



Test Bank



Subject:
HLS-MID.018



Collected by:
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HLS-Final 018

Theory Part:

1-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) - AML
- e. Vemurafenib (anti BRAF)- hairy cell leukemia

2-Which one of the following substances is found exactly in the same percentage in both plasma and interstitial fluid?

- a. Glucose
- b. Proteins
- c. Lipids
- d. Bicarbonate
- e. Chloride

3-Cerebral malaria is seen in.

- a. *P. falciparum*
- b. *P. ovale*
- c. *P. knowlesi*
- d. *P. malariae*
- e. *Plasmodium vivax*

4-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

5-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

6-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.

7-Which developmental stage of leishmania is the infective stage?

- a. Metacyclic trypanomastigot
- b. Promastigot
- c. Epimatigot
- d. Intracellular trypanomastigot
- e. Amastigot

8-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

9-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

10-Flow cytometry study is NOT useful in diagnosis of.

- a. Glanzmann thrombasthenia
- b. Acute myeloid leukemia
- c. Langerhans cell histiocytosis
- d. B-acute llymphoblastic leukemia
- e. Paroxysmal nocturnal hemoglobinurea

11-Vector for leishmaniasis is:

- a. Mite
- b. Tsetse fly
- c. Tick
- d. Anopheles mosquito
- e. Sand fly

12-Which of the following favors the diagnosis of classic Hodgkin lymphoma?

- a. Contiguous pattern of spread
- b. Extranodal disease
- c. Expression of CD20
- d. Presence of popcorn cells
- e. Negative role of EBV in pathogenesis

13-Which of the following is NOT an expected finding in a patient with iron deficiency anemia?

- a. Koilonychia (spoon nails)
- b. Angular stomatitis
- c. Hypochromic microcytic red blood cells
- d. Pallor
- e. Symmetric paraesthesia in lower limbs

14-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

15-Neutropenia developed in a patient who recently undergone cancer chemotherapy. Which of the following agents would accelerate recovery of the neutrophil count.

- a. Vitamin B12
- b. Leukovorin
- c. rHuG.CSF (Filgrastim)
- d. Interleukin-11
- e. Prednisone

16-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

17-Recent research showed that patients with marked obesity have increased level of IL-6 in blood that is mainly secreted from adipose tissue which results in anemia. Which of the following is an expected finding?

- a. Absent haptoglobin level
- b. High erythropoietin level
- c. High reticulocyte count
- d. Low total iron binding capacity
- e. Presence of gall bladder stones

18-Which of the following is MOST likely to be required by a 5-year-old boy with chronic renal insufficiency?

- a. Oprelvekin (IL-11)
- b. Cyanocobalamin
- c. Erythropoietin
- d. Deferoxamine
- e. Filgrastim (G-CSF)

19-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. Extranodal marginal zone lymphoma

20-One of the following statements about Glucose-6-phosphate dehydrogenase (G6PD) deficiency is FALSE.

- a. Blood film will show polychromasia and bite cells
- b. It is the most common enzymatic disorder of red blood cells
- c. Some common triggering factors include fava beans and infections
- d. Is easily diagnosed with Osmotic fragility test
- e. It is inherited as an X-linked recessive disease

21-The plant alkaloid effective in pediatric tumors, which causes neurotoxicity and SIADH, and works by disrupting the assembly of microtubules is.

- a. Cyclophosphamide

- b. Doxorubicin
- c. Cisplatin
- d. Chlorambucil
- e. Vincristine

22–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

23–Which of the following is a relative cause of polycythemia?

- a. Cyanotic heart disease
- b. Surreptitious polycythemia
- c. Polycythemia vera
- d. Renal cell carcinoma
- e. Severe diarrhea

24–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

25–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

26–CD42b is absent in.

- a. Heparin-induced thrombocytopenia
- b. Paroxysmal nocturnal hemoglobinuria
- c. Immune thrombocytopenic purpura

- d. Glanzmann thrombasthenia
- e. Bernard Soulier syndrome

27-The infectious stage of plasmodium is:

- a. Schizonts
- b. Merozoites
- c. Sporozoites
- d. Trophozoites
- e. Gametocyte

28-The drug which is Factor X inhibitor, given orally, does not require monitoring, and mainly used to prevent stroke in patients with atrial fibrillation is:

- a. Hirudin
- b. Clopidogrel
- c. Rivaroxaban
- d. Argatroban
- e. Fondaparinux

29-A 16-year-old male is under evaluation for repeated episodes of pain in the back and lower limbs. Examination reveals pallor and jaundice. Sickle cell disease is suspected. Which of the followings is NOT expected to be useful for diagnosing and evaluating this patient?

