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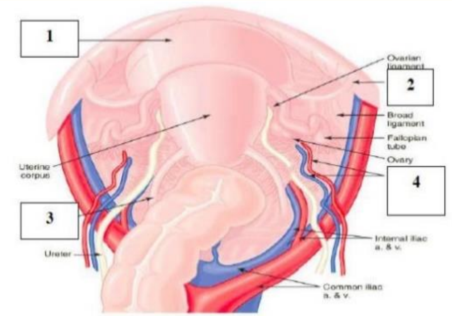
Anatomy of Female Reproductive System

Station 1:

What are the anatomical landmarks pointed at by the arrow?



1. Bladder.
2. Round ligament,
3. Utero-sacral ligaments
4. Ovarian vessels (within the suspensory ligament of the ovary or infundibulo-pelvic ligaments).

What are the two important supporting structures of the uterus?

1)Cardinal ligaments
2)Pubocervical ligaments
3)Uterosacral ligaments

Where do the uterine and ovarian arteries originate from?

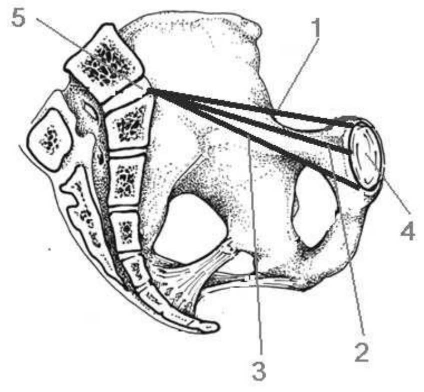
1) Uterine Artery: Anterior branch of internal iliac artery.
2) Ovarian Artery: Abdominal Aorta Artery.

The broad ligament is formed by?

The broad ligament is composed of peritoneum and contains the fallopian tubes, round ligament, ovarian ligament, vessels and nerves.

Station 2:

What are 1, 2 ,3 ,4,and 5?

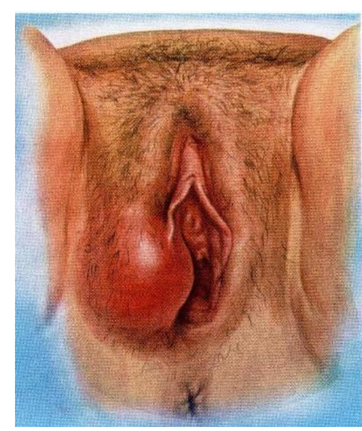


- 1= True (anatomic) diameter.
- 2= Obstetric diameter.
- 3= Diagonal diameter.
- 4= Pubic bone (symphysis pubis).
- 5= Sacral promontory.

Which one is the most important obstetrically and what's its length?

Obstetric diameter and it's about 11 cm.

Station 3:



Give Two DDx.
Bartholin's abscess.
Bartholin's cyst

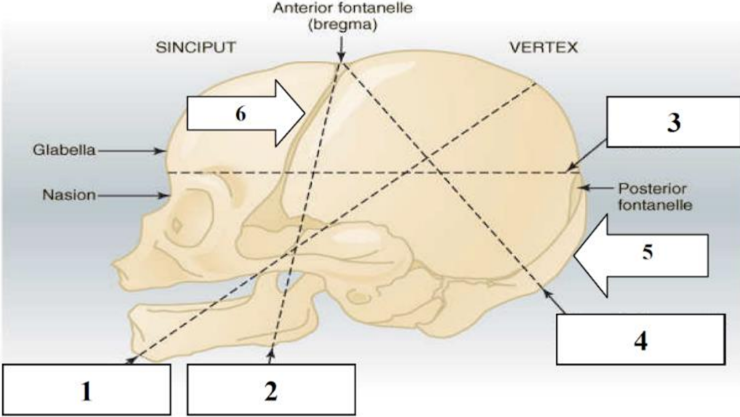
Three symptoms of the diagnosis
1. Tender lump on either side of the vagina.
2. Dyspareunia.
3. Difficulty in walking or sitting.
4. Vaginal discharge
5. Fever.
   Note bartholin's cyst if not infected is usually Asymptomatic sometimes with mild dyspareunia

What are the causes:
- Bartholin abscess: it may occur due to infection (mostly caused by E. coli and anaerobic Bacteroides species, and seldom due to gonococcus)
- Bartholin cyst: blockage of the duct by inflammation or trauma

Two management options.
- Bartholin cyst: First-line treatment includes sitz baths,which may promote spontaneous rupture or resolution of the cyst
- Bartholin abscess: incision and drainage and a Word catheter, but in case of recurrent absence may need marsupialization(cutting a slit into an abscess or cyst and suturing the edges)

Station 4:

This figure shows a fetal skull and the engaging diameter of different to fetal head position.



Name the different diameter and the Normal Measurement:
1) Supraoccipitomental diameter (13.5 cm).
2) Submentobregmatic diameter (9.5 cm)
3) Occipitofrontal diameter (11 cm)
4) Suboccipitobregmatic (9.5 cm)

Name the structure arrowed
5) Occipital bone.
6) Coronal suture.

Physiology of Female Menstrual Cycle

Station 1:

This microscopic pic was taken from ovary at day 12 of menstrual cycle

What is this structure? graafian follicle

What are the hormones involved in its development and from where they are produced? mention 4

- Anterior pituitary gland→FSH.
- Anterior pituitary gland→LH.
- Hypothalamus →GnRH.
- estrogen→ Granulosa cells

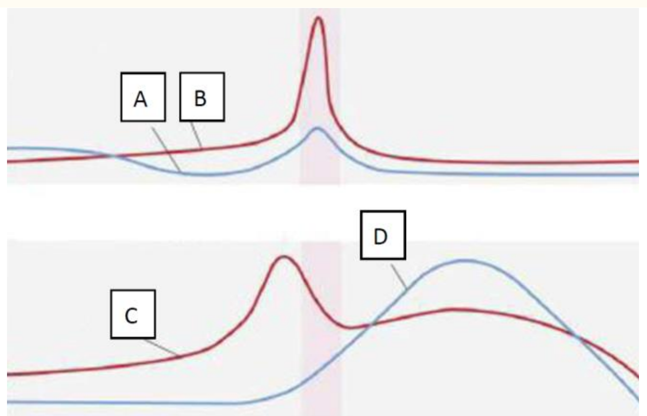
What are likely to happen to this structure after 24h? mention2

- ruptured and releasing the ovum in a process known as ovulation
- corpus luteum formation

And if pregnancy occurs, what will maintain this structure to continue?

hCG will maintain the corpus luteum

Station 2:



Name the 4 hormones in menstrual cycle and from where are they secreted?

A. FSH: from anterior pituitary.
B. LH: from anterior pituitary.
C. Oestrogen: from granulosa cells.
D. Progesterone: from corpus luteum

Name the two phases and their predominant hormone.

1. Proliferative phase(follicular phase)=by oestrogen
2. Secretary phase(luteal)=by progesterone

In PCOS which phase will be affected and why?

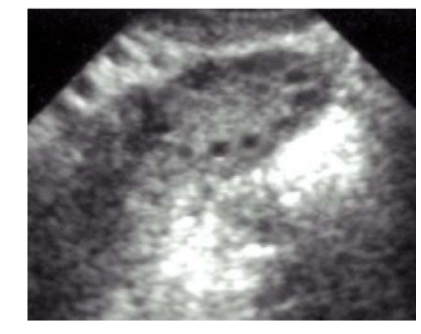
Proliferative phase(follicular phase) ,bc LH & FSH are steadily elevated throughout the cycle resulted in anovulation thus prolongation of the phase

What is the effect of PCOS on cycle?

- Lengthening of Proliferative phase (follicular phase)
- Anovulation ,thus luteal formation won't take place

Polycystic ovarian syndromes

Station 1:



What is the Dx?

PCOS

What is the pt Risk for have?

endometrial hyperplasia or cancer

If the patient doesn't want to conceive, what is your treatment?

OCP

What are the Symptoms the pt may have?

Acne, Hirsutism, Irregular menses

Mention 2 Obstetric complications?

- Gestational diabetes
- Preeclampsia
- Spontanous abortion

Station 2:

What is the diagnosis?
Hirsutism

Mention 2 drugs can cause this condition
Danazol-Risperidone(antipsychotic)

Mention 2 ovarian causes for this condition
PCOS - Ovarian Sertoli cell tumors- Ovarian hyperthecosis

Mention 2 adrenal causes for this condition
Congenital adrenal hyperplasia- Cushing disease(adrenal tumor)

Mention 3 treatments for this condition
OCP- spironolactone(antiandrogen) - metformin- eflornithine

Infertility

Station 1:

The following picture is of a patient who went through ovulation induction and has developed bilateral large ovaries.
What is the name of this complication?
Ovarian Hyperstimulation syndrome(OHSS)

What are the types of this presentation?
Can be classified either: Mild -moderate-severe-critical
Or: early and late
- early: within 10 days of administering HCG
- late:present 10 days or more after administering HCG

What are the risks to the patient from this condition?
- Renal, respiratory and liver failure
- Thrombosis
- Ascites
- Ovarian enlargement creates risk of torsion and cyst rupture.

