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UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES PART II –
January 2025
Academic Year 2019/2020
Pathology-Paper II

Date: 20.01.2025

Time: 9.00 AM - 12.00 PM.

ANSWER ALL THE 10 QUESTIONS

Write the answers in the given space below each question.

1. A 60-year-old male patient presented with recent onset of dyspepsia with early satiety. He also had loss of weight and loss of appetite. On examination, he was anemic and had an epigastric mass.
 - 1.1. Mention the most likely diagnosis in this patient. (10 Marks)
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 - 1.2. List five (05) possible aetiological factors for the condition mentioned in 1.1. (25 Marks)
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 - 1.3. Mention other physical signs you will look for in this patient. (15 Marks)
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 - 1.4. How will you confirm your diagnosis? (15 Marks)
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- 1.5. Outline the classification of the lesion mentioned in 1.1. (15 Marks)

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- 1.6. Briefly describe the spread of the lesion mentioned in 1.1. (20 Marks)

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2. A 64-year-old male, with a history of hypertension of 10 years duration, presented with retrosternal tightening chest pain and shortness of breath of 4 hours duration. 2D-Echocardiogram revealed left ventricular hypertrophy.

(10 Marks)

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(10 Marks)

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(30 Marks)

[illegible]

(30 Marks)

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2.5. Mention two (02) complications of cardiac hypertrophy, indicating two clinical features to identify each of them.

[illegible]

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3. A 45-year-old female presented with persistent cough, large amount of purulent sputum and associated haemoptysis of 4 months duration. She also complained of intermittent fever during this period. Investigation with High-Resolution Computed Tomography (HRCT), revealed 'tram track' airways and an increased broncho-arterial ratio.

3.1. Mention the most possible diagnosis.

(10 Marks)

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3.2. List five (05) aetiological factors leading to the condition mentioned in 3.1.

(20Marks)

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3.3. Briefly describe the pathogenesis of the condition mentioned in 3.1.

(20Marks)

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3.4. Describe the morphological features (Gross and Microscopy) of the condition mentioned in 3.1.

(30 Marks)

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3.5. List three (03) complications that would be expected in this patient. (20 Marks)

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4. A 75-year-old farmer presented with worsening back pain and voiding lower urinary tract symptoms (LUTS) of 6 months duration. Digital rectal examination (DRE) revealed a hard prostate. Other investigation findings are as follows:

Prostate specific antigen (PSA) -75ng/ml (Normal<4ng/ml),

Alkaline phosphatase (ALP) -1400 IU/L (Normal <130 IU/L),

Serum Creatinine -3.2mg/dL (Normal <1.3mg/dL).

Ultrasound scan/KUB revealed high residual urine with features of bladder outflow obstruction.

- 4.1. List three (03) common causes for voiding LUTS. (10 Marks)

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- 4.2. Mention the most likely cause for the worsening backache in this patient. (10 Marks)

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- 4.3. List three (03) other possible pathological causes for his backache. (10Marks)

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- 4.4. List three (03) expected pathological changes of bladder in long standing bladder outflow obstruction. (10 Marks)

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4.5. Explain the pathological basis for following findings in this patient.
4.5.1. High serum PSA. (10 Marks)

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4.5.2. High serum ALP. (10 Marks)

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4.5.3. High Serum creatinine. (10 Marks)

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4.5.4. Hard prostate on DRE. (10 Marks)

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4.6. List three (03) other causes for elevated serum PSA level. (10 Marks)

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4.7. List three (03) other causes for elevated serum ALP level. (10 Marks)

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5.

5.1 A 35-year-old female presented with a breast lump of 3 weeks duration. The examination and further investigations concluded that the lump is a fibroadenoma.

5.1.1. List five (05) other benign breast conditions that can present as a breast lump. (05 Marks)

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5.1.2. Outline the clinical features of a breast lump that is suggestive of a benign breast condition. (15 Marks)

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5.1.3. List the investigations and the expected findings to arrive at a diagnosis of fibroadenoma in this patient. (15 Marks)

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5.1.4. Describe the gross and microscopic morphological features of a fibroadenoma. (15 Marks)

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5.2

5.2.1. Define cervical intraepithelial neoplasia (CIN). (15 Marks)

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5.2.2. List the different histological grades of CIN. (15 Marks)

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5.2.3. Describe the preventive measures taken to minimize the cervical cancer. (20 Marks)

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6. A 36-year-old female with a history of atrial fibrillation presented with sudden onset of left-sided weakness and sensory impairment of one day duration. On investigation, she was found to have a right-sided cerebral infarction.

