HLS

Histology Testbank

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Q1: Which biochemical component of the erythrocyte cell surface is primarily responsible for determining blood group (ABO)?

A. Fatty acid
B. carbohydrate
C. protein
D. Cholesterol

Answer: B

Q2: What is the approximate life span of circulating erythrocyte?

A. 4 months
B. 120 weeks
C. 20 day
D. 14-28 days

Answer: A

Q3: Which cell type has cytoplasmic granules that contain heparin & histamine?

A. Eosinophil
B. Basophil
C. Neutrophil
D. Lymphocyte

Answer: B

Q4: A differential cell count of a blood smear from a patient with a parasitic infection is likely to reveal an increase in:

A. Eosinophil
B. Basophil
C. Neutrophil
D. T Lymphocyte

Answer: A

Q5: Eosinophils are cells with bilobed nuclei and many cytoplasmic granules:

A.True
B. False

Answer: A

Q6: Erythrocytes are very small, a cell-like element with no nuclei but many granules:

A. True
B. False

Answer: B

Q7: Neutrophils are multi-nucleated cell with polymorphic nuclei:

A. True
B. False

Answer: B

Q8: Which of the following cells function in the formation of pus at the wound site?

A. Cells with spherical nuclei
B. Cell-like elements with no nuclei
C. Biconcave cells with no nuclei
D. Cells with polymorphic nuclei

Answer: D

Q9: Erythrocytes consume some of the oxygen they transport for ATP production:

A. True
B. False

Answer: B

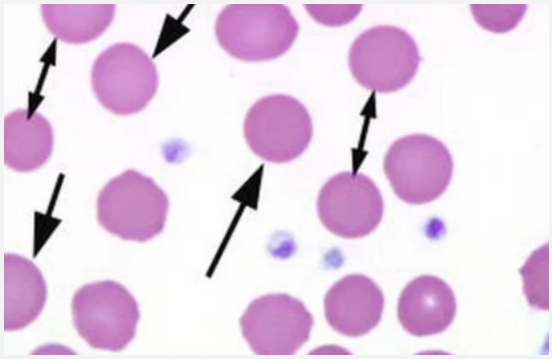
Q10: The main different between basophils and mast cells is:

A. The shape of the nucleus
B. The density of their granules
C. The content of their granules
D. The staining reaction of their granules

Answer: A

Q11: The labeled erythrocytes are abnormal because:

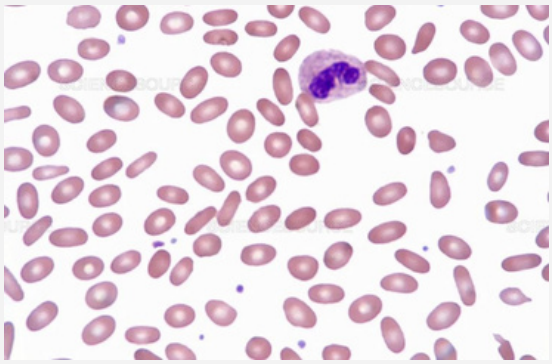
A. They are rounded in shape indicating spherocytosis
B. They lack pale area centrally indicating spherocytosis
C. They are elliptical in shape indicating ovalocytosis
D. They have pointed edges indicating poikilocytosis



Answer: B

Q12: The erythrocytes in this section are abnormal because:

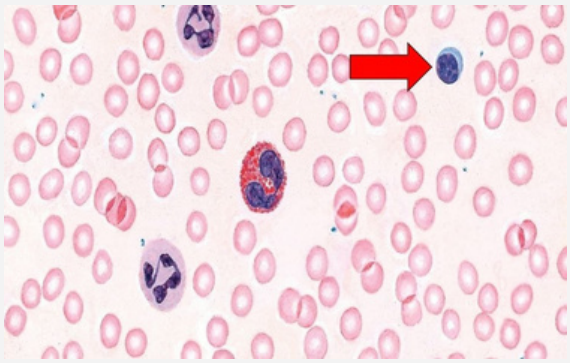
A. They are rounded in shape indicating spherocytosis
B. They lake areas centrally indicating spherocytosis
C. They are elliptical in shape indicating ovalocytosis
D. They have pointed edges indicating poikilocytosis



Answer: C

Q13: Estimate the diameter of the labeled cell:

A. About 5 um
B. about 15 um
C. About 11 um
D. About 7 um



Answer: D

Q12: What cell in circulating blood is the precursor to microglia and antigen-presenting cells?