افهموا الباثو فزيولجي ,عشان تعرفوا من وين جت السمتومز والكومبليكيشنز

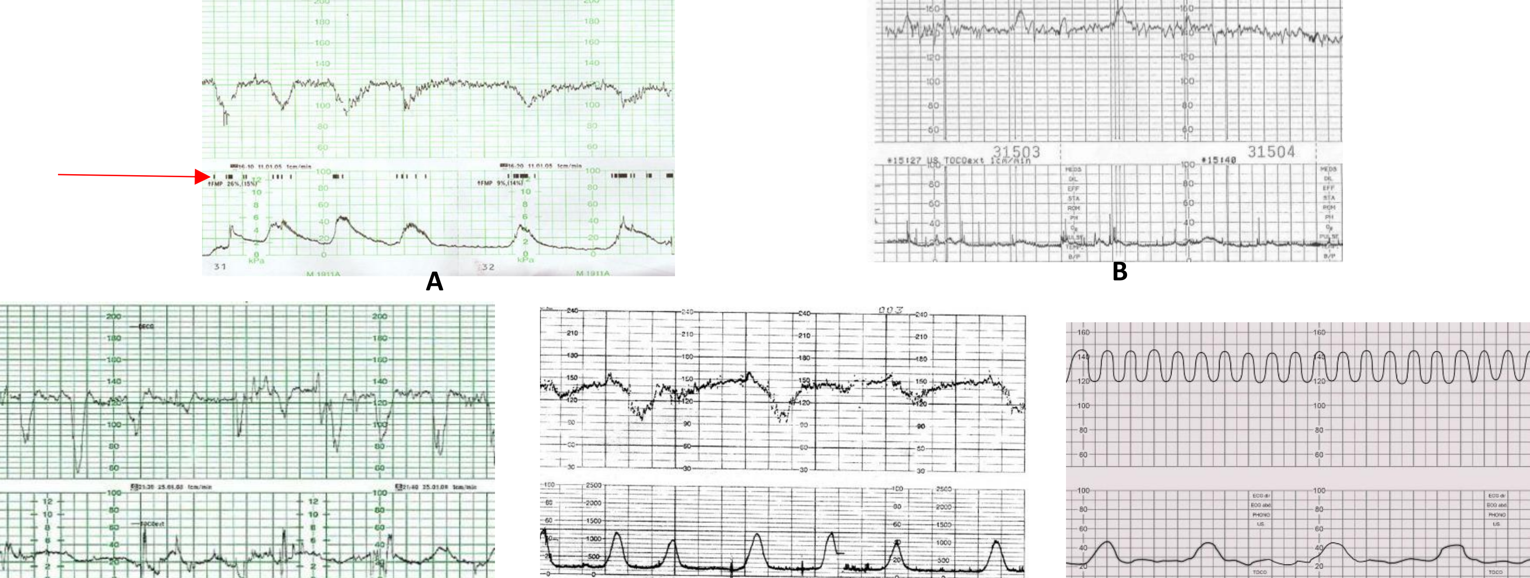
The pathophysiology of OHSS, although not fully understood, is characterised by increased capillary permeability, leading to a leakage of fluid from the vascular compartment with third space fluid accumulation and intravascular dehydration decreased renal perfusion and oliguria, ascites, pleural/pericardial effusions

List two (2) main lines of management of the complication above.
The natural history is one of gradual resolution over 10-14 days, Management of OHSS is supportive and admission to hospital is reserved for cases of severe.
Supportive management includes:
- IV Hydration
- prophylactic anticoagulant
- Drainage of ascites
- pain relief Analgesia use of paracetamol or codeine avoiding NSAIDS as these may affect renal function

List three (3) indications for in vitro fertilization (IVF)? **Idiopathic infertility- unrepaired tubular damage- severe abnormality with semen analysis**(immotility- Severely low sperm count "usually less than 5 million sperm/ml" -Normal percent motility but with a poor motility grade "grade is how well the sperm swim")

Preconception\ Antepartum\ Intrapartum Care

Station 1:



What is name of this tracing/graph? "Don't use abbreviation" Cardiotocograph

Comment on each CTG,and the reasons of each abnormal pattern>

- A: early deceleration→head compression 'reassuring'
- B: acceleration→normal
- C: variable deceleration→cord compresion
- D:late deceleration→placental insufficiency
- E: sinusoidal wave pattern →fetal to maternal hemorrhage causing severe fetal anemia and hydrops fetalis

Describe the other featers of B "Mention 5"

- Baseline is 140 bpm
- Normal variability
- Presence of acceleration
- Active fetal movement
- No uterine contractions

What do the lines pointed by the arrow A represent?Fetal movement

Is the patient B in labour? What is your explanation?No, because there is no uterine contractions

Mention 2 indications for this test.

- Decreased fetal movement
- Premature rupture of membrane

What are the neonatal risks if the amniotic fluid has meconium?Meconium aspiration syndrome result in:Severe respiratory distress-Mechanical obstruction-Chemical pneumonitis

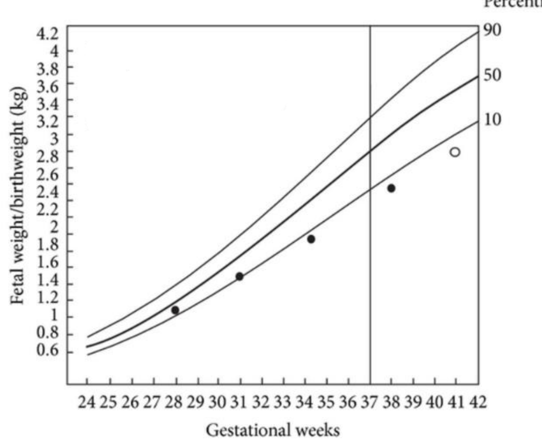
How would you manage such a case of abnormal heart tracing during fetal monitoring:

1) Alter position to left or right side.
2) 100% O2 by face mask.
3) Discontinue oxytocin.
4) Rule out cord prolapse by vaginal examination.
5) Preform fetal scalp stimulation.
6) Consider terbutaline.
7) If persist abnormal patterns, consider fetal scalp blood pH [pH ≤ 7.20 deliver immediately]

Station 2:

36 weeks gestation age lady presented to the ER because she noticed decreased fetal movements

THIS CASE MAY COME AS ORAL DISCUSSION, BE READY!!



What is the dx (without abbreviation)?

Intrauterine growth restriction (IUGR).

Define IUGR?

- Fetus with estimated fetal weight (EFW) <5–10 percentile for gestational age.
- Another definition is <2.5 Kilograms

What are the 2 types?and how can you differentiate between them? What other parameters will you need to differentiate?

Symmetric IUGR:

• All ultrasound parameters (HC, BPD, AC, FL) are smaller than expected.

•Amniotic fluid index is often normal

Asymmetric IUGR:

• Ultrasound parameters show head sparing, but abdomen is small.

• Amniotic fluid index is often decreased, especially if uteroplacental insufficiency is severe..

Mention three maternal conditions associated with this diagnosis

Asymmetric IUGR: etiology is anything decreases placental perfusion

1. chronic hypertension, preeclampsia
2. small vessel disease (SLE, long standing type 1 diabetes)
3. cardiovascular diseases

Mention two fetal conditions associated with this condition

- **Symmetrical IUGR:** Etiology is decreased growth potential: aneuploidy(21, T18, T13), early intrauterine infection(eg,TORCH), gross anatomic anomaly(congenital heart disease , neural tube defects , ventral wall defect)

Mention three investigations to do for fetal assessment

- Non stress test
- Amniotic fluid index
- biophysical profile
- umbilical artery dopplers
- serial sonograms

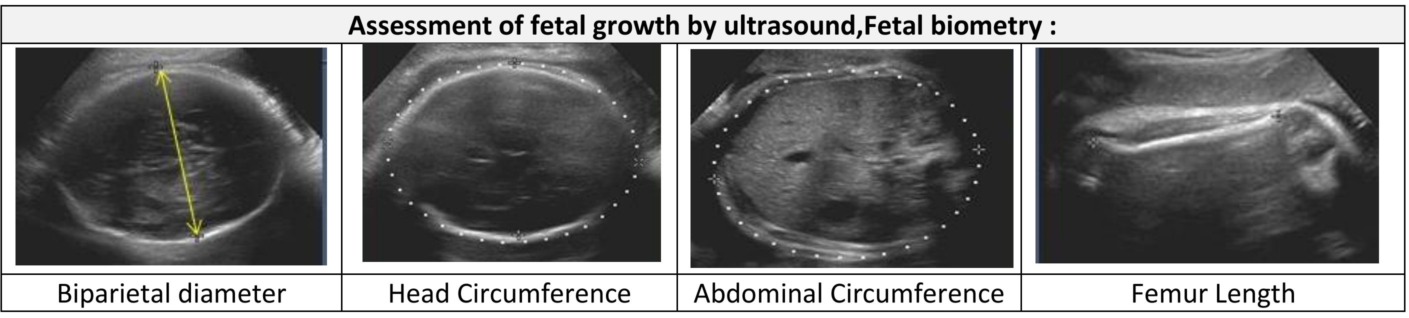
If results were normal, how frequent will you assess the fetus? every 2-3 weeks

How will you manage this pregnant?

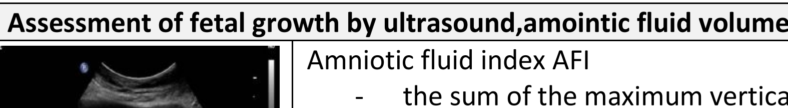
- **For those cases in which ultrasonic findings are equivocal for IUGR:** bed rest, fetal surveillance, and serial ultrasonic measurements at 3-week intervals are indicated.
- **For cases in which ultrasonic findings strongly suggest IUGR:** with or without abnormal fetal surveillance, delivery is indicated at gestational ages of 34 weeks or later, or at any reasonable gestational age, if pulmonary maturity is documented.

