



# TEST ME REPRODUCTIVE MODULE



**Done by:**  
**Yousef Alsalem**

# Week 3

## Anatomy:

What type of epithelium is the cervix composed of ?

- A. Squamous & Columnar
- B. Squamous & Glandular

**Answer: A**

Which of the following store sperm for maturation?

- A. Epididymis
- B. Testes
- C. Seminal vesicle
- D. Prostate
- E. Vas deferens

**Answer: A**

The secretions of what is important for sperm maturation?

**Seminal vesicle**

Most folded mucosal lining is located in which part of the uterine tubes?

- A. Infundibulum
- B. Fimbria
- C. Ampulla
- D. Isthmus

**Answer: A**

A) leydig cells

B) sertoli cells

15. What cells produce AMH? **B**

16. What cell synthesizes testosterone? **A**

Under the microscope, a section showed elongated cells with collagen fibers under the basement membrane of the seminiferous tubules, what are these cells?

**Myoid cells**

In which phase does the endometrium shows coil-shaped glands?

**Secretory phase**

At which stage of the ovarian follicle will the oocyte be surrounded by cuboidal cells?

- A. Primordial follicle
- B. Primary follicle

**Answer: B**

## **Microbiology:**

Which of these mechanisms is responsible for inflammatory cytokine-mediated effects in recurrent spontaneous miscarriage ?

- A. Apoptosis of trophoblast cells
- B. Induction of humoral anti-trophoblast immunity
- C. Induction of immunosuppressive cells in the uterus
- D. Development of type IV hypersensitivity
- E. Cytotoxicity of fetal WBC

**Answer: A**

What is the commonest cause of premature ovarian failure ?

**Idiopathic**

What is the most common immune mediated cause of premature ovarian failure ?

**Thyroiditis**

What is a cellular immunity role in recurrent spontaneous miscarriage ?

**Increased Th1 cytokines**

What is the role of humoral immunity in recurrent spontaneous miscarriage ?

**Anti-phospholipid antibody syndrome**

Which of the following are identified as a definite cause of recurrent miscarriages ?

**Anti-phospholipid antibodies**

How do anti-sperm antibodies result in infertility?

**Prevent cervical mucus penetration by sperm**

What is the reason behind the development of anti-sperm antibodies in males?

**spermatogenesis happens after the immune system develops tolerance to self Ag**

- a) Antiphospholipid Antibodies
- b) Maternal Th1 cytokines
- c) Anti-sperm antibodies
- d) Zona pellucida antibodies
- e) Maternal Th2 cytokines
- f) Anti-ovarian antibodies
- g) Immunosuppression
- h) Endometrial antibodies

37. Humoral mediated cause for recurrent spontaneous miscarriage/unexplained miscarriage? **A**

38. Cell mediated cause for recurrent spontaneous miscarriage/unexplained miscarriage? **B**

What test is used to check for anti-sperm antibodies:

**Sperm immunofluorescence**

Most likely cause of infertility in a woman with a history of recurrent pulmonary embolism and deep vein thrombosis ?

**Antiphospholipid syndrome**

What is the mechanism of action of inflammatory cytokines in recurrent pregnancy loss?

**Inhibit trophoblast growth**

**What could be a cause of recurrent spontaneous miscarriages?**

- A) Anti-endometrial antibodies
- B) Th1 cytokines
- C) Th2 cytokines
- D) Anti-sperm antibodies
- E) Ab to syncytiotrophoblast
- F) Ab to cytotrophoblast

