

HEMATOLOGY MCQs

Any Skill Set

HEMATOLOGY Multiple Choice Questions MCQs

hematology clinical based mcq book pdf

1. Causes spurious decrease in MCV

- A. Cryofibrinogen
- B. hyperglycemia
- C. autoagglutination
- D. high WBC ct
- E. reduced red cell deformability

Answer: A

2. When the entire CBC is suppressed due to either anemia, infection, or hemorrhage is called?

- A. Erythroplasia
- B. Thrombocytopenia
- C. Pancytopenia
- D. Leukopenia

Answer: C

3. Total RBC count for Women is?

- A. 4.4 -6
- B. 4.2-5
- C. 4.0-5.0
- D. 4.2-5.2

Answer: C

4. Total RBC for men?

- A. 4.0-5.0
- B. 4.6-6.0

C. 4.2-6.5

D. 4.0-6.0

Answer: B

5. What is the major metabolically available storage form of iron in the body?

A. Hemosiderin

B. Ferritin

C. Transferrin

D. Hemoglobin

Answer: B

6. The best source of active bone marrow from a 20-year old would be:

A. Iliac Crest (hip)

B. Femur (thigh)

C. Distal radius (forearm)

D. Tibia (shin)

Answer: A

7. Laboratory Studies: Red Cell Indices: Determination of relative size of RBC. 82-98 fl

A. MCH

B. MCV

C. MCHC

Answer: B

8. Laboratory Studies: Red Cell Indices: Measurement of average weight of Hb/RBC. 27-33 pg

A. MCH

B. MCV

C. MCHC

Answer: B

9. Laboratory Studies: Red Cell Indices: Evaluation of RBC saturation with Hb. 32-36%

A. MCV

B. MCH

C. MCHC

Answer: C

10. There are 3 classifications of Anemia. What are they?

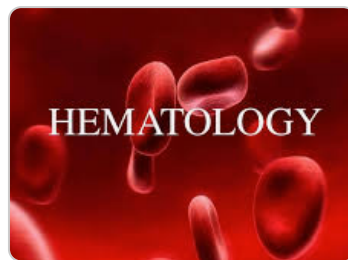
A. In adequate production of Hb

B. Decreased RBC production

C. Increased Erythrocyte destruction

D. Blood loss

Answer: A



HEMATOLOGY MCQs

11. Vitamin B12 and folic have the similar adverse effects, but what separates one from the other?

A. Glossitis

B. No neurological symptoms in folic acid

C. muscle wasting

D. Dizziness

Answer: B

12. Folic acid therapy can cause sickle cell anemia

A. True

B. False

Answer: B

14. Hydroxyurea increases hemoglobin production and decreases reticulocyte cells.

A. True

B. False

Answer: A

15. Hydroxyurea:

- A. decreases nitric oxide
- B. increases neutrophil and monocytes
- C. inhibits DNA synthesis by acting as a ribonucleotide reductase inhibitor

Answer: C

16. Hydroxyurea increases the serum uric acid levels.

- A. True
- B. False

Answer: A

17. Decitabine increases the fetal hemoglobin production by inducing methylation of DNA and thus prevents the switch from gamma to beta-globin production.

- A. True
- B. False

Answer: B

18. Hypocupremia is seen in

- A. osteoporosis, nephrotic disease
- B. sprue, celiac disease
- C. cardiovascular disease, colon cancer
- D. A and B
- E. B and C
- F. All of the above

Answer: F

19. Wilson's disease can cause liver problems

- A. True
- B. False

Answer: A

20. What are the treatment options for Wilson's disease?

- A. Penicillamine
- B. Riboflavin
- C. Trientine
- D. Potassium disulfide

- E. Zinc
- F. A, B and C
- G. A, C, and D
- H. A, C, D, and E

Answer: H

21. Aplasia can occur because of riboflavin deficiency?

- A. True
- B. False

Answer: A

22. Angular stomatitis.cheilosis is a symptom of vitamin B12 deficiency?

- A. True
- B. False

Answer: B

24. Which test can be used to detect hemolytic anemia?

- A. Coombs test
- B. Genetic testing
- C. Peripheral blood smear (PBS)
- D. Schilling test

Answer: A

25. Which anemia is classified as not being able to use iron properly to synthesize hemoglobin because of a inherited cause.

- A. Iron deficiency anemia
- B. hypochromic anemia
- C. aplastic anemia

Answer: B

27. This fatal disorder results from clot/thrombus formation in the blood ciruclation

- A. thromboembolism
- B. DVT
- C. PAD
- D. Pulmonary embolism

E. All of the above

Answer: E

28. Homan's sign is classified as pain behind the knee

A. True

B. False

Answer: A

29. Patients that are sensitive to aspirin can take:

A. Sulfinpyrazone

B. Clopidogrel

C. Ticlopidine

D. 1 and 2

E. 2 and 3

Answer: E

30. What is the life span of RBC

A. 120

B. 100

C. 200

D. 80

Answer: A

34. Warfarin should be used with caution in the following:

A. Alcoholic liver disease

B. Gastrointestinal bleeding

C. recent neurosurgery

D. Liver impairment

Answer: D

35. Isozymes of 2C can greatly effect warfarin

A. True

B. False

Answer: A

36. absolute lymphocytosis ($>5000/\text{mm}^3$) without adenopathy, hepatosplenomegaly, anemia, thrombocytopenia is what stage

in CLL prognosis Scoring-Rai Staging System?