4 minutes informative video (recommend it, although audio is not the best but try to follow along)

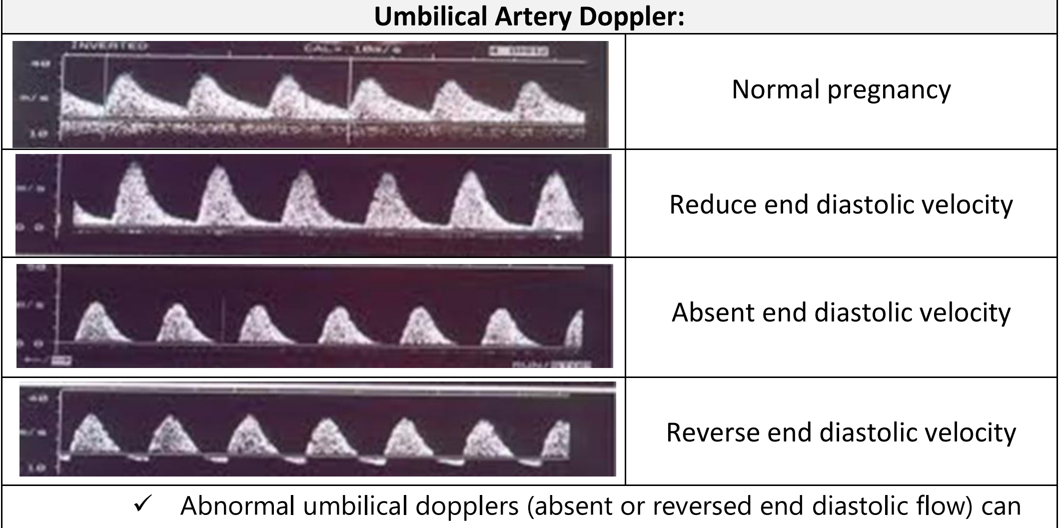
FAMILIRASE YOURSELF WITH U\S IMAGINGS:



Assessment of fetal growth by ultrasound,Fetal biometry :			
Biparietal diameter	Head Circumference	Abdominal Circumference	Femur Length



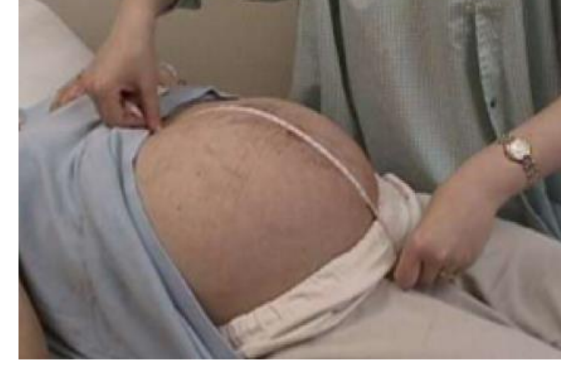
Assessment of fetal growth by ultrasound,amointic fluid volume:	
	Amniotic fluid index AFI - the sum of the maximum vertical fluid pocket diameter in four quarters - the normal value 5-25cm - <5~ oligohydraminous - >24cm polyhydraminous



Umbilical Artery Doppler:	
	Normal pregnancy
	Reduce end diastolic velocity
	Absent end diastolic velocity
	Reverse end diastolic velocity
✓ Abnormal umbilical dopplers (absent or reversed end diastolic flow) can help predict fetuses at increased risk of poor fetal outcome	

Station 3:

Mention 4 causes of large for date?



- Incorrect dating of pregnancy (incorrect LMP)
- Multiple pregnancy
- Molar pregnancy
- Polyhydramnios

Mention 2 Investigations you will do?

- Ultrasound:(to assess the number of fetus-GA-fetal growth -amniotic fluid volume)
- HCG level

What is the name of this measurement?

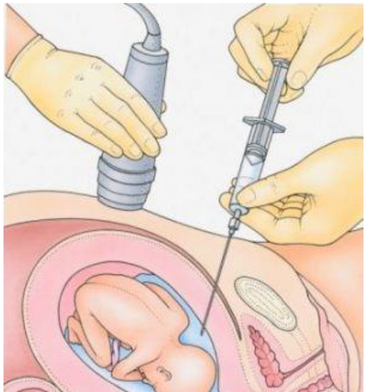
Fundal height measurement

Mention 3 parameters you should check during pregnancy US scan.

- Abdomen circumference
- Head circumference
- femur length
- Biparietal diameter
- Amniotic fluid index
- Gestational age(fetal crown rump length can be measured between 6 to 11wks)

Station 4:

40 year old lady pregnant at 20 week of gestation having procedure as shown in this pic.



What do you call this procedure?

Amniocenteses, done after 15 weeks

Mention 4 indications for this procedure?

- genetic (karyotype)
- bilirubin level (RH-isoimmunisation)
- fetal lung maturity
- therapeutic in polyhydramnios
- Screening for neural tube defect

Mention 2 possible complications?

ROM - abortion - infection

Mention 2 other invasive diagnostic tests can be used for prenatal diagnosis?and their indecation?

- Chorionic Villus Sampling (done after 10 weeks) the procedure of choice for first trimester prenatal diagnosis of genetic disorders
- Cordocentesis (done after 20 weeks): rapid karyotyping,fetal HB assessment, fetal blood transfusion

Station 5:

What is the machine? Ultrasound machine

Mention 3 of its uses for antenatal monitoring.

- To determine the gestational age
- To check the Fetal biometry
- To check amniotic fluid volume

What is the part pointed by the arrow? Transvaginal ultrasound probe

Mention 3 of its uses during pregnancy?

- Determining gestational age
- Fetus position
- Placenta location

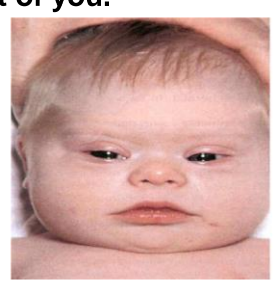
Mention 6 parameters you should check during pregnancy US scan.

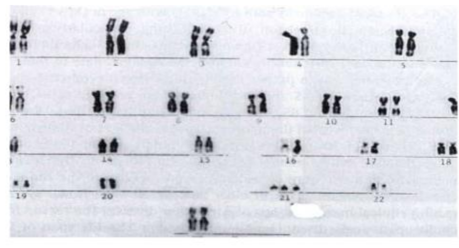
- Abdomen circumference
- Head circumference
- femur length
- Biparietal diameter
- Amniotic fluid index
- Gestational age(fetal crown rump length can be measured between 6 to 11wks)

Congenital Anomalies

Station 1:

From the picture in front of you.





What is the diagnosis? What is the chromosomal abnormality?

Down syndrome.Trisomy 21.

Mention two factors increase the incidence of this abnormality :

- Increased maternal age.
- Folic acid deficiency

Mention 4 features of this disease.

- Low lying ear.
- An abnormally small chin.
- Round face.
- Congenital heart disease.
- Almond shaped eyes.

What is the most important U\s finding for this abnormality in the first trimester?

Nuchal translucency

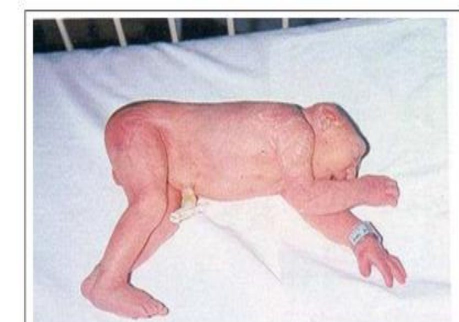
Mention 2 antenatal tests you would order?

- Triple markers screening(↓AFP, ↓estriol, and ↑beta-hCG)
- Amniocentesis

Station 2:

What is this condition?

Neural tube defect:Anencephaly.



Mention two types of this condition?

Types of neural tube defect:

1)Spina bifida.

2)Anencephaly

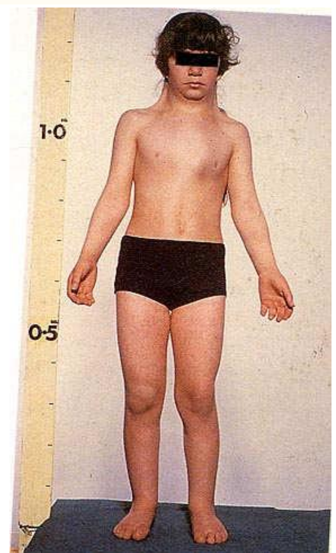
3)Encephalocele

How to detect it antenatal?

- By physical exam: can't palpate the fetal head.
- US: absent brain and skull bones.
- Triple marker test: **elevated alpha-fetoprotein**, decreased hCG, decreased Estriol.
- Amniocentesis

How would you prevent it? By folic acid supplementation in diet

Station 3:



What is the diagnosis? Turner syndrome.
What is the karyotype ? 45 X0

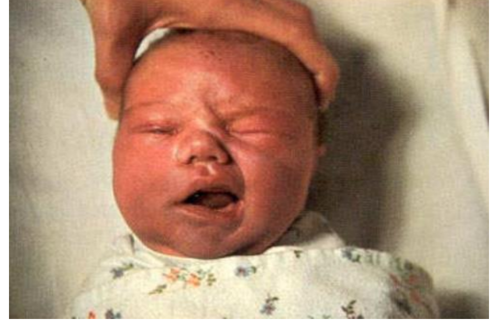
What are the characteristic features? Mention four (4)

1) Short stature.
2) Webbed neck.
3) Broad chest.
4) Amenorrhea.
5) No breast but there is a uterus.

Does the incidence increase with increasing maternal age? No it doesn't.

What treatment does the patient need?
Estrogen and cyclic progesterone (for the development of secondary sexual characteristics).

Station 4:



What is this condition? Facial palsy.

What could cause this condition?
Instrumental delivery by forceps.

Name 3 complications of forceps delivery.

- maternal trauma(Birth canal injury -Fistulae
- Facial palsy.
- Maternal bleeding.
- Fetal skull fracture.
- Fetal distress.

Preeclampsia

Station 1:

THIS CASE MAY COME AS ORAL DISCUSSION, BE READY!!

A 20 year old primigravida attends the antenatal clinic at 34 weeks gestation and she is noted to have a blood pressure of 150/95 mmHg. Urinalysis is ++ protein. Her blood pressure had previously been recorded In the range of 130-150 to 80-85 mmHg in the midtrimester. The fetal size is clinically appropriate for dates.

What is the differential diagnosis? "Mention 2"

- Preeclampsia toxemia
- Chronic HTN superimposed with preeclampsia

What is the most likely diagnosis? preeclampsia

What information in the above scenario helps to support your likely diagnosis in 2? "Mention 2"

- Primigravida
- High BP
- Proteinuria

What other symptoms you would ask for when you encounter such a history? "Mention 2"

- Headache
- Visual disturbances
- Epigastric pain
- Weight gain

What investigation you would do to help you in the management of this woman? "Mention 2"

- CBC- LFT- kidney function test- urine analysis

What is the management you would do in this case?