- a. Haemoglobin electrophoresis
- b. Bone marrow examination
- c. Examining legs for ulcers
- d. Blood film
- e. Examining eyes for retinopathy

30-A 48-year-old male presents complaining of fatigue, palpitations, shortness of breath, fevers, and skin bruising. He is pale, febrile and has multiple skin ecchymosis and bruises. His symptoms started one week ago and are progressive. Initial blood test shows low haemoglobin, white blood cells and platelets. What is the best next step that will help with diagnosis?

- a. Request G6PD level
- b. Request iron studies
- c. Request vitamin B12 level and start vitamin B12 treatment immediately
- d. Request Factor VIII level
- e. Request a blood film and bone marrow examination

31-All the following about chloroquine are true; EXCEPT:

- a. Can cause corneal deposits, and blurring of vision

- b. Effective against tissue forms of all malaria species
- c. Inhibits polymerization of heme into hemozoin and thus parasite is poisoned
- d. Destroys the blood stages of all four types of malaria
- e. Resistance is due to mutation in P170 glycoprotein (PFCRT)

32–Absent HgA in hemoglobin electrophoresis study is seen in.

- a. Iron deficiency anemia
- b. Hemoglobin H disease
- c. B-thalassemia carrier
- d. Sickle cell trait
- e. Cooley's anemia

33–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

34–Warfarin works after 3 days of administration because.

- a. It has a long half life time
- b. Stores need to be saturated
- c. It takes a long time for the drug to reach the site of action
- d. Usually, patients also take drugs which interfere with the activity of warfarin
- e. Time is needed for already present factors to be depleted

35–Chronic alcoholism is a risk factor for:

- a. Megaloblastic anemia
- b. Iron deficiency anemia
- c. Aplastic anemia
- d. Immune hemolytic anemia
- e. Myelodysplastic syndrome

36–The following features are common in plasma cell myeloma EXCEPT:

- a. Presence of tingible body macrophages
- b. Early onset anemia
- c. Bence-Jones protein
- d. Osteolytic lesions
- e. Serum and urine M-protein

37–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

38–Low molecular weight heparins are superior to unfractionated heparin. This is mainly due to.

- a. Lower cost
- b. More predictable effect
- c. Poor binding to protamine
- d. Lower antigenicity
- e. Shorter duration of duration

39–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*

40–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

41–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

42–The most serious side effect associated with Bleomycin is.

- a. Cardiac toxicity
- b. Neurotoxicity
- c. Pulmonary fibrosis
- d. Alopecia
- e. Nephrotoxicity

43-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

44-Richter transformation occurs in patients with.

- a. Peripheral T-cell lymphoma
- b. Small lymphocytic lymphoma
- c. Follicular lymphoma
- d. Burkitt lymphoma
- e. Hodgkin lymphoma

45-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

46-You participated in a research to make a test that detects free hemoglobin in urine. Your supervisor explained the importance of this test as to differentiate hemolytic anemia from bleeding in urine that commonly occurs in patients with genitourinary diseases (intact RBCS). The best candidates for your test would be patients with.

- a. G6PD deficiency
- b. Hemophilia A, severe form
- c. Hereditary spherocytosis
- d. Immune hemolytic anemia
- e. Thalassemia

47-Notch1 mutation is commonly seen in tumors arising in.

- a. Thymus

- b. Skin
- c. Lymph node
- d. Bone marrow
- e. Spleen

48–A 23-year –old African American female with a history of sickle cell anemia is admitted with severe diffuse body pains. She had five similar episodes this year. Her physician considers adding hydroxyurea to her treatment regimen. Which best describes the mechanism of action of hydroxyurea?

- a. Increases hemoglobin F synthesis
- b. Decreases cellular dehydration
- c. Directly inhibits polymerization
- d. Stimulates red cell production
- e. Increases hemoglobin A 2 synthesis

49–All of the following can be associated with appearance of spherocytes in peripheral blood EXCEPT for:

- a. Abnormal karyotype test
- b. The presence of systemic lupus erythematosus
- c. High MCHC value
- d. Family history of spherocytosis
- e. Recent history of viral infection

50–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

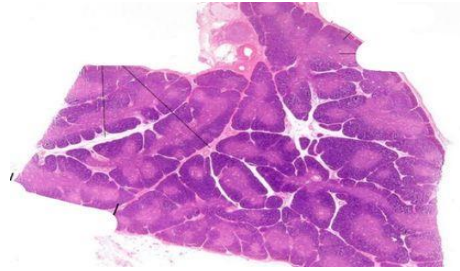
Answers:

