Azra Naheed Medical College

Hematopoietic System (10, Dec, 2020)

(MBBS. 4th Year)

(Pathology-Objective Part)

Time Allowed: 15 min **Total Marks: 15**

Name: _____ Roll No. _____

1. A 45 years old male presented in OPD with headache, dizziness and diplopia. On examination patient is plethoric with conjunctival redness and enlarged spleen. On CBC Hb is 18g/dl, platelets are 750x10*9 /ul and WBC count is 16x10*9/ul. which of following is diagnostic of his findings?

a. High level of serum erythropoietin

b. Translocation 9;22

c. JAK2-V617F mutation

d. BCR-ABLI translocation

e. C-MYC gene abnormality

2. A 5-year-old child develops the sudden onset of bloody diarrhea, vomiting of blood, hematuria, and renal failure following a flulike gastrointestinal illness. The blood urea nitrogen (BUN) level is markedly increased. A peripheral blood smear reveals poikilocytoses, schistocytes, and a decrease in the number of platelets. No fever or neurologic symptoms are present. What is the best diagnosis for this patient?

a. Autoimmune thrombocytopenic purpura (autoimmune ITP)

b. Disseminated intravascular coagulopathy(DIC)

c. Hemolytic-uremic syndrome (HUS)

d. Isoimmune thrombocytopenic purpura (isoimmune ITP)

e. Thrombotic thrombocytopenic purpura (TTP)

3. A 5-year-old boy presents with recurrent hemarthroses and intramuscular hematomas with same history in a maternal uncle. Laboratory tests reveal normal bleeding time, platelet count, and PT, but the PTT is prolonged. This boy's condition most likely results from an abnormality involving

a. Chromosome 5

b. Chromosome 14

c. Chromosome 21

d. X chromosome

e. Y chromosome

4. Lacunar cells are variants of Reed-Sternberg cells that are specifically found in

a. Lymphocyte-predominate Hodgkin's disease

b. Lymphocyte-depleted Hodgkin's disease

c. Mixed-cellularity Hodgkin's disease

d. Nodular sclerosis Hodgkin's

e. Anaplastic Hodgkin's disease

5. A 4-year-old female is being evaluated for the sudden onset of multiple petechiae and bruises. She is found to have a peripheral leukocyte count of 55,000, 86% of which are small, homogeneous cells that have round nuclei with immature chromatin. Indistinct nucleoli are also present. Initial tests on these immature cells are as follows: CD 19, CD 20, positive; PAS, positive; and myeloperoxidase, negative. Based on these findings, the immature cells most likely originated from

a. Myeloblasts

b. Monoblasts

c. Megakaryoblasts

d. Lymphoblasts

e. Erythroblasts

6. A 38-year-old male presents with increasing weakness and is found to have a markedly elevated peripheral leukocyte count. Laboratory testing on peripheral blood finds a decreased leukocyte alkaline phosphatase (LAP) score, while chromosomal studies on a bone marrow aspirate find the presence of a Philadelphia chromosome. This abnormality refers to a characteristic chromosomal translocation that involves the oncogene

a. bcl-2

b. c-abl

c-myc

d. erb-B

e. N-myc

7. A 72-year-old male presents with increasing fatigue. Physical examination reveals an elderly male in no apparent distress (NAD). He is found to have multiple enlarged, nontender lymph nodes along with an enlarged liver and spleen. Laboratory examination of his peripheral blood reveals a normocytic normochromic anemia and smudge cells on peripheral smear, a slightly decreased platelet count, and a leukocyte count of 72,000 cells per µL. What is your diagnosis?

a. Acute lymphoblastic leukemia

b. Atypical lymphocytosis

c. Chronic lymphocytic leukemia

d. Immunoblastic lymphoma

e. Prolymphocytic leukemia.

8. A 23 years old previously healthy male developed malaise, low grade fever and sore throat for 2 weeks. on physical examination he has pharyngeal erythema without exudation, temperature of 38 degree centigrade and tender cervical and inguinal lymphadenopathy. Peripheral smear shows lymphocytosis with atypical morphology. Monospot test is positive. Most likely diagnosis is

a. Burkitt lymphoma

b. Infectious mononucleosis

c. Hodhkin lymphoma

d. Non Hodgkin lymphoma

e. Tuberculosis.

9. A 70-year-old man presents with severe bone pain and frequent respiratory infections. Serum protein electrophoresis demonstrates an M protein spike in the gamma region. Radiographs of the skull, long bones, and spine demonstrate multiple "punched-out" lesions, and bone marrow aspiration demonstrates large numbers of neoplastic plasma cells. Which of the following statements is true of this disorder?

a. Bence johns proteins in blood plasma is characteristic finding

b. Renal insufficiency is rare in myeloma

c. The M spike is most often an IgA.

d. The M spike is most often monoclonal in nature.

e. This disorder is the most common T-cell neoplasm

10. which of following is not a transfusion transmitted infection?

a. Hepatitis c virus
b. HTLV1
c. HTLV2
d. HIV1 and 2
e. Ascaris lumricoids

11. Example of Transfusion reaction which occurs after 24 hours of start of transfusion is

a. Acute hemolytic transfusion reaction

b. TRALI

c. Transfusion associated circulatory overload

d. Transfusion associated graft versus host disease

e. Allergic transfusion reactions

12. Which of following is not a feature of thrombotic thrombocytopenic purpura

a. Fever

b. MAHA

c. Uremia

d. Thrombocytosis

e. Transient neurological defecit

13. A father has blood group A and mother is of blood group B . They can have child with blood group

a. Group A

b. Group B

c. Group O

d. Group AB

e. All of above

14. Von Willebrand's disease is characterized by abnormal platelet aggregation when platelets are exposed to

a. Aspirin

b. Collagen

c. Fibrinogen

d. Ristocetin

e. Streptomycin

15. Administration of which one of the following substances would theoretically correct the abnormal bleeding laboratory tests in an individual who has prolonged PT?

a. Activated factor VIII

b. Activated factor VII

c. Factor IX

d. Plasmin

e. Factor XIII

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(Pathology-subjective Part)

Time Allowed: 1 hour **Total Marks: 25**

Q1

a) Tabulate the differences between Hodgkin and non-Hodgkin Lymphomas. 02

b) Name subtypes of Hodgkin Lymphoma (HL) according to WHO Classification. 02

c) Write down the microscopic features of "mixed cellularity" subtype of HL. 01

Q2

A three months old boy was admitted in emergency after excessive bleeding from circumcision site which was done at a remote area in local dispensary. Mother gives history of one sibling death at one month followed by circumcision.

a) Enumerate laboratory tests for a suspected case of bleeding disorder? 02

b) What is most likely diagnosis? What is mode of inheritance of this disorder? 02

c) Which treatment options are available? 01

Q3

a) What is difference between bleeding pattern due to coagulation factor deficiency and due to platelet defect? 02

b) Name 6 causes of thrombocytopenia? 1.5

c) What is pathophysiology of immune thrombocytopenic purpura? 1.5

Q4

52 years old male presented in OPD with back pain, fatigue, frequent infections and confusion. His CBC was done and showed pancytopenia with roulex formation. Bone marrow biopsy was advised and smear shows 60% plasma cells.

a)	What is diagnosis?	01
b)	Write down its pathophysiology?	1.5
c)	Name four important investigations of this disease?	1.5
d)	What is CRAB?	01

Q5

a)	Classify Blood Transfusion Reactions?	02
b)	What is leukemoid reaction?name any 2 conditions associated with it?	01
c)	Tabulate differences between lymphoblast and myeloblast?	02