

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Physiology

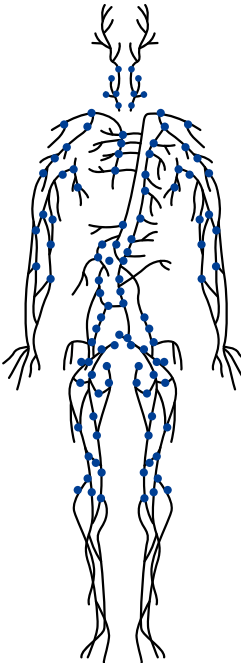
Final | Past Papers

﴿وَقُلْ رَبِّ ادْخُلْنِيْ مُدْخَلَ صِدْقٍ وَّاَخْرِجْنِيْ مُخْرَجَ صِدْقٍ وَّاجْعَلْ لِّيْ مِنْ لَّدُنْكَ سُلْطٰنًا نَّصِيْرًا﴾
ربنا آتانا من لَدُنْكَ رَحْمَةً وَهَيِّئْ لَنَا مِنْ أَمْرِنَا رَشَدًا

Labs 1-3

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LAB 1

Q1: Choose the wrong match:

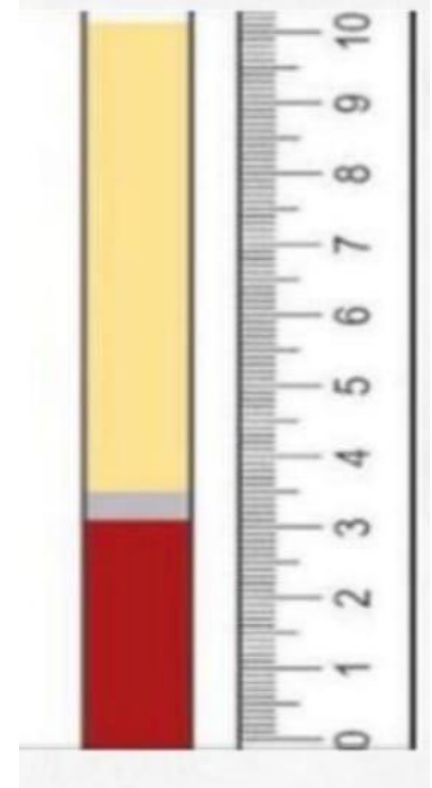
- A. PCV - non heparinized tube.
- B. ESR - mm/hr.
- C. Osmotic fragile test – spectrophotometer.
- D. Neutropenia - absolute neutrophil count is less than 1,500 cells/ mm³.
- E. The duke method - normal is less than 5 min.

Q2: All the following combinations are correct EXCEPT:

- A. PCV measurement - non-heparinized capillary tubes are used
- B. Clotting time - non-heparinized capillary tubes are used
- C. Erythrocyte Sedimentation rate - RBCs settle down the bottom of the tube.
- D. Packed Cell volume (PCV) - useful diagnosis test for polycythemia,
- E. Sahil's method - used to measure hemoglobin concentration.

Q3: A blood sample was taken from an adult male patient to perform some tests. From the provided picture, calculate the Packed cell volume (PCV) for this patient.

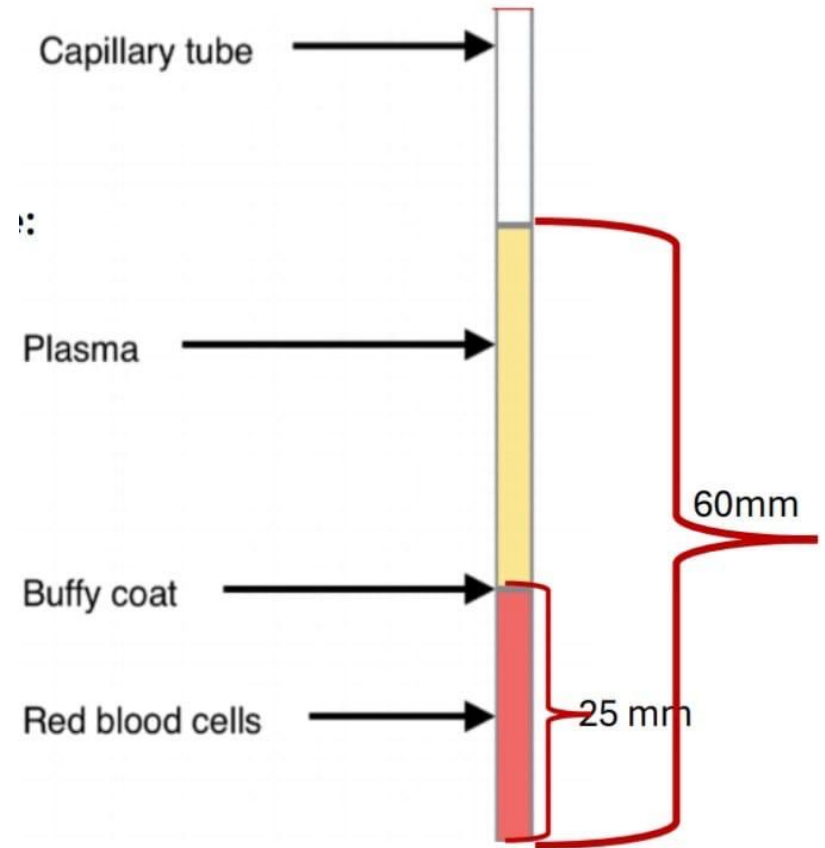
- A. 35%
- B. None of the mentioned
- C. 30%
- D. 35g/ 100ml
- E. 30g/ 100ml



