

HEMATOLOGY

FINAL EXAM - Serotonin batch

إعداد :



PART ONE

2) In sickle cell anemia: hemolysis is enhanced by the following events, EXCEPT?

Select one:

- a. Presence of Hemoglobin C (Hb C)
- b. Presence of B-thalassemia.
- c. Severe vomiting and/or diarrhea.
- d. Ascending a mountain
- e. Coexistence of malarial infection. XXX

3) In the most widely used staging system for lymphomas, stage III means?

Select one:

- a. Localized disease, single lymphoid region or single organ.
- b. Two or more lymphoid regions on the same side of the diaphragm.
- c. Two or more lymphoid regions above and below the diaphragm. XXX
- d. Widespread disease with multiple organ involvements.
- e. Patient exhibit 8 symptoms (fever, weight loss, night sweats).

4) All of the followings are common causes of vitamin B12 deficiency, EXCEPT?

Select one:

- a. After gastrectomy.
- b. Malabsorption syndromes.
- c. Hypochlorhydria.
- d. Chronic autoimmune gastritis.
- e. Deficient dietary intake. XXX

5) An Swear-old boy frequently comes to the clinic for persistent skin infections that do not heal within a normal time frame. He had a normal recovery from the measles. A check or his antibodies after immunizations yielded normal antibody responses. A defect in which of the following cells would most likely be the cause of the continual infections? Select one:

- a. B lymphocytes.
- b. Plasma cells.
- c. Neutrophils. XXX
- d. Macrophages.
- e. T lymphocytes

6) Asplenic individuals are at increased risk for severe fatal infections from all of the following EXCEPT? Select one:

- a. *S. pneumoniae*.
- b. *E. coli*.
- c. *N. meningitidis*.
- d. *H. influenzae*.
- e. *Candida albicans* XXX

7) A 45-year-old man presents to the emergency department With a 2-week history of diarrhea that has gotten progressively worse during the past several days. He has minimal urine output and is admitted to the hospital for dehydration. His stool specimen is positive for parasitic eggs. Which type of WBC would have an elevated number? Select one:

- a. Eosinophils. XXX
- b. Neutrophils.
- c. T lymphocytes.
- d. B lymphocytes.
- e. Monocytes.

8) Which one of the following is TRUE? Select one:

- a. Pregnancy is the commonest cause of iron deficiency.
- b. Body iron stores become depleted after iron deficiency anemia develops.
- c. Severe iron deficiency anemia requires blood transfusion before starting parenteral iron.
- d. Iron absorption is reduced in patients with *H.pylori* in pyloric antrum.
- e. Iron stores in iron deficiency anemia are restored at same rate after oral or IM iron.

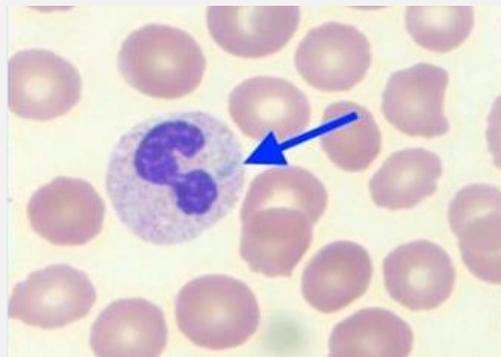
9) Regarding Babesiosis symptoms, one of the following is incorrect?

Select one:

- a. Mild chills and fever.
- b. Hemolytic anemia.
- c. Jaundice.
- d. Hepatomegaly.
- e. Malarial like paroxysm is present. XXX

10) In severe inflammation, neutrophilia is accompanied by morphologic changes. one of them is observed in this neutrophil. Which cellular organelle is responsible of the formation of these bodies? Select one:

- a. Toxic granules. XXX
- b. Mitochondria.
- c. Nucleus.
- d. Golgi apparatus.
- e. Endoplasmic reticulum.



11) Which of the following Myeloproliferative neoplasm(MPN) have the strongest association with tyrosine kinase JAK2 activating mutations? Select one:

- a. Polycythemia vera. XXX
- b. Chronic myelogenous leukemia.
- c. Essential thrombocythemia
- d. Secondary Myelofibrosis.
- e. Primary Myelofibrosis.

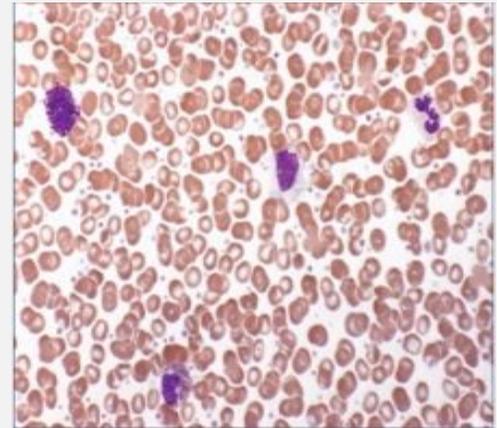
12) In enteric fever. the organ lodging maximum number of the organism is? Select one:

- a. Liver.
- b. Gallbladder. XXX
- c. Kidneys.
- d. Macrophages.
- e. Bone marrow.

13) This is a microscopic picture of peripheral blood smear of a case of?

select one:

- a. Polycythemia vera.
- b. Thrombocytosis.
- c. Reticulocytosis.
- d. Erythroblastosis.
- e. Megakaryocytosis.



14) The following are true of folate deficiency anemia EXCEPT?

Select one:

- a. It can occur after 6 months of deficiency.
- b. is associated with reduced formation of dTMP.
- c. If severe, it can caused neural tube defects in foetus during pregnancy.
- d. is partially correctable by vitamin B12 administration. XXX
- e. is not associated with neurological damage.