- A. Stage 0
- B. Stage I
- C. Stage II
- D. Stage III
- E. Stage IV

Answer: A

37. Conventional treatment is _____ for Rai stage II

- A. Antibiotics
- B. chemotherapy
- C. Antivirals
- D. rest

Answer: B

38. In patients with low numbers of neoplastic cells, sometimes due to treatment, PCR to amplify DNA can improve sensitivity, and detect signs of relapse.

- A. True
- B. False

Answer: A

39. Chronic lymphocytic leukemia is most common leukemia in what kind of people? Slide 4

- A. young adults
- B. older adults

Answer: B

40. absolute lymphocytosis and thrombocytopenia(< 100,000/mm³) with or without lymphadenopathy, hepatomegaly, splenomegaly, or anemia is what stage in CLL prognosis Scoring-Rai Staging System?

- A. Stage 0
- B. Stage I
- C. Stage II
- D. Stage III

E. Stage IV

Answer: E

HEMATOLOGY Objective type Questions with Answers

41. Chronic Lymphocytic Leukemia is characterized by peripheral blood and bone marrow ____.

A. lymphocytopenia

B. lymphocytosis

Answer: B

42. Chronic Lymphocytic Leukemia is characterized by gradual accumulation of small mature ____ cells.

A. T

B. B

C. NK

Answer: B

43. Which of the following is the most mature normoblast?

A. Orthochromic Normoblast

B. Basophilic Normoblast

C. Pronormoblast

D. Polychromatic Normoblast

Answer: A

44. absolute lymphocytosis with either hepatomegaly or splenomegaly with or without lymphadenopathy is what stage in CLL prognosis Scoring-Rai Staging System?

A. Stage 0

B. Stage I

C. Stage II

D. Stage III

E. Stage IV

Answer: C

45. absolute lymphocytosis without lymphadenopathy without hepatosplenomegaly, anemia, or thrombocytopenia is what stage in CLL prognosis Scoring-Rai Staging System?

A. Stage 0

B. Stage I

- C. Stage II
- D. Stage III
- E. Stage IV

Answer: B

46. IN Chronic Lymphocytic Leukemia the Lymphocyte appearance: small or slightly larger than normal, hyper-condensed(almost _____ appearing. nuclear chromatin patter, bare nuclei called “smudge cells” are common. A. soccer-ball
B. basketball
C. football
D. tennis-ball

Answer: A

47. Which of the following forms of Hb molecule has the lowest affinity for oxygen?

- A. Tense
- B. Relaxed
- C. Arterial
- D. Venous

Answer: A

48. What is the recommended cleaner for removing all oil from objective lens?

- A. 70 % alcohol or lens cleaner
- B. Xylene
- C. Water
- D. Benzene

Answer: A

49. Intravascular hemolysis is the result of trauma to RBCs while in the circulation

- A. True
- B. False

Answer: A

50. A 1:20 dilution was made in a unopette, with glacial acetic acid as the diluent. The four corner squares on BOTH sides of the hemacytometer are counted for a total of 100 cells. What is the total WBC ($\times 10^9/L$.)?

- A. 0.25
- B. 2.5

- C. 5
- D. 10

Answer: B

51. The shape of a cell is maintained by which of the following?

- A. Microtubules
- B. Spindle Fibers
- C. Ribosomes
- D. Centrioles

Answer: A

52. At which month of fetal development does the bone marrow become the primary site of hematopoiesis?

- A. 2nd
- B. 5th
- C. End of 6th month
- D. End of 7th month

Answer: C

53. Which types of cells develop from yolk sacs (Mesoblastic phase)?

- A. Hb F, Hg A2, and Hg A
- B. Gower 1 and Gower 2 Hgb
- C. Portland Hgb
- D. Only Erythroblasts

Answer: D

54. Normal Adult Hb A contains the following polypeptide chains:

- A. alpha and beta
- B. alpha and epsilon
- C. alpha and delta
- D. alpha and brotherton

Answer: A

55. Allergic reactions are frequently associated with an increase in the prescence of :

- A. Lymphocytes
- B. Neutrophils
- C. Monocytes
- D. Eosinophils

Answer: D

56. Lipid exchange between the RBC membrane and the plasma occurs:

- A. To replace lost lipids in the membrane
- B. To provide a mechanism for excretion of lipid-soluble RBC waste products
- C. To ensure symmetry between the composition of the interior and exterior lipid layers
- D. To provide lipid-soluble nutrients to the RBC

Answer: A

57. After the microscope has been adjusted for Kohler illumination, light intensity should never be regulated by using the...

- A. Rheostat
- B. Neutral density filter
- C. Kohler magnifier
- D. Condenser

Answer: D

58. Which of the following types of microscopy is valuable in the identification of crystals that are able to rotate light?