Answer: C

Q4: Calculate the PCV from the values in the following image:

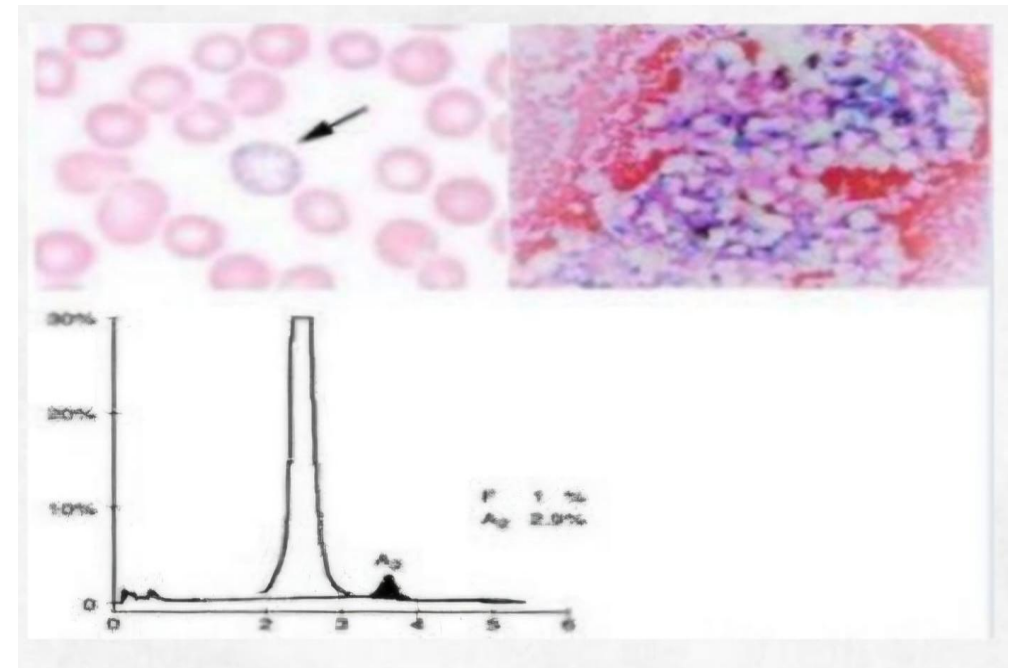
- A. 50.5%
- B. 41.7%
- C. 60%



Answer: B

Q5: During pre-marital test, a man was found to have a mean cell volume of 75 (normal 80- 100 f/L). The man is healthy, and his medical history is negative for diseases. Physical examination was unremarkable. The image shows his blood film, Perl's stain on bone marrow particle and hemoglobin electrophoresis study. The best diagnosis is:

- A. Beta thalassemia carrier
- B. Anemia of chronic disease.
- C. Sickle cell trait.
- D. Iron deficiency anemia
- E. Alpha thalassemia carrier



Answer: E

Q6: One of these statements is wrong about ESR:

- A. Polycythemia Vera increase ESR.
- B. Decrease ESR in spherocytosis.
- C. ESR is normally lower in men than women.
- D. ESR is sensitive but not specific marker for infection.
- E. Positive charged proteins neutralize negative charged erythrocytes.