15) Which of the following White cells neoplasms is associated with Waldenstrom Macroglobulinemia?

Select one:

- a. Sezary syndrome.
- b. Hodgkin Lymphoma.
- c. Multiple myeloma.
- d. Follicular lymphoma.
- e. Lymphoplasmacytic lymphoma. XXX

16) Vitamin B12 deficiency: Which statement is FALSE?

Select one:

- a. Develops more quickly in patients with chronic liver disease.
- b. Traps folate in the inactive 5-methyltetrahydrofolate form.
- c. Causes deficiency of methionine but elevates plasma homocysteine level.
- d. Causes megaloblastic erythropoiesis that is partially corrected by folic acid.
- e. If severe, it causes dementia before damaging peripheral somatic nerves. XXX



17) The blood picture of a patient shows a total leucocytic count 16000/mm³ and Lymphocytes 45% this probably goes with the diagnosis of _____?

Select one:

- a. Parasitic infection.
- b. Acute bacterial infection.
- c. Chronic infection. XXX
- d. Malaria.
- e. Bronchial asthma.

18) True statements regarding alkylating agents include all the following EXCEPT?

Select one:

- a. They are cell cycle nonspecific agents.
- b. Acquired resistance can occur.
- c. They add alkyl groups to DNA.
- d. They are structurally similar to naturally occurring substances. XXX
- e. Nitrogen mustards are examples of this class of drugs.

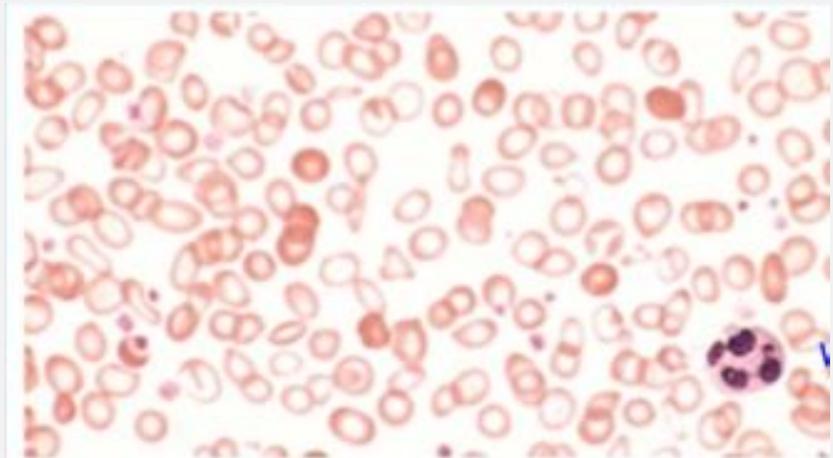
19) Which of the following leukemias has the best prognosis among all reaching 80% cure rate? (AML: acute myeloid leukemia)

Select one :

- a. Chronic lymphocytic leukemia.
- b. AML with dysplasia.
- c. AML with the t(15;17). XXX
- d. AML with the t(8:21).
- e. AML with the inv(16).

20) This is a microscopic picture of peripheral blood smear from a patient suffering from? Select one:

- a. Megaloblastic anemia.
- b. iron deficiency anemia.
- c. Microangiopathic hemolytic anemia.
- d. Hereditary spherocytosis.
- e. Sickle cell anemia.



21) Glycosylated Hb is?

Select one:

- a. Hb combining with O₂-
- b. Hb combining with CO₂-
- c. Hb combining with CO.
- d. Hb combining with Glucose. XXX
- e. Hb combining with Hydrogen.



22) Thrombotic thrombocytopenic purpura (TTP) is characterized by the followings.

EXCEPT? Select one:

- a. Fever.
- b. Thrombocytopenia.
- c. Microangiopathic hemolytic anemia.
- d. Dominance or acute renal failure. XXX
- e. Transient neurological deficit.

23) Different proteins are involved in iron metabolism. among them hepcidin which is not characterized by?

Select one:

- a. it is upregulated by increased iron level to down regulate ferroportin.
- b. It is downregulated by decreased iron level to up regulate ferroportin.
- c. Its high expression rate is regulating bacterial growth negatively.
- d. its low expression rate is regulating bacterial growth positively.
- e. it is directly affecting iron exportation from tissues to blood. XXX

24) in a lymph node, thymus-dependent antigen leads to? Select one:

- a. B- Lymphocyte proliferation in the paracortex.
- b. T- Lymphocyte proliferation in the paracortex. XXX
- c. PALS development
- d. Proliferation in cortical lymphoid follicles.
- e. The absence of germinal centers.

25) in heme synthetic pathway, one of the following sets of enzymes is starting and finalizing the asymmetrical substitutions of the four pyrrole rings of heme molecule?

Select one:

- a. Coproporphyrinogen oxidase and protoporphyrinogen oxidase.
- b. Porphobilinogendeaminase and uroporphyrinogen decarboxylase.
- c. Porphobilinogen synthase and protoporphyrinogen Oxidase.
- a. ALA synthase and hydroxymethylbilane synthase.
- e. Uroporphyrinogen synthase III and coproporphyrinogen oxidase. XXX

26) Regarding microangiopathic hemolytic anemias, the followings are correct, EXCEPT? Select one:

- a. Is observed in pathologic states in which small vessels become partially obstructed or narrowed.
- b. May be caused by: disseminated intravascular coagulation (DIC).
- c. May be caused by thrombotic thrombocytopenic purpura.
- d. May be caused by: malignant hypertension.
- e. Produce hemolytic crisis.

