Reproductive Block

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Correction File

Case 1:

A 17-year-old woman in her second trimester of pregnancy presents to a primary care clinic with painless vaginal bleeding and severe nausea and vomiting. She has not received medical care during her pregnancy. On physical examination, uterine enlargement is noted and grapelike clusters are found on pelvic examination. On ultrasound, a "snowstorm pattern" is seen.

1. What is the diagnosis?

"Hydatidiform mole or molar pregnancy."

2. Compare between the maternal & fetal parts of placenta and mention its common anomalies ?

Formation: by the beginning of the 4th month.		
Parts	**Maternal**	**Fetal**
Definition	**Decidua Basalis**	**Villous Chorion**
Surfaces	Rough & formed of irregular convex areas (Cotyledons) .	1. Smooth: because it is covered with the amnion. 2. The umbilical cord is attached to its center. 3. The chorionic vessels are radiating from the umbilical cord.
Layers	-	-Cytotrophoblast .(inner➔ disappears after 20 weeks) -Syncytiotrophoblast.
Anomalies:	1-Placenta accreta. 2-Placenta Precreta. 3-Placenta Previa	

3. Describe the fetal circulation? [1]

1- Highly oxygenated blood passes from the placenta through the umbilical vein.

2-Half of this blood reaches the IVC through the ductus venosus.

3- The other half passes to liver sinusoids then to the IVC.

4- Blood of the IVC reaches the right atrium, then left atrium through the Foramen Ovale (an opening between the two atrium).

5- Then to the left ventricle to the ascending aorta, and the aortic arch to supply head & neck brain, cardiac muscle and upper limbs with highly oxygenated blood.

6- Small amount of highly oxygenated blood in right atrium mixes with venous blood of the SVC passes to right ventricle.

7- Then to the pulmonary artery (lungs are not functioning yet) then to ductus arteriosus to the descending aorta, to lower half of fetal body.

8- Then back to placenta via the two umbilical arteries.

4. What happens through clinical stages of labor ?

First stage	**2nd stage**	**3r stage**
1.Increase oxytocin and PGF receptors **2.Cervix dilated to 10 cm and uterine** **3.Contraction starts .**	**Infant start to pass through the cervix with head first .”vertex position”**	**Placental delivery.**

[1] If you wanna see it as a story, go to the correction file..

5. What are the functions of placenta?

Respiration	Execration	Nutrition
1-HbF has higher O2 oxygen carrying capacity than HbA in the mother. 2-Meternal blood gain more co2 (acidic blood) curve shift to the Right . Fetal blood loss more co2 (alkaline blood) 3-Curve shifts to the Left.	Fetal waste get execrated by the maternal blood through placental membrane like Urea, uric acid and creatinine.	Glucose➔transported by GLUT from placental villouse . Fatty acid . Amino acid➔ by active transport. Na,cl,k➔by diffusion.

Endocrine		
Hormone	**Secretion**	**Function**
HCG	trophoblast	Most important function is to maintain corpus luteum
Estrogen	DHEA secreted by adrenals➔ converted by syncytial trophoblast to estrogen	Enlargement of breast and uterus . Relaxation of pelvic ligaments. Activation of the uterus gap junction.
Progesterone	syncytial trophoblast derived from cholesterol.	Nutrition to the fetus. Development of decidual cells. Inhibit the contractility of the uterus.
HCS	placenta	Inhibit insulin sensitivity . Brest development. Release of fatty acid.
Relaxin	-Curpos luetium -placenta	Softens the cervix at delivery Relaxation of pelvic ligaments.

6. What are the medications that interact with the contraceptive pills?

Contraceptive failure	Contraceptive toxicity	OC alter the clearance of
Antibiotics that interfere with normal GI flora➔ ↓ absorption➔↓its bioavailability	Microsomal Enzyme Inhibitors➔ ↓metabolism of OC➔ ↑toxicity صيتا رمت السم **Acetaminophen, Erythromycin**	WARFARIN, Cyclosporine, Theophylline **"The Weak Clearance"**
Microsomal Enzyme Inducers➔ ↑ catabolism of OC باربي تعيش بالريف **Phenytoin , Phenobarbitone, Rifampin**		

7. What are the Seasonal Pills of COC?

They are known as continuous or extended cycle, Taken continuously for 84 days, break for 7 days , Has very low doses of both estrogens and progestin

Benefit	Uses	Disadvantages
It lessens menstrual periods to 4 times a year	- Precautious puberty - menstrual disorders (Dysmonorrhea) - Perimenopausel women with vasomotor symptoms.	Higher incidence of breakthrough bleeding & spotting during early use.

8. Compare between tocolytics classes?

	Selective β2 receptor agonist	CALCIUM CHANNEL BLOCKERS	Atosiban
Drug	**Ritodrine**	**Nifedipine**	
MOA	activate enzyme AC , increase in the level of cAMP reducing intracellular calcium level.	Causes relaxation of myometrium	Compete with oxytocin at its receptors on the uterus.

9. What are the drugs that produce uterine contractions and compare between them?

	Oxytocin	ERGOT ALKALOIDS	PROSTAGLANDINS
Drugs	**Syntocinon**	**Ergometrine** **Methyl ergometrine**	**PGE2:** **Dinoprostone** **PGF2α:** **Dinoprost, Carboprost** **PGE1:** **Misoprostol**
Contraction	-stimulates the contractility of the fundus **-only when uterine cervix is soft and dilated.**	-**Tetanic** contraction for the whole uterus (Fundus + Cervix)	-throughout pregnancy -**soften the cervix**
Use	- Induction & augmentation of labor - Postpartum uterine hemorrhage - **Impaired milk ejection**	Post-partum hemorrhage (3rd stage of labor)	-**Induction of abortion** (pathological). -Induction of labor (fetal death in utero). -Postpartum hemorrhage.
Side effects	-Maternal death due to HTN -Uterine rupture -Fetal death (ischemia) -Water intoxication	-HTN -Vasoconstriction of peripheral blood vessels➔Gangrene (toes & fingers)	**-Bronchospasm** (PGF2α) **-Flushing** (PGE2)

Case 3:

35-year-old woman presents to the clinic with complaints of increased fishy-smelling vaginal discharge. She is married, in a monogamous relationship. A wet smear of the discharge reveals stippled squamous epithelial cells with smudged borders. "Clue Cells"

1. What is your diagnosis?

Bacterial Vaginosis "Floral imbalance"

2. How can you confirm your diagnosis?

- Clinical/Microscopic Criteria
- Gram Stain ("Gold Standard")
- Have **Clue cells** on saline wet mount of vaginal discharge
- Elevated pH and increased amine

3. What is the differential diagnosis of Candidal vulvovaginitis?

Sexually transmitted diseases , Chlamydia , Trichomoniasis ,Bcterial vaginosis , Gonorrhea

4. What is the treatment of Trichomonas Vaginalis?

Oral metronidazole

5. What is the Classic triad of Toxoplasma Gondii?

Chorioretinitis, Hydrocephalus, Intracranial calcifications

6. A pregnant women got infected in her second trimester, after the fetus was diagnosed with hydrops fetalis[2], what is most probably caused this & how to treat it?

Parvovirus B19, Intrauterine transfusion

7. How can you prevent Varicella Zoster Virus?

Pre exposure: live-attenuated vaccines.
post exposer: varicella zoster immune globulin,

8. Where do you see "blueberry muffin" lesion?

Rubella Virus

9. How to diagnose Cytomegalovirus?

- **Maternal :** Serology; CMV IgM, CMV IgG, CMV IgG avidity.
- **Prenatal :** PCR , culture, CMV specific IgM. Ultrasound
- **Postnatal:**

1. **Isolating;**	2. **Histology;**	3. **Serology;**
in **first 3 wks** of life in Body fluid : urine, saliva, blood By: ➢ Standard tube culture method ➢ Shell vial assay ➢ PCR	Detection of Cytomegalic Inclusion Bodies in affected tissue **"owl's eyes"**	CMV IgM

[2] accumulates fluids, causing swollen arms and legs and impaired breathing.