Q7: True about ESR:

- A. Decreases in inflammation
- B. Decreases in polycythemia.
- C. Decreases in pregnancy.
- D. Increases in low room temperature.
- E. All of the above

Q8: Iron deficiency shows in OFT (osmotic fragility test):

- A. Shift to the left & increased fragility
- B. Shift to the right & decreased fragility
- C. Shift to the right & increased fragility
- D. Shift to the left & decreased fragility
- E. Shift to the right & unchanged fragility

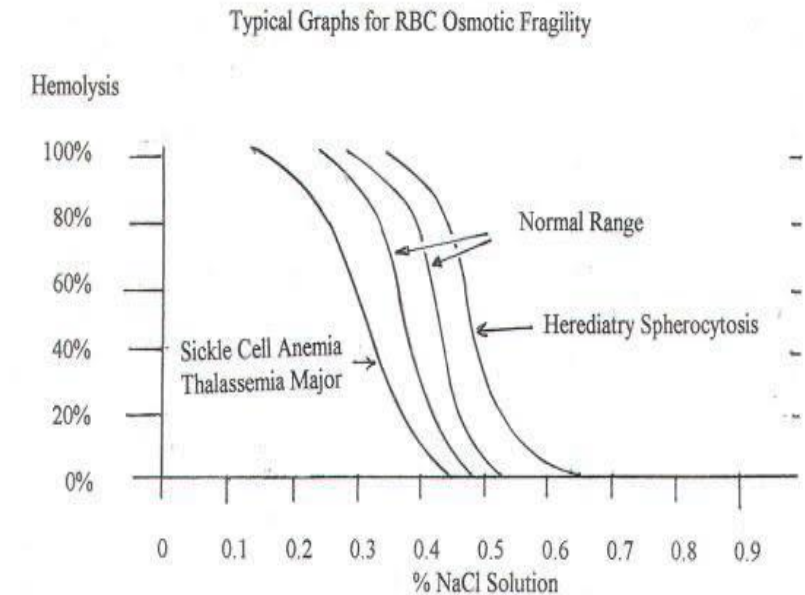
Q9: Regarding the osmotic fragility test what is the CORRECT order for the steps of the test:

1. Transfer supernatant fluid from each tube into spectrophotometer cuvettes.
2. Prepare NaCl solutions of different concentrations.
3. Centrifuge the tubes for 10 minutes at maximum speed.
4. Add one drop of blood to each tube.
5. Add 10 ml of each NaCl solution to a different tube.

- A. 2,5,4,3, 1.
- B. 1,2, 3,4, 5.
- C. 5, 4, 3, 2, 1.
- D. 2, 5,4, 1, 3.
- E. 5,2,4,3, 1.

Q10: According to the figure, a patient with thalassemia would have which of the following in osmotic fragility test:

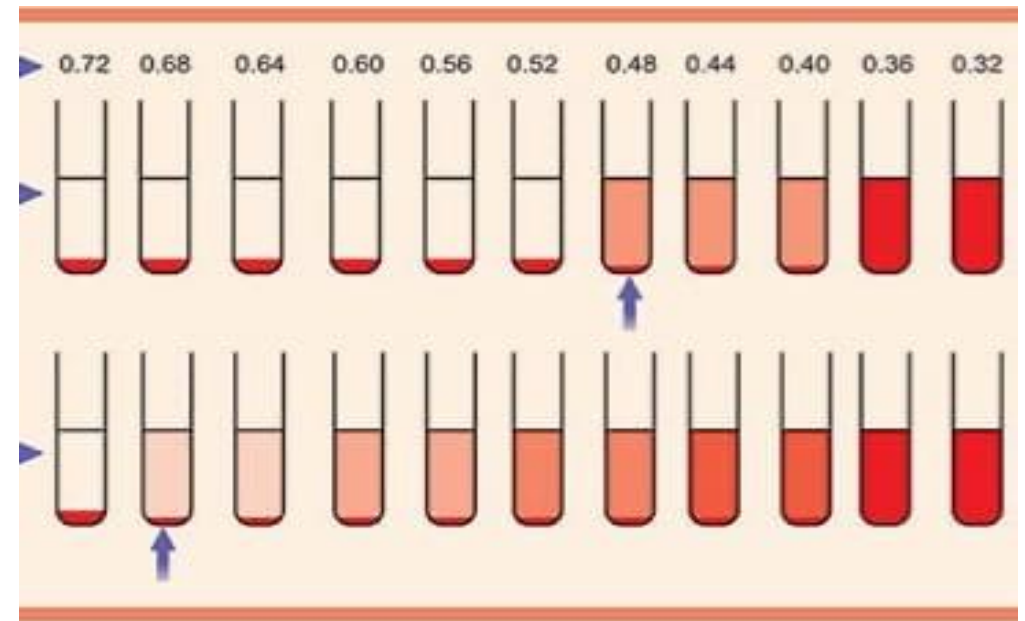
- A. Shifted to the right with less fragility cells.
- B. shifted to the left with more fragility cells.
- C. shifted to the left with less fragility cells.
- D. shifted to the right with more fragility cells.
- E. none of the above is correct.