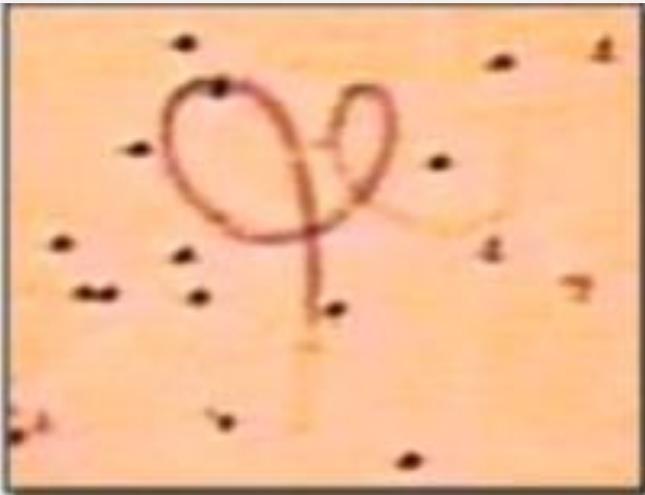
27) Porphyria cutanea tarda is characterized by all of the following EXCEPT? Select one:

- a. Overdoses of iron are among the risk factors.
- b. It is due to the deficiency of a cytosolic enzyme.
- c. An inhibitor of an enzyme can be given to relief its symptoms and signs.
- d. Besides variegate porphyria, both are having neurocutaneous manifestations.
- e. Can be diagnosed by investigating the presence of a modified intermediate in the stool.

28) The specialized cell type involved in the entry of lymphocytes into lymph nodes are called?

- a M-cells.
- b. Mesangial cells.
- c. PALS.
- d. HEV endothelial cells. XXX
- e. Selectins.

29) This parasitic form belongs to?

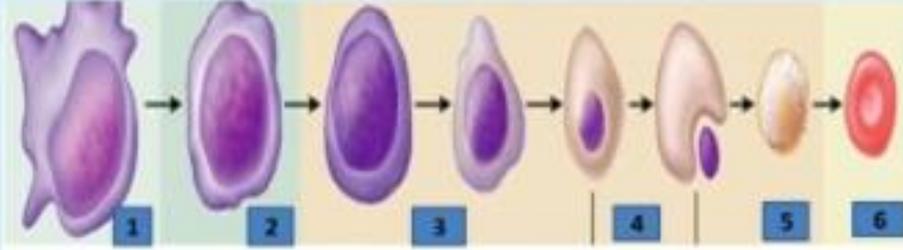


- a. Wuchereria bancrofti. XXX
- b. Coxiella burnetii.
- c. Trypanosoma brucei.
- d. Leishmania donovani.
- e. Yersinia pestis.

30) A CBC of 40ys male shows 20% decrease in Hb and HCT, MCV is very low and PLT elevated than normal. his serum ferntin level was very high?

- a. iron deficiency.
- b. Sickle cell anemia.
- c. Apiastic anemia.
- d. Hemoiytic anemia.
- e. Anemia Of chronic disease. XXX

31) The peak synthesis of hemoglobin occurs during which stage ?



- a. 2—proerythroblast.
- b. 3— Basophilic erythroblast. XXX
- c. 4----Normoblast
- d. 5-----polychromatophilic erythroblast.
- e. 6——— erythrocytes.

32) A man 45-year-old came in for routine examination. His CBC values were Hb 10 g/dl. Hct 28%, reticulocyte 0.3% and MCV 64 fL. Total bilirubin, LDH and haptoglobin were normal. High serum iron and ferritin. What is the most likely explanation for this case?

- a. iron deficiency anemia.
- b. Anemia of chronic inflammation.
- c. Thalassemia.
- d. Sideroblastic anemia XXX
- e. Sickle cell disease.

33) Oxy Hb is?



- a. Hb combining With O2. XXX
- b. Hb combining with CO2.
- c. Hb combining with CO.
- d. Hb combining with Glucose.
- e. Hb combining with Hydrogen.

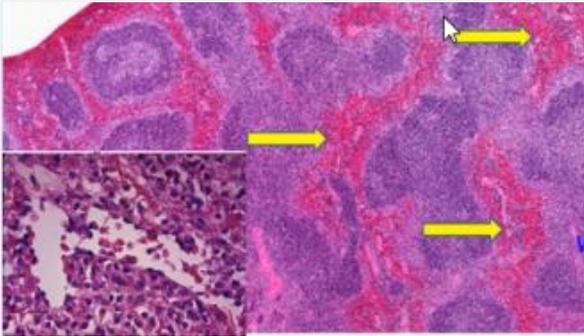
34) What condition leads to a deficiency in factor IX that can be corrected by an intravenous injection of vitamin K?

- a. Classic hemophilia.
- b. Hepatitis B.
- c. Bile duct obstruction. XXX
- d. Genetic deficiency in Anti-thrombin III.
- e. Hemophilia C.

35) The hemoglobin level for anemia among pregnant females is?

- a. less than 7 g/dl.
- b. less than 13 g/dl.
- c. less than 12 g/dl.
- d. less than 11 g/dl. XXX
- e. less than 10 g/dl.

36) Regarding the pointed structure all of the following are true EXCEPT?



- a. Called Billroth cords.
- b. Formed of dense irregular fibrous C.T. XXX
- c. Present between white pulp and blood sinusoids.
- d. infiltrated with blood cells and lymphoid cells.
- e. Have large number of RBCs.

37) All about Brucellosis is true EXCEPT one?