1	A	11	E	21	E	31	B	41	A
2	A	12	A	22	C	32	E	42	C
3	A	13	E	23	E	33	C	43	D
4	C	14	A	24	D	34	E	44	B
5	E	15	C	25	A	35	A	45	E
6	A	16	A	26	E	36	A	46	A
7	B	17	D	27	C	37	D	47	A
8	E	18	C	28	C	38	B	48	A
9	E	19	A	29	B	39	C	49	A
10	C	20	D	30	E	40	E	50	E

Practical Part.

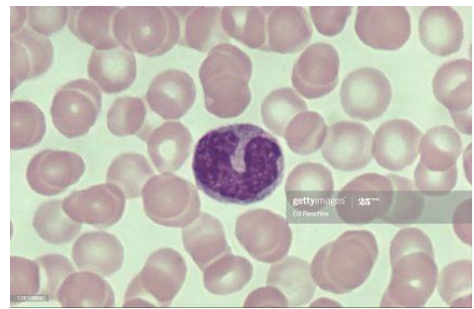
1- This section is most probably taken from.

- a. Tonsil
- b. Thymus
- c. Spleen
- d. Ileum
- e. Lymph node



2-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



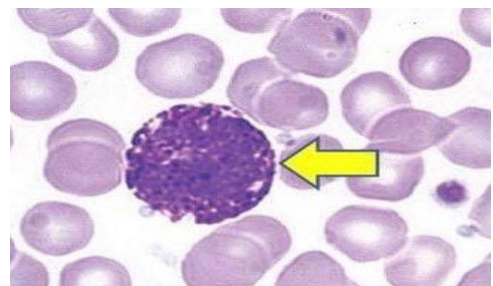
3-This section is most probably taken from.

- a. Ileum
- b. Lymph node
- c. Thymus
- d. Spleen
- e. Palatine tonsil



4-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

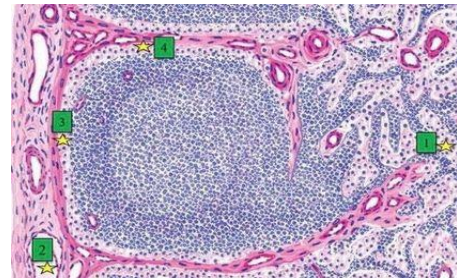


5-Regarding the osmotic fragility test what is the CORRECT order for the steps of the test.

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

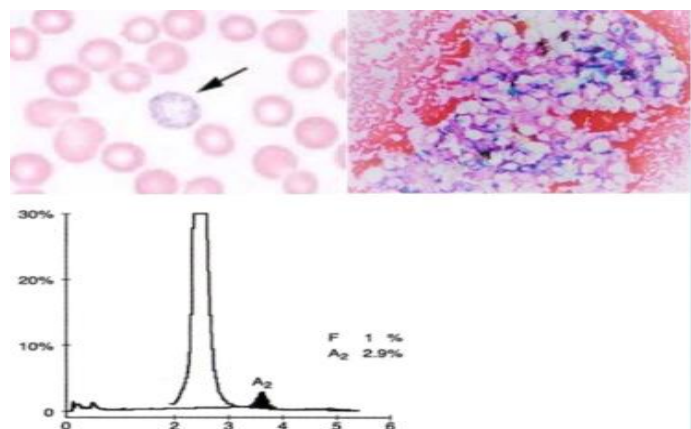
6-Arrange the flow of afferent lymph in the CORRECT order.

- 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



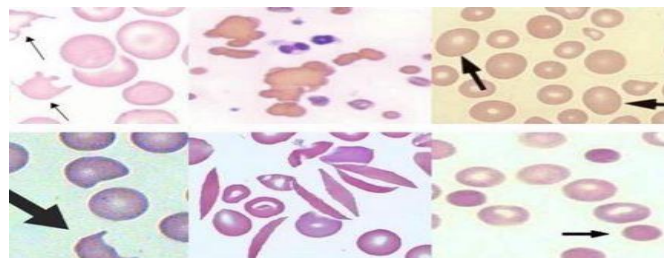
7-During pre-marital test, a man was found to have a mean cell volume of 75 (normal 80-100 f/L). The man is healthy and his medical history is negative for diseases. Physical examination was unremarkable. The image shows his blood film, Perl's stain on bone marrow particle and hemoglobin electrophoresis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



8-Which of the following answers does NOT have a blood film image?

