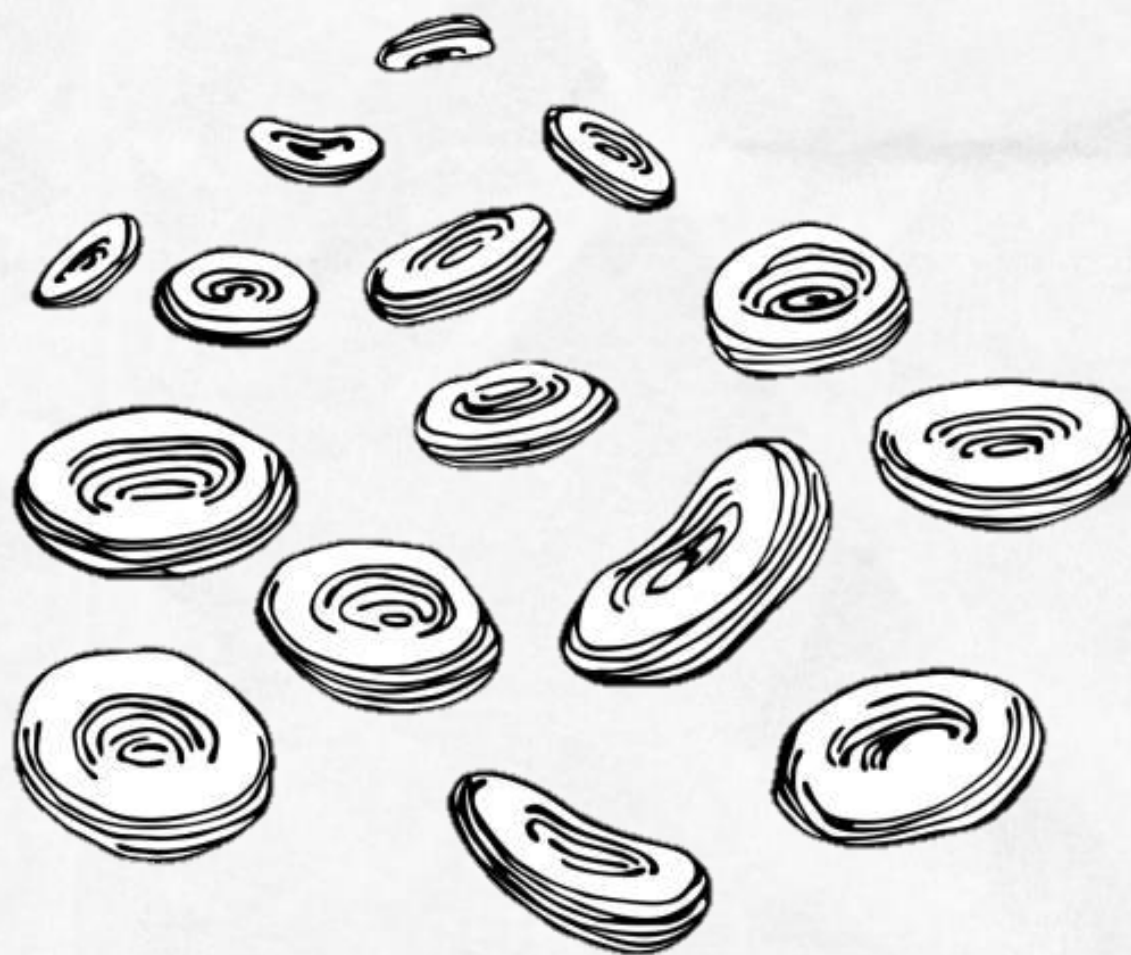


Blood and Lymphoreticular system



Past papers – Final

Done by: Malek Abu Rahma

Pathology

1. 10 years old child with petechial hemorrhage, what is the disease?

- A) Von-Willebrand disease
- B) Accidental Aspirin
- C) Disseminated intravascular coagulation
- D) Hemophilia

ANSWER : A

2. Which of the following combinations is CORRECT?

- A) Spoon-shaped nails → vitamin B12 deficiency
- B) Positive Coombs test → immune thrombocytopenic purpura
- C) Supravital stain → Howell Jolly bodies
- D) Mixing study - hemophilia testing
- E) Parvovirus infection → pancytopenia

ANSWER : D

3. A 4-year-old boy presents with recurrent joint pain involving the knees and hips. He had always bruised easily, and recently the parents had seen blood in his urine. A presumptive diagnosis of classic hemophilia (hemophilia A) is made, and coagulation blood tests are performed. Which of the following is the most likely set of findings of coagulation screening tests?

- A) Normal bleeding time, platelet count, and thrombin time; prolonged PT and APTT.
- B) Normal bleeding time, platelet count, thrombin time, and APTT; prolonged PT.
- C) Normal bleeding time, platelet count, thrombin time, and PT; prolonged PTT.
- D) Normal platelet count and thrombin time; prolonged bleeding time, PT, and APTT.
- E) Prolonged bleeding time, PT, APTT, and thrombin time; decreased platelet count.

ANSWER : C

4. A 25-year-old man has a lifelong hemorrhagic diathesis. The PT and bleeding time are normal, but the PTT is prolonged. The most likely cause of the bleeding disorder is:

- A) A platelet functional disorder.
- B) Factor VII deficiency.
- C) Factor VIII deficiency.
- D) Factor IX deficiency.
- E) Von Willebrand disease

ANSWER : C

Pathology

5. A 14-year-old girl presents with prolonged bleeding from wounds and minor trauma and severe menorrhagia. Family history reveals that her father also has prolonged bleeding from wounds and minor trauma, as does her brother. Which of the following is the most likely mechanism of this patient's disorder?

- A) Absence of platelet glycoprotein IIb-IIIa.
- B) Antiplatelet antibodies reacting with platelet surface glycoproteins.
- C) Deficiency of factor VIII.
- D) Deficiency of factor IX.
- E) Deficiency of vWF.

ANSWER : E

6. An 80-year-old woman presents with recent onset of primary hemostatic (mucocutaneous) bleeding. Questioning reveals that she has been maintaining a "tea and toast" diet for the past 4 months. Her gums are hemorrhagic and spongy in consistency, and gingival bleeding is evident. Perifollicular hyperkeratotic papules, each surrounded by a hemorrhagic halo, are scattered over the lower extremities, and each papule surrounds a twisted, corkscrew-like hair. A nutritional deficiency is suspected. Deficiency of which of the following nutrients is most likely related to the findings in this patient?

- A) Vitamin A.
- B) Vitamin B12.
- C) Vitamin C.
- D) Vitamin K.
- E) Protein 10.

ANSWER : C

7. Which of the following combinations is WRONG?

- A) Defective SLAM protein - infant onset HLH
- B) t(11;14) cyclinD1-IgH - mantle cell lymphoma
- C) (11;14) cyclinDI-IgH - plasma cell myeloma
- D) BCR-ABL mutation - chronic myeloid leukemia
- E) PDLI expression - Hodgkin lymphoma

ANSWER : A

8. Which of the following causes paracortical hyperplasia?

- A) Rheumatologic diseases
- B) Toxoplasmosis
- C) Vaccination
- D) HIV infection
- E) Lymph nodes that are adjacent to cancer

ANSWER : C

Pathology

9. We call it severe Neutropenia when neutrophils count is lower than:

- A) 500/mm³
- B) 1500/mm³
- C) 250/mm³

ANSWER : A

10. breast cancer, she had radiotherapy and after weeks she comes with anemia and pancytopenia, her blood film show needle like structures inside the WBCs, choose the right statement:

- A) The leukemic cells are lymphoid in origin
- B) she had good prognosis
- C) Ring structure in RBCs is common characteristic in her case
- D) she has increased risk of infection
- E) Folate levels are low

ANSWER : D

11. Which of the following favors the diagnosis of classic Hodgkin lymphoma?

- A) Contiguous pattern of spread
- B) Extra-nodal disease
- C) Expression of CD20
- D) Presence of popcorn cells
- E) Negative role of EBV in pathogenesis

ANSWER : A

12. Tumor associated with hemolytic anemia:

- A) Small lymphocytic lymphoma (SLL)
- B) Acute lymphoblastic leukemia (ALL)
- C) Diffuse large B-cell lymphoma

ANSWER : A

Pathology

13. Mismatch:

- A) Thymus - Tax
- B) SLL - BCR
- C) Burkitt - c-MYC

ANSWER : A

14. BCL2 positive has nothing to do with:

- A) Burkitt lymphoma
- B) DLBCL
- C) Follicular lymphoma
- D) SLL/CLL

ANSWER : A

15. Cd19+ with CD5 -, what is the tumor?

- A) Hodgkin lymphoma
- B) Hairy cell leukemia
- C) Plasma cell myeloma

ANSWER : B

16. True about Bence Jones proteins?

- A) Heavy chains found in blood
- B) Free light chains found in blood
- C) Free light chains found in urine
- D) Heavy chains found in urine

ANSWER : C

Pathology

17. 82-year-old with pancytopenia, blasts are less than 1%, neutrophils are hyposegmented and megakaryocyte are small, choose the right statement:

- A) Patient must have chemotherapy
- B) The disease causes bone lytic lesions
- C) T(12:21) is common here
- D) Increased risk of transformation to AML

ANSWER : D

18. Patients with Hand Shuller Christian disease have all of the following EXCEPT?

- A) Skull bony lesions
- B) Exophthalmous
- C) CD1a expression
- D) Diabetes insipidus
- E) Pulmonary nodules

ANSWER : E

19. The following features are common in plasma cell myeloma EXCEPT:

- A) Presence of tangible body macrophages
- B) Early onset anemia
- C) Bence-Jones protein
- D) Osteolytic lesions
- E) Serum and urine M-protein

ANSWER : A

20. t(15,17) is associated with all of the following except:

- A) Splenomegaly
- B) Cleaved nuclei
- C) Needle-shaped structures
- D) Promyelocytes
- E) Treated with all-trans retinoic acid

ANSWER : A

Pathology

21. Which of the following combinations is CORRECT?

- A) Eosinophilia - chronic rheumatologic diseases
- B) Paracrotical hyperplasia - benign B-cell proliferation
- C) Neutrophilia - myelodysplastic syndrome
- D) Basophilia - polycythemia vera
- E) Leukemoid reaction- good response to imatinib

ANSWER : D

22. Christmas(hemophilia B) disease is deficiency of?

- A) Factor II
- B) Factor IX
- C) Factor X
- D) Factor VIII

ANSWER : B

23. A patient was found to have mild anemia and abundant schistocytes. All of the following tests are important to explain the cause of schistocytes EXCEPT?

- A) History of violent exercise
- B) History of food poisoning
- C) Abnormal PT and PTT tests
- D) High level of ADAMTS13
- E) Presence of thrombocytopenia

ANSWER : D

24. A 35-year-old woman presents with fever, fatigue, mucocutaneous bleeding, and changing neurologic signs. Laboratory examination reveals thrombocytopenia, anemia, and reticulocytosis, as well as increased concentrations of creatinine and urea nitrogen. Examination of a peripheral blood smear reveals many fragmented circulating red cells (schistocytes). The most likely diagnosis is:

- A) Bernard-Soulier disease. (B) DIC.
- B) ITP.
- C) TTP.
- D) von Willebrand disease.

