

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Physiology

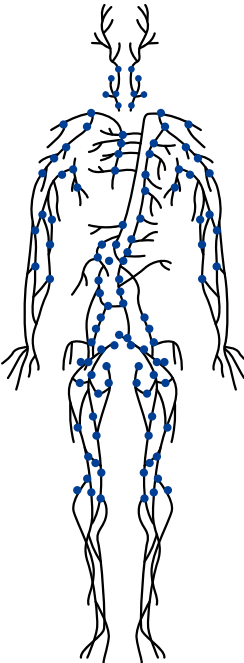
MID | Past Papers

﴿وَقُلْ رَبِّ أَدْخِلْنِي مُدْخَلَ صِدْقٍ وَأَخْرِجْنِي مُخْرَجَ صِدْقٍ وَاجْعَلْ لِي مِنْ لَدُنْكَ سُلْطَانًا نَصِيرًا﴾
ربنا آتانا من لَدُنْكَ رَحْمَةً وَهَيِّئْ لَنَا مِنْ أَمْرِنَا رَشَدًا

Lectures 1-5

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Q1: If you know that each gram of hemoglobin can be maximally saturated with 1.34 ml oxygen in humans, how much oxygen would be needed in a normal male?

- A. 21 ml/dl
- B. 27 ml/dl
- C. 83 ml/dl
- D. 15 ml/dl

Answer: a

(in a normal male ≈ 16 g/dL Hb $\rightarrow 16 \times 1.34 \approx 21$)

Q2. In which of the following cases is there low erythropoietin?

- A. Haemolytic anaemia
- B. Nephrotic syndrome
- C. Newborn baby
- D. high testosterone

Answer: b

I think this is more of a patho question

Q3: Which of the following is least likely to be a function of plasma proteins:

- A. Carrying oxygen
- B. Clot formation
- C. Body defense mechanism
- D. Bind insoluble substances

Q4: One of the following appears after 3 days of acute bleeding:

A. Proerythroblasts

B. Reticulocytes

C. Platelets

Q5: In patients with end-stage renal disease who develop anemia with a hematocrit of 25%, which of the following best explains the cause?

- A. Liver EPO accounts for only 10% of normal EPO
- B. Released urea will destroy precursor RBC in bone marrow
- C. Decreased oxygen due to kidney damage

Q6: What function do vitamin B12 and folic acid perform that is critical to hematopoiesis?

- A. Support porphyrin production
- B. Serve as cofactors for iron uptake
- C. Support differentiation toward proerythroblasts
- D. Support production of thymidine triphosphate

Q7: Amal, a patient complaining of extreme fatigue and shortness of breath on exertion that has gradually worsened during the past 2 weeks. Physical examination reveals a well-nourished woman who appears comfortable but somewhat short of breath. Her vital signs include a pulse of 120, a respiratory rate of 20, and blood pressure of 120/70. When she stands up, her pulse increases to 150 and her blood pressure falls to 80/50. Her hematologic values are as follows : Hb, 7 g/dl ; Hct, 20% ; RBC count, 2million/ μ l ; and platelet count, 400,000/ μ l. On a peripheral smear, her RBCs are microcytic and hypochromic. What is your diagnosis?

- A. Aplastic anemia
- B. Renal failure
- C. Iron deficiency anemia
- D. Sickle cell anemia
- E. Megaloblastic anemia

Q8: Erythropoietin is increased in this condition:

- A. High Hematocrit
- B. High hemoglobin
- C. High O₂
- D. High blood volume
- E. Heart Failure

Q9: Which of the following statements most describe why RBC's are efficient in carrying oxygen:

1. Contains hemoglobin
2. Have no nucleus
3. Have many mitochondria needed to produce ATP
4. Biconcave shape
5. 4 oxygen molecules are carried by hemoglobin

A) 1, 3, 4

B) 2, 4, 5

C) 1, 2, 4, 5

D) 1, 2, 3, 5

E) E) 1, 2, 3, 4, 5

Q10: What is the approximate life span of circulating erythrocyte?

- A) 4 months
- B) 120 weeks
- C) 20 day
- D) 14-28 days

Q11: Choose the correct statement regarding the changes occurring during Erythropoiesis?