**Answer: B**

**autoantibodies to which autoantigen causes recurrent spontaneous miscarriage?**

**Phospholipids**

**Which of the following is a definite cause of infertility?**

**Anti-ovarian antibodies**

**Which antibodies are associated with recurrent miscarriages?**

**Antiphospholipid antibodies**

**Which of the following factors maintain the immunologic tolerance to the embryo during pregnancy?**

- A. Immunosuppressive factors
- B. Th2 cytokines

**Answer: A**

**How do the inflammatory cytokines mediate miscarriage?**

**They cause apoptosis of trophoblast cells**

**Which factor is responsible for developing tolerance towards fetus in pregnancy?**

**Immunosuppressive factors**

**Immunological factor responsible for male infertility?**

**Agglutinating Abs**

**How do anti-sperm antibodies affect fertility?**

**Agglutination and immobilizing the sperm**

## **Obs/gyne:**

1. What is true about B-HCG ?

A. It arises at 5 days after conception

B. Useful to detect down syndrome

**Answer: A, HCG is produced from the placenta which is derived from the trophoblast, that appears on day 5-6**

2. A woman had her last menstrual period before getting pregnant on the 1st of May. She had a history of regular menstrual cycles every 28 days. What is the approximate day of blastocyst implantation ?

**21st - 24th of May**

**Explanation: Her LMP was on 1st of May, ovulation occurs on 14th day of 28-day cycle, and the egg remains viable for 24 hours, so fertilization could have occurred on the 14th/15th of May, the egg will then implant between day 5-9 post fertilization.**

3. What is triggered by binding of the sperm to the glycoprotein of the ovum ?

**Acrosomal reaction**

4. What enhances sperm motility in the female genital tract ?

**Glucose**

5. Which cells are responsible for HCG secretion in the placenta ?

**Syncytiotrophoblast**

After a young female experienced an abortion, the products of conception showed a karyotype of 69 XXY. What is the most likely pathology?

**Partial hydatidiform mole**

What is the source of nutrients for the embryo before four weeks of gestation?

**Trophoblast**

When does implantation take place?

**One week after fertilization**

Which of the following events takes place just before implantation?

**Hatching of the zona pellucida**

What is the correct order of implantation stages?

**Apposition → adhesion → invasion**

3. Sequence of implantation – B “**apposition-adhesion-invasion**”

4. Sequence of fertilization- A “**interaction-penetration-fusion**”

5. Sequence of sperm development- E “**spermatogenesis-maturation-capacitation**”

A. Interaction-penetration-fusion

B. Apposition-adhesion-invasion

C. Adhesion-apposition-invasion

D. Spermatogenesis- capacitation- maturation

E. Spermatogenesis- maturation- capacitation

F. Penetration-interaction-fusion

12. Identical twins- C “**Monozygotic**”

13. Twins sharing the same placenta but have separate amniotic sacs- A “**Monochorionic Diamniotic**”

A. Monochorionic Diamniotic

B. Dichorionic Monoamniotic

C. Monozygotic

D. Dizygotic

What is the function of the mitochondria in sperms?

- A. Source of energy
- B. Motility
- C. Connects the head with tail

**Answer: A**

On abortion, the products of conception showed a karyotype of 69-XXY. What is the most likely pathology?

- A. Partial hydatiform mole
- B. Complete mole

**Answer: A**

After miscarriage, D&C showed cystic grape-like structures with edematous chorionic villi and absence of fetal parts. What describes this condition?

- A. Placenta accreta
- B. Placenta previa
- C. Choriocarcinoma
- D. Hydatiform mole

**Answer: D**

- a) Prophase 1
- b) Metaphase 1
- c) Anaphase 1
- d) Telophase 1
- e) Prophase 2
- f) Metaphase 2
- g) Anaphase 2
- h) Telophase 2

9. Oogenesis arrest at which phase from birth until puberty? **A**

10. Oogenesis arrest at which phase until fertilization? **F**

11. Formation of 2nd polar body is at which phase? **H**

What does cortical reaction result in?

- a) Sperms are mobile
- b) Sperms are super mobile
- c) Only one sperm can fertilize the ovum

**Answer: C**

What is the function of the mid-piece of sperm?

- A) contains mitochondria
- B) contains DNA
- C) helps in motility

**Answer: A**

Penetration of the sperm to fertilize the ovum/oocyte by?

**acrosomal reaction**

Which of the following is true regarding implantation?