1. **Conservative management:**Before 37 weeks' gestation as long as mother and fetus are stable, mild preeclampsia is managed in the hospital or as outpatient, watching for possible progression to severe preeclampsia. No antihypertensive agents or MgSO4 are used.
2. **Delivery:**At ≥37 weeks' gestation, delivery is indicated with dilute IV oxytocin induction of labor and continuous infusion of IV MgSO4 to prevent eclamptic seizures.

What is the management if this case progress to have visual disturbance?

Delivery is indicated for preeclampsia with severe features at any gestational age with evidence of maternal jeopardy or fetal jeopardy.

- **Administer IV MgSO4** to prevent convulsions. Continue IV MgSO4 for 24 hours after delivery.
- **Lower BP** to diastolic values 90–100 mm Hg with IV hydralazine and/or labetalol.
- **Attempt vaginal delivery** with IV oxytocin infusion if mother and fetus are stable.

What are the risks that could happen to her baby?

Perinatal outcome is strongly influenced by gestational age and the severity of hypertension, there are short and long-term effects:

1- short-term effects:

- Lack of oxygen and nutrients, which can impair fetal growth
- Preterm birth
- Infant death

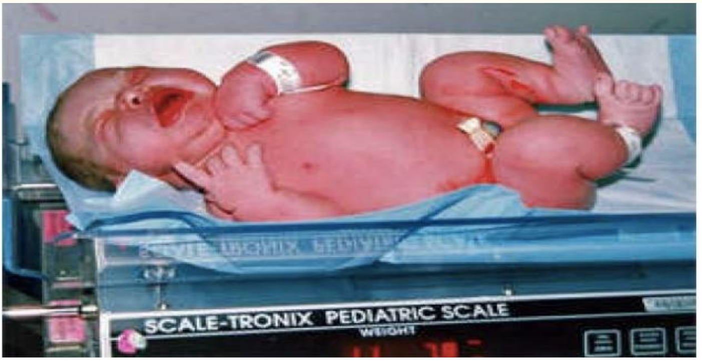
2- long-term effects (due to IUGR): more likely to develop: hypertension, coronary artery disease, and diabetes in adult life.

What can you do or give her to prevent preeclampsia recurrence in future pregnancy?

- Control comorbidities(e.g:obesity, hypertension, diabetes, autoimmune disease) and lifestyle
- Discuss realistic goals (weight loss, glucose control, blood pressure control).
- Maintain use of contraception while attempting to control comorbidities.
- Discuss possible interventions to prevent preeclampsia recurrence, such as calcium supplementation and low–dose Aspirin (very important to mention those two!!)

Gestational Diabetes

Station 1:



What is your diagnosis?
Macrosomia.
What is the definition of macrosomia? birth weight greater than 4000-4500 g or greater than 90% for gestational age.
Name 4 risk factors for this condition?
- Gestational diabetes mellitus
- Past history of macrosomic baby.
- Maternal Obesity.
- Prolonged gestation.

Mention 3 maternal complications should you anticipate in a delivery of macrosomic baby
- Postpartum hemorrhage.
- pelvic floor injury
- perineal lacerations

Mention 3 neonatal Complications: that may occur to macrosomic baby
- Shoulder Dystocia.
- Cervical Bone fracture.
- asphyxia.

What is the characteristic of the placenta for this baby?
The placenta of the macrosomia fetus can be either:
- significantly thin
- significantly calcified
- extremely small
- significantly large

Station 2:

30 y/o obese pregnant has glycosuria
Dx? Gestational Diabetes

Risk factor from the scenario? Age, obesity

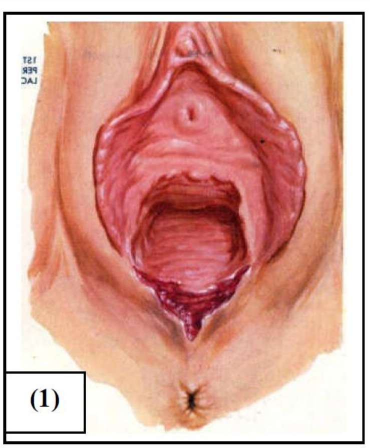
The baby what will have? Macrosomia

75 g of glucose	Fasting:	Less than 95 mg/dL or 5.3 mmol/L
	1-hour:	Less than 180 mg/dL or 10.0 mmol/L
	2-hour:	Less than 153 mg/dL or 8.5 mmol/L

How to conform the Dx? Oral glucose tolerance test (diagnostic if any value of the following is abnormal)↑

Operative Delivery

Station1: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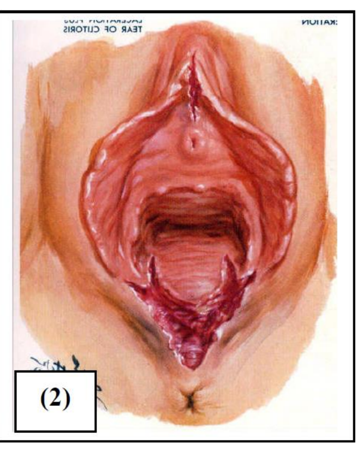
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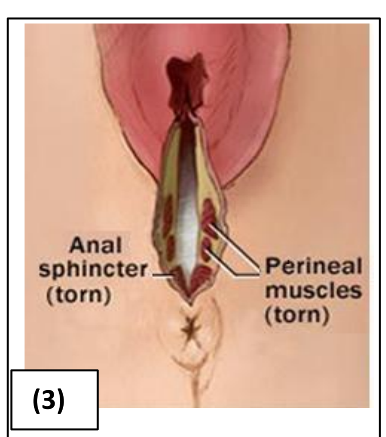

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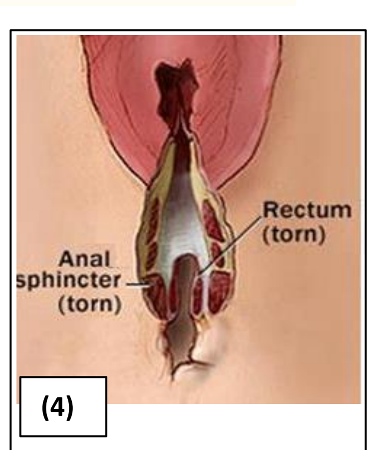


(4)

What is the complication seen:

THIS CASE MAY COME AS ORAL DISCUSSION, BE READY!!

1) 1st degree perineal laceration
2) 2nd degree perineal laceration
3) 3rd degree perineal laceration.
4) 4th degree laceration

What are these lesions most likely caused by?

Vaginal delivery.

What are the anatomical layers that are damaged in each category:

1) 1st degree: involves the skin and the vaginal mucosa but not the underlying fascia and muscle.
2) 2nd degree:also involves the fascia and the muscles of the perineal body but not the anal sphincter.
3) 3rd degree:Involves the anal sphincter but doesn't extend through it.
4) 4th degree laceration involve 3+laceration into rectal mucosa(complete sphincter transection)

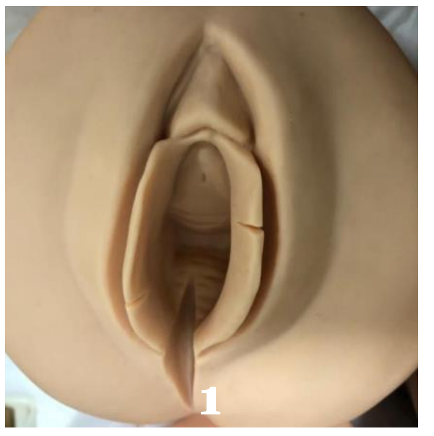
What are the predisposing factors? Mention three (3)

- Instrumental delivery.
- Macrosomic baby.
- Primigravida.

How can we avoid "3" complication?

Mediolateral episiotomy

صور من السكيل لاب,ممكن يجيبونها شفوي: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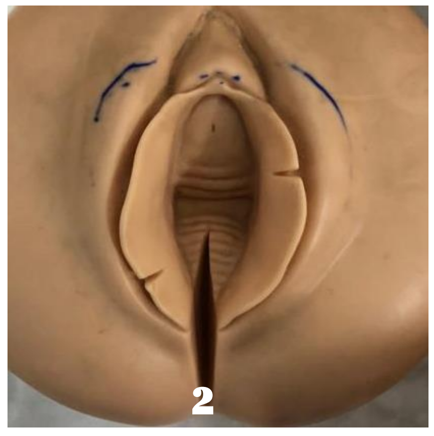
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Station 2:

Identify: Long curved Simpsons forceps.

Mention 2 indications for this instrument.

- Breech presentation
- Prolonged 2ND stage labor
- Fetal distress.
- Avoid maternal pushing: in which pushing efforts may be hazardous e.g., cardiac, pulmonary, retinal detachment or neurologic disorders.

Mention 4 pre-requisites.

- Engagement of the head
- Anesthesia.
- Empty bladder.
- Dilated Cervix.
- Ruptured membranes

Mention 3 complications.

- maternal trauma.
- Facial palsy.
- Maternal bleeding.
- Fetal skull fracture.

Station 3:

1

2

Identify the Instrument 1 & 2:

1) KiWi Vacuum Extractor (plastic vacuum)
2) Vacuum extractor (soft cups)

Mention 3 prerequisites before applying the Ventose:

- Engagement of the head
- Anesthesia,Empty bladder.
- Dilated Cervix
- Ruptured membranes

What are the indications for its use? Mention 3

- Prolonged 2ND stage labor
- Fetal distress.
- Avoid maternal pushing: in which pushing efforts may be hazardous e.g., cardiac, pulmonary, retinal detachment or neurologic disorders.

Mention 4 complications:

Maternal:

→ Vaginal laceration & soft tissue injury.
→ Bleeding from laceration.

Fetal:

→ Cephalohematoma
→ Subgleal hemorrhage is the most feared complication
→ Chignon

Mention 2 contraindication for using ventose? Pre-term labor - Breach and face presentation

Subgaleal Hemorrhage(For Your Information)

Definition: bleeding in the potential space between the skull periosteum and the scalp galea aponeurosis (epicranial aponeurosis)

Cause: The vacuum assist ruptures the emissary veins

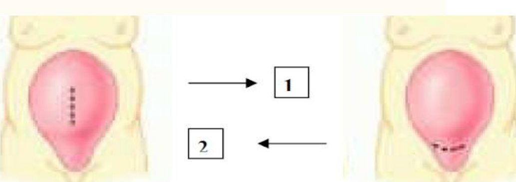
Diagnosis: is generally a clinical one:

- a fluctuant boggy mass developing over the scalp (especially over the occiput) with superficial skin bruising.
- The swelling develops gradually 12–72 hours after delivery,
- although it may be noted immediately after delivery in severe cases.