ANSWER : C

Pathology

25. A 50-year-old man has been in the medical intensive care unit for septic shock for the past few days. He has now developed rectal bleeding, epistaxis, and gingival bleeding. DIC is suspected. Which of the following sets of results for a panel of screening tests is most consistent with this diagnosis?

- A) Normal bleeding time, PT, APTT, thrombin time, and platelet count.
- B) Prolonged bleeding time, PT, APTT, and thrombin time; reduced platelet count.
- C) Prolonged PT and APTT; normal bleeding time, platelet count, and thrombin time.
- D) Prolonged PT and APTT; reduced platelet count; normal bleeding time and thrombin time.
- E) Prolonged bleeding time, PT, and APTT; normal platelet count and thrombin time.

ANSWER : B

26. A 55-year-old woman with chronic pancreatitis undergoes coagulation screening tests before surgery. The PT and PTT are found to be prolonged. Given the following choices, which of the following is the most likely reason for the abnormal coagulation test results?

- A) Congenital inherited bleeding disorder.
- B) Fat malabsorption and vitamin K deficiency.
- C) Glutamate deficiency due to impaired digestion of dietary protein.
- D) Nutritional vitamin C deficiency.
- E) Post-pancreatic carcinoma of the pancreas

ANSWER : B

27. A female patient presents to the emergency room with a chief complaint of dark patches on her tongue; multiple small, red dot-like structures on her skin; and a large, bluish bruise developing after she bumped into the back of a wooden chair! What should the physician suspect?

- A) Hemophilia.
- B) Epstein-Barr viral infection.
- C) Thrombocytopenia.
- D) Allergic response.
- E) Iron deficiency anemia.

ANSWER : C

28. A 5-year-old child presents with cervical lymph node enlargement, histology shows expansion of the paracortical areas with resulting atrophy of the follicles and the paracortical areas show the presence of immunoblasts with fine chromatin and prominent nucleoli, your diagnose?

- A) Bacterial infection
- B) Burkitt lymphoma
- C) Vaccine
- D) Follicular lymphoma
- E) Allergy reaction

ANSWER : C

Pathology

29. Which of the following can cause reactive lymphadenopathy + granuloma?

- A) Cat-Scratch disease
- B) Acute Non-specific Lymphadenitis
- C) Chronic Non-specific Lymphadenitis
- D) Hemophagocytic Lymphohistocytosis

ANSWER : A

30. What is decreased in Hemophagocytic lymphohistiocytosis?

- A) Perforins
- B) T-cells
- C) Cytokines

ANSWER : A

31. Description of Hodgkin:

- A) Reactive cells are more than monoclonal cells.
- B) Involves multiple sites.
- C) Extra-nodal involvement is common.

ANSWER : A

32. One of the following lymphomas does NOT have an association with oncogenic microorganisms?

- A) Follicular lymphoma
- B) Adult T-cell leukemia/lymphoma
- C) Burkitt lymphoma
- D) Hodgkin lymphoma
- E) Extra-nodal marginal zone lymphoma

ANSWER : A

Pathology

33. Low grade neoplasm:

- A) Mycosis fungoides
- B) DLBC lymphoma
- C) Primary myelofibrosis

ANSWER : A

34. Richter transformation occurs in patients with:

- A) Peripheral T-cell lymphoma
- B) Small lymphocytic lymphoma
- C) Follicular lymphoma
- D) Burkitt lymphoma
- E) Hodgkin lymphoma

ANSWER : B

35. Mantle cell lymphoma:

- A) Extra-nodal
- B) Common in young patients
- C) Centrocytes are focal

ANSWER : A

36. What is the genetic translocation in promyelocytic leukemia?

- A) T(8:21) RUNX
- B) T(15:17) PML-RARA
- C) T(9:22)

ANSWER : B

Pathology

37. Which of the following is a CORRECT combination for the pathogenesis of diseases?

- A) (JAK-STAT) pathway - CML
- B) Warburg metabolism - SLL
- C) (TGF-B) - primary myelofibrosis
- D) (RANKL) - B-ALL
- E) (IL-11) - Hodgkin lymphoma

ANSWER : C

38. All of the following represents correct examples of targeted therapy in hematolymphoid neoplasms EXCEPT:

- A) Daclizumab (anti CD25)- Sezary syndrome
- B) Imatinib (anti bcr/abl) - CML
- C) ATRA - acute promyelocytic leukemia
- D) Enasidenib (anti IDH)
- E) Vemurafenib (anti BRAF)- hairy cell leukemia

ANSWER : A

39. Flow cytometry study is NOT useful in diagnosis of?

- A) Acute myeloid leukemia
- B) Langerhans cell histiocytosis
- C) B-acute lymphoblastic leukemia
- D) Paroxysmal nocturnal hemoglobinurea

ANSWER : B

40. Which of the following won't be helpful with thrombopoietin receptor mutation:

- A) Imatinib.
- B) JAK2 inhibitor
- C) Stem cell transplant

ANSWER : A

Pathology

41. Patient with Hemoglobin 19g/dl (very high) and she has Jak2 mutated gene and Low erythropoietin, on bone marrow biopsy we found that Blast count almost 40% of the cells, your diagnose?

- A) She has Bcl2 translocation
- B) She has a rare complication of Myeloproliferative syndrome
- C) Bone marrow would show fibrosis
- D) Phlebotomy would alleviate the disease

ANSWER : B

42. Basophilia + blasts < 5%:

- A) CML
- B) PV
- C) CLL

ANSWER : A

43. Description of Hodgkin?

ANSWER : Reactive cells are more than monoclonal cells

44. Which of the following is false regarding myelodysplastic:

- A) hyper segmented nuclei in Neutrophils
- B) ring sideroblasts
- C) Most patients are old
- D) Mutations in epigenetic factors that regulate DNA methylation and histone
- E) modifications

ANSWER : A

Pathology

45. Wrong about CML:

- A) Convert only to AML
- B) Most common VIPN
- C) Mutation is present in all BM cells
- D) Spent phase is rarely develop

ANSWER : A

46. we can find prolonged PTT and thrombocytopenia in which of the following:

- A) Defect in ADAMST
- B) After 2-week treatment with HMW heparin
- C) Type IIA heterozygous von will-brand factor disease
- D) coli O157:H7 infection

ANSWER : C

47. Which of the following isn't associated with proliferation of T- lymphocytes:

- A) Viral infections 'EBV'
- B) Post- vaccination
- C) Rheumatologic diseases
- D) Drug reactions

ANSWER : C

48. DIC caused by extensive endothelial damage by:

- A) Pancreatic adenocarcinoma
- B) Difficult labor
- C) Brain trauma
- D) Heat stroke

ANSWER : D

Pathology

49. Which of the following isn't true about AML:

- A) IDH mutation
- B) Good prognosis, respond to chemotherapy
- C) Absence of Birbeck granules
- D) MPO test positive

ANSWER : B

50. Most Hodgkin lymphoma is associated with EPV:

- A) Lymphocytes rich
- B) Mixed cellularity
- C) Nodular
- D) Lymphocyte depleted

ANSWER : B

51. Which of the following isn't associated with Hemophagocytic lymphohistiocytosis:

- A) autoimmune diseases
- B) Neutrophilia
- C) Defects in gene PRF1
- D) Increase in ferritin levels

ANSWER : B

52. A 9 years old child with petechial hemorrhage, what is the disease:

- A) Von-willebrand disease
- B) Accidental Aspirin
- C) Disseminated intravascular coagulation
- D) Hemophilia

ANSWER : A

Pathology

53. A 14-year-old girl presents with prolonged bleeding from wounds and minor trauma and severe menorrhagia. Family history reveals that her father also has prolonged bleeding from wounds and minor trauma, as does her brother. Which of the following is the most likely mechanism of this patient's disorder :

- A) Absence of platelet glycoprotein IIb-IIIa.
- B) Antiplatelet antibodies reacting with platelet surface glycoproteins.
- C) Deficiency of factor IX.
- D) Deficiency of VWF.

ANSWER : D

Pharmacology

54. Which of the following is used to block platelet GPIIb/IIIa receptor:

- A) Abciximab
- B) Tenecteplase.
- C) Idarucizumab
- D) Warfarin

ANSWER : A

55. Mismatched drug and major side effect:

- A) doxorubicin - cardiac toxicity
- B) Busulfan -pneumonitis
- C) carmustine - risk of clotting
- D) cyclophosphamide -hemorrhagic cystitis

ANSWER : C

56. Vitamin k is given as antidote for which of the following drug:

- A) HIT
- B) Warfarin
- C) LMWH
- D) Lepirudin

ANSWER : B

57. All the following is correct regarding heparin side effects except:

- A) Osteoporosis
- B) Bleeding
- C) Thrombocytopenia
- D) Teratogenic

ANSWER : D

Pharmacology

58. Which of the following is false about chloroquine:

- A) treat blood and tissue malaria
- B) is a highly effective blood schizonticide
- C) P. falciparum resistance is widely spread all over the world
- D) Eliminated slowly by renal excretions

ANSWER : A

59. Which of the following isn't true about Quinine:

- A) Used to treat p.falciparum
- B) cause black water fever
- C) Common resistance for Quinine
- D) QT prolongation is common side effect

ANSWER : C

60. All of the following cause Thrombocytes activation except:

- A) Erythropoietin
- B) oprelvekin
- C) IL-11
- D) Thrombopoietin

ANSWER : A

61. Which of the following is true about Atazanavir:

- A) It's bind to gp41
- B) Buffalo hump
- C) is a pyrimidine analog that binds integrase
- D) Inhibits the viral DNA polymerase

ANSWER : B

Pharmacology

62. Which of the following is true regarding asparaginase drug:

- A)Hydrolysis of L-asparagine
- B)It is a protease inhibitor
- C)Hypersensitivity is a common side effect
- D)It is an inhibitor of the tyrosine kinase

ANSWER : A or C ?

63. Acrolein and phosphoramidate mustard are toxic metabolites which produced from one of the following drugs:

- A)Cisplatin
- B)Cyclophosphamide
- C)Busulfan
- D)Lomustine

ANSWER : B

64. Which of the following is wrong about maribavir:

- A)Potentiates other antiviral drugs like ganciclovir and valganciclovir
- B)MOA is inhibiting human CMV pUL97 kinase
- C)Treat post-transplant cytomegalovirus (CMV)
- D)Causes Taste changes

ANSWER : A

65. Which of the following is used as a conjunction with leucovorin to rescue normal cells:

- A)methotrexate
- B)Cyclophosphamide
- C)Ifosfamide
- D)Lomustine

ANSWER : B

Pharmacology

66. In which of the following cases we can give iron dextran:

- A) woman with increased menstrual blood loss
- B) Malabsorption syndrome

ANSWER : B

67. Aspirin increases bleeding time via inhibition of:

- A) Thromboxane A₂
- B) Prostacyclin
- C) Epoprostenol
- D) Ticlopidine Clopidogrel

ANSWER : A

68. The folic acid analog drug which works by inhibiting the enzyme dihydrofolate reductase is effective in leukemia, lymphomas, and sarcomas, but also used in medical abortion, IBD, and rheumatoid arthritis is:

- A) Vincristine
- B) Bleomycin
- C) Methotrexate
- D) Cytarabine
- E) Cyclophosphamide

ANSWER : A

69. all of the following can be seen in B12 deficient patients except:

- A) microcyte in blood
- B) shuffling gait
- C) peripheral neuropathy
- D) Treatment of pernicious anemia

ANSWER : A

Physiology

70. Regarding the possible child's blood types based on the blood type of his/her parents, choose the WRONG match:

- A) Parents: A + AB → child: A, B, or AB.
- B) Parents: B + AB → child: A, B, or AB.
- C) Parents: A + B → child: A, B, AB, or O.
- D) Parents: AB + AB → child: A, B, or AB.
- E) Parents: O + AB → child: A, B, or O.

