SYSTEN Hematolymohatic System

# TEST BANK

subject: Pathology

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1. A 10-year-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. Christmas (hemophilia B) disease is a deficiency of?

a) Factor II
b) Factor IX
c) Factor X
d) Factor VIII

Answer: b

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

5. 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

6. 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

7. 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

8. 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

9. 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 diagnosis?

a) Bacterial infection

b) Burkitt lymphoma
c) Vaccine
d) Follicular lymphoma
e) Allergy reaction

Answer: c

10. 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

11. 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

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

a) 500/mm3
b) 1500/mm3
c) 250/mm3

Answer: a

13. What is decreased in Hemophagocytic lymphohistiocytosis?

a) Perforins
b) T-cells

c) Cytokines

Answer: a

14. A breast cancer patient had radiotherapy and after weeks she comes with anemia and pancytopenia, her blood film shows 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

15. Description of Hodgkin:

a) Reactive cells are more than monoclonal cells.
b) Involves multiple sites.
c) Extra-nodal involvement is common.

Answer: a

16. 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

17. 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

18. Tumor associated with hemolytic anemia:
    a) Small lymphocytic lymphoma (SLL)
    b) Acute lymphoblastic leukemia (ALL)
    c) Diffuse large B-cell lymphoma

    Answer: a

19. Low grade neoplasm:
    a) Mycosis fungoides
    b) DLBC lymphoma
    c) Primary myelofibrosis

    Answer: a

20. 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

21. BCl2 positive has nothing to do with:
    a) Burkitt lymphoma
    b) DLBCL
    c) Follicular lymphoma
    d) SLL/CLL

22. Mantle cell lymphoma:
    a) Extra-nodal
    b) Common in young patients
    c) Centrocytes are focal

    Answer: a

23. Cd19+ with CD5 -, what is the tumor?
    a) Hodgkin lymphoma
    b) Hairy cell leukemia
    c) Plasma cell myeloma

    Answer: b

24. 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

25. 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

26. 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

27. An 82-year-old with pancytopenia, blasts are less than 1%, neutrophils are hypo-segmented and megakaryocytes 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

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

a) Skull bony lesions
b) Exophthalmous
c) CDla expression
d) Diabetes insipidus
e) Pulmonary nodules

Answer: e

29. 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 hemoglobinuria

Answer: b

30. 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

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

a) Imatinib.
b) JAK2 inhibitor
c) Stem cell transplant

Answer: a

32. 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

33. 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

34. Basophilia + blasts < 5%:

a) CML
b) PV
c) CLL

Answer: a

35. Mismatch:

a) Thymus – Tax
b) SLL – BCR
c) Burkitt – c-MYC

Answer: a

36. 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.
c) ITP.
d) TTP.
e) von Willebrand disease

Answer: d

37. Which of the following is false regarding myelodysplastic syndrome?

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 modification

Answer: A

38. Wrong about Chronic Myeloid Leukemia (CML):

a) Always transforms to AML
b) Most common myeloproliferative neoplasm
c) Mutation is present in all bone marrow cells
d) Spent phase rarely develops

Answer: a

39. Which of the following isn't associated with proliferation of T-lymphocytes?
    a) EBV infection
    b) Post-vaccination
    c) Rheumatologic diseases
    d) Drug reactions

Answer: c

40. DIC caused by widespread endothelial damage by:
    a) Pancreatic adenocarcinoma
    b) Difficult labor
    c) Brain trauma
    d) Heat stroke

Answer: d

41. 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

42. The Hodgkin lymphoma that is associated with EBV is:
    a) Lymphocyte rich
    b) Mixed cellularity
    c) Nodular
    d) Lymphocyte depleted

Answer: b

43. Which of the following isn't associated with Hemophagocytic Lymphohistiocytosis?
    a) Autoimmune diseases
    b) Neutrophilia
    c) Defects in gene PRF 1
    d) Increase in ferritin levels

Answer: b

44. A 55 year old patient with high WBC count and most of them are lymphocytes, he has monoclonal cells and CD5+, after weeks he comes back with anemia, what is your next step?

a) Bone marrow biopsy
b) Coombs test
c) He has Myelophthisic anemia
d) Osmotic Fragility test
e) Hemoglobin Electrophoresis

Answer: b

45. 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 diagnosis?

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

46. 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

Answer: a

47. 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

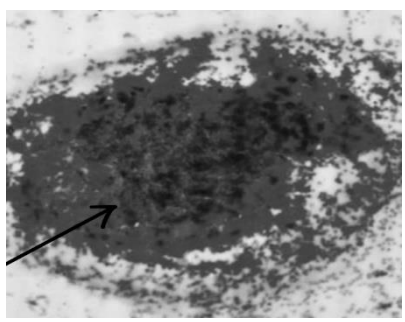
Answer: d

48. 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. E. coli O157:H7 infection

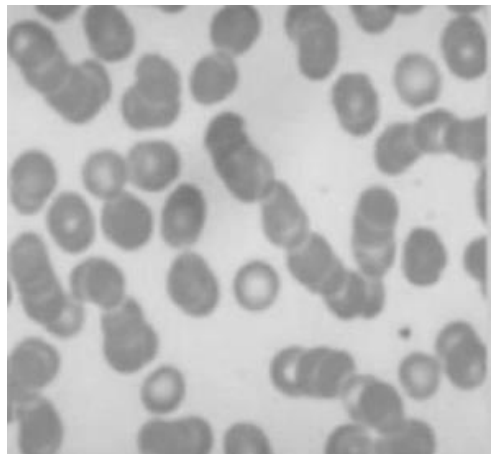
Answer: c

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



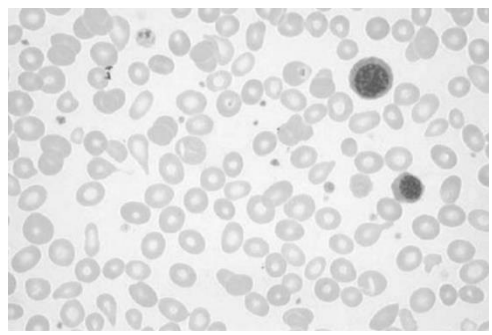
a) Elevated HgA2
b) Decrease in ferroportin
c) Increased hepcidin level
d) High total iron binding capacity
e) Long history of cancer

Answer: a



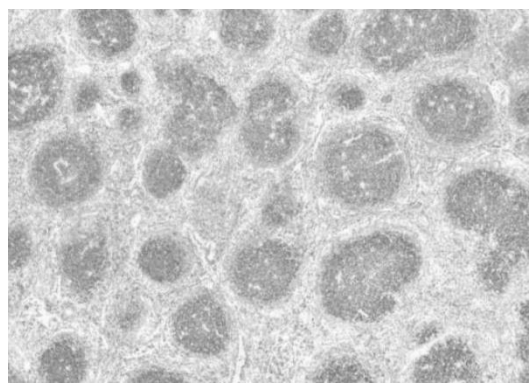
50. All of the following are seen in this disease that causes this feature in blood sample except:
    a) Hypercalcemia
    b) Amyloidosis
    c) Renal failure
    d) Bone fractures
    e) Plasma cells are less than 5% of bone marrow cells

Answer: e



51. 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



52. 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 the early stages it is high grade

Answer: b