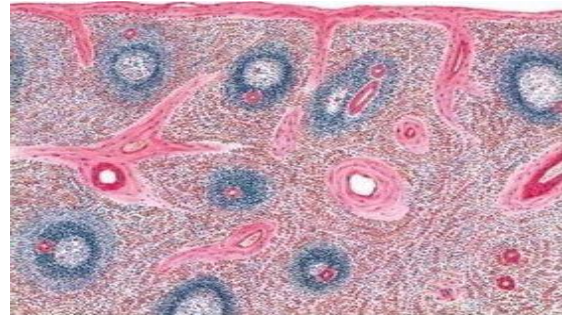
- a. Rouleaux formation
- b. Acanthocyte
- c. Macrocyte
- d. Schistocyte



- e. Sickle cell

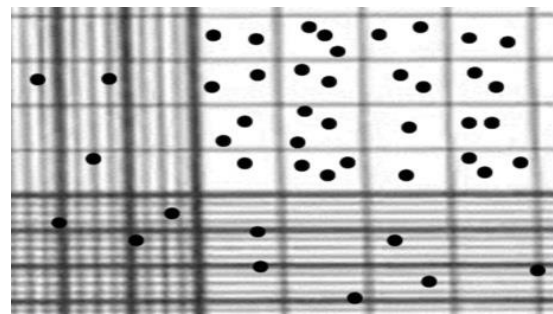
9-This section is most probably taken from.

- a. Thymus
- b. Lymph node
- c. Pharyngeal tonsil
- d. Bone marrow
- e. Spleen



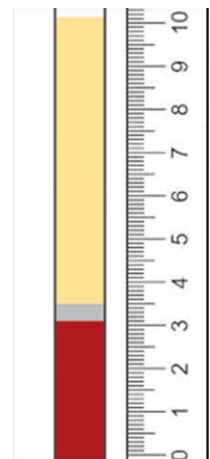
10-You performed a white blood cell count using a hemocytometer. The count you obtained in three squares was 30, 34, 29. If you know that the sample was prepared by adding one unit of blood to 49 units of solution. Count the number of white blood cells in the fourth square shown in the picture (upper right) and calculate the WBC count.

- a. 15,750 cells/mm³
- b. 6,900 cells/mm³
- c. 6,300 cells/mm³
- d. 16,500 cells/mm³
- e. 17,250 cells/mm³



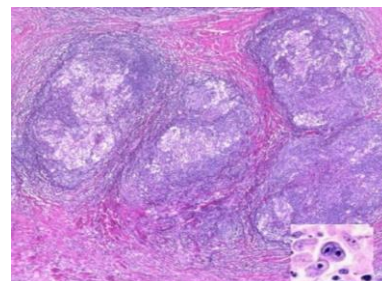
11-A blood sample was taken from an adult male patient to perform some tests. From the provided picture calculate the Packed cell volume (PCV) for this patient.

- a. 35%
- b. None of the mentioned
- c. 30%
- d. 35 g/ 100 ml
- e. 30 g/ 100 ml



12-The following image represents.

- a. Nodular sclerosis Hodgkin lymphoma
- b. Mixed cellularity Hodgkin lymphoma
- c. Follicular lymphoma
- d. Nodular lymphocyte



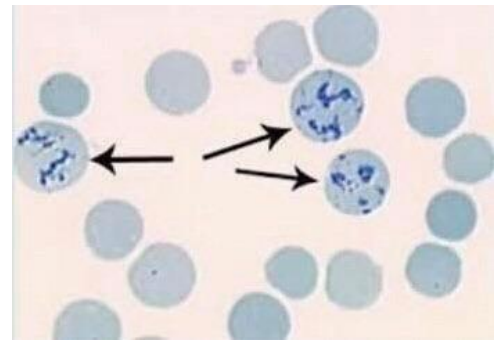
13-Regarding the RBCS & WBCS count using a hemocytometer, all of the following are differences between RBCS and WBCS count EXCEPT:

- 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

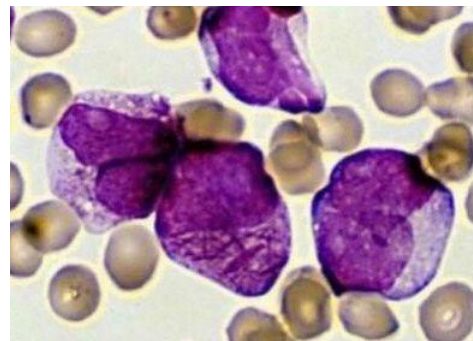
14-Which of the following statements applies to the labeled cells?