- a. Happens during day 4-5 of fertilization
- b. Happens in morula stage
- c. Implantation precedes hatching of zona pellucida
- d. Reduced endometrial receptivity is the main cause of most cases of failure of implantation

**Answer: D**

## **Biochemistry:**

1. It's hepatic production is increased by 16-30% and it's overall endogenous production increases with maternal body weight, what is the molecule ?

- A. Amino acids
- B. VLDL
- C. HDL
- D. LDL
- E. Glucose

**Answer: E**

2. In the second half of pregnancy, the clearance of which of the below is altered by the differential activity of the lipoprotein lipase ?

**VLDL**

What is true regarding a pregnant woman during the first half of pregnancy?

**Increased lipogenesis**

Through which method are amino acids transported from the mother to the fetus?

- A. Active transport
- B. Facilitated diffusion

**Answer: A**

Which of the following is a diabetogenic hormone that is released during pregnancy?

- A. hCG
- B. hPL

**Answer: B**

Which of the following metabolic changes takes place during the second half of pregnancy?

- a) increased lipogenesis
- b) increased insulin sensitivity
- c) Increased postprandial amino acid levels

**Answer: C**

Which of the following is true regarding the lipid profile in a pregnant woman?

- a) Decrease in beta oxidation
- b) Increase in TG/ cholesterol ratio
- c) Increase in VLDL

**Answer: C**

How are amino acids transported via placenta?

**Active transport**

What is a feature of fasting state in pregnancy?

- A) Increase in serum HPL
- B) Increase in serum Cortisol
- C) Increase in serum Estrogen
- D) Increase in serum Insulin

**Answer: A**

What is the main mechanism involved in the transfer of nutrient from the mother to the fetus?

**Diffusion**

Which of the following events occur during the first half of pregnancy?

**Increased lipogenesis**

## LT- Physiology:

Which of the following facilitates oxygen diffusion through the placenta from the mother to the fetus despite a gradient of 30 mmHg?

**Fetal hemoglobin shifts oxygen dissociation curve to the left**

Movement of CO<sub>2</sub> from the fetus to the mother through the placenta increases PaCO<sub>2</sub> on the maternal side and decreases it on the fetal side facilitating diffusion of oxygen; what is this effect called?

- A. Double bohr effect
- B. Bohr effect

**Answer: A**

What facilitates oxygen diffusion through placenta from mother to fetus despite fetal tissue pO<sub>2</sub>=30 mmHg?

**Fetal hemoglobin shifts oxygen dissociation curve to the left**

What is the reason for O<sub>2</sub> transport from mother to fetus despite the small gradient?

**a) High affinity of fetal Hb to O<sub>2</sub> (or fetal hemoglobin shifts oxygen dissociation curve to the left)**

## LT- Obs/gyne:

6. Caudal regression- E “Diabetes Mellitus”

7. Congenital heart block- D “SLE”

8. Thyrotoxicosis- F “Graves’ disease”

- A. AIDS
- B. Syphilis
- C. Myasthenia gravis
- D. SLE

## LT- Week 2:

Which phase of sexual response cycle is characterized by increased muscle tension, increased heart rate and breathing, increased blood flow to the genitals, as well as skin flushes ?

**Excitement**

Which phase of the sexual response cycle is characterized by involuntary muscle contraction, sudden, forceful release of sexual tension, and a sexual flush appearing over the entire body?

- A. Orgasm
- B. Excitement
- C. Plateau
- D. Recovery

**Answer: A**

## PBL:

What happens to B-hCG during the first 10 weeks of gestation?

- A. Increases by 50% every 24-48 hours
- B. Increases by 50% every 48-72 hours
- C. Increases by 100% every 24-48 hours
- D. Increases by 100% every 48-72 hours

**Answer: D**

What is the first sign of pregnancy seen on a transvaginal US?

- A. Cardiac activity at 6 weeks
- B. Fetal pole at 6 weeks
- C. Gestational sac at 4-5 weeks
- D. Yolk sac at 4-5 weeks

**Answer: C**