- a. Caused by a Gram negative bacillus.
- b. Causes fever in mostly 100% of patients.
- c. Can be diagnosed by serum agglutination test.
- d. its obligate intracellular bacteria.
- e. Contracted from unpasteurized milk

38) A 27-year-old Man has been experiencing low grade fevers, night sweats, and generalized malaise for 2 months. Physical examination revealed painless cervical lymphadenopathy. A cervical lymph node biopsy is showed occasional CD15+ and CD30+ Reed-Stenberg cells along With large and small lymphocytes and bands of fibrosis. One or the following is INCORRECT regarding his disease?

- a. Reed-Sternberg (RS) cell escapes host immune response by expressing high levels of PD ligands.
- b. In Classic subtypes RS cells fail to express CD20.
- c. Nodular lymphocyte predominant subtype expresses CD30 and CD15. XXX
- d. B symptoms in this patient usually indicate stage III or IV disease.
- e. Nodular sclerosis and mixed cellularity are the two most common types.

39) Patients with hemoglobin SC disease?

- a. Never experience sickle cell crisis
- b. Have a different mutation in both beta-globin genes in the same codon. XXX
- c. Exhibit an excess of embryonic ζ -chains in their adult red blood cells.
- d. Frequently die in utero from complications or the hemoglobinopathy.
- e. Could not have a child with sickle cell disease.

40) Metachromasia -----?

- a. Staining of a tissue by the color of the original stain.
- b. Staining of a tissue by a color differs from the original stain XXX
- c. Staining of granules of plasma cells by a red color after toluidine blue.
- d. Staining of phagocytic cells by trypan blue.
- e. Staining of granules of eosinophils by a red color after toluidine blue.

41) The purpose of Neoadjuvant chemotherapy is?

- a. Eradicating micrometastatic disease following localized modalities.
- b. Relieving symptom and improving the quality of life in patients with advanced stages of cancer.
- c. Attempting to shrink the tumour size prior to surgery XXX
- d. Is a primary curative modality for leukemias.
- e. Has no effect on relieving symptoms of thyroid cancer.

42) Woman in her last trimester. Her CBC values are Hb 9g/dl, Hct 31%, reticulocytes 0.3%, MCV 100fL. Her serum Ferritin level was normal?

- a. iron deficiency anemia.
- b. B12 deficiency.
- c. Folic acid deficiency. XXX
- d. GIT bleeding.
- e. Anemia of chronic inflammation.

43) Changes that occur in stored blood include?

- a. Increased platelet numbers.
- b. increased K⁺ ions in plasma. XXX
- c. Decreased Na⁺ ions in RBCs.
- d. Increased plasma concentration of factor VIII.
- e. Increased plasma concentration of factor IX.

44) Regarding G-6-P-D anemia, hemolysis occurs due to?

- a. Formation of Heinz bodies. XXX
- b. Biting of R.B.C's by macrophages.
- c. Extracorporeal hemolysis in spleen sinusoids.
- d. Formation of Heinz bodies and attacks by macrophages.
- e. Formation of Heinz bodies. attacks by macrophages and extracorporeal hemolysis.

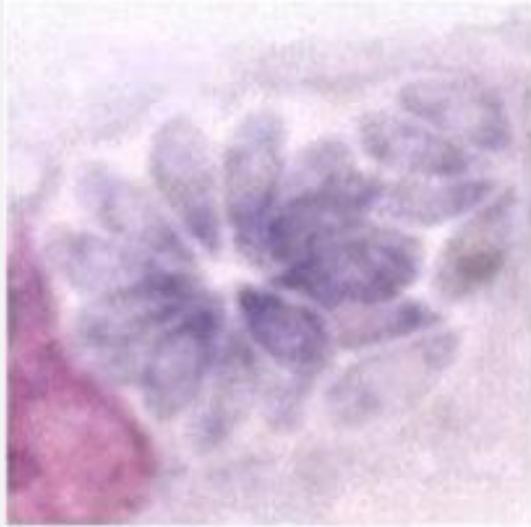
45) Which of the following statements is true regarding the metabolic pathways are in RBCs?

- a. All variants of glucose 6-phosphate dehydrogenase are accompanied by clinical consequences.
- b. The mutation 721G →T of pyruvate kinase is a missense mutation.
- c. Phosphoglucomutase deficiency is not affecting reduced glutathione regeneration.
- d. Phosphoglycerate kinase deficiency shows 2, 3 bisphosphoglycerate accumulation. XXX
- e. Triacylglycerols synthesis in RBCs is not affected by triose phosphate isomerase deficiency.

46) Microphages are Leucocytes referring to?

- a. Monocytes.
- b. T-lymphocytes.
- c. Neutrophils. XXX
- d. Natural killer cells.
- e. Mast cell of the blood.

47) This parasitic form belongs to?



- a. Toxoplasma gondii. XXX
- b. Coxiella burnetii.
- c. Trypanosoma brucei.
- d. Leishmania donovani.
- e. Yersinia pestis.

48) Concerning oral anticoagulants. warfarin block the following enzyme ?

- a. Phosphodiesterase enzyme.
- b. Epoxide reductase. XXX
- c. Adenyl cyclase.
- d. Cholinesterase.
- e. Protease enzyme.

49) Malarial pattern disease characterized by Renal and CNS involvement no spontaneous recovery and ultimately fatal. Which parasite causes that?

- a. Plasmodium falciparum. XXX
- b. Plasmodium vivax
- c. Plasmodium ovate.
- d. Plasmodium malariae.
- e. Babesia microti.

50) Adult hemoglobin has chains?

- a. 2 alpha, 2 gamma
- b. 2 alpha, 2 beta XXX
- c. 4 alpha
- d. 2 alpha, 2 delta
- e. 4 Beta

PART TWO

1) Five-years-old Child was noted by his new pediatrician to be mildly icteric. His CBC values were Hb 11.5 g/dL, Hct 35%, MCV 92 fL and reticulocytes 5%. Total bilirubin and LDH was high. Haptoglobin was low. What is the most likely explanation for this case?

- a. Hemolytic anemia. XXX
- b. Iron deficiency anemia.
- c. B12 deficiency.
- d. Sideroblastic anemia.
- e. Renal failure.

2) All the following are prophylactic uses of heparin EXCEPT?

- a. Arterial and heart surgery.
- b. Blood transfusion.
- c. Renal dialysis.
- d. Thrombocytopenia. XXX
- e. D.V.T.

3) Secondary polycythemia may be caused by the following diseases, EXCEPT?

- a. Coarctation of the aorta.
- b. Fallot's tetralogy.
- c. Lung emphysema.
- d. Lung Silicosis.
- e. Lung asbestosis.

4) All the following statements are true EXCEPT?

- a. Large doses of Epo alfa in renal anemia can increase PCV and blood viscosity.
- b. Erythropoietin blood level is low in primary polycythemia.
- c. Hydroxyurea can reduce polymerization of HbS in sickle
- b. Filgrastim SC increases neutrophil count in hypoplastic anemia for about 3 days.
- e. Oprelevkin can decrease platelet count in primary thrombocythemia. XXX

5) In sepsis or severe inflammation. neutrophils is accompanied by morphologic changes, One of the following is not among these morphological changes?

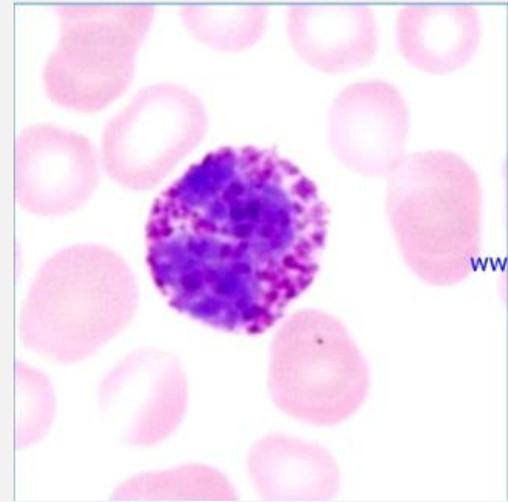
- a. Prominent cytoplasmic vacuoles.
- b. Sky-blue cytoplasmic puddles.
- c. Dohle bodies.
- d. Russell bodies. XXX
- e. Coarse and dark toxic granules.

6) Hemophilia A, the X-linked recessive blood clotting defect-permanent due to missing factor VIII, the most common mutations in the gene encoding for factor VIII causing the disorder are?

- a. Nonsense mutations.
- b. Deletions mutations.
- c. Point mutations.
- d. Missense mutations. XXX
- e. Frame shift mutations.

7) concerning this Cell the true statement is?

- a. Contain large acidophilic granules obscuring the nucleus.
- b. Its total count 1/2-1 %.
- c. Has Bilobed C- shape nucleus.
- d. Contain histamine and heparin. XXX
- e. Its granules not stained by toluidine blue.



8) A 9-year old girl has had increasing abdominal distention and pain for the past 3 days. An abdominal CT scan shows a large mass involving the small bowel. The mass was resected and microscopic examination shows sheets of intermediate size lymphocytes, with nuclei several nucleoli and many mitotic figures. Cytogenetic analysis of the cells from the mass shows t(8;14) karyotype. Which of the following is the most likely diagnosis?

- a. Precursor T acute lymphoblastic lymphoma
- b. Precursor B acute lymphoblastic lymphoma
- c. Hodgkin lymphoma.
- d. Marginal zone lymphoma.
- e. Burkitt lymphoma. XXX

9) Haemophilia A is caused by decreased?

- a. Clotting factor IX.
- b. Clotting factor X.
- c. Clotting factor XI.
- d. Clotting factor VIII. XXX
- e. Clotting factor IV.

10) Splenectomy is of proven benefit in the management of the following conditions EXCEPT?

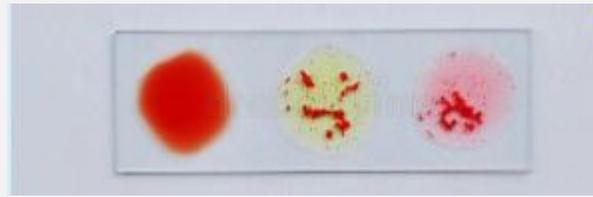
- a. Felty syndrome.
- b. Chronic myelogenous leukemia.
- c. Cold autoimmune hemolytic anemia. XXX
- d. Sickle cell anemia.
- e. Hodgkin lymphoma.

11) All the following about Trastuzumab are true EXCEPT?

- a. It antagonizes the vascular endothelial growth factor receptor. XXX
- b. It is used for the treatment of metastatic breast cancer.
- c. It is administered intravenously.
- d. Its adverse effects include congestive heart failure, fever, and chills-
- e. It induces cellular cytotoxicity.

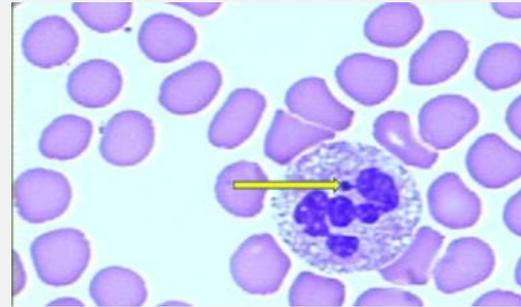
12) Blood group A contains?