Station 4:

What types of uterine incisions are used in caesarean section?

1) Lower segment transverse
2) Upper Segment (Classical)



Which one is the most commonly used and why?

Lower segment because it has less complications and rupture of the scar in the future is less compared to the upper segment.

Give two (2) indications for elective caesarean section?

Breech presentation - Multiple pregnancy - Active herpes-2 previous CS-hx of myomectomy

Give two (2) emergency indications for type A CS.

Cord prolapse - Fetal distress- Vasa previa - Severe Preeclampsia toxaemia

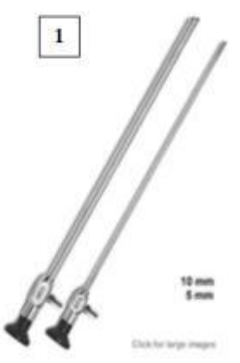
Name 4 complications.

1) Hemorrhage.
2) Infections.
3) Injury to surrounding organs.
4) Fetal injury

What additional risks are faced when doing CS for placenta Previa?BLEEDING

Instruments

Station 1:



What are these instruments ?Laparoscopy set

1) Laparoscope
2) Trochar (sleeve and needle)& cannula
3) Veress needle

What type of gas is used for this procedure?

CO_2 to inflate the abdomen prior to laparoscopy

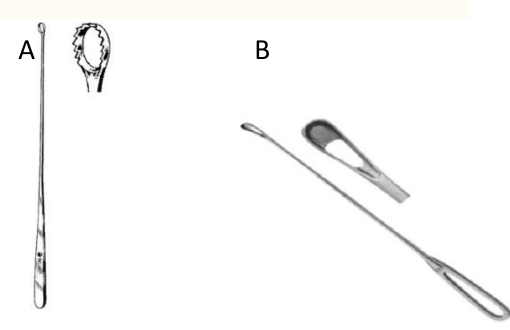
Write 2 diagnostic and 2 operative indications?

- Therapeutic:Ectopic pregnancy, tubal ligation and adhenolysis.
- Diagnostic: PID, infertility and endometriosis.

What are the complications of this procedure?

- Infection (peritonitis).
- Bleeding (laceration of a vessel).
- Bowel perforation
- Subcutaneous emphysema

Station 2:



Name this instrument?

A)sharp end Uterine Curette
B)Blunt end uterine curette

Mention 3 uses?

1. Diagnostic:To take sample in case of abnormal uterine bleeding
2. Therapeutic:to remove retained products of conception
3. Therapeutic:Removal of endometrial polyps

Mention 3 possible complications?

Perforation – ascending infection- Sepsis - Asherman syndrome

What are the indications of dilatation & curettage ?4

Diagnostic D&C	Therapeutic D&C
- Abnormal uterine bleeding - Irregular bleeding - Menorrhagia - Suspecting malignancy or pre-malignant condition. - Retained material	- removal of remaining conceptional matter (aborted fetus)

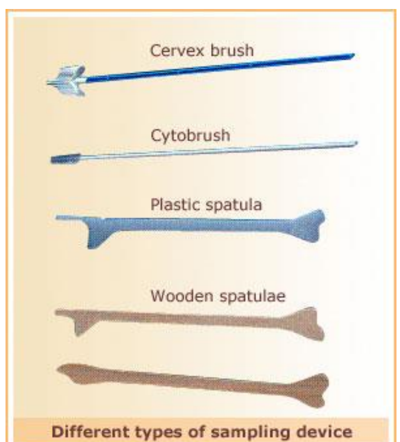
Station 3:

A:Wooden spatula **B:**Cervical brush

What is used for?cervical sampling (Pap smear).

What are the risk factors for cervical cancer?

- Multiple Sexual partner
- Young age at first coitus (<20 yr.)
- Smoking
- High parity



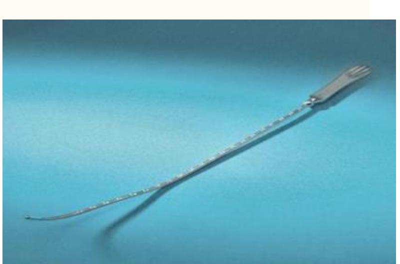
Different types of sampling device

Name the site where the specimen is taken from.
Form the Transformation zone

What is the most common virus associated with Cervical cancer?
Human papilloma virus (HPV).

Name the most common subtypes associated with cervical cancer.
Subtypes (16,18, 31, 33, and 35).

Station 4:



Identify the instrument. Uterine sound

Mention one prerequisite.
Pt's bladder must be empty

Mention 2 indications.

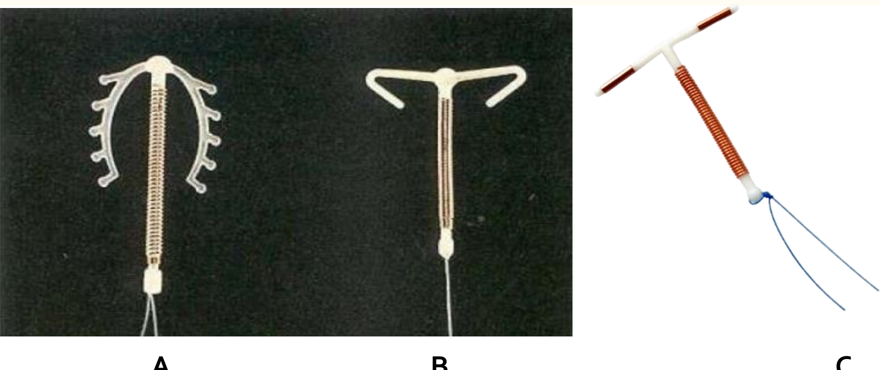
- To measure the uterine cavity length before certain procedures like dilatation and curettage.
- To differentiate between uterine inversion and submucosal fibroid.

What information will you get from this instrument?

- To measure the length of uterine cavity\cervical canal
- To assess the position and the direction of the uterus.

Complications? Perforation- Ascending infection

Station 6: ★★



What are the types of Intrauterine Contraceptives Device (IUCD) shown in this picture?

A. Multiload
B. Merina with progesterone
C.Copper

What are the mechanism of action for any IUCD as contraceptive device mention Two?

- Hormonal IUCD:Thickened of the cervical mucus.
- Impairing the viability of the sperms.
- Alteration of the tubal and uterine environment.
- Preventing fertilized egg from implanting.

Name three contraindications to the use of IUCD?

- Unexplained vaginal bleeding.
- Current pregnancy.
- Pelvic inflammatory disease.
- Cervical or endometrial cancer.

What are the risks that may occur with IUCD? Mention three.

- Ectopic pregnancy.
- **None hormonal IUD:**Menorrhagia
- Infection PID.

Station 7:

Identify this instrument.

amniotic hook

What is it used for?

Artificial rupture of the membranes (amniotomy).

What are the indications for its use?

- Used in induction of labor (to fasten baby birth due to any reason)
- **internal fetal heart monitoring:** used to put on fetal scalp

Any Prerequisites?

- Dilated cervix: if >2 cm
- Engagement of the head
- Check if the mother has infections
- Check if the placenta is in the right place(WARNING: PLACENTA PREVIA)

Contraindications? placenta previa - IF there is infections in birth canal like (herpes , hepatitis)

Name 2 complication.

- Bleeding.
- Injury to the baby's presenting part.
- Cord prolapse.
- Infection.

Station 8:

What is the name of this instrument?

Fetal scalp electrode.

Mention 2 perquisite before application.

- Cephalic presentation.
- Rupture of membranes.
- the cervix must be dilated to at least 2 cm.

What is it used for? Mention 3.

- To Monitor fetal heart. (main)
- In fetal distress.
- For accurate fetal surveillance.

Name 2 contraindications.

- Face presentation.
- Maternal Active genital infection.

What is the normal fetal heart rate:

110 to 160 beat/minute.

What is the normal beat-to-beat variability:

5-25 beat/minute.

Name 2 causes of fetal tachycardia rather than hypoxia.

- Maternal fever.
- Chorioamnionitis.

What are the causes of decreased variability:

Fetal sleep, hypoxia, sedative drugs and prematurity.

Name 2 causes of fetal bradycardia:

cord compression- placental abruption

Station 9:

Identify this Object. Hodge Pessary OR Ring Pessary.

What is the indication for it's use?

Uterine prolapse or genital prolapse.

What are the risk factors for the previous condition?

- Multiparity, Old age, previous surgery
- Chronic Increase of abdominal pressure.
- Genetic connective tissue disease or weakness.

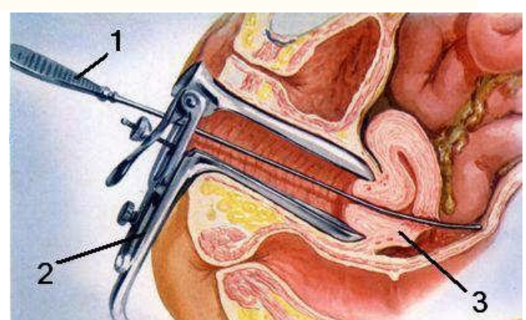
What are the main structures involved in the support of the uterus?

