



FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA
FINAL EXAMINATION FOR MEDICAL DEGREES – 5TH NOVEMBER 2012 - MEDICINE PAPER 1

NEW FORMAT

Answer all questions.

Answer each part in a separate answer book.

(1.00 – 4.00 pm) three hours

PART A

1. A 65 year-old carpenter was brought to the Emergency Treatment Unit by his wife after he had collapsed on the floor. He had developed retrosternal chest pain two hours previously while sawing a plank but has insisted on staying at home. On examination, he appeared unwell, sweaty and in pain. The pulse rate was 96 beats per minute, blood pressure 100/70 mmHg in both arms. There was 4th heart sound but no murmurs detected on auscultation. Lung bases were clear. The ECG showed 2 mm ST elevation in leads V1-V6. The patient is being evaluated and prepared for thrombolytic therapy.

- 1.1 List FOUR therapeutic measures that are useful prior to thrombolytic therapy. Briefly explain the rationale for each of these therapies. (40 marks)
- 1.2 List FOUR main contraindications for administration of thrombolytic therapy. (30 marks)
- 1.3 Briefly discuss THREE possible explanations that would have led to the collapse of the patient. (20 marks)
- 1.4 Discuss the reasons for delays in seeking medical help by patients with acute chest pain. (10 marks)

2. A 55 year-old male presents with increasing tiredness and poor appetite of three months duration. He gives a history of diabetes mellitus for 12 years and hypertension for 3 years and has been on irregular treatment. On examination, he is pale and swelling of ankles was noted. The pulse rate was 76 beats per minute, blood pressure was 160/100 mmHg and cardiac apex was in the 6th intercostal space, 2 cm outside left mid-clavicular line. No murmurs or pericardial rub were heard. The investigations available on admission were as follows.

S. Creatinine - 3.21 mg/dL, Haemoglobin- 9.8 g/dL, MCV- 88 fL, MCH -29 pg, HbA1c- 6.5%

- 2.1 What is the most likely diagnosis? (10 marks)
- 2.2 List FIVE other investigations that are of value in supporting the diagnosis and management of this condition. Describe the expected results in each investigation. (40 marks)
- 2.3 Briefly discuