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UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES (1ST)—OCTOBER 2018
PATHOLOGY PAPER II

Date: 25.10.2018.

Time: 3 hours

ANSWER ALL THE TEN QUESTIONS

Answer each question in separate answer book

1. A 50 year old man presented to the Accident and Emergency unit with sudden onset of abdominal pain and vomiting. The pain was referred to the back. He gave a history of two similar episodes during the past two years. He conceded to regular consumption of alcohol
 - 1.1 Give the most likely diagnosis in this patient (5 Marks)
 - 1.2 Name the two biochemical investigations which support the diagnosis given in 1.1. (10Marks)
 - 1.3 Enumerate four(4)causes for the condition you mentioned in 1.1 (20Marks)
 - 1.4 Describe the pathological features of the condition you mentioned in 1.1 (30Marks)
 - 1.5 Briefly describe the underlying pathogenesis of any3 causes you mentioned in 1.3 (35Marks)

2. A 60 year old woman is admitted for a mastectomy following a trucut biopsy diagnosis of invasive duct carcinoma of the breast no special type(NOS). The surgeon hands over the sample to you to be sent for histopathological examination.
 - 2.1 Describe in detail the steps you will take to transport the mastectomy specimen to the histopathology laboratory in your hospital (40Marks)
 - 2.2. Mention 3 other special types of breast cancer (30Marks)
 - 2.3 Name the receptor panel that may be done on this tissue sample (20Marks)
 - 2.4 Name two test methods that can be used for the panel you mention in 2.3 (10 Marks)

3. A 30 year old man who presented with recurrent episodes of epigastric pain and heartburn was subjected to upper gastrointestinal endoscopy which showed reddish inflamed band of mucosa above the gastro-esophageal junction. Biopsies were taken from that site.
- 3.1 Name two possible causes for the above appearance (10Marks)
- 3.2 Describe the spectrum of histopathological features illustrating with a diagram of any one of the conditions from 3.1 (40Marks)
- 3.3 Describe the macroscopic and microscopic appearance of the malignancy that may follow the conditions you mentioned in 3.1. (50 Marks)
4. 4.1 Name the different types of pneumonia encountered based on the clinical associations (10Marks)
- 4.2 Discuss how the local defense mechanisms play a role in protecting against the development of pneumonia (30 Marks)
- 4.3 Describe briefly the macroscopy and microscopy of lobar pneumonia (50Marks)
- 4.4 State the complications of pneumonia (10Marks)
5. Normal haemopoiesis is essential to have normal peripheral blood cell counts to be maintained
- 5.1 List components/factors required for normal haemopoiesis (15 Marks)
- 5.2 State four laboratory investigations useful to assess haemopoiesis (10Marks)
- 5.3 Briefly outline changes in haemopoiesis which occur from intrauterine life to extra-uterine life (50 Marks)
- 5.4 Briefly outline the pathological basis for anaemia in chronic kidney disease (25Marks)

6. A patient was referred to Teaching Hospital Jaffna with a clinical suspicion of acute leukemia
- 6.1 Define acute leukemia (10Marks)
- 6.2 State the blood picture findings you expect in a patient with acute leukemia (20 Marks)
- 6.3 Outline briefly how you would confirm the diagnosis of acute leukemia (30 Marks)
- 6.4 State two different clinical manifestations which can be seen in a patient with acute leukemia (10 marks)
- 6.5 Explain the pathological basis for each manifestation you mentioned in 6.4 (30Marks)
7. A 55 year old female with no past medical history presented to the emergency department with the history of having had a seizure. Further history and examination findings suggested increased intracranial pressure (ICP). A magnetic resonance imaging (MRI) scan of the brain revealed 4x3x4 cm mass in the right temporal lobe and a brain tumour was suspected.
- 7.1 List three (3) causes (other than tumour) of space occupying lesion of the brain. (15Marks)
- 7.2 Outline the classification of tumours of the brain (20Marks)
- 7.3 List four (4) symptoms (other than seizure) and four (4) signs of raised ICP. (20 Marks)
- 7.4 Describe the mechanism of increased ICP in brain tumours (15Marks)
- 7.5 List two (2) conditions where the lumbar puncture (LP) will be helpful in the diagnosis and mention the expected cerebrospinal fluid findings in those conditions you mentioned. (20Marks)
- 7.6 Mention the role of LP in the diagnosis of the above patient. (10Marks)
- 8 8.1 Briefly describe three (3) pathological changes that may occur in blood vessels due to hypertension (60Marks)
- 8.2 Briefly state the types of intracranial haemorrhages that are caused by hypertension (10Marks)
- 8.3 List two (2) pathologies that may occur in the heart due to hypertension and briefly describe the mechanism of those changes in the heart (30 Marks)

- 9 A 32 year old female presented with fever, chills and rigors. She also complained of severe left loin pain.
- 9.1 Mention two investigations that will help in the diagnosis (10 Marks)
- 9.2 How would they help differentiate between a lower urinary tract infection and an acute pyelonephritis involving left kidney? (10Marks)
- 9.3 Describe the macroscopic and microscopic features of acute pyelonephritis. (50Marks)
- 9.4 Explain the aetiopathogenesis and complications of acute pyelonephritis. (30Marks)
- 10 10.1 A 32 year old woman presented to the clinic with the enlargement of the thyroid gland. Her initial investigation revealed the following.
- Fine needle aspiration cytology (FNAC) : Thyroiditis
 Thyroid stimulating hormone :7.3 mIU/L (0.4-4.2)
 freeThyroxin (fT4) :0.86ng/L (0.8-2.7)
- 10.1.1 Explain briefly the microscopic features you will see in FNAC of the thyroid in this patient (10 Marks)
- 10.1.2. What is the functional status of this patient according to her thyroid function (5 Marks)
- 10.1.3. If she is subfertile, what is the management plan you will have for this condition (10 Marks)
- 10.1.4. List one (1) serum test that you will order to support the aetiology (10Marks)
- 10.2 After being followed up for a few years, she defaulted treatment for 2 years. She came again to the clinic with an irregular mass in the anterior neck region. FNAC revealed papillary carcinoma of thyroid and she underwent total thyroidectomy.
- 10.2.1. explain briefly the microscopic features of papillary carcinoma of thyroid (40 Marks)
- 10.3 On post-operative day 9, she developed tingling sensation and numbness of hands and feet with circum-oral numbness.
- 10.3.1. list one (1) important blood investigation you will order at this situation (05Marks)
- 10.3.2. Indicate the expected finding in 10.3.1 and state the pathophysiological basis of that finding (20Marks)