

Date: 17-02-22

Attempt all questions and each question carries equal marks

Q1. 43-year-old woman presents with weakness, lassitude, and anorexia from last 6 months. On examination she has pallor and glossitis. CBC shows hemoglobin 7g/dl, WBC count is 3×10^9 , platelet count is 146×10^9 and the following red cell indexes: mean corpuscular volume, 110fl, mean corpuscular hemoglobin 38 pg; and mean corpuscular hemoglobin concentration is 31.

Megaloblastic Anemia

- What is the most likely diagnosis? (1)
- What is the cause of this type of anemia? (2)
- Classify anemia based on red cell morphology. (2)

Q2- A 65 years old male with one year history of fatigue, shortness of breath, dizziness, weight loss and increasingly severe back pain. CBC shows pancytopenia and prominent rouleaux formation on smear. Bone marrow biopsy shows reduced trilineage hematopoiesis and plasma cells accounting greater than 60% of nucleated marrow cells.

Aplastic Anemia

- What is your diagnosis? (1)
- Write down pathophysiology of this disease. (2)
- How will you further investigate this patient? (2)

2. Neat hand writing and use of margins will increase the outlook and presentation of your paper.

Date: _____

Q1- A 37 years old married, infertile female presents with dysmenorrhea, and pelvic pain. On examination, there are multiple nodules on serosal surface of both fallopian tubes filled with degenerating blood. Uterus is immobile & fixed.

- a) What is most likely diagnosis? (1)
- b) Enumerate the most common sites & the possible theories that explain its origin. (1.5)
- c) What are the characteristic morphological features of this lesion? (1.5)
- d) What do you understand by endometrioma? (01)

Q2-

- a. Classify ovarian tumors. (2)
- b. Briefly discuss the pathogenesis of low- & high-grade ovarian tumors. (2)
- c. Name hormone producing tumors of ovary. (1)

Q3- A 42-year-old male nephrectomy specimen shows a solid tumour with grey yellow cut surface. Microscopic features show lobules and sheets of cells with abundant clear cytoplasm, prominent nuclei and nucleoli.

- a. What is the most likely diagnosis along with its type? (1.5)

- b. Name the common genetic mutations in it? (1)
- c. Enlist adult and pediatric renal tumors? (2.5)

Q4- A 20-year-old afebrile girl presented with periorbital edema and proteinuria. She does not improve on receiving corticosteroid therapy. Renal biopsy showed sclerosis of fifty percent of the glomeruli. *Focal segmental*

- a. What is most likely diagnosis? (1)
- b. Tabulate differences between nephrotic and nephritic syndrome? (2)
- c. Tabulate the light microscopic, immunofluorescence and electron microscopic findings differences between minimal change disease and focal segmental glomerulosclerosis? (2)

Q5- A middle age male suddenly complains of haematuria and flank pain. Ultrasound abdomen shows multiple cysts were noted in the kidney. Grossly whole renal parenchyma is replaced by multiple cysts.

- a. Which is most likely diagnosis? (1)
- b. Summarize briefly renal cystic diseases? (3)
- c. Describe pathogenesis of cystic disease? (1)

Q6. A 46-year-old female who presents with increasing pain in her hands and knees with morning stiffness. Physical examination finds ulnar deviation of her metacarpophalangeal joints, hyperextension of proximal interphalangeal joint and flexion of distal interphalangeal joint.

- a. What is most likely diagnosis? (1)
- b. Write down its pathogenesis (2)
- c. Draw and label morphological appearance of specific lesion of this disease. (2)

Q3. Write short notes on following:

- a. ANCA (Antineutrophil cytoplasmic antibodies) (1)
- b. Vascular tumors (1)
- c. Draw and label atheroma (1)
- d. Draw schematic representation of vegetative endocarditis (2)

Q4. A 53 year old man known case of diabetes and hypertension, complaints of chest tightness with pain radiating to the left arm. He went to emergency with shortness of breath, pulse was 82/min and blood pressure was 160/100mm Hg. Troponin I was elevated.

- a. In a tabulated form describe ultra-structural, gross and microscopic changes of heart in above described scenario?(3)
- b. Describe the diagrammatic representation of cardiac enzymes?(2)

CKMB CK

Q5-

- a. Rightdown updated WHO classification of Testicular tumors. (2)
- b. Briefly discuss Gleason grade & score along with Grade Group. (2)
- c. Enumerate serum markers that are valuable for testicular tumor diagnosis. (1)

11

20

20
32
5

Q6- A 49-year-old woman notes increasing size of her right breast over the past year. This breast is not painful, but the heaviness causes some discomfort. On exam the overlying skin and nipple appear normal. There is no axillary lymphadenopathy or nipple discharge. On mammography there is a 12 cm mass. The mass is biopsied and the slides show a tumor with cellular stromal component and an epithelial component.

- a) What is the most likely diagnosis? What 5 points on histology will differentiate this tumor from its strong differential? (0.5 + 2)
- b) What are the Major Molecular Subtypes of invasive breast cancer? In a tabulated form give the immunohistochemical profile and defining feature of each one. (3)

(2.5)

Azra Naheed Medical College
Hematopoietic System (WBC and Platelets) (26, November 2021)
(MBBS. 4th Year)
(Pathology-subjective Part)

Time Allowed: 35 min

Total Marks: 20

Name: Umer.

Roll No. 69

Q1.

A 16-month-old boy was brought to pediatric OPD by parents with complaints of failure to thrive, pallor and protuberant abdomen for his complete clinical workup. He is the first child in family and parents are first cousins. His hemoglobin electrophoresis shows 4% Hb A, 3% Hb A₂ and 93% Hb F.

- a) What is the most likely diagnosis? (1)
- b) Write down pathogenesis of likely diagnosis. (2.5)
- c) What treatment options are available for this patient? (1.5)

Q2.

47-year-old male presented into medical emergency with fatigue, pallor, and headache. On CBC Hb is 9.0 gm per dl, TLC is 157×10^9 per microliter and platelet count is 650×10^9 per microliter. Peripheral smear shows left shift of neutrophils with orderly maturation. Blast count is less than 5% on peripheral smear.

- a) What is most likely diagnosis? (1)
- b) What is molecular and cytogenetic abnormality in this disease? (1)
- c) Enumerate myeloproliferative neoplasms? (1)
- d) What is leukemoid reaction? Enlist 3 conditions associated with this? (2)

Q3.

- A. Write down pathogenesis and laboratory test of multiple myeloma? (3)
- B. Differentiate between lymphoblast and myeloblast? (2)

Q4.

- A. Enumerate causes of thrombocytopenia? (2)
- B. Classify blood transfusion reactions? (3)

Q7.

- a. Tabulate the difference of CSF examination between bacterial, viral and tuberculosis meningitis. (2)
- b. Classify CNS tumours. (1.5)
- c. Briefly discuss morphology of basal cell carcinoma of skin (1.5)