ANSWER : E

71. Regarding the lymphatic system, choose the WRONG statement:

- A) It returns all filtered proteins.
- B) Normally, capillary filtration exceeds reabsorption by about 3 liters per day.
- C) It transports absorbed fat.
- D) It returns excess filtered fluid.
- E) It helps in defense against disease.

ANSWER : A

72. Which one of the followings is NOT an indication of blood transfusion:

- A) To maintain normal blood volume in healthy individuals.
- B) To restore the blood volume, e.g. hemorrhage.
- C) To provide RBCS, e.g. erythrocytopenia.
- D) To supply plasma proteins in hypoproteinemia.
- E) To provide WBCS, e.g. leucopenia.

ANSWER : A

73. Edema may result from all the following causes EXCEPT:

- A) Blockage of lymphatic vessels.
- B) Decreased concentration of plasma proteins.
- C) Increased permeability of capillaries.
- D) Increased blood hydrostatic pressure in capillaries.
- E) Decreased extracellular fluid volume.

ANSWER : E

Physiology

74. which one of the following is not considered as early complication of a blood transfusion:

- A) Hyperkalemia.
- B) Allergic reactions to WBCs.
- C) Citrate toxicity.
- D) Circulatory overload.
- E) AIDs disease.

ANSWER : E

75. An increase in which of the following would tend to increase lymph flow:

- A) Hydraulic conductivity of the capillary wall (permeability)
- B) Plasma colloid osmotic pressure.
- C) Capillary hydrostatic pressure.
- D) Arteriolar resistance.
- E) A and C.

ANSWER : E

76. A person with type B positive blood receives a transfusion of type AB positive blood, what will happen:

- A) These blood types are compatible, and nothing will happen.
- B) The donor's antigens will destroy the recipient's antibodies.
- C) The donor's antibodies will react with and destroy ALL of the recipient's red blood cells.
- D) The recipient's blood type will change from Rh +ve to Rh -ve.
- E) The recipient's antibodies will react with the donor's red blood cells.

ANSWER : E

77. A tissue that has no lymphatic capillaries:

- A) GIT.
- B) CNS.
- C) Respiratory tract.
- D) UGT.
- E) all answers are correct.

ANSWER : B

Physiology

78. Least common blood group in the region:

- A) A.
- B) B.
- C) AB.
- D) O.
- E) none of the mentioned.

ANSWER : C

79. Which of the following is not a direct cause of lymphedema?

- A) Heart failure
- B) Breast cancer surgery
- C) Congenital absence or abnormality of lymphatic vessels
- D) Cancer
- E) Filarial nematodes

ANSWER : A

80. Incorrect regarding hydrops fetalis disease:

- A) First born baby never get the disease
- B) Before pregnancy, the women whom Rh -ve blood type is given antigen D
- C) The mother develops anti-Rh agglutinins from exposure to the fetus's Rh antigen
- D) treatment is to replace the neonate's blood with Rh-negative blood

ANSWER : B

81. Which of the following is correct in relation with lymph flow:

- A) Inversely with capillary permeability
- B) Direct with interstitial hydrostatic pressure
- C) Direct with capillary colloid osmotic pressure
- D) Inversely with colloid interstitial osmotic pressure
- E) Inversely with capillary hydrostatic pressure

ANSWER : B

Physiology

82. which of the following donor - recipient blood groups are compatible:

- A) A+ to O+
- B) A+ to B-
- C) B- to AB+
- D) B+ to B-
- E) B+ to O+

ANSWER : C

Biochemistry

83. The following does not cause an increase in expression of hepcidin:

- A) Stimulation of transferrin receptor 2.
- B) Increased release of erythropoietin.
- C) Overexpression of hemojuvelin.
- D) Increased release of inflammatory cytokines.
- E) Increased release of bone morphogenetic 6.

ANSWER : B

84. Which of the following regarding iron absorption is NOT TRUE:

- A) the daily iron intake is usually equal to daily iron requirement.
- B) women have less stored iron than men.
- C) more than 65 % of iron is present in hemoglobin.
- D) iron absorption is mainly in the upper part of the jejunum.
- E) there is more iron absorption from meat and meat products than from vegetables.

ANSWER : A

85. Heme oxygenase's function is:

- A) converting ferric to ferrous.
- B) Absorption of iron.
- C) carries iron in blood.
- D) release iron out of heme.
- E) oxidation of iron molecules.

ANSWER : D

86. Which of the following is true about the action of protein C and protein S:

- A) They help thrombin to bind thrombomodulin.
- B) They bind thrombin with antithrombin 3.
- C) They degrade factor 5 and factor 8.
- D) stabilize factor 8 by increase half life.
- E) Inhibit plasminogen.

ANSWER : C

Biochemistry

87. Fibrin stabilizing factor is:

- A) factor V.
- B) factor VII.
- C) factor X.
- D) factor XIII.
- E) factor II.

ANSWER : D

88. Which of the following is NOT a function of thrombin:

- A) VIII » VIIIa.
- B) Fibrinogen » Fibrin.
- C) IX » Ixa.
- D) XIII » XIIIa.
- E) Protein C » Protein Ca.

ANSWER : C

89. Which of the following is not required for clot formation:

- A) vitamin K.
- B) Ca.
- C) Cl.
- D) Vitamin A.
- E) fibrinogen.

ANSWER : C & D

90. Which of the following is true regarding blood coagulation and Gla domains:

- A) warfarin affects coagulation directly by inhibiting formation of these domains.
- B) chelated domains can bind to platelet negatively charged surface.
- C) Factor XII contains Gla domain.
- D) these domains are formed by carboxylation of 1-6 Glu residues.
- E) none of the above.

ANSWER : B

Biochemistry

91. Which of the following is used to dissolve intravascular clots through activation of plasmin:

- A) Aminocaproic acid.
- B) Warfarin.
- C) Tissue plasminogen- activator (t-PA).
- D) Heparin.
- E) Lepirudin.

ANSWER : C

92. Blood platelets assist in arresting bleeding by; Choose the INCORRECT answer:

- A) Liberating high concentration of calcium.
- B) Releasing factors promoting blood clotting.
- C) Adhering together to form plugs when exposed to collagen.
- D) Serotonin from platelets can release vascular plasminogen activators.
- E) Releasing factors causing vasoconstriction.

ANSWER : D

93. One of the following is NOT true in regards to tissue factor:

- A) It is found on the surface of subendothelial cells.
- B) It forms a complex with factor VII.
- C) It links the intrinsic and extrinsic pathways.
- D) Its activity requires calcium ions.
- E) It is critical in the activation of factors IX and X.

ANSWER : E

94. Heparin blocks blood-coagulation by:

- A) Inducing the activity of tissue factor pathway inhibitor.
- B) Activating plasminogen activation.
- C) Inhibiting the release of contents of platelet granules.
- D) Sequestering calcium ions.
- E) Promoting the interaction of anti-thrombin III to thrombin.

ANSWER : E

Biochemistry

95. One of the following about iron metabolism in the body is NOT true:

- A) Iron is important for the formation of not only hemoglobin but also other essential elements in the body.
- B) The total iron quantity in the body averages 4-5 gm.
- C) There is heme iron and non-heme iron, non-heme iron is absorbed more efficiently than heme iron.
- D) The amount of iron absorbed is normally about 3-6 % of the ingested amount.
- E) The average daily iron intake is about 20 -30 mg.

ANSWER : C

96. We need Vitamin C for iron absorption in order to:

- A) Release iron from heme by heme oxygenase
- B) Open the ferroportin channel to efflux iron
- C) Activate the divalent metal transporter
- D) Transfer ferric into ferrous by ferric reductase

ANSWER : D

97. what is platelet aggregation mediated by:

- A) Von willbrand factor
- B) Surface glycoprotein
- C) Expose to extra cellular components as collagen
- D) Fibrinogen

ANSWER : D

98. one of the following isn't true regarding to tissue factor:

- A) it's found on the surface of subendothelial cells
- B) it links the intrinsic and extrinsic pathways
- C) it's activity requires calcium ions
- D) it's critical in the activation of factor 9 and 10

ANSWER : D

Biochemistry

99. All the following increase the Hepcidin except:

- A) Over-expression of hemojuvelin.
- B) Stimulation of transferrin receptor
- C) Increases erythroferrone
- D) Increased release of bone morphogenetic

ANSWER : C

100. Which of the following is true regarding the mechanism of action of proteins C and S:

- A) Degrade factor I and II
- B) Degrade factor V and VIII
- C) Activate antithrombin II
- D) Increased release of inflammatory cytokines

ANSWER : B

101. Which of the following is true regarding to Gla domains:

- A) binds to Ca^{+2}
- B) Enhance of enzymes binding on platelets
- C) Carboxylation of glutamate
- D) Transfer ferric into ferrous by ferric reductase

ANSWER : A

102. Regarding iron metabolism:

ANSWER : Iron is enzymatically separated in the cytosol

Biochemistry

103. Type 2A class of hereditary hemochromatosis is caused by a mutation in:

ANSWER : HJV

104. Regarding blood coagulation, which of the following is correct:

ANSWER : Platelet plug is formed when fibrinogen binds glycoprotein 2B3A

105. Which of the following is correct:

ANSWER : von Willebrand factor deficiency reduces factor 8 half life

106. Not a direct substrate of factor 12:

ANSWER : Factor 10

Biochemistry

107. Which of the following is a way of iron regulation in our body:

ANSWER : TFR2 binds HFE and sends intracellular signal

108. True about tissue factor:

ANSWER : It's found on subendothelial cells but not on platelets

109. True regarding streptokinase:

ANSWER : Binds with plasminogen and autoactivates it

110. True about ferroportin:

ANSWER : it's found in different tissues

111. True about transferrin:

ANSWER : It binds with ferric iron

Microbiology

112. Which is not true about p. malariae :

- A) chronicity.
- B) glomerulonephritis.
- C) hepatozoites.
- D) benign.
- E) band form.

ANSWER : C

113. Cerebral malaria is seen in:

- A) P. falciparum.
- B) P. ovale.
- C) P. knowlesi.
- D) P. malariae.
- E) Plasmodium vivax.

ANSWER : A

114. Newly produced RBCs are usually the only target for:

- A) None of the mentioned.
- B) P. knowlesi.
- C) Plasmodium vivax.
- D) P. falciparum.
- E) P. malariae.

ANSWER : C

115. The natural, rapidly acting schizonticide agent, that is effective against all species of malaria, with no reported resistance is:

- A) Proguanil.
- B) Pyrimethamine.
- C) Mefloquine.
- D) Halofantrine.
- E) Artemisinin.