- A. Compound brightfield
- B. Darkfield
- C. Polarizing
- D. Phase-contrast

Answer: C

59. During the Medullary Phase of hematopoietic development, which bone is the first to show hematopoietic activity?

- A. Femur
- B. Iliac Crest
- C. Skull
- D. Clavicle

Answer: D

60. Given the following values, calculate the RPI Observed reticulocyte count – 6% Hct- 30%

- A. 2
- B. 3

- C. 4
- D. 5

Answer: A

61. The lipids of the RBC membrane are arranged:

- A. In chains beneath a protein exoskeleton
- B. So that the hydrophobic portions are facing the plasma
- C. In a hexagonal lattice
- D. In two layers that are not symmetric in composition

Answer: D

62. The hexose monophosphate pathway activity increases the RBC source of

- A. Glucose and lactic acid
- B. 2,3-BPG and methemoglobin
- C. NADPH and reduced glutathione
- D. ATP and other purine metabolites

Answer: C

63. Which single feature of normal RBC's is most responsible for limiting their life span?

- A. Loss of mitochondria
- B. Increased flexibility of the cell membrane
- C. Reduction of Hb iron
- D. Loss of nucleus

Answer: D

64. In the Iron cycle, the transferrin receptor carries:

- A. Iron out of duodenal cells from the intestinal lumen
- B. Iron out of duodenal cells into the plasma
- C. transferrin-bound iron in the plasma
- D. transferrin-bound iron into erythrocytes

Answer: D

65. A multilineage cytokine among the ILs is:

- A. IL-1
- B. IL-2
- C. IL-3
- D. IL-4

Answer: A

66. Which of the following cells may develop in sites other than the bone marrow?

- A. Monocyte
- B. Lymphocyte
- C. Megakaryocyte
- D. Neutrophil

Answer: B

67. The acceptable range for hemoglobin values on a control sample is 13 ± 0.4 g/dL. A hemoglobin determination is performed five times in succession on the same control sample. The results are (in g/dL. 12.3, 12, 12.2, and 12.1) These results are:

- A. Precise, but not accurate
- B. Both accurate and precise
- C. Accurate, but not precise
- D. Neither accurate nor precise

Answer: A

68. The layer of the erythrocyte membrane that is largely responsible for the shape, structure, and deformability of the cell is the:

- A. Integral protein
- B. Exterior lipid
- C. Peripheral protein
- D. Interior lipid

Answer: C

69. During midfetal life, the primary source of blood cells is the:

- A. Bone marrow
- B. Spleen
- C. Lymph Nodes
- D. Liver

Answer: D

70. In the bone marrow, RBC precursors are located:

- A. In the center of the hematopoietic cords
- B. Adjacent to megakaryocytes along the adventitial cell lining
- C. Surrounding fat cells in apoptotic islands
- D. Surrounding macrophages near the sinus membrane

Answer: D

71. Which of the following gathers, organizes, and directs light through the specimen?

- A. Ocular
- B. Objective lens
- C. Condenser
- D. Optical Tube

Answer: C

72. How are the globin chains genes arranged? Note: a means alpha, B means beta

- A. With a genes and B genes on the same chromosome including two a genes and two B genes
- B. With a genes and B genes on separate chromosomes, two a genes on one chromosome and one B gene on a different chromosome
- C. With a genes and B genes on the same chromosome – including four a genes and four B genes
- D. With a genes and B genes on separate chromosomes – four a genes on one chromosome and two B genes on a different chromosome

Answer: B

73. The maximum number of erythrocytes generated by one Multipotential Stem Cell is:

- A. 8
- B. 1
- C. 12
- D. 16

Answer: D

74. What is the distribution of normal Hb in adults?

- A. 80-90% Hb A, 5-10% Hb A2, 1-5% Hb F
- B. >95% Hb A, <3.5 % Hb A2, <1-2% Hb F

Answer: B

75. The most frequent cause of needle punctures is:

- A. Patient movement during venipuncture
- B. Improper disposal of phlebotomy equipment
- C. Inattention during removal of needle after venipuncture
- D. Failure to attach needle firmly to tube holder

Answer: B

76. Iron is incorporated into the heme molecule in which of the following forms:

- A. Ferro
- B. Ferrous
- C. Ferric
- D. Apoferritin

Answer: B

77. The most important practice in preventing the spread of disease is:

- A. Wearing masks during patient contact
- B. Proper handwashing
- C. Wearing disposable lab coats
- D. Identifying specimens from known or suspected HIV and HBV patients with a red label

Answer: B

78. Which of the following would correlate with an elevated ESR value?

- A. Osteoarthritis
- B. Polycythemia
- C. Decreased globulins
- D. Inflammation

Answer: D

79. The enzyme deficiency in the Embden-Meyerhof pathway that is responsible for most cases of nonspherocytic hemolytic anemia is:

- A. Hexokinase
- B. Phosphotriptokinase
- C. Pyruvate Kinase
- D. Glyceraldehyde 3-Phosphate

Answer: C

80. The most common type of protein found in the cell membrane is:

- A. Lipoprotein
- B. Mucoprotein
- C. Glycoprotein
- D. Nucleoprotein

Answer: C

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