- A) Specific granules appear in cytoplasm
- B) Nucleus disappears
- C) Cytoplasm changes to basophilic
- D) Cells maintain their capacity for mitosis
- E) Size of cells increases

Answer: B

Q12: Which of the following cells increase in level during parasitic infections ?

- A) Neutrophils
- B) Basophils
- C) Eosinophils
- D) Lymphocytes
- E) Monocytes

Answer: c

Q13: Which of the following is false :

A) neutrophils phagocytic activity is enhanced by the presence of complement

B) absence of barr body in neutrophils and other body cells indicate true male (XY)

C) Neutrophils are called cells of chronic inflammation

Q14: Which of the following statements regarding leukocytes are correct

- 1.They move out to the tissues by a process called emigration
- 2 .Neutrophils and macrophages are required in phagocytosis
- 3.Inflammatory cells are attracted by bacterial molecules and inflamed tissue by a process called chemotaxis
4. Leukopenia is an increase in the number of WBC's in the circulation

A) 1 and 2 only

B) 4 ,3 ,2

C) 3 ,2 ,1

D) 4 ,3 ,2 ,1

E) 3 and 4 only

Q15: A differential cell count of a blood smear from a patient with a parasitic infection is likely to reveal an increase in :

- A) Eosinophil
- B) Basophil
- C) Neutrophil
- D) T Lymphocyte

Q16: Wrong statement:

- A) Neutrophils circulate for hours in blood after maturation
- B) Neutrophils circulate for days in blood after maturation

Q17: Which of the following is correct about monocytes?

- A) They are phagocytic cells
- B) They increase dramatically in parasitic infections
- C) They are responsible for allergic reactions

Answer: A

Q18: Which of the following is wrong about neutrophils?

A) it has its own specific granules

B) it lives for several hours only and stores glycogen

C) it has polymorphic nucleus throughout its life

D) measuring neutrophils from blood represents all neutrophils in our body

Q19: One of the following appears after 3 days of acute bleeding:

A) Proerythroblasts

B) Reticulocytes

C) Platelets

Answer: B

Q20: One of the following hemoglobin components is not reused:

- A) Amino acids
- B) Globin
- C) Alpha and beta polypeptides
- D) Iron
- E) Porphyrin

Q21: Macrophages secrete the following to stimulate bone marrow production of monocytes and granulocytes:

A) IL-FSC-MG dna FNT ,1

B(Histamine & Heparin

C) Serotonin and Bradykinin

Answer: A

Q22: A phagocyte that can ingest up to 100 bacteria and extrude digestion products and survive and function for many months:

- A) Neutrophils
- B) Macrophages
- C) Basophils
- D) Eosinophils
- E) Lymphocytes

Answer: B

Q23: Which of the following is considered the correct match:

- A) 1st defense line - Bone marrow monocytes migration
- B) 2nd defense line - neutrophil margination
- C) Selectins & ICAM-1 - neutrophilic membrane surface proteins
- E) Platelets perform chemotaxis

Answer: B

Q25: Regarding red blood cells parameters, which of the following is wrong:

- a. Haemoglobin remains the same level throughout life
- b. Iron deficiency anaemia is microcytic hypochromic anaemia
- c. Aplastic anaemia is a non-hemolytic anaemia

Q26: wrong statement regarding iron metabolism in haemolysis:

- a. Iron is eliminated through the GI system
- b. Biliverdin is excreted via bile

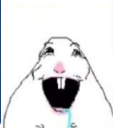
Q27: The wrong statement regarding
WBCs: Answer: Phagocytosis is a random process

Q28: What causes erythema (redness) in inflammation:

- a. Increased vascular permeability
- b. Relaxation of vessels ' smooth muscle
- c. Pressure on nerve endings

Q29: Choose the wrong statement: Answer:
Neutrophils can phagocytose a complete RBC

The End



For any feedback, scan the code or click on it.



Corrections from previous versions:

Versions	Slide # and Place of Error	Before Correction	After Correction
V0 → V1	Q20 Q14; 2)	answer:D microphage	Answer:E macrophage
V1 → V2			