ANSWER : E

Microbiology

116. The infectious stage of plasmodium is:

- A) Schizonts.
- B) Merozoites.
- C) Sporozoites.
- D) Trophozoites.
- E) Gametocyte.

ANSWER : C

117. Wrong statement about malignant tertian fever

- A) shows 2 chromatin dots with crescent gametocytes.
- B) Affects RBCs of all ages and shows all sizes.
- C) irregular fever with usually episodes every (36-48) hours.
- D) shows Schuffner's dots.

ANSWER : D

118. Which is wrong about malaria :

- A) sporogony in the liver.
- B) it has two cycles.
- C) falciparum is the most severe one.

ANSWER : A

119. The asexual cycle of Plasmodia occurs in :

- A) vector.
- B) RBCs.

ANSWER : B

Microbiology

120. Wrong about *P. falciparum* :

- A)it invades all ages of RBCs.
- B)only has schizogony in the erythrocytes.
- C)no schuffner's dots.

ANSWER : B

121. Wrong about *P. malariae* :

- A)relapse.
- B)tends to infect old cells.
- C)band.

ANSWER : A

122. According to plasmodium life cycle, which of the following statements is incorrect:

- A)Vector is the definitive host.
- B)Human is the definitive host.
- C)Sporozoites is the infective stage for human.
- D)Vector is essential for life cycle.
- E)RBCs is the primary habitat.

ANSWER : B

123. A slowly developing (chronic) disease, West African Sleeping Sickness is caused by:

- A)Trypanosoma brucei gambiense.
- B)Trypanosoma equiperdum.
- C)Trypanosoma brucei rhodesiense.
- D)Trypanosoma congolense.
- E) Trypanosoma cruzi.

ANSWER : A

Microbiology

124. Vector for leishmaniasis is:

- A) Mite.
- B) Tsetse fly.
- C) Tick.
- D) Anopheles mosquito.
- E) Sand fly.

ANSWER : E

125. The infective stage of Leishmania :

- A) metacyclic trypomastigotes.
- B) amastigotes.
- C) promastigotes.
- D) trypomastigotes.
- E) none of the above.

ANSWER : C

126. Babesia Microti is transmitted by which of the following vectors

- A) Ixodes scapularis.
- B) Ixodes pacificus.
- C) Ixodes dentatus.
- D) Tsetse fly.
- E) sand fly.

ANSWER : A

127. The most accurate statement about trypanosome Cruzi:

- A) humans are the main reservoir.
- B) vector is reduvud (nose cone) bug.
- C) its main effect happens by attacking skeletal muscles.
- D) can be detected in muscle biopsy.
- E) none of the above.

ANSWER : B

Microbiology

128. A 25 year old male, work in military and he is back from U.N, had splenomegaly, amastigote is seen inside mononuclear cells, he is mostly infected by:

- A) trypanosoma cruzi.
- B) leishmania donovani.

ANSWER : B

129. Regarding leishmaniasis, which one of the following is most accurate:

- A) Promastigote is the diagnostic stage in the blood buffy coat.
- B) The main mode of transmission is the bite of sandflies.
- C) Marked enlargement of the heart on chest X-ray is a typical finding of visceral leishmaniasis.
- D) The intradermal leishmanin is the most reliable test during active disease.
- E) Characterized by hypopigmentation of the skin.

ANSWER : B

130. Which of the following statements regarding infection with B19 virus is FALSE:

- A) Pure red-cell aplasia patients have persistent high levels of B19V IgG.
- B) Host's immune status is the determine rule in in B19 infection outcome.
- C) B19 viral replication is dependent on functions supplied by replicating host cells.
- D) Only primary erythroid progenitors are known to be permissive for B19 infection.
- E) Co-infection with Plasmodium plays role in the development of severe anemia in young children.

ANSWER : A

131. Which of the following Lymphocytes morphology is a characteristic of HTLV1 infection:

- A) Downy cells.
- B) Saltugilia caruifolia (Flower cells).
- C) Mantle cell.
- D) Plasmacytoma.
- E) none of the above.

ANSWER : B

Microbiology

132. A 42-year-old man with HIV/AIDS presented with aplastic anemia. Using the PCR, parvovirus B19 was detected in his serum. The patient presumably acquired his parvovirus B19 infection from another person. The most likely route of transmission is:

- A) Through sexual activity.
- B) The fecal-oral route.
- C) By contact with a skin rash.
- D) Through a recent blood transfusion.
- E) By contact with respiratory secretions or droplets.

ANSWER : E

133. which of the following can be seen in the infection with p.ovale :

- A) applique forms
- B) crescent shape gametocyte
- C) schuffner dots appearance
- D) trophozoite form bands

ANSWER : C

134. All the following is caused by parvovirus B19(PVB19),except :

- A) Transient aplastic crisis
- B) erythema infectious
- C) Polyarthopathy syndrome
- D) Thrombotic thrombocytopenic purpura(TTP)

ANSWER : D

135. Which of the following is true regarding the transmission of causative agent in leishmaniasis:

- A) Black fly bite
- B) sandfly bite
- C) tick
- D) inhalation

ANSWER : B

Microbiology

136. The infective stage of babesia:

- A) Sporozoite
- B) Trophozoite
- C) rats
- D) Ixodes tick

ANSWER : A

137. A 54 years old Brazilian man was died ,after autopsy the doctors found he died from myocardial infarction and they found amastigotes in his dead tissue, which of the following microorganisms is the most likely to be the cause of death:

- A) L. donovani
- B) L. braziliensis
- C) Bebsia
- D) T. cruzi

ANSWER : D

138. If we had a scientific experiment which aiming to design a specific drug targeting a specific antigen if we brought CD19 + from healthy donors ,and drug was designed to target and mask the CD21 + antigen on the cell surface, which of the following viruses will be able to infect these cells:

- A) EPV
- B) Herpes simplex virus
- C) HIV
- D) CMV

ANSWER : A

139. According to plasmodium life cycle, which of the following statements is incorrect:

- A) Vector is the definitive host.
- B) Human is the definitive host.
- C) Sporozoites is the infective stage for human.
- D) Vector is essential for life cycle.

ANSWER : B

Microbiology

140. Cerebral malaria is seen in:

- A) P. falciparum.
- B) P. ovale.
- C) P. knowlesi.
- D) Plasmodium vivax.

ANSWER : A

141. Highest relapse of malaria happens in:

ANSWER : P. vivax

142. Infective stage for malaria is:

ANSWER : Sporozoites

143. Wrong about malaria:

ANSWER : There's no vaccine

Microbiology

144. Regarding drugs used to treat or prevent malaria, which one of the following is most accurate:

ANSWER : Artemisinin is effective against multi-drug resistant P.falciparum

145. True about Babesiosis:

ANSWER : Asexual reproduction occurs in white mice

146. L. donovani is transmitted by:

ANSWER : Sand-fly

147. Diagnostic stage of leishmania is:

ANSWER : Amastigote

Microbiology

148. A case describing infection with parvovirus B19 (children with rash begins in the face), this virus is:

ANSWER : ssDNA

149. Which of the following is wrong:

ANSWER : EBV stays latent in T-cells

150. Wrong about EBV:

ANSWER : Latency period inside CD4+ T-cells

Pb1

151. A 23 years old pregnant woman in her forth month of gestation has fatigue & other complications, her blood smear shows a macrocytic RBCs, her B12 level is normal, she has an increased transferrin, what is the cause of her anemia?

- A) B12
- B) Intrinsic factor
- C) Folic acid
- D) Erythropoietin
- E) G6PD deficiency

ANSWER : C

152. A 51 old patient is suffering from low back pain for 3 last months, and he has high ESR, you think it is multiple myeloma, what is the further diagnostic procedure?

- A) Iron
- B) Protein electrophoresis
- C) Hemoglobin electrophoresis
- D) Blood film
- E) Endoscopy

ANSWER : B

153. Most abundant hemoglobin A in adults, contains?

- A) Two alpha, two beta
- B) Two beta, two alpha
- C) Two alpha, two delta
- D) Two alpha, two gamma
- E) Two beta, two gamma

ANSWER : A & B

154. patient come with multiple bruises, he has a family history of bleeding, which test would be abnormal?

- A) aptt
- B) pt
- C) Bleeding time
- D) Ferritin
- E) None of the above

ANSWER : C

Labs

Physiology

155. 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

ANSWER : A

156. 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

ANSWER : A

157. 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

ANSWER : D

158. 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) Decrease in cases of bone marrow failure

ANSWER : A

Labs

Physiology

159. Regarding the RBCS & WBCS count using a hemocytometer, all of the following are differences between RBCS and WBCS count EXCEPT:

- A) Dilution factor.
- B) Volume of fluid in the counting areas.
- C) The counting method.
- D) Number of the counting areas.
- E) Magnification (Lens power) used in counting.

ANSWER : C

160. 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.

ANSWER : A

161. 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.

ANSWER : A

162. 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.

ANSWER : B

Labs

Physiology

163. 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.

ANSWER : B

164. Clotting time was 12 minutes, this patient:

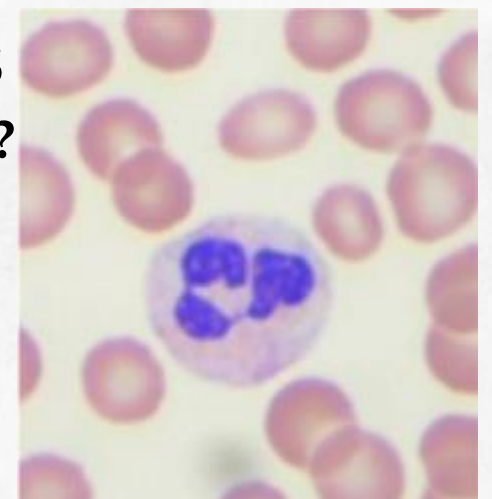
- A) Is normal
- B) Has hemophilia

ANSWER : B

165. 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

166. what is the blood type:

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



ANSWER : B

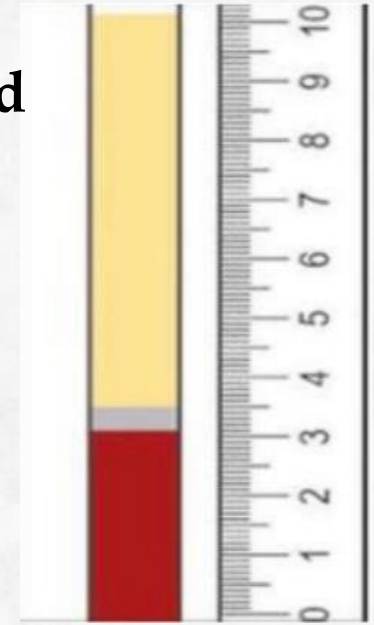
Labs

Physiology

167. 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) 35 g/ 100 ml.
- E) 30 g/ 100 ml.

