normally would have developed into the placenta instead develops as an abnormal cluster of cells.
- This grapelike mass forms inside of the uterus after fertilization instead of a normal embryo.
- Incidence: 1:1000



Types:

- Complete mole:
 - Consists of diffuse hydropic villi with trophoblastic hyperplasia.
 - This is diploid, derived from sperm duplicating its own chromosome following fertilization of an 'empty' ovum.
 - This is mostly 46XX with no evidence of fetal tissue.

Types:

- Partial mole:
 - Consists of hydropic and normal villi.
 - This is triploid (69XXX, XXY, XYY) with one maternal and two paternal haploid sets.
 - Most cases occur following two sperms fertilizing an ovum, and a fetus may be present.

Risk factors for hyatidiform mole

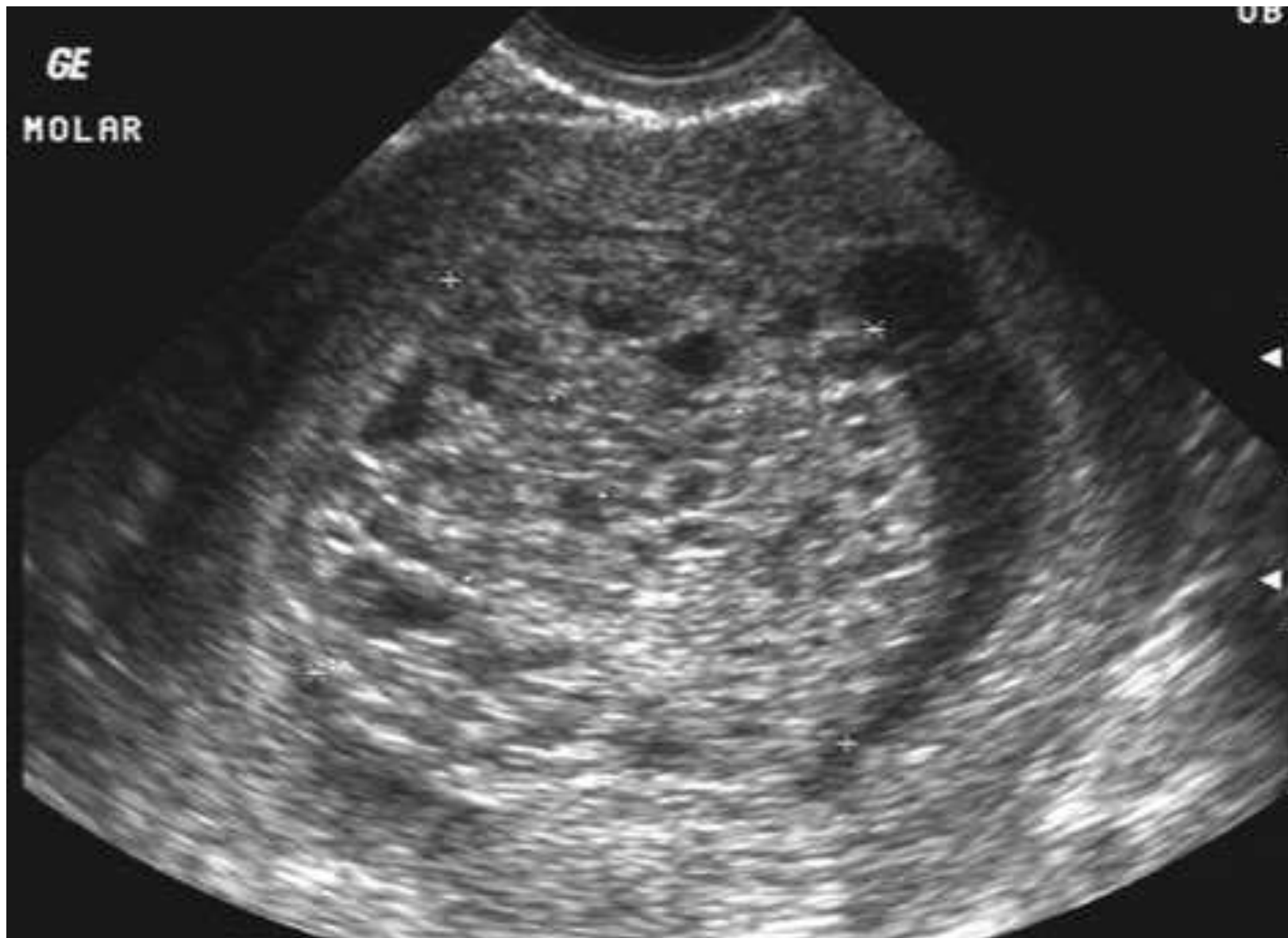
- Age:
 - extremes of reproductive life (>40yrs and <15yrs of age) in complete moles, not partial moles.
- Ethnicity:
 - x2 higher in east Asia, particularly Korea and Japan.
- Previous molar pregnancy:
 - x10 higher risk of developing future molar pregnancy.

Clinical picture

- Irregular first-trimester vaginal bleeding (>90%).
- Uterus large for dates (25%).
- Pain from large theca lutein cysts (20%) resulting from ovarian hyperstimulation by high hCG levels.
- Vaginal passage of vesicles containing products of conception (10%) or prune juice discharge.
- Exaggerated pregnancy symptoms; hyperemesis (10%)
- Hyperthyroidism (5%)
- Early pre-eclampsia (5%).

Investigations

- Serum B-hCG:
 - excessively high with complete moles
 - levels may be within the normal range for partial moles.
- Ultrasound:
 - Complete mole: Snowstorm appearance of mixed echogenecity, representing hydropic villi and intrauterine haemorrhage. Large theca lutein cysts.
 - Partial mole: Fetus may be viable, with signs of early growth restriction or structural abnormalities.
- Chest X-ray: To exclude metastasis to the lungs.
- Thyroid function testing.



Management:

- Complete mole:
 - Surgical evacuation (Suction evacuation) is advisable and should be performed by an experienced surgeon as risks of uterine perforation and hemorrhage are significant.
 - Oxytocin may be required to reduce the risk of hemorrhage.
- Partial mole:
 - Surgical evacuation is preferable, unless the size of fetal parts necessitates medical evacuation.
- Histological examination of products of conception is essential to confirm diagnosis.

Specialist follow-up for molar pregnancy

- Follow-up with hCG ranges from 6mths to 2yrs after uterine evacuation.
- Serum hCG should be checked weekly until levels are normal.
- Following this, urine hCG is requested at 4-weekly intervals until 1yr post-evacuation, then every 3mths in the 2nd year of follow-up.
- If hCG normalizes within 8wks, follow-up will be limited to 6mths.
- Patients who do not have normal hCG values within 8wks of evacuation should have the 2-yr follow-up.
- Women should use barrier methods for contraception until bhCG is normal then COCs through out the follow up period.

Persistent GTD

- Risk of requiring chemotherapy is 15% after a complete mole and 0.5% after a partial mole.
- Chemotherapy is indicated if:
 - Serum hCG levels $>20\,000\text{IU/L}$ at 4wks after uterine evacuation.
 - Static or rising hCG after uterine evacuation in absence of new pregnancy.
 - Persistent symptoms, e.g. uterine bleeding and/or abdominal pain.
 - Evidence of metastases.
 - Histological diagnosis of choriocarcinoma.

Prognosis

- With effective registration and treatment program, cure rate is high (98–100%) with low chemotherapy rates (5–8%).
- Recurrence rate is low (1/55).
- Women should be advised not to conceive until hCG level has been normal for 6mths.
- hCG levels should be checked 6 and 10w after each subsequent pregnancy.

Thank you