- 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



15-The following cells are positive for:

- a. t(15;17) and CD34
- b. CD19 and TDT
- c. t(15;17) and myeloperoxidase
- d. CD30 and CD15
- e. t(9;22) and bcr-abl



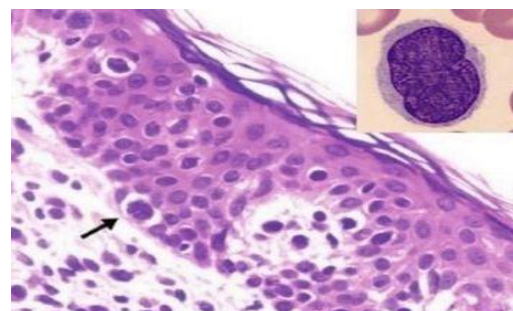
16-You have a patient who needs blood transfusion, you performed a test to identify his blood type the results are shown in the picture. What is this patient's blood type?

- a. B+ve
- b. AB+ve
- c. A+ve
- d. A-ve
- e. B-ve



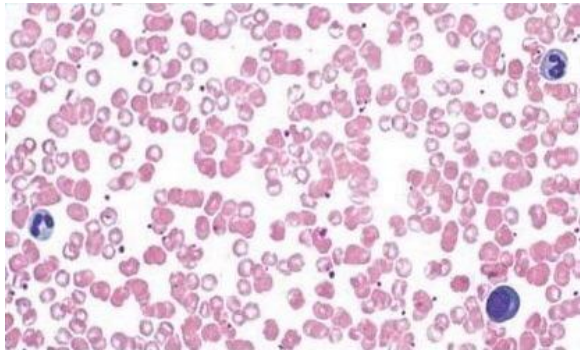
17-Which of the following is characteristic of this disease?

- a. Proliferation centers
- b. Positive for CD4
- c. Hyperdiploidy
- d. Presence of hairy projections
- e. History of previous chemotherapy



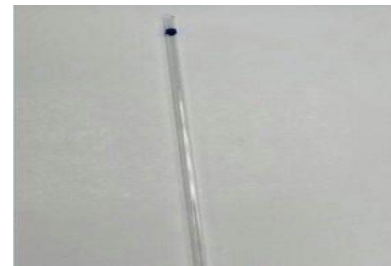
18-All the followings can be found in this section EXCEPT:

- a. Neutrophil
- b. Lymphocyte
- c. Thrombocyte
- d. Erythrocyte
- e. Monocyte



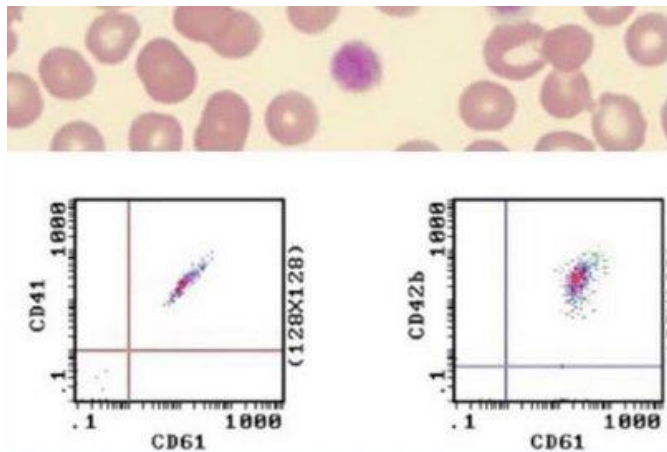
19-The tube is used in our laboratory to obtain which of the following values.

- a. Bleeding time
- b. Hemoglobin Concentration
- c. Erythrocyte Sedimentation Rate (ESR)
- d. Clotting time
- e. Osmotic fragility



20- A 7year old boy developed mild recurrent ecchymosis in legs and arms and gum bleeding when he brushes his teeth . The following images represent his blood film and flow cytometry which of the following findings is expected :

- a. Isolated thrombocytopenia
- b. Positive JAK2 mutation test
- c. Non-corrected mixing test 1999
- d. Antibody against factor 4
- e. Correct mixing test



Answers:

1	B	6	B	11	C	16	B
2	D	7	E	12	A	17	B
3	E	8	A	13	C	18	E
4	E	9	E	14	A	19	D
5	A	10	A	15	C	20	A