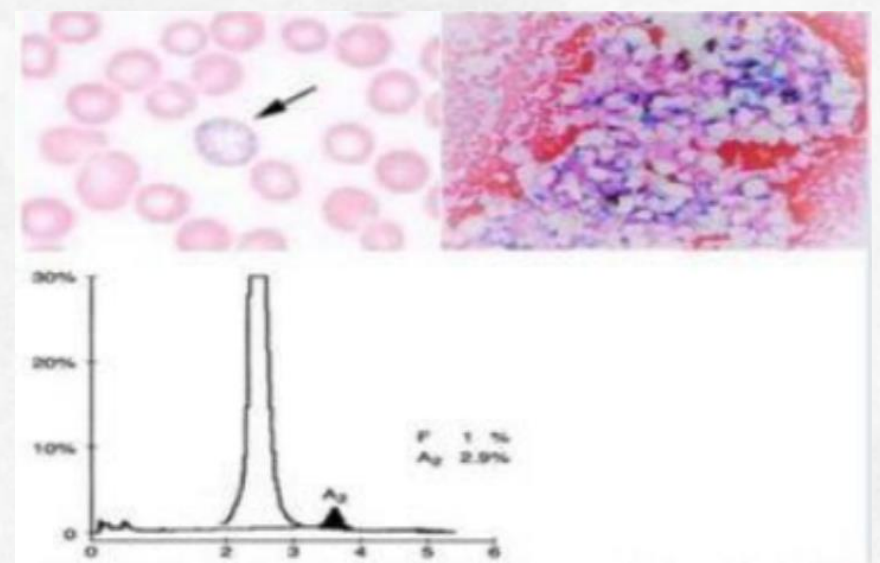
ANSWER : C



168. 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.

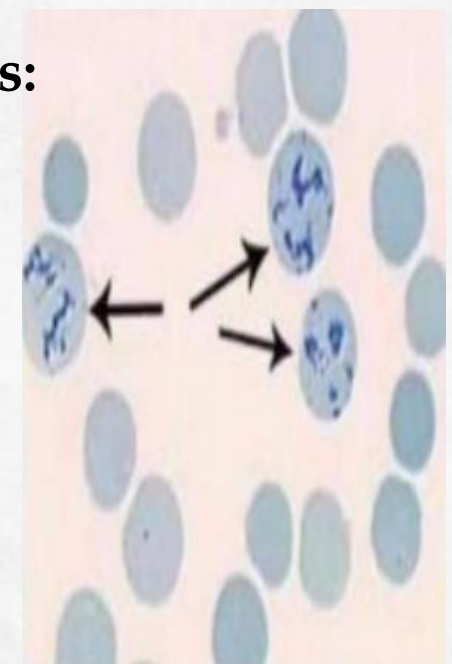
ANSWER : E



169. 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



170. The tube is used in our laboratory to obtain which of the following values:

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

ANSWER : D

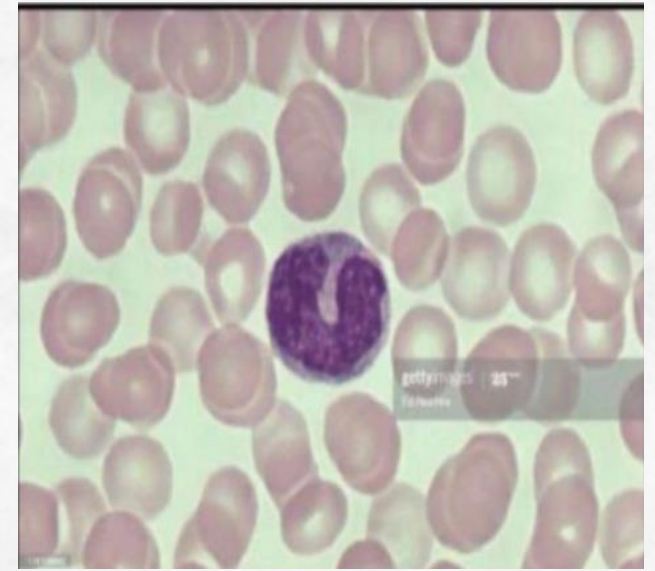


Labs

Physiology

171. Which of the following statements applies to the WBC presented in the picture:

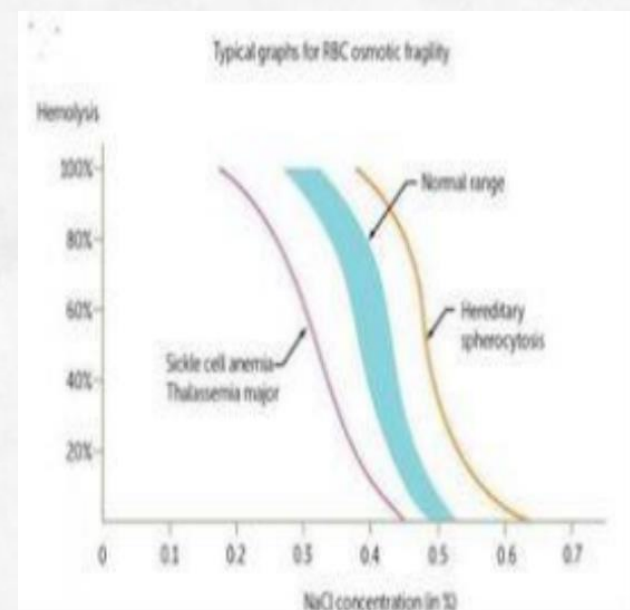
- A) It increases markedly in allergic conditions.
- B) It represents 40-80 % of all WBCS.
- C) It is one of the granulocytes.
- D) It increases markedly in chronic inflammatory conditions.
- E) It represents 1-2 % of all WBCS.



ANSWER : E

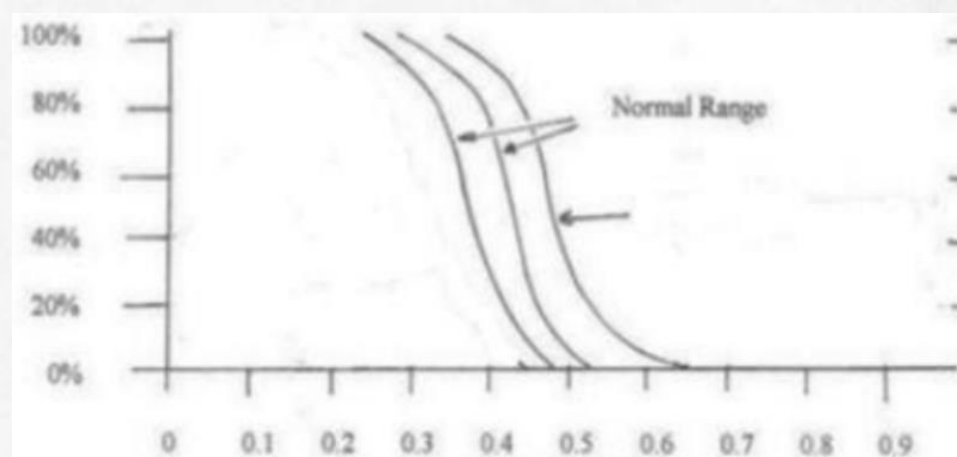
172. According to the figure, a patient with thalassemia would have which of the following in osmotic fragility test:

- 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

173. This photo about osmotic fragility represents:



ANSWER : Shift to the right, Hereditary spherocytosis

174. This blood type is:



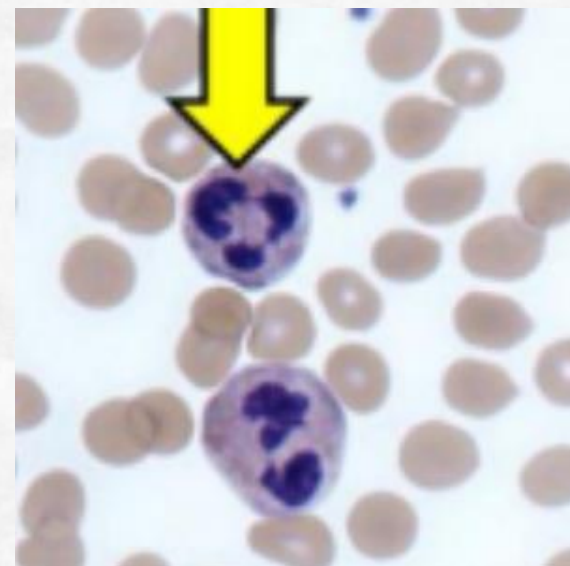
ANSWER : B+

Labs

Histology

175. Identify the following cell:

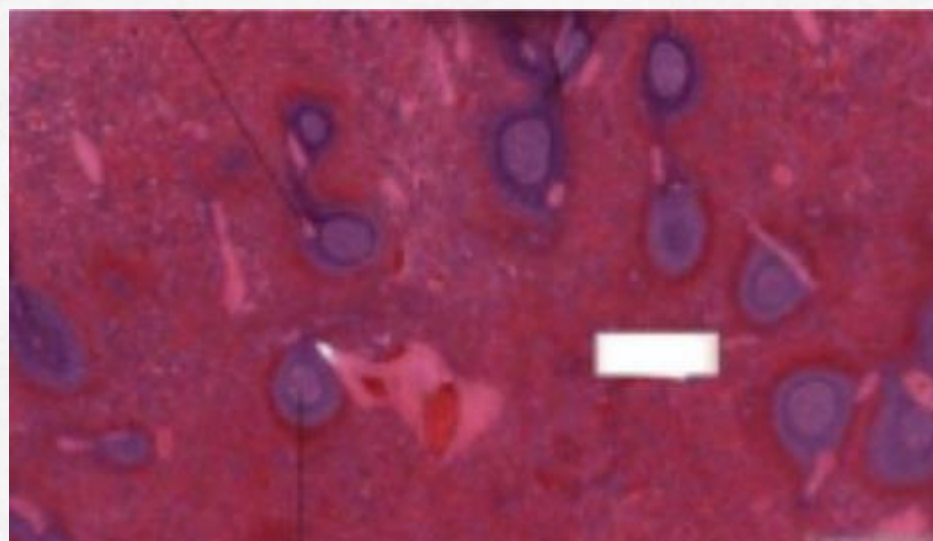
- A) Neutrophil
- B) Basophil
- C) Monocyte
- D) Macrophage
- E) Reticulocyte



ANSWER : A

176. The following section is taken from:

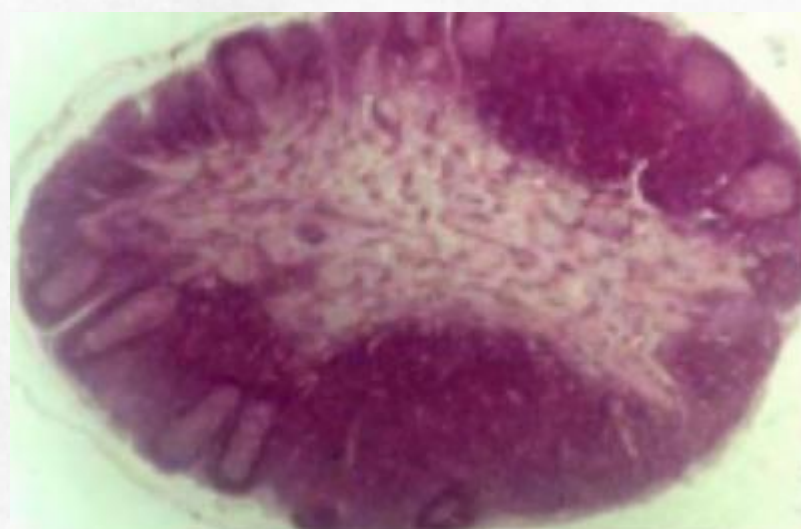
- A) Lymph node
- B) Spleen
- C) Bone marrow
- D) Thymus
- E) Lungs



ANSWER : B

177. The following section is taken from:

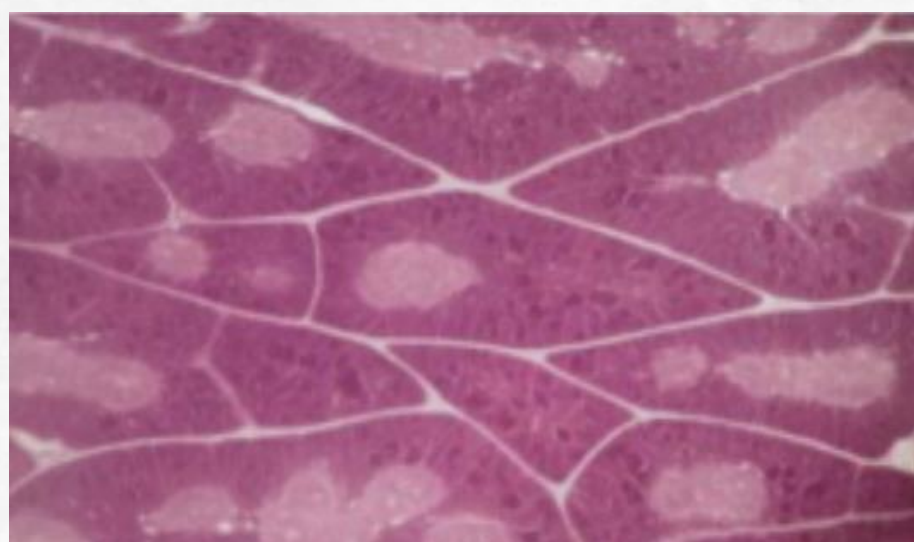
- A) Lymph node
- B) Spleen
- C) Bone marrow
- D) Thymus
- E) Lungs



ANSWER : A

178. This section is taken from:

- A) Lymph node
- B) Spleen
- C) Bone marrow
- D) Thymus
- E) Lungs



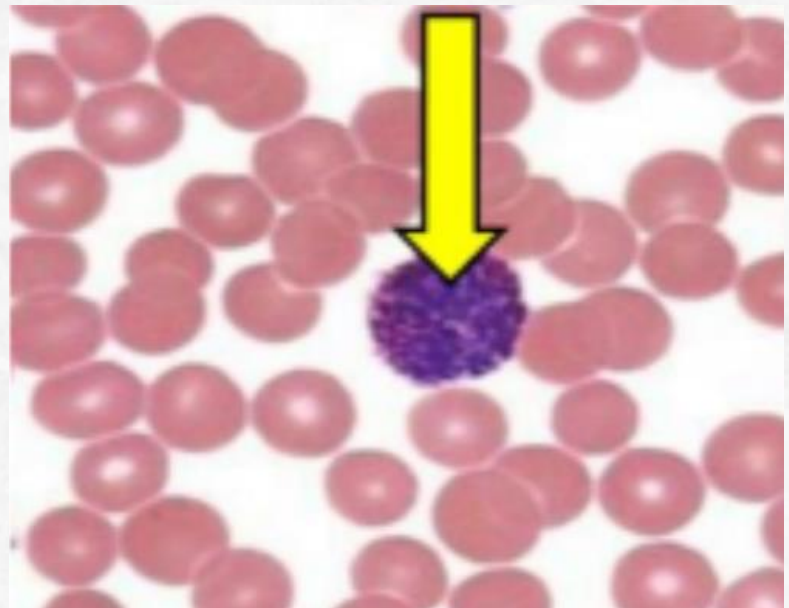
ANSWER : D

Labs

Histology

179. The cell shown here is:

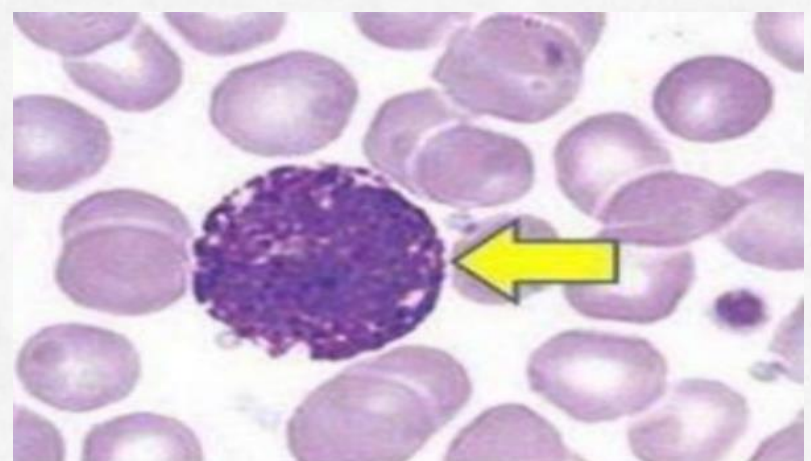
- A) Neutrophil
- B) Basophil
- C) Monocyte
- D) Macrophage
- E) Reticulocyte



ANSWER : B

180. The labeled cell is characterized under the light microscope by a/an:

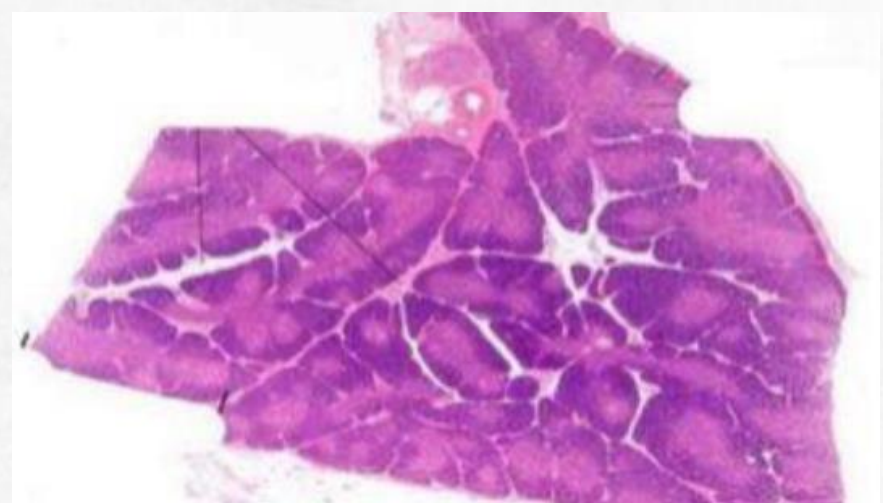
- A) Crystalloid granules.
- B) Frosted-glass cytoplasm.
- C) Acidophilia.
- D) Hyalomere.
- E) Nucleus masked by granules.



ANSWER : E

181. This section is most probably taken from:

- A) Tonsil.
- B) Thymus.
- C) Spleen.
- D) Ileum.
- E) Lymph node.



ANSWER : B

182. This section is most probably taken from:

- A) Ileum.
- B) Lymph node.
- C) Thymus.
- D) Spleen.
- E) Palatine tonsil.



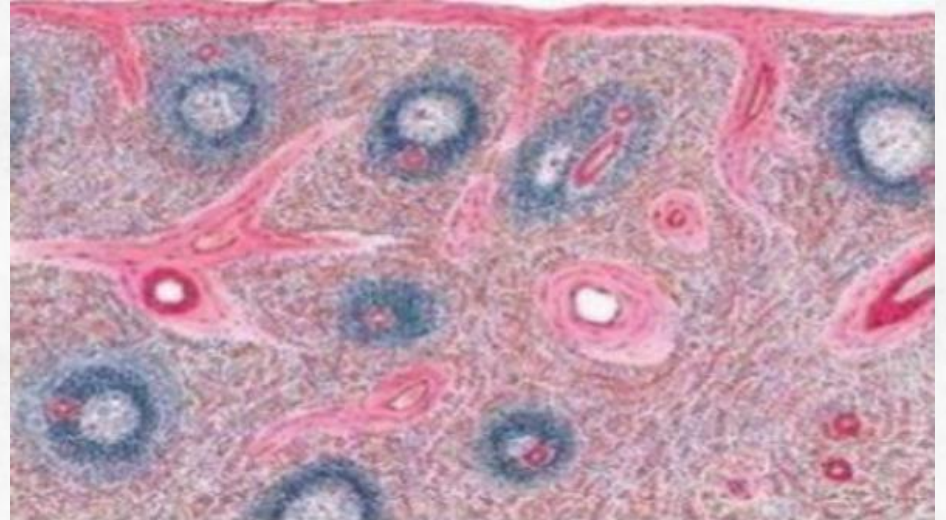
ANSWER : E

Labs

Histology

183. This section is most probably taken from:

- A) Thymus.
- B) Lymph node.
- C) Pharyngeal tonsil.
- D) Bone marrow.
- E) Spleen.



ANSWER : E

184. Arrange the flow of afferent lymph in the CORRECT order:

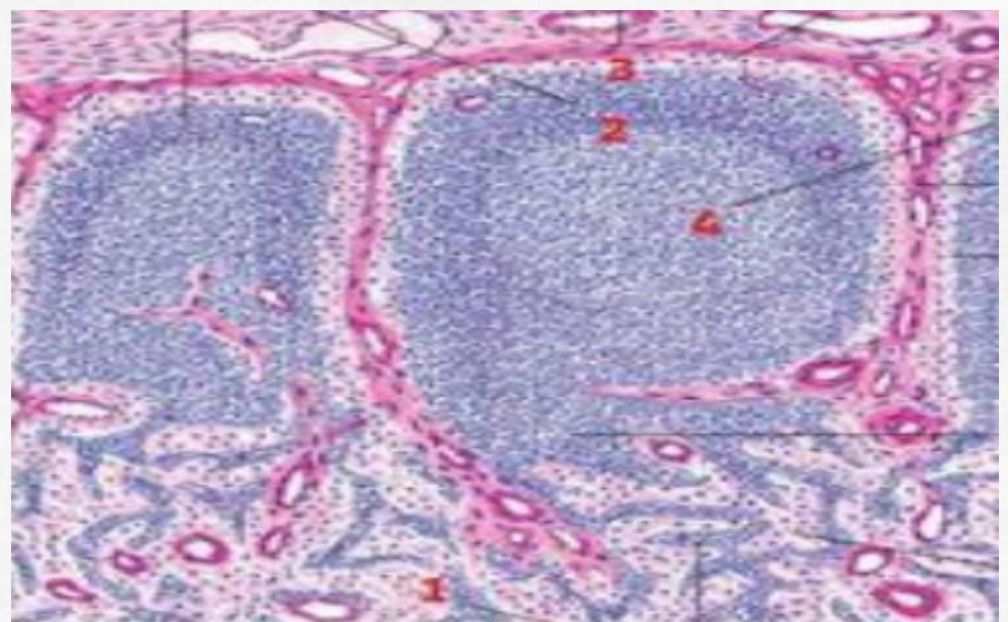
- A) None of the mentioned is a correct order.
- B) 2, 3, 4, 1.
- C) 1, 4, 3, 2.
- D) 1, 2, 3, 4.
- E) 1, 3, 4, 2.