A. Macrophage
B. Mast cell
C. Monocyte
D. Lymphocyte

Answer: C

Q13: Which of the following blood cells differentiate outside of the bone marrow?
A. Megakaryocytes
B. T lymphocytes
C. Granulocytes
D. Erythrocytes

Answer: B

Q14: Monocytes move from systemic circulatory system into connective tissues, where they differentiate into what cell

A. Macrophage
B. B cell
C. T cell
D. Neutrophil

Answer: A

Q14: Myelogenous leukemias are caused by cancerous production of innate immune cells, in which tissue such production occurs

A. Thymus
B. Lymph nodes
C. Spleen
D. Bone marrow

Answer: D

Q15: Which of the following is not one of the three main antigen-presenting cell types?

A. Natural killer cells
B. Macrophages

C. Dendritic Cells
D. B cells

Answer: A

Q16: MHC refers to a large group of genes that code for proteins that play an essential role in which of the following?

A. Phagocytosis by macrophages
B. Antigen presentation to T lymphocytes
C. Phagocytosis by neutrophils
D. Antigen presentation to B lymphocytes

Answer: B

Q17: MHC II molecules present:

A. processed self-antigens from proteasomes
B. processed foreign antigens from phagolysosomes
C. antibodies
D. T cell receptors

Answer: B

Q18: To what does the TCR of a helper T cell bind in a healthy individual?

A. foreign antigens presented with MHC I molecules
B. foreign antigens presented with MHC II molecules
C. free antigens in a soluble form
D. self-antigens presented with MHC II molecules

Answer: B

Q19: B cells will bind with their BCR to which of the following in healthy individuals?

A. foreign antigens presented with MHC I molecules
B. foreign antigens presented with MHC II molecules
C. free antigen in a soluble form
D. self-antigens presented with MHC I molecules

Answer: C

Q20: Which of the following would be a BCR?

A. MHC II
B. MHC I
C. CD
D. IgD

Answer: D

Q21: To what does the TCR of a cytotoxic T cell bind in autoimmune diseases?

A. foreign antigens presented with MHC I molecules
B. foreign antigens presented with MHC II molecules
C. self-antigens presented with MHC I molecule
D. self-antigens presented with MHC II molecules

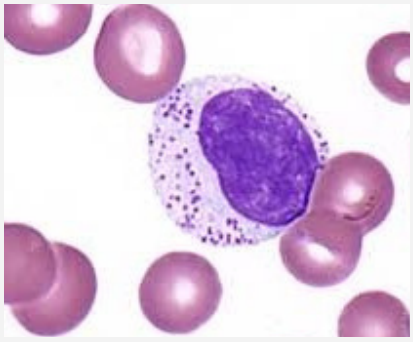
Answer: C

Q22: Most circulating lymphocytes are small inactive B cells

A. True
B. False

Answer: B

Q23: Identify the cell:



Answer: Large granular/NK

Q24: In which of the following cells involved in erythropoiesis does hemoglobin synthesis begin?

A, Orthochromatophilic erythroblast
B. Polychromatophilic erythroblast
C. Basophilic erythroblast
D. Proerythroblast

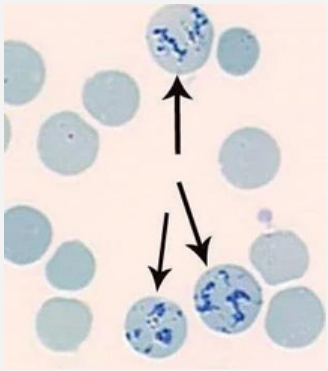
Answer: C

Q25: Which of the following can be used to describe the labeled cells?

A. Multinucleated
B. Precursors to bone marrow macrophages
C. A minor but normal formed element found in the circulation
D. Possess cell projections from which one type of formed element is released

Answer: D

Q26: The main constituents of the dark precipitate that forms in the labeled cells upon staining with the dye cresyl blue are?