- 6.1. Describe the probable pathogenesis of this patient's presentation. (15 Marks).

[illegible]

- 6.2. List three (03) other causes which may lead to similar presentation in a young female. (06 Marks)

[illegible]

- 6.3. Mention the types of cerebral infarction. (04 Marks)

[illegible]

- 6.4. Describe watershed infarcts in the brain, indicating the areas that are prone to them. (15 Marks)

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- 6.5. List four (04) effects of hypertension on the brain, indicating the pathogenesis of each briefly. (40 Marks)

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- 6.6. State four (04) examples of vegetative heart diseases. (10 Marks)

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- 6.7. List three (03) complications of vegetative heart diseases. (10 Marks)

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7.

7.1

A 4-month-old infant was admitted to paediatrics ward due to poor weight gain. Examination revealed pallor, mild jaundice and hepatosplenomegaly. His Hb was 5g/dL(Normal 9.5–13) . Possibility of leukemia was excluded.

7.1.1. State the **most likely diagnosis** and **state the red cell morphology** (25 Marks) you would expect in this infant's blood picture.

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7.1.2. Explain the pathological basis for hepatosplenomegaly in this patient. (25 Marks)

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7.2 A 35-year-old patient was admitted to medical ward suspected to have haemolytic anaemia.

7.2.1. List five (05) tests you would perform to diagnose presence of haemolytic anaemia with expected findings in each.

(25 Marks)

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7.2.2. The clinician suspects intravascular haemolysis in this patient and requests to monitor fluid balance chart (input and output) and also to check renal functions. Briefly explain the pathological basis of clinician's recommendation.

(25 Marks)

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8.

8.1 A patient was admitted to medical ward suspected of having chronic liver cell disease (CLCD). Clinician mentioned a haemostasis defect in CLCD is complex.

8.1.1. Briefly explain the pathological basis of ‘haemostasis defects in CLCD is complex’. (25 Marks)

[illegible]

8.1.2. List **three** (03) substances stored in liver, deficiency of which can predispose to anaemia. (15 Marks)

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8.1.3. Explain the pathological basis of anaemia caused by deficiency of one of the substances mentioned in 8.1.2. (05 marks)

[illegible]

- 8.1.4. Briefly outline the findings of full blood count and blood picture in the condition mentioned in 8.1.3. (15 Marks)

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- 8.2. A 10-month-old male infant was admitted to paediatrics ward due to haemarthrosis.

- 8.2.1. State the most likely disease in this child and mention two (02) questions you would ask from parents to arrive at the diagnosis, giving reasons. (25 Marks)

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- 8.2.2. Outline how you would confirm the diagnosis. (15 Marks)

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9.

9.1 A 21- year- old male presented to the medical clinic with a chief complaint of gradual onset of weakness, fatigue and pain in his knees. He also complained of frequent vomiting, diarrhea and craving of salty foods. Examination revealed generalized muscle weakness, hyperpigmentation of multiple areas of skin, and tender joints.

9.1.1. Mention the most probable diagnosis. (10 Marks)

9.1.2. List three (03) causes for the condition mentioned in 9.1.1. (15 Marks)

9.1.3. List three (03) Laboratory tests that you would perform in this patient and indicate the expected findings. (15 Marks)

9.1.4. Mention the definitive test for the condition mentioned in 9.1.1 and indicate the pathophysiological basis of the definitive test. (10 Marks)

9.2. List four (04) endocrine emergencies. (10 Marks)

9.3. Give one (01) predisposing factor for each condition mentioned in 9.2. (10 Marks)

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9.4. Give two (02) salient clinical features of each condition mentioned in 9.2 and mention the pathophysiological basis of the clinical features. (30 Marks)

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10. A 29-year-old man presented to the surgical clinic with complaints of frequent loose stools and abdominal pain of one month duration, and the symptoms did not respond to antidiarrheal drugs. Later, he was diagnosed to have ulcerative colitis.

10.1. Briefly discuss the pathophysiological mechanisms involved in inflammatory bowel disease (IBD). (20 Marks)

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10.2. Compare and contrast Crohn's disease and ulcerative colitis in terms of their cellular and molecular pathology. (20 Marks)

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10.3. List the inflammatory mediators involved in the IBD. (10 Marks)

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10.4. Mention the environmental factors that trigger the onset of IBD. (10 Marks)

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10.5. Briefly describe the histopathological changes observed in IBD. (10 Marks)

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10.6. Explain how histological findings guide clinical management of IBD. (10 Marks)

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10.7. List four (04) complications of IBD. (10 Marks)

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10.8. Mention the treatment strategies for IBD. (10 Marks)

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