Answer: C

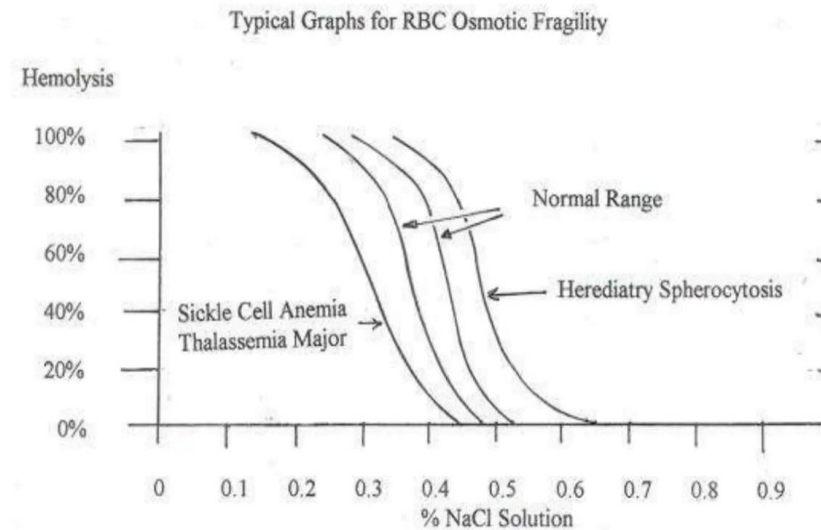
Q11: We did an osmotic fragility test on a blood sample. Note that in normal blood samples hemolysis starts at 0.48% NaCl concentration. In our sample, hemolysis started at 0.68% What is the most likely condition here:

- A. Thalassemia
- B. Hereditary spherocytosis
- C. Iron deficiency anemia
- D. Thrombocytopenia



Answer: B

Q12: This photo about osmotic fragility represents:



Answer: Shift to the right, Hereditary spherocytosis

LAB 2

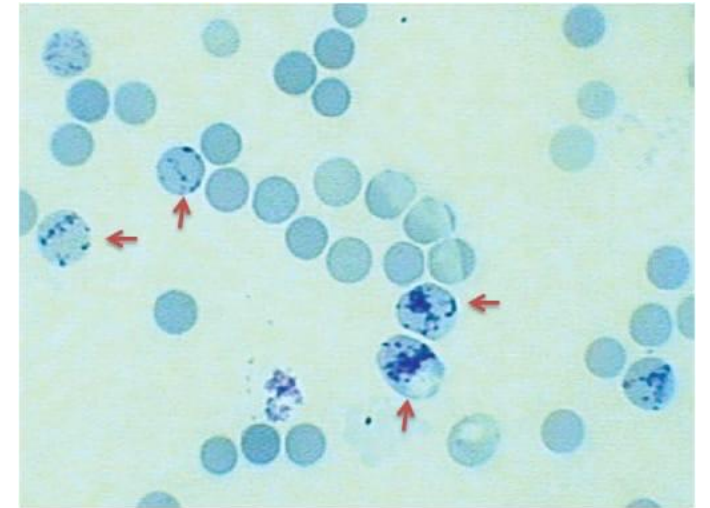
Q13: One of these statements is true about reticulocytes:

- A. increase in hemolysis
- B. make 4% of all RBCs
- C. Smaller than RBCs and contain dark blue dots
- D. Is not the immediate precursor of RBC
- E. Increase in cases of bone marrow failure

Answer: A

Q14: Which of the following statements applies to the labeled cells:

- A. Their number increases in cases of hemolysis
- B. Their number increases in cases of bone marrow failure.
- C. They play a major role in fighting parasitic infections
- D. The first cell to arrive at the site of inflammation.
- E. They play a major role in stopping bleeding.



Answer: A

Q15: A patient has a WBC count of 20000, the distribution as following: Neutrophils 70%, Monocytes 6%, Lymphocytes 22%, Basophils 0,5%, What is the absolute count of the leukocyte in the following picture?

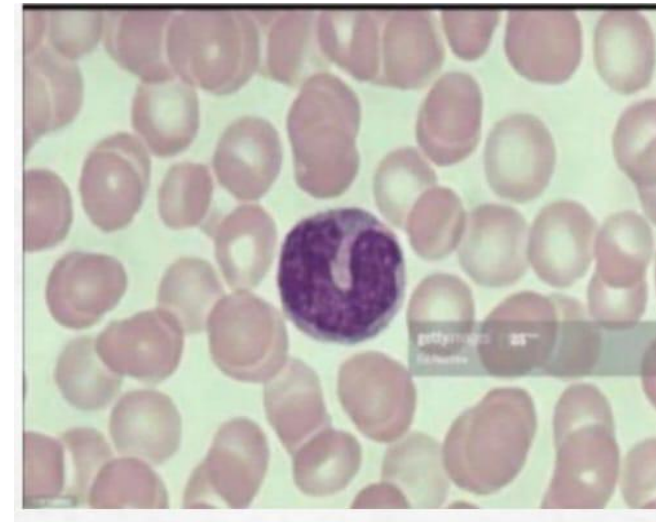
- A. 14000
- B. 1200
- C. 100
- D. 4400
- E. 5600



Answer: A

Q16: which of the following statements applies to the WBC presented in the picture:

- A. It increases markedly in allergic conditions
- B. It represents 40-80 % of all WBCS
- C. It is one of the granulocytes.
- D. It increases markedly in chronic inflammatory conditions.
- E. It represents 1-2 % of all WBCS.



Answer: D

Q17: A sample of blood has a WBC count of 20000 with the following percentages: neutrophils 50%, monocytes: 10%, Eosinophils: 2%, Basophils: 2%. What is the absolute lymphocytes count:

- A. 11000
- B. 4400
- C. 7200

Answer: C

LAB 3

Q18: We put 3 drops of blood from a person on 3 slides. Then, we added anti-A to one drop, anti-B to another drop and anti-Rh to another drop. We waited for agglutination but found nothing. We tried viewing the slide under a microscope and still nothing. What is the blood type of that person?

- A. AB+
- B. AB-
- C. O+
- D. O-
- E. B-

Answer: D

Q19: This blood type is:

Anti-A

Anti-B

Anti-D



Answer: B+

Q20: what is the blood type:

- A. O-
- B. AB+
- C. AB-
- D. B-
- E. A+



Answer: B

Q21: bleeding time is prolonged in all of the following EXCEPT:

- A. Thrombocytopenia
- B. Vit K deficiency
- C. Abnormal platelet function
- D. use of Aspirin
- E. anemia of liver disease

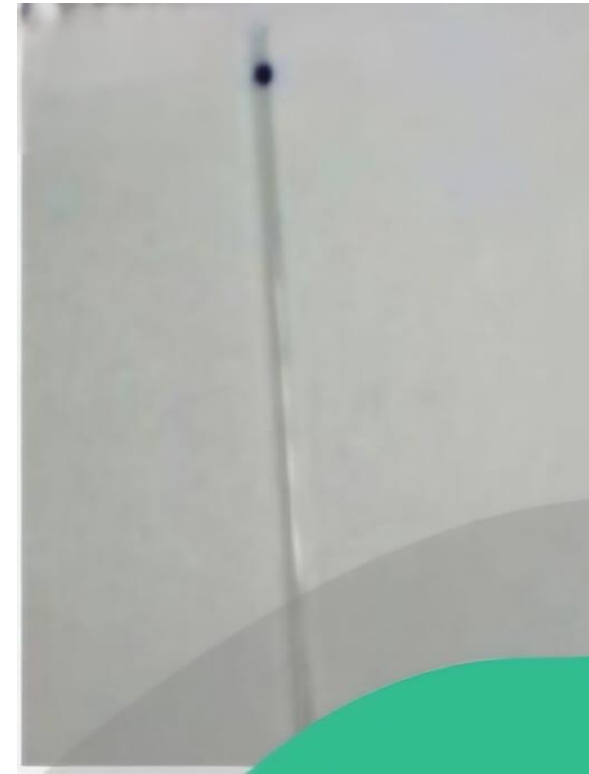
Q22: Clotting time was 12 minutes, this patient:

- A. Is normal
- B. Has hemophilia

Answer: B

Q23: The tube is used in our laboratory to obtain which of the following:

- A. Bleeding time.
- B. Hemoglobin Concentration
- C. Erythrocyte Sedimentation Rate (ESR)
- D. Clotting time
- E. Osmotic fragility.



Answer: D

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			
V1 → V2			