A. Hemoglobin
B. Polyribosomes
C. Nuclear fragments
D. Nucleoli

Answer: B

Q27: Which process occurs during granulopoiesis but not during erythropoiesis?

A. Cells lose their capacity for mitosis
B. Euchromatin content increases
C. The nucleus becomes increasingly lobulated
D. Overall cell diameter decreases

Answer: C

Q28: Which process occurs during erythropoiesis but not during granulopoiesis?

A. Segmentation of the nucleus
B. Heterohromatin content increases
C. Persistence of few organelles
D. Progressive increase in acidophilic content

Answer: D

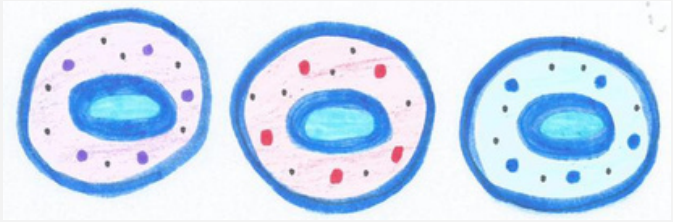
Q29: What fate may await granulocytes that have entered the marginating compartment?

A. Crossing the wall of a venule to enter connective tissue
B. Differentiate into functional macrophages
C. Undergo mitosis
D. Cannot reenter the circulation

Answer: A

Q30: What is the earliest stage at which specific granulocyte types can be distinguished from one another?

A. Promyelocyte
B. Myelocyte
C. Metamyelocyte
D. Band cell



Answer: B

Q31: Which cell type is capable of further mitosis after leaving the hemopoietic organ in which it is formed?

Neutrophil
Lymphocyte
Monocyte
Reticulocyte

Answer: B

Q32: Erythroid nuclear expulsion occurs at the end of which of the following stages?

orthochromatic erythroblast
polychromatic erythroblast
reticulocyte
basophilic erythroblast

Answer: A

Q33: Bone marrow macrophages engulf expelled nuclei of erythrocytes

A. True

Q34: Which cell type gives rise to both memory and effector cells and is primarily associated with humoral immunity?

A. Macrophage
B. B lymphocyte
C. T lymphocyte
D. Natural killer cell

Answer: B

Q35: Which structure would be most heavily labeled by IHC targeting the CD8 surface antigen in a lymph node?

A. Paracortex
B. Outercortex
C. Cortical sinuses
D. Medullary cords

Answer: A

Q36: A section through a lymph node with enlarged follicles and pale centers probably indicates a bacterial infection

A. True
B. False

Answer: A

Q37: Arrange the lymph flow in a lymph node in the correct order:
Subcapsular sinus›› Trabecular sinus›› Medullary sinus›› Efferent vessel

Q38: In the central lymphoid organs, the immunocompetent cells settle down and wait for pathogens and become stimulated

A. True
B. False

Answer: B

Q39: Arrange the path of lymph from big toe to the heart
Popliteal lymph nodes›› Inguinal lymph node›› cisterna chyli›› Thoracic duct

Q40: Unlike cardiovascular system, which is a closed loop, lymphatic system is a one-direction, open-ended network of vessels

A. True
B. False

Answer: A

Q41: A section through a lymph node with underdeveloped follicles probably indicates

A. Severe antibody deficiency
B. Absent thymus
C. Recurrent infections
D. Both antibody deficiency & recurrent infections

Answer: D

Q42: Like most blood capillaries, the gaps in lymphatic capillaries are so large allowing bacteria & large particles to enter

A. True
B. False

Answer: B

Q43: A section through a lymph node with enlarged paracortex probably indicates a bacterial infection

A. True
B. False

Answer: B

Q44: All the following cells can be found in a paracortex of a lymph node except:

A. Antigen presenting cells
B. Antigen holding cells
C. Stromal fibers synthesizing cells
D. Cells of cell mediated immunity

Answer: B

Q45: A section through a lymph node with underdeveloped paracortex probably indicates:

A. Antibody deficiency
B. Absent thymus
C. Hypocalcemia
D. Both absent thymus & hypocalcemia

Answer: D