- Cardinal ligament.
- Uterosacral ligament.
- Pupocervical ligament

Station 10:

Instrument	Sim's speculum	Cusco's (bivalve) speculum	Auvard speculum
uses	▪ It exposes the **<u>anterior</u>** vaginal wall especially in cases of vesico-vaginal fistulas. ▪ for the diagnosis of pelvic organ prolapse	▪ To look at the cervix ▪ To take cervical smear or swap ▪ To diagnose PROM ▪ To exclude cord prolapse ▪ it allows the application of local instruments to the cervix,introduction of the uterine sound,and insertion of an IUCD	For most operative procedures performed per vagina.
Advantages	▪ Provides a space for operative work.	▪ It's easy to introduce. ▪ Self-retaining. ▪ Can be adjusted to the size of the vagina.	▪ It gives good exposure of the **<u>anterior</u>** vaginal wall & the cervix during operations
Disadvantages	▪ Assistance is required especially when it's used to expose the cervix or during surgical procedures because it's not a self-retaining specula. ▪ In the presence of a large cystocele, exposure of the cervix is often difficult	▪ It hides the anterior & posterior vaginal walls	▪ It may tear, bruise or overstretch the soft tissues of the perineum & posterior vaginal wall. ▪ it hides the post vaginal wall
Pt position	▪ left lateral position (sims' position)	▪ lithotomy	▪ lithotomy

Station 11:



What is the defect in arrow 3? Perforated uterus.

What is the position of this uterus? Sharply anteflexed uterus.

Identify instruments in arrow (1, 2).

1) Sim's Uterine Sound.
2) Cusco's Metallic vaginal speculum.

How can you prevent this condition.

- US guidance.
- Gentle & gradual insertion.
- Expertise

Station 12:

Name the following instruments:

Tenaculum / Vulsellum for holding the cervix	Ring (Sponge) forceps
USES: ▪ To grasp the anterior lip of the cervix. ▪ During vaginal operations for e.g. D & C and repair of prolapsed.	USES: ▪ To grasp the soft lips of the cervix during:(insertion of folly's catheter-removal of products of conception) ▪ Used to remove corporeal and cervical polyps ▪ Can be used as a sponge carrier

Pipelle (endometrial biopsy)	Needle holder
▪ It's used for endometrial sampling. ▪ It works by suctioning i.e. –ve pressure	

Suction for newborne(Bulb syringe)	Umbilical Cord scissor

Contraception

Station 1:

A 25 year old P2 +0, delivered 6 weeks ago came to your clinic asking for contraception.
What methods of contraception are currently available? “Mention 4”

- Combined OCP
- Progestin-only pills
- IUCD
- Tubal ligation

What types of oral contraceptive pills do you know and what are the components of these pills?

- **Combination OCPs:** contain both an estrogen and a progestin.
- **Progestin-Only OCPs:**contain only progestins and are sometimes called the “minipill.”

Which is more effective? Combination OCPs
How would you instruct a woman on how to take the oral contraceptive pills for the first time?

- **Combination OCPs :** They are administered most commonly in one of two ways: daily with 21 days on and 7 days off or daily 24 days on and 4 days off. When “off ” the hormones, withdrawal bleeding will occur.
- **Progestin-Only OCPs:** They need to be taken daily and continuously.

How would you instruct the woman who has forgotten to take her pill? She should take it whenever she remember and take her regular pill as well.

- But if she forgot the pills and had unprotective intercourse then she needs to take “Plan B pills” one pill 1.5 mg levenorgestel within 27 hours of unprotective intercourse

What is your advice to the woman who has vomiting / diarrhea after taking her pill?

- If the vomiting / diarrhea within 2 hours of taking the pill she should take another pill as soon as possible.
- And if she continues to be sick, she should continue the pill but add another barrier method like condoms. She can stop using condoms once she is well and 7 days after the last episode of diarrhea or vomiting

What is the effect if the woman forgets to take a tablet or has vomiting / diarrhea?

- vomiting / diarrhea within 2 hours of taking the pill interfere with absorption of the pills,with unprotected intercourse she may get pregnant.

What is the antibiotic that interferes with the effectiveness of the combined oral pills?rifampin
What are the absolute contraindications for COCP?mention 4

- History of breast cancer
- Migraine with aura
- History of vascular disease (DVT or thromboembolism)
- Liver disease

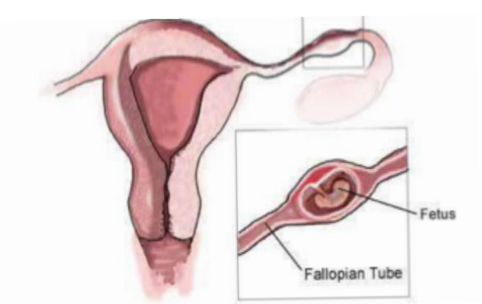
Mentions two non-contraceptive uses of OCP?

- Treatment of polycystic ovarian syndrome
- Treatment of endometriosis
- Dysmenorrhea

Early Pregnancy Bleeding

Station 1:

Mrs. Nada presented at 7 weeks of amenorrhea, lower abdominal pain and vaginal bleeding. The pregnancy test came positive.



What is your diagnosis? Ectopic Pregnancy.
What are the risk factors for this condition? Mention 4

- Previous ectopic.
- History of PID, Salpangitis, Endometriosis.
- Tubal ligation.
- Uterine leiomyomas, adhesions & abnormal uterine anatomy.

What are the investigations u will ask for? Serial B-HCG, US..
What are the treatments?

- Surgery either: Salpingostomy or Salpingectomy
- Methotrexate .

PROM

pregnant lady presented with gush of fluid
What is your Ddx?

- PROM.
- vaginal discharge.
- urinary leakage (i.e. incontinence).

Investigations to confirm the Dx?
pooling in speculum examination- nitrazine test- ferning test – aminosure

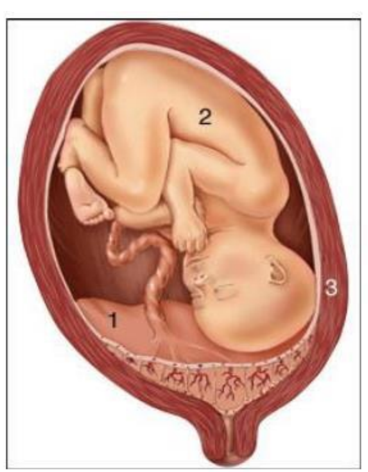
How would you manage this patient conservatively?

- dexamethasone for maturing of lung
- prophylactic antibiotics
- fetal monitoring.

What is complications?
Premature delivery, cord prolapse,intrauterine infection(chorioamnionitis)

Late Pregnancy bleeding

Station 1:



What is the diagnosis in this picture? Placenta Previa

In which trimester do patient usually present? 3rd trimester

If a patient presented with minimal vaginal bleeding at 30 weeks, how would you manage her?
Expectant management(Admit her to the hospital, limited movements,consider corticosteroids therapy for lung maturity)

What is the mode of delivering a patient with this condition? C-Section
Mention three (3) complications of this condition?

- Bleeding
- Abnormal extension of the placental tissue(placental accreta,increta,percreta)
- Preterm labor

What are the three other clinical types of this condition?

- Total complete or central previa
- Partial previa
- Marginal or low lying previa

What do you call it if it is morbidly adherent? Placenta accrete, increta or percreta

Station 2:

What is this?
Placenta abruption(Complete separation with concealed hemorrhage)

Define this condition?
An Abruptio placenta is defined as the premature separation of the placenta from the uterus.

What are the two other clinical types of this condition?
Partial separation – marginal separation

Risk factors 4?

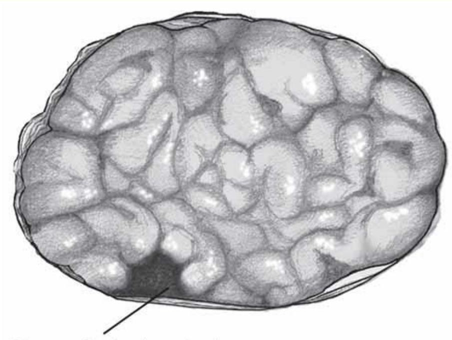
- Maternal hypertension
- Maternal trauma
- Cigarette smoking
- Alcohol consumption
- Pervious abruption

How to manage mention 4?

- Admit (History & examination assess blood loss, Confirm normal placenta location by US)
- Restore blood loss by IV fluids or blood products
- Assess fetal well-being
- conservative hospital observation if mother and fetus are stable, decreasing bleeding, contraction subsiding
- emergency C-section if maternal of fetal jeopardy is present.

Post-Partum Hemorrhage

Station 1:



Identify.
Missed lobe, retained placental tissue
One symptom. Postpartum hemorrhage.
Three management options.
1. Stabilize vitals.
2. IV fluids, blood cross matching (If needed),
3. manual exploration, uterine curettage (under US).
4. emergency hysterectomy (If needed).

complications if diagnosis was missed. DIC - infection
Name 2 other conditions that give similar presentation (PPH). Uterine atony-Perineal lacerations or tears-Coagulopathy.
Two steps of the active management in the third stage of labor. Inject oxytocin -controlled perform cord traction while massaging the uterus

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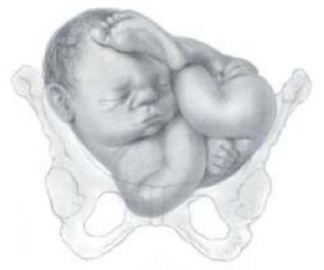
Abnormal Presentation

Station 1:



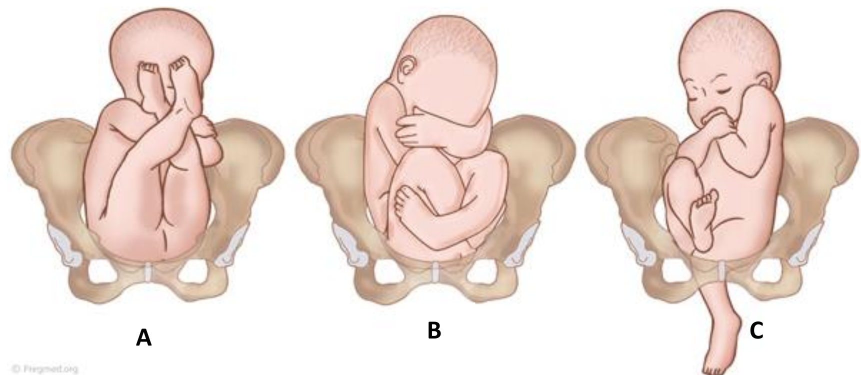
What is the Lie?
Transverse lie

Mention 4 risk factors for this lie?
- Uterine anomalies
- Uterine fibroids
- Polyhydramnios
- Multiple gestation

She is 39 wk, mention 2 ways to deliver?
- in order to enable vaginal delivery: External cephalic version
- C-section

2 finding in abdominal examination?
- low fundal height to date
- feel the head on abdominal lateral sides, feel the back of the fetus running transverse lie

Station 2:★★



Identify A,B,C.