Case 3:

A 26-year-old woman presents to her physician complaining of intense abdominal pain associated with the start of her menstrual periods. She has been trying unsuccessfully to get pregnant for the past 2 years. On questioning, she reports pain with intercourse, especially on deep penetration. Her older sister has a similar history.

1. What is the most likely diagnosis ?

Endometriosis, presence of ectopic endometrial glands and stroma outside uterus.

2. Mention the patient clinical presentation? (depends mainly on site of endometriosis)

- Severe-related Pain
- Infertility

3. Where does it mostly occur ?

50% in ovary, menstrual type bleeding (because like uterine endometrium,responsive to hormonal changes in menstrual cycle)→ result in blood filled areas→ chocolate cyst.

4. What is the clinical behavior & complication?

Benign with no malignant potential**,** may recur after excision but the risk is low. Complications: Infertility, **Adhesions**

Case 4:

A 20 year-old female had fairly regular menstrual cycles for several years following menarche. For the past year, she has had oligomenorrhea and developed hirsutism. She has gained about 10 Kg in the past 4 months. Each ovary is about twice normal size as seen on pelvic ultrasound, while the uterus is normal in size.

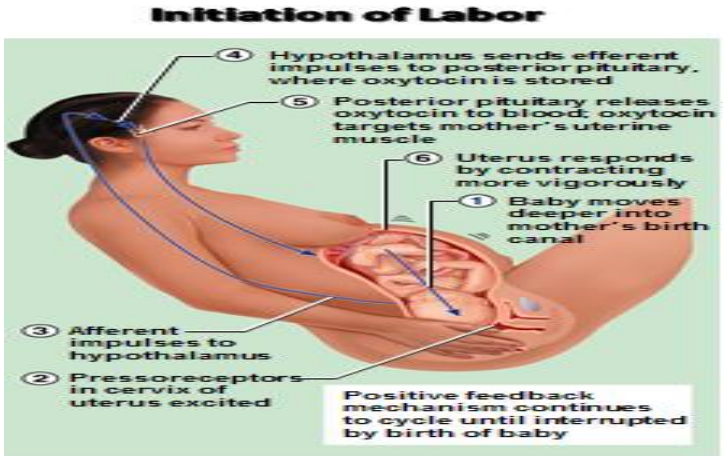
1. Mention the patient clinical presentation?

She is a young woman 20 year old, Oligomenorrhea, obesity (gaining weight),

Other: secondary amenorrhea, infertility,hirsutism.

2. What is the most likely diagnosis ?

Polycystic ovarian disease/ Stein-Leventhal syndrome, It's bilateral enlargement of ovaries **by multiple small cysts,** chronic anovulation.

3. The lady was treated, then she got pregnant. At her labor as a Gynecologist you were asked by an intern, what is Ferguson Reflex?	4. Briefly talk about the pathophysiology of the disease.
	It is *not known* but is believed to be related to **hypothalamic-pituitary dysfunction** leading to over secretion of luteinizing hormone(LH), without any drop of LH causing anovulation and excess estrogen production.

5. Mention the management options for her case?

	Antiestrogen (Clomiphene)	Gonadotropins (LH, FSH)	GnRH	D2 agonsit
Uses	• Female infertility not due to ovarian or pituitary failure **Normogonadotrophic**	• induction of ovulation in infertility 2ry to gonadotropin deficiency. (pituitary insufficiency)	• In OVULATION INDUCTION • In hypothalamic amenorrhea (GnRH deficient)	• Female infertility 2ndry to hyperprolactinemia (hypogonadotropic)
ADRs	1. Hot Flushes & breast tenderness 2. Visual disturbances (reversible) 3. nervous tension & depression 4. Hair loss (reversible)	**FSH containing** preparations: • Fever • Ovarian enlargement (hyperstimulation) • Multiple Pregnancy **LH containing** preparations: • Headache • edema	•Hypoestrogenism On long term use such as Hot flashes,Libido,Osteoporosis, Vaginal bleeding • Rarely ovarian hyperstimulation (ovaries swell & enlarge)	• Headache dizziness & orthostatic hypotension • Dry mouth & nasal congestion • Insomnia