- a. Agglutinin B.
- b. Precipitinogen A.
- c. Precipitinogen B.
- d. Agglutinin A XXX
- e. Agglutinin D.



13) The true statement for the pointed structure?

- a. Is an inactive X—chromosomes in females. XXX
- b. Is X-chromosomes in males.
- c. Large specific granule.
- d. Nucleolus.
- e. Is XY—chromosomes in males.

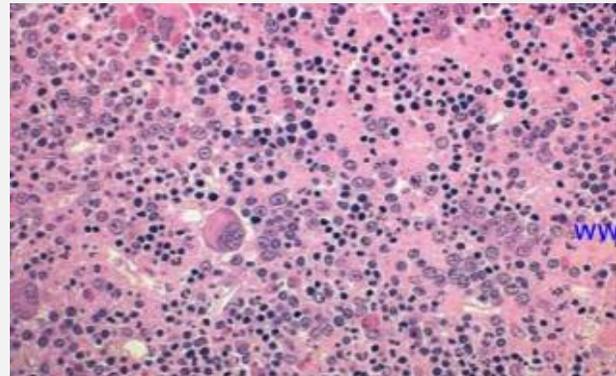


14) If a patient has acute, primary Epstein-Barr virus infection, which of the following would be the most sensitive and specific confirmatory test?

- a. IgG-specific anti-EBNA antibody.
- b. VCA IgM antibodies and undetectable anti-EBNA antibody. XXX
- c. Heterophile antibodies.
- d. Circulating atypical lymphocytosis of 20% or greater.
- e. Isolation of EBV from the blood.

15) What is most likely white blood cell neoplasm involving the bone marrow section in this picture?

- a. Myelodysplastic Syndrome.
- b. Chronic myelogenous leukemia.
- c. Essential thrombocythemia
- d. Polycythemia vera.
- e. Primary myelofibrosis.



16) Which of the following is NOT TRUE?

- a. A well-trained athlete will have a slightly elevated erythropoietin level and the Hct will be elevated up to a value of 50%.
- b. A person with aplastic anemia would have a low Hct and an elevated erythropoietin level.
- c. With end-stage renal disease there is a decrease in erythropoietin and low Hct.
- d. With polycythemia vera, the Hct is very high, even up to 60% and erythropoietin levels are very low.
- e. With secondary polycythemia the Hct is very high and erythropoietin is very low. XXX

17) Prevention of blood clotting by calcium removal include the following, EXCEPT?

- a. Heparin. XXX
- b. Na⁺ oxalate
- c. Na⁺ citrate.
- d. EDTA.
- e. K⁺ citrate.

18) Intravascular degradation of heme yields unconjugated bilirubin to be transported to liver bound to albumin, one of the following is true about this?

- a. It is the only site that produces unconjugated bilirubin.
- b. Albumin is a specific carrier for unconjugated bilirubin.
- c. Hydrogen concentration is affecting unconjugated binding to bilirubin albumin. XXX
- d. Albumin is always having high affinity binding sites for unconjugated bilirubin.
- e. Haptoglobin and hemopexin can participate in carrying unconjugated bilirubin-

19) This is a microscopic picture of bone marrow of a case suggestive of?

- a. Aplastic anemia.
- b. Iron deficiency anemia
- c. Myelopthisic anemia.
- d. Megaloplastic anemia.
- e. Anemia due to chronic inflammatory disease.



20) In Toxoplasmosis, one is wrong?

- a. The etiologic agent T. gondii is distributed worldwide.
- b. Few of the populations is seropositive. XXX
- c. Threat to immunosuppressed and unborn (pregnant females).
- d. Oocysts contain two sporocysts, each of which encloses four Sporozoites.
- e. Can cause congenital effects.

21) What occurs following activation of basophils?

- a. Decreased diapedesis of neutrophils.
- b. Decreased amoeboid motion.
- c. Contraction of blood vessels.
- d. Increased capillary permeability. XXX
- e. Fibrin stabilization.

22) A 44-year-old man has noted a change in the appearance of his face over the past 7 months. On physical examination his facial skin is full of thick and red plaques. Microscopic examination of a punch biopsy from the plaques shows infiltration of epidermis by cerebriform neoplastic T lymphocytes that are CD4 positive. Which of the following is the most likely diagnosis?

- a. Hodgkin lymphoma.
- b. Mycosis fungoides. XXX
- c. Burkitt lymphoma.
- d. Acute lymphocytic leukemia.
- e. Marginal zone lymphoma.

23) Black Death is caused by?

- a. Brucella suis.
- b. Brucella abortus. XXX
- c. Yersinia pestis.
- d. Francisella tularensis.
- e. Pasteurella multocida.

24) Iron deficiency anemia can be diagnosed by the followings, EXCEPT?:

- a. Decrease in serum ferritin.
- b. The absence of stainable iron in the bone marrow.
- c. Decrease in serum iron.
- d. Increase in the serum transferrin.
- e. Decrease In TIBC (total iron binding capacity). XXX

25) One of the following pairs between the type of leukocytosis and the cause is incorrectly matched?

- a. Burn: Monocytosis. XXX
- b. Brucellosis: Lymphocytosis.
- c. Myeloproliferative disease: Basophilia.
- d Drug allergy: Eosinophilia.
- e. Acute bacterial infections: Neutrophilia.

26) Which one of the following is true regarding jaundice due to acute viral hepatitis?