A. Frank breech.
B. Complete breech.
C. Footling breech.

What would you do for her antenataly?and what are its prerequisites',contraindecations,and complications of it ?

By External cephalic version(ECV)

Prerequisites for ECV:

- Done after 38 weeks
- If blood group is rhesus negative should receive anti D immunoglobulin.
- It should be done in the theater with everything ready for c-section.
- Known placental location (NOT placenta previa)

Contraindications For ECV:

- Contracted pelvis
- Scared uterus (prior uterine surgery)
- Uteroplacental insufficiency
- Placenta Previa
- Hypertensive patient
- Intrauterine growth restriction
- Oligohydramnios

Complications OF ECV:

- Membrane rupture
- Uterine rupture
- Abruption placenta
- Cord prolapse

Mention 4 risk factors for this condition.

Prematurity **"The most common"**, uterine anomaly, fetal anomaly (e.g. hydrocephaly), prior breech, multiple gestation and polyhydramnios.

If she presented in at labor her 37th week with this presentation. What would you do for her?

C-section.

Multiple Gestation

Station 1:

A primigravida known to have twin pregnancy presented to the antenatal clinic at 38 weeks gestation.

What is the lie of twin 1?
Transverse

What is the presentation of twin 2?
Frank Breech presentation

What mode of Delivery is advised and why?
C-Section because of the abnormal presentation of the twin

What type of chorionicity in this twin?
Monochorionic diamniotic.

Mention 3 other types of twins (depending on chorinicty and amniocity)
- Monochorionic–monoamnionic
- Monochorionic–diamnionic
- Dichorionic–diamnionic

What nutritional deficiency will present in this case?
Folic acid,Calcium and Iron.

With the following types of presentation, what will be your preferred mode of delivery?
Cephalic / Cephalic :vaginally
Breech / Cephalic :CS
Cephalic / Breech :vaginally
Breech / Breech :CS
monochorionic monoamniotic: CS

Mention 3 risk factors.
- **Dizygotic twins** are most common. Identifiable risk factors include by advance maternal age , family history, or ovulation induction.
- **Monozygotic twins** have no identifiable risk factors.

What complications may happen to the mother during antenatal period?Mention three (3).
- Gestational diabetes
- Pre-eclampsia
- Anemia
- Hyperemesis gravidarum

Mention one postpartum maternal complication. Postpartum hemorrhage

Lower genital tract infection

Station 1:

A 32 y/o diabetic Patient presented to the Gyn clinic with itching and dyspareunia. She is newly married using OCP for contraception and regularly using feminine hygiene sprays. On speculum examination, you found this→

What is the diagnosis?
fungal infection of vagina (Vulvovaginal candidiasis)

What is the most likely organism causing this condition? Candida albicans

Which in the pt history increase the risk of having this problem?
Diabetes mellitus, regularly using of hygiene sprays

How to confirm the diagnosis?
wet mount test (blastopores or psoudohyphea) and positive yeast culture

What is the best line treatment? (mention drug or group of medications) Azole (anti-fungal)
(fluconazole, itraconazole, or posaconazole)

Station 2:

This 30 year old women G4 P2+1.she is 21 wk presented with vaginal discharge.The vaginal discharge microscopy had revealed the organism shown in the picture.

What is the organism seen on the slide?
Trichomonas vaginalis (a flagellated protozoan).

What are the features of this vaginal discharge?mention2
Yellow – green, malodorous diffuse vaginal discharge.

How would it present clinically?

- Symptoms: The most common patient complaint is vaginal discharge associated with itching, burning, and pain with intercourse.
- Speculum Examination: Vaginal discharge is typically frothy and green. The vaginal epithelium is frequently edematous and inflamed. The erythematous cervix may demonstrate the characteristic "strawberry" appearance. Vaginal pH is elevated >4.5.

What the drug of choice?
Metronidazole.

What are the pregnancy related complications?mention 2
PROM- Low birth weight baby

Should the husband be treated?give your reason?
Yes, It's a sexually transmitted infectious disease

Station 3:

Fatima is a 20 year-old nurse. She comes to your clinic complaining of unusual vaginal discharge. She is asking for your expert opinion.
What three questions that may help you to make the diagnosis?

- **HPI:**Onset and duration of vaginal discharge , Appearance, odor ,color.
- **Associated symptoms:**Itching ,dysuria, Dyspareunia ,Fever ,vaginal bleeding,or dryness
- Last Pap smear and result
- **Current and past sexual history:**including partners, method of intercourse, and contraception
- Personal history of sexually transmitted
- using of hygiene sprays

On examination you find a gray mucous discharge which has slightly fish odor.
What is the likely diagnosis? Bacterial vagionsis

What treatment would you give for the above condition?
The treatment of choice is metronidazole or clindamycin administered either orally or vaginally. Metronidazole is safe to use during pregnancy, including the first trimester.

Give two other common infectious causes of vaginal discharge and the appropriate treatment in each case?

1. **Cause\treatment:** trichomonas vaginitis , The treatment of choice is oral metronidazole for both the patient and her sexual partner.
2. **Cause\treatment:** Candida (Yeast) Vaginitis , The treatment of choice is either a single oral dose of fluconazole or vaginal “azole” creams. An asymptomatic sexual partner does not need to be treated.

Abnormal pelvic floor

Station 1:

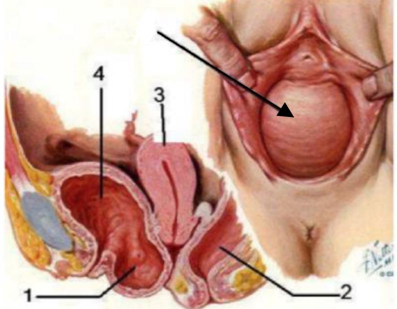
Diagnosis: Uterine prolapse.

Mention two risk factors.
- Multiparity ,Old age, previous surgery
- Chronic Increase of abdominal pressure.
- Genetic connective tissue disease or weakness.

Mention two symptoms the patient might present with.
Heaviness down there, bulging mass, uncomfortable sensation while coughing or with anything increases Intraabdominal pressure, Dyspareunia, leaking of urine with intercourse.

Mention two management options: Pessaries,or surgery
Mention two anatomical structures support the uterus
- Cardinal ligament.
- Uterosacral ligament.

Station 2:



Identify the defect in arrow? Cystocele(anterior prolapse)
Identify the anatomic structure in(1, 2, 3, 4)?
1) Posterior urinary bladder bulged into anterior vaginal wall.
2) Rectum.
3) Uterus.
4) Anterior urinary bladder.

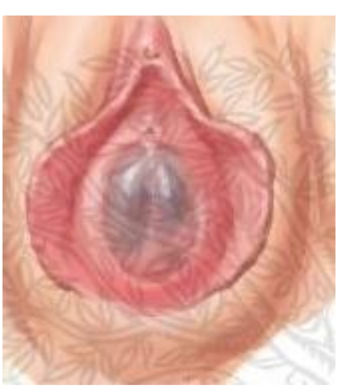
Mention 2 symptoms the pt will have?
- Symptoms secondary to recurrent (UTI): urgency, frequency, incomplete emptying,uncomfortable sensation
- heavy mass,Dyspareunia,leaking of urine with intercourse.

Mention two methods of treatment and example for each of them.
- Conservative : Pessaries (donut or hodge pessary)
- Invasive : Cystocele repair surgery

Amenorrhea

Station 1:

A16 year oldfemalepresentedwith primary amenorrhea and normal secondary sexual characteristics.



What is the diagnosis?

Imperforated hymen

What is the karyotype of this patient with such diagnosis? 46XX

Mention one investigation in the assessment of this condition

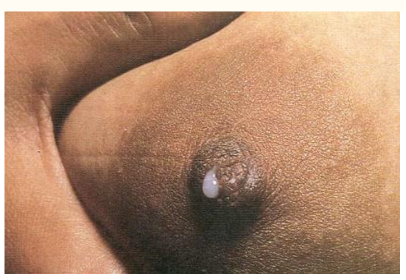
Ultrasound, to confirm the presence of a normal uterus & ovaries.

Mention three symptoms the patient might present with other than amenorrhea

- Cyclic (intermittent) pelvic pain.
- Vaginal bulge.
- Urine retention.
- Dyspareunia.

What is the management? - Incise the membrane, Hymenectomy or Cruciate incision.

Station 2:



What is this condition? Galactorrhea.

Caused by what hormone?

High levels of Prolactin.

What could cause its elevation?

- Physiological (lactating breast-feeding mother)
- Pituitary adenoma
- Drug-induced.(any dopamine antagonist e.g. benperidol, domperidone)
- Other prolactin-secretory tumors.
- Idiopathic elevation.

What other possible symptoms could it present with?

- Infertility
- Amenorrhea

How would you treat it?

- Medically: Bromocriptine (for decreasing prolactin secretion and reducing adenomas size)
- Clomid (to restore fertility)
- Surgical: remove the tumor

Dysfunctional uterine bleeding

Station 1:

40 y\o presented with heavy bleeding within her regular cycle. US showed no pelvic pathology
What is this condition called? Menorrhagia
Mention some investigations you are going to do for her.

- Blood hormone levels (gonadotropins, estrogen and progesterone).
- Endometrial biopsy or D and C.
- LFT and coagulation profile (PT and PTT) and CBC (platelets).

Mention 4 options for medical treatment.

- Combined estrogen and progesterone.
- Progesterone only (pills or merina IUCD).
- Danazol.
- GnRH analogues (leprolide).

Dysmenorrhea

Station 1:

Basma is a 37 year-old women, presents to your clinic complaining of recurrent onset of painful periods. The periods have been gradually getting worse over the last few years. She is otherwise healthy and she is not in medications.
What is this condition called? Secondary dysmoneriah

Give two possible differential diagnosis? Endometriosis – adenomyosis -PID
Name two investigations that may be useful to help you make the diagnosis?
Ultrasound and the diagnosis is confirmed by laparoscopy

Give four possible medical treatments.