ANSWER : B

185. Which of the following converges at the hilum to form efferent vessels:

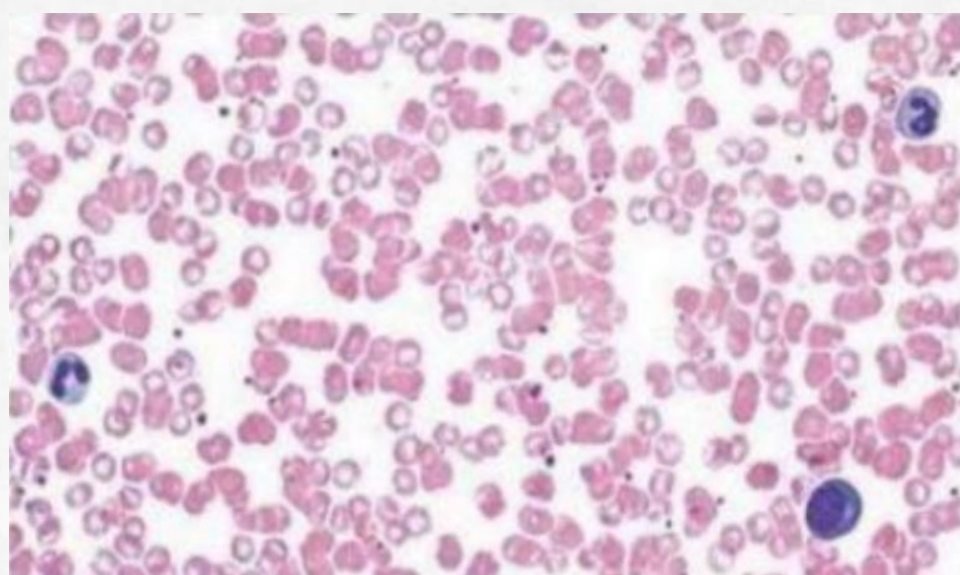
- A) 1.
- B) 2.
- C) 3.
- D) 4.
- E) all answers are correct.



ANSWER : A

186. All the followings can be found in this section EXCEPT:

- A) Neutrophil.
- B) Lymphocyte.
- C) Thrombocyte.
- D) Erythrocyte.
- E) Monocyte.



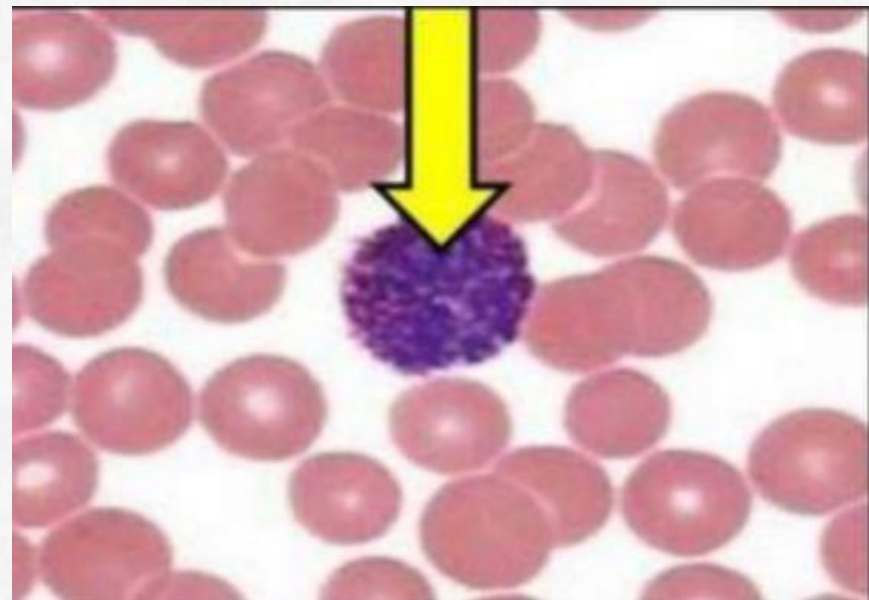
ANSWER : E

Labs

Histology

187. Identify the cell in the picture:

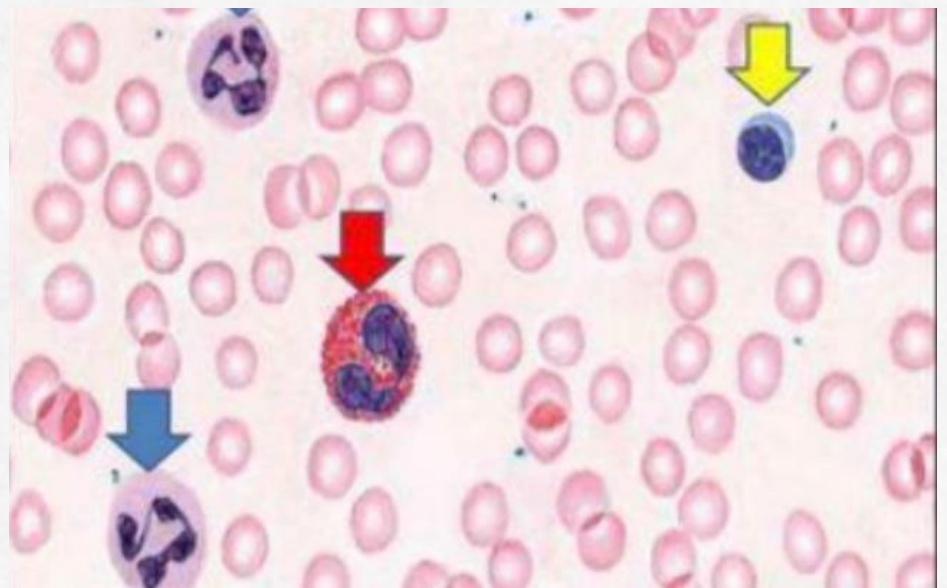
- A) Basophil.
- B) Eosinophil.
- C) neutrophil.
- D) macrophage.
- E) monocyte.



ANSWER : A

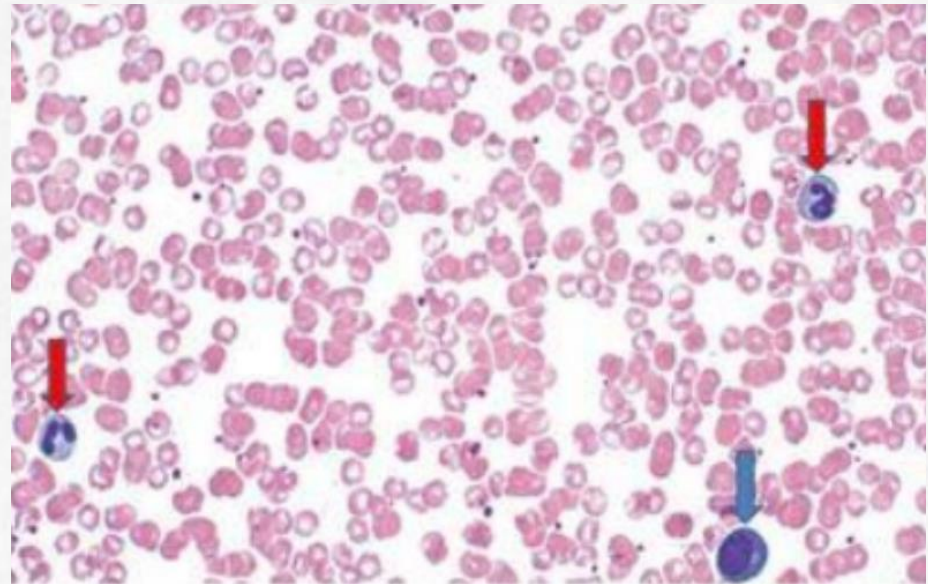
188. Which type of cells is not presented in the picture:

- A) neutrophil.
- B) eosinophil.
- C) Monocyte.
- D) Lymphocyte.
- E) erythrocyte.



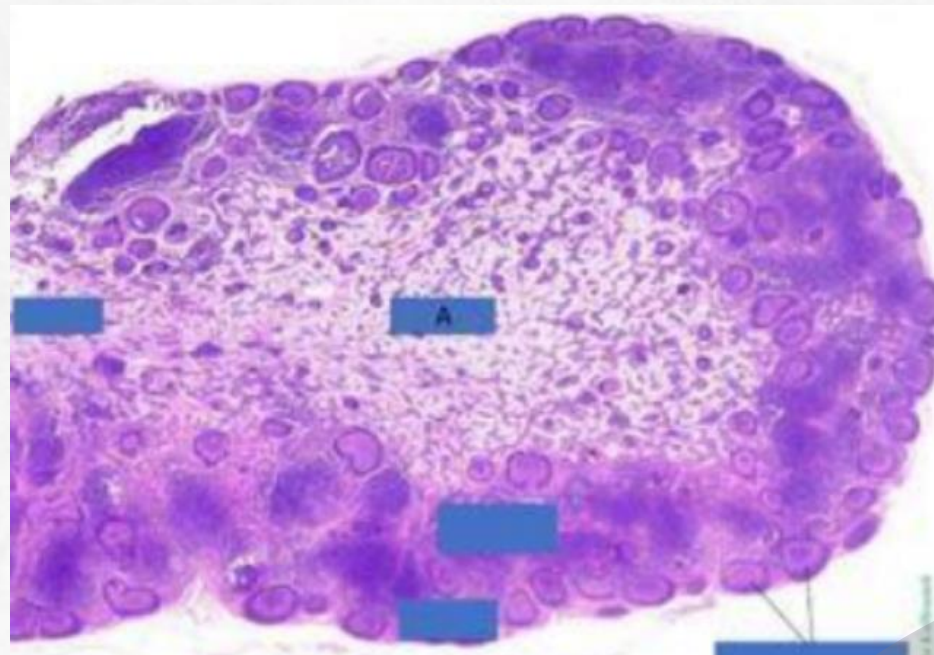
ANSWER : C

189. The labeled cells are:



ANSWER : Neutrophil and lymphocyte

190. What does the letter A represent:

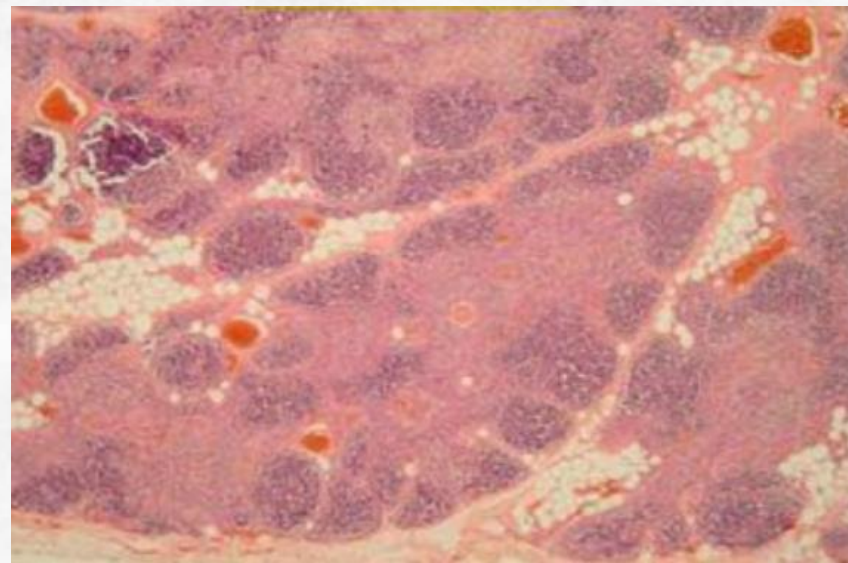


ANSWER : Lymph node medulla

Labs

Histology

191. This following section is taken from:



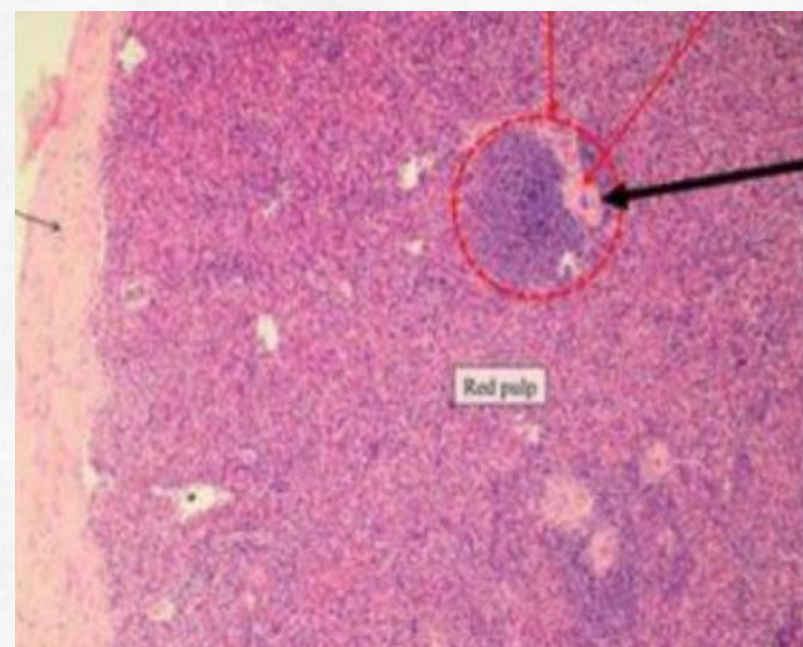
ANSWER : Thymus

192. This following section is taken from:



ANSWER : Palatine tonsils

193. The black arrowed structure represents:



ANSWER : Central arteriole

194. Red arrow represents:

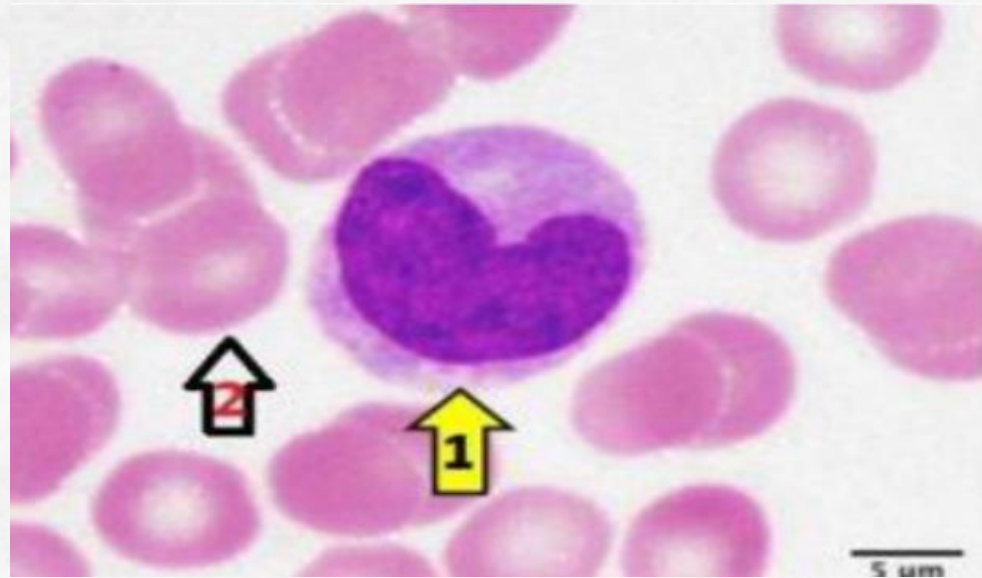


ANSWER : Central arteriole

Labs

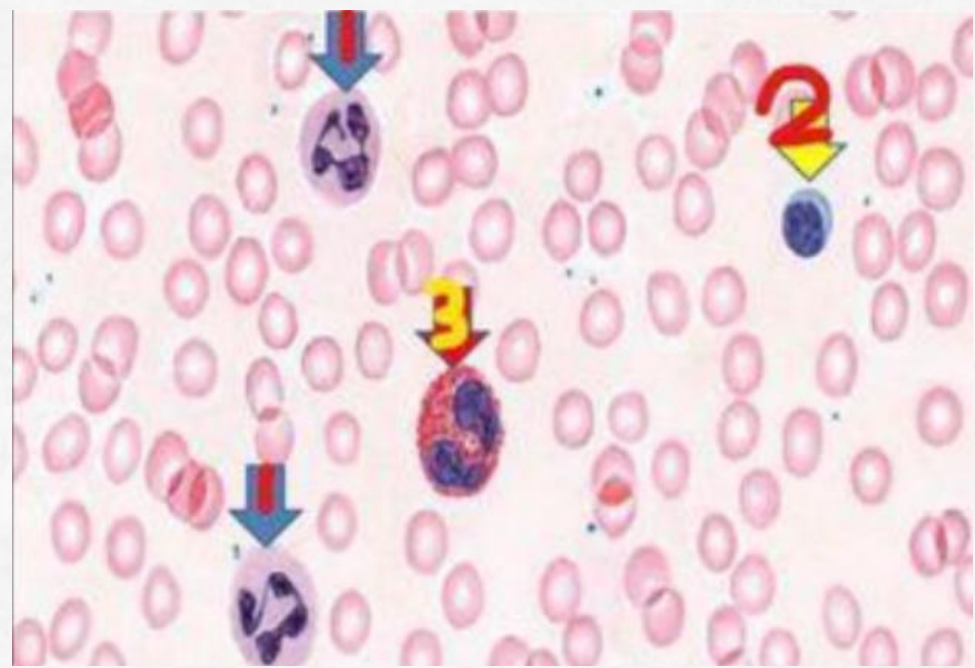
Histology

195. 1 & 2 represent respectively:



ANSWER : 1 Monocyte, 2 erythrocyte

196. Most abundant WBC:



ANSWER : 1

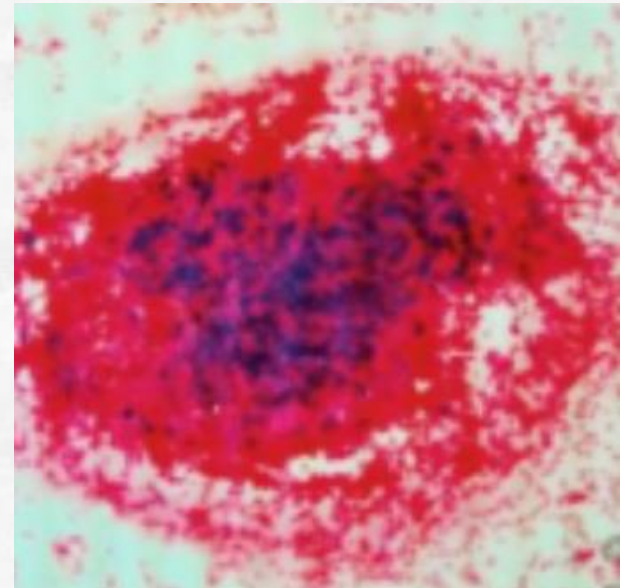
Labs

Pathology

197. All of the following are helpful, but which one is not effective in diagnosing?

- A. Elevated HgA2
- B. Decrease in ferroportin
- C. Increase hepcidin level
- D. High TIBC (total iron binding capacity)
- E. Long history of cancer

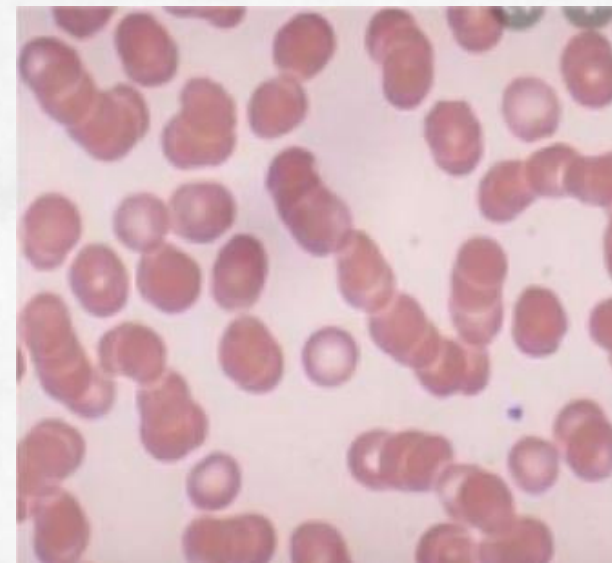
ANSWER : A



198. All of the following are seen in the disease that causes this feature in blood sample except?

- A. Hypercalcemia
- B. Amyloidosis
- C. Renal failure
- D. Bone fractures
- E. Plasma cells are less than 5% of bone marrow cells.

ANSWER : E



199. all of these seen in a disease that causes the morphology in the picture, except:

- A. JAK2 mutation
- B. Shift to the left Neutrophils
- C. Mild splenomegaly
- D. Thrombocytopenia
- E. Anemia

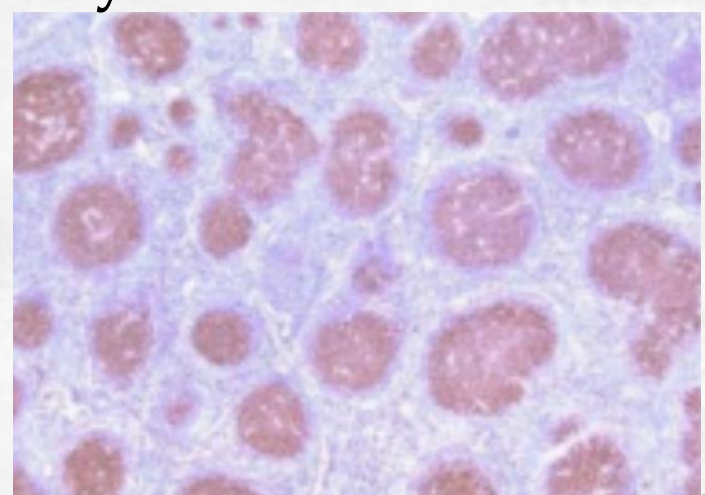
ANSWER : C



200. This morphology indicates disease that is known by:

- A. The presence of follicular proliferation
- B. The presence of centroblasts and centrocytes
- C. CD34
- D. The presence of jak2 Mutation
- E. In early stages it is high grade

ANSWER : B



اللهم سلم غزاة وأهلها من كل سوء وشر، اللهم انصرهم وثبت أقدامهم وكن لهم ناصرًا ومعينًا

لا تتسوني من صالح دعائكم

Malek Abu Rahma

The End
Good Luck シ