- a. alpha fetoprotein is increased.
- b. AST and ALT are normal.
- c. Serum albumin is decreased.
- d. Conjugated bilirubin is not excreted in urine.
- e. Serum conjugated bilirubin is increased. XXX

27) Protein electrophoresis is showing dense at globulin band when there is increase in the concentration of the following plasma proteins?

- a. Transcortin. haptoglobin and ceruloplasmin.
- b. Transcortin, paraprotein and alpha 1 antitrypsin.
- c. d fetoprotein. transcortin and thyroid binding protein.
- d. Thyroid binding protein. polyclonal antibodies and d fetoprotein.
- e. C- reactive protein, transferrin and B lipoprotein,

28) Regarding parvovirus B19, which one of the following is the MOST accurate?

- a. Parvovirus 819 has a double-stranded DNA genome but requires a DNA polymerase in the virion because it replicates in the cytoplasm.
- b. Parvovirus B19 is transmitted primarily by sexual intercourse
- c. Parvovirus B19 causes severe anemia because It preferentially infects erythrocyte precursors. XXX
- d. Parvovirus B19 vaccine is used for prevention against infection.
- e. Patients infected with parvovirus B19 should be treated with acyclovir.

29) Peyer's patches are?

- a. Located at the antimesenteric intestinal border. XXX
- b. Located at the mesenteric intestinal border.
- c. Located midway between the two intestinal borders.
- d. Absent in the duodenum.
- e. T lymphocytes dominate in their germinal centre.

30) All following are true about immunosuppressants EXCEPT?

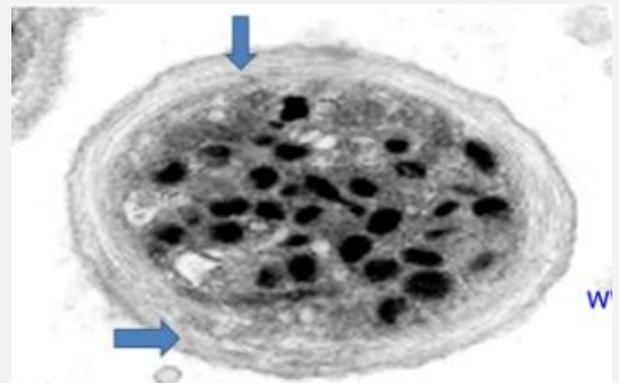
- a. Cyclosporine can be given orally or intravenously.
- b. Cyclosporine is more potent than tacrolimus. XXX
- c. Combination of sirolimus and cyclosporine is synergistic.
- d. Mycophenolate is given orally.
- e. Azathioprine is prodrug that is converted to 6-mercaptopurine.

31) in which of the following sites will be abnormal RBCs be removed from the circulation —?

- a. Thymic cortex.
- b. Periarterial lymphoid sheath.
- c. Medullary sinuses of lymph nodes.
- d. Thymic medulla.
- e. Marginal zone. XXX

32) Concerning the pointed area the true statement is?

- a. Peripheral zone of the platelets. XXX
- b. Contain Ribosomes.
- c. Contain rice grain granules.
- d. Contain histamine.
- e. Contain alpha granules.



33) Coxiella burnetii (Q fever) can be characterized by all of the following EXCEPT?

- a. Obligate intracellular parasite.
- b. Humans are dead-end hosts.
- c. Transmitted by vector.
- d. incubation: 2 to 5 weeks.
- e. Aerosol is not a mode of transmission of the disease. XXX

34) Concerning sleeping sickness, all the followings are correct EXCEPT?

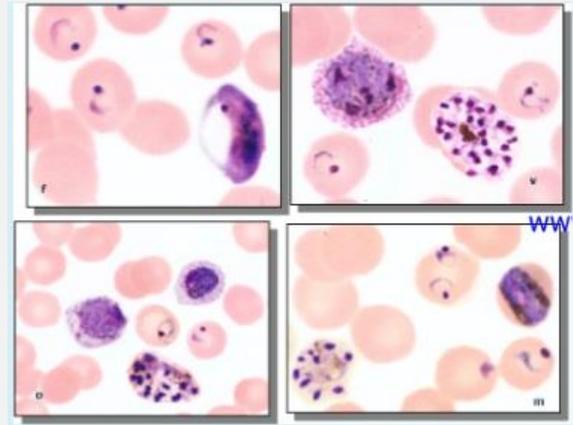
- a. insect is the vector of transmission.
- b. Trypomastigotes multiply in the human blood.
- c. In late stage of infection. there is invasion of CNS and CSF.
- d. Winterbottom sign is characteristic.
- e. Epimastigote (crithidial form) are found in the insect and human. XXX

35) Severe Beta-thalassemia may not become clinically apparent until a child is several months old because?

- a. Overexpression of ζ -globin compensates for the missing beta-chain.
- b. Elevated hemoglobin A2 compensates for the missing beta- globin genes.
- c. The alpha-globin genes don't turn on until several months after birth.
- d. The γ to beta—globin switch is not complete until several months after birth. XXX
- e. The oxygen needs of a newborn are minimal.

36) This blood film reflect the following disease?

- a. Toxoplasmosis.
- b. Babesiosis.
- c. Malaria. XXX
- d. Lashmaniasis.
- e. Typhoid fever.



37) WHO recommendations for reduction of anemia among females and children include the following EXCEPT?

- a. Fortification of wheat and maize flours with chelating agents. XXX
- b. Iron supplementation in postpartum period for at least 3 months.
- c. intermittent iron and folic acid supplementation for females in the reproductive age.
- d. Daily iron supplementation during pregnancy.
- e. Exclusive breastfeeding.

38) Which one the following is a Tyrosine kinase inhibitor?

- a. Cisplatin.
- b. Tamoxifen.
- c. Irinotecan.
- d. Gefitinib. XXX
- e. Paclitaxel.

39) Regarding paroxysmal nocturnal hemoglobinuria. the following statements are correct. EXCEPT?

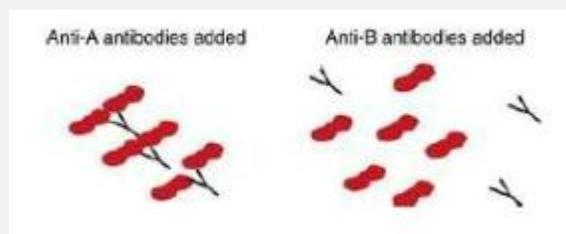
- a. It is the only acquired extracorporeal hemolytic anemia. XXX
- b. It produces hemolytic crisis during night.
- c. May be associated with venous thrombosis.
- d. It is caused by mutations in PIGA gene.
- e. A treatment trial with antibody against C5b-C9 may be attempted.

40) The antigen for cluster of differentiation present in?

- a. Different types of lymphocytes. XXX
- b. Granular lymphocytes.
- c. Glycocalyx of platelets.
- d. Glycocalyx of RBCS.
- e. Monocytes and macrophages.

41) Which blood type is depicted in the following figure?

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



42) The thymus secretes _____?

- a. Antibodies.
- b. Hormones that mature the red blood cells.
- c. Hormones that stimulate macrophages.
- d. lymph and is the main "lymph factory".
- e. Thymosin, a hormone thought to aid in maturation of T- lymphocytes. XXX

43) Which one of the following is true about iron therapy in iron deficiency anemia?

- a. iron polysaccharide syrup can stain the urine brown-black in children
- b. Aluminum hydroxide in antacids can chelate with metallic iron in stomach. XXX
- c. Meat iron is absorbed more slowly and in less amount than iron in green vegetables.
- d. Reticulocytosis occurs after 2-3 weeks after iron therapy.
- e. Restoration of iron stores takes shorter time than expected after correction of anemia.

44) All the following matchings regarding RBCs are true EXCEPT one?

- a. Low MCH and MCHC indicate hypochromia.
- b. Low MCV indicates microcytosis.
- c. Anisocytosis indicates change in sizes of RBCs .
- d. Poikilocytosis indicates normal shaped RBCs. XXX
- e. LOW Haemoglobin indicates anemia.

45) Assume that the patient has never had a transfusion. Which of the following will result in a transfusion reaction?

- a. Type O Rh- packed cells to an AB Rh+ patient.
- b. Type A Rh+ packed cells to an A Rh- patient.
- c. Type AB Rh+ packed cells to an AB Rh+ patient.
- d. Type A Rh+ packed cells to an O Rh+ patient. XXX
- e. Type O Rh- packed cells to an o Rh+ patient.

46) Howell Jolly bodies are?

- a. Small nuclear remnants in the R.B.C'S in smear characteristic of hereditary spherocytosis. XXX
- b. Reticulocytes characteristic hereditary spherocytosis.
- c. Bone marrow feature of hemolytic anemia.
- d. Small nuclear feature of W.B.C's in the peripheral blood.
- e. A characteristic feature of normoblasts in the bone marrow.

47) Ineffective erythropoiesis is a phenomena occurring in the following disorders?

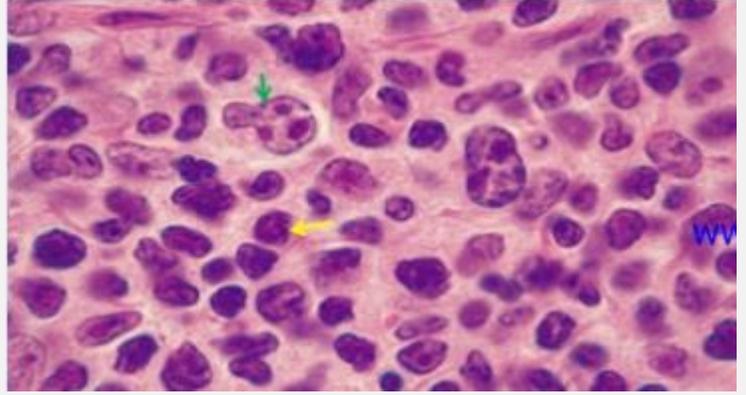
- a. Hereditary spherocytosis.
- b. Sickle cell anemia.
- c. Beta-thalassemia. XXX
- d. Paroxysmal nocturnal hemoglobinuria.
- e. iron deficiency anemia.

48) Erythrocytes Ghost occur in—————?

- a. in hypertonic solution.
- b. in slow circulation.
- c. Defect in hemoglobin.
- d. Hypotonic solution. XXX
- e. increase in size of RBC.

49) What is the type of the cell indicate with the YELLOW arrow?

- a. Lymphoblast
- b. Immunoblasts.
- c. Centroblast.
- d. Centrocyte.
- e. Prolymphocytes.



50) You have given two values (A, B): A: reticulocyte index =3.0%, Hct=15%.B: reticulocyte index =18% and Hct=15%. What is the most explanation for this?

- a. A is anemic but B is not.
- b. The bone marrow of both A and B is not working sufficiently.
- c. A and B are normal.
- d. Bone marrow of A is working sufficiently but B is not.
- e. Bone marrow of anemic B is working sufficiently but bone marrow of anemic A is not.XXX

وفقكم الله جميعاً