- NSAID
- Combined estrogen and progesterone.
- Progesterone only (pills or merina IUCD).
- Danazol.
- GnRH analogues (leprolide).

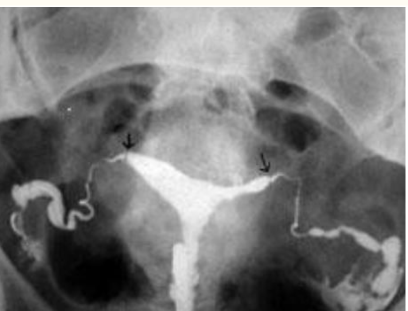
If she completed her family. Mention 2 options of treatment you are going to offer her.

- Endometrial ablasion.
- Hysterectomy.

Her 16 year-old daughter Maha is having a similar problem.
What is the most probable diagnosis? Primary dysmenorrhea
Name tow drugs that Maha may find useful. NSAID if fail OCP

Uterine Abnormalities

Station 1:



What is the name of this test?

Hysterosalpingogram

What are the indications for its use? Mention two?

- In case of Infertility or Amenorrhea to check tubal patency and detecting any uterine anomalies.

What information you can obtain from this procedure, Mention Three?

- Check the tubal patency.
- Uterine anomalies.
- Anatomy of the uterine and fallopian tubes.

During which phase of the menstrual cycle this procedure should be done?

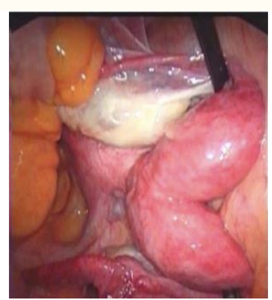
Proliferative phase.

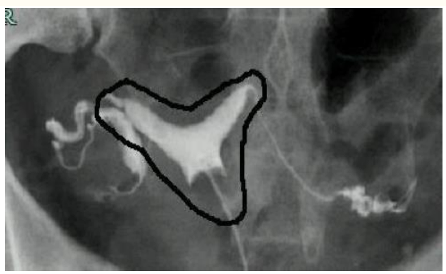
- If they ask u why?The endometrium is thin during this proliferative phase, which facilitates better image interpretation and should also ensure that there is no pregnancy.

What complication may arise from this procedure?

Infection- perforation of uterus and rupture of tubes

Station 2:





What is the pathology? Bicornuate uterus(Laparoscopic view & hysterosalpingogram)

Mention 2 gynecological presentations?

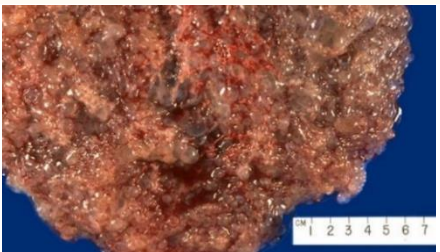
- Infertility
- Dysmenorrhea

Mention 2 obstetric presentations?

- Malpresentation
- Abortion
- preterm Labor.

Gestational Trophoblastic diseases

Station 1:



What is the diagnosis? molar pregnancy

Name the two (2) types of this condition and its genetic components?

- complete mole: 46XX
- incomplete mole: 69 XXY

Mention 2 predisposing factors?

Asian people, maternal age <15 or >45, history of Gestational trophoblastic diseases

Mention 2 symptoms associated with it?

vaginal bleeding, hyperemesis gravidarum, large uterus

Mention 2 treatment options?

suction dilation and curettage+ infuse with oxytocin.

Mention two investigations to confirm your diagnosis?

- Ultra Sound: complete has snowstorm appearance
- Quantitative Beta hCG level

Give the name of this pathology when it becomes malignant? Mention two.

- Choriocarcinoma
- Invasive mole

Ovarian Cancer

Station 1:

A 58 y/o female referred to the clinic with a finding of pelvic mass suggestive of ovarian origin discovered by US. She is previously healthy.

What are the types of epithelial ovarian tumors?

serous, mucinous, clear cell, endometroid

What are the risk factors of ovarian malignancies?

nullipariy, primary infertility, endometriosis, genetic (BRCA and HNPCC)

What are the tumor markers of ovarian mass?

CA 125, CEA, alpha fetoprotein, LDH

How would pt with established ovarian cancer present?

mostly with gastrointestinal symptoms: abdominal bloating,abdominal distension, abdominal pain, early satiety and pelvic pain

What is the most common stage pt present with?

stage 3, peritoneal metastasis

Define stage IIIC of ovarian cancer.

Tumor in one or both ovaries, peritoneal implants exceeding 2 cm and/or possible lymph nodes.

What are the treatment options?

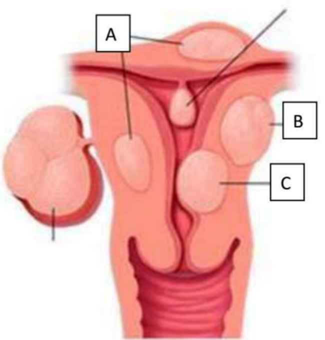
Debulking+ postop chemotherapy

What does debulking mean?

total abdominal hysterectomy with Bilateral salpingo-oophorectomy + Lymph node removal + omentectomy + any visible disease

Fibroid

Station 1:



Identify:

A. Intramural fibroid
B. Subserosal fibroid
C. Submucous fibroid

What could be the presentation in the non-pregnant woman? (4)

MOST OF THEM ASYMPTOMATIC,
Menorrhagia, Dysmenorrhea, Pelvic pressure or pain, Difficulty emptying the bladder, Constipation

What is the complication?

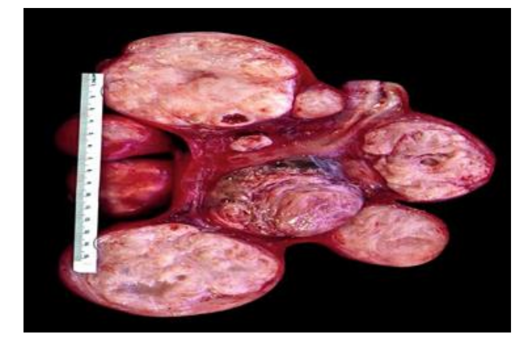
- In pregnancy: Obstructed labor, malpresentation
- In non-pregnant: infertility, anemia due to menorrhagia.

What other pregnancy-related complication could happen, and what is the management?

- Severe localized abdominal pain can occur if a fibroid undergoes "red degeneration"
- The symptom can usually be controlled by conservative treatment

What is the treatment(mention 4)?

- Conservative if asymptomatic.
- If symptomatic: med(OCP, GnRH agonist),surgery(myomectomy, Uterine artery embolization)



What is the abnormality in the picture (on the right)?

Subserosal fibroid

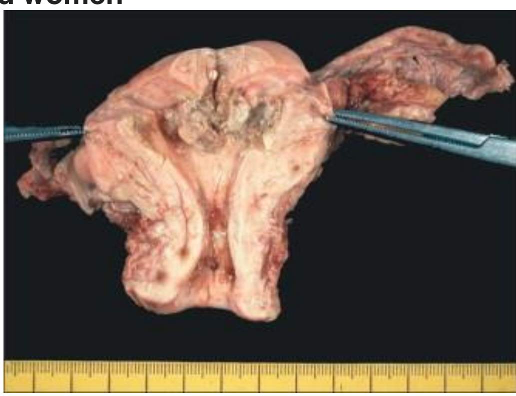
Is this common in the reproductive age group?why?

Yes, they are highly responsive to estrogen and progesterone, and after menopause they regress so yes.

Uterine cancer

Station 1:

Picture of endometrial cancer, old women



What is the most common presenting symptom? Postmenopausal bleeding

What is the most common histology?
Adenocarcinoma

What are Risk factors for uterine cancer?
Nulliparity,Obesity, late menopause, estrogen replacement treatment,hx of breast or ovarian cancer

How to treat EARLY stage?
hysterectomy with Bilateral salpngoioophrotomy

Mention Initial investigations?
- pap smear: to rule out cervical cancer
- U\S :look for the uterine thickness (if more than 4 MM) not always mean cancer but mean suspicion of cancer you have to do further investigations
- Endometrial Biopsy: to rule out endometrial cancer

Pregnant with heart disease

Station 1:

Rawan is a 28-year-old G1 P0 +0 who is now 22 weeks pregnant. This is her first visit to you in this pregnancy. She is in good health. She tells you that she was diagnosed with mitral valve stenosis following a rheumatic fever in childhood.

What important questions in the history would you like to ask regarding her cardiac condition? 5

- **Assis the severity of her cardiac condition**:(any active symptoms "shortness of breath", any complication, any limitation in daily activities)
- How was she managed before?
- **Medical history:** other medical illness(HTN,DM,arrythmia ..)
- **Medication history:**does she use any teratogenic medication
- **Surgical history.**

What are the most common complication she is likely to develop that you should closely watch for? 3

- **Heart Failure**
- Arrhythmia (AF)
- Pulmonary edema

What are the investigations her cardiologist will need to order to assess her heart condition? 2

- Serial imaging with echocardiography in addition to close clinical monitoring. Echocardiography once per trimester is sufficient
- Doppler examination

During delivery, what assistance does she need?

- elective forceps to shorten the second stage of labor of vaginal delivery.(N.B:vaginal delivery only in case of mild symptoms and good functional status)
- Intrapartum fetal monitoring
    - ✓ In highly symptomatic patients, planned cesarean section with the assistance of a cardiac anesthesiologist may be required.

She may face complication in the immediate postpartum period, so, what precautions would you do?2

- Intravenous fluids should be used to maintain euvolemia.
- Stop anticoagulant prior to delivery
- Monitor her heart rate, and rhythm.

THIS CASE WILL NOT COME BECAUSE WE DIDN'T TAKE A LECTURE ABOUT PREGNANCY AND CARDIAC DISEASES LIKE OTHER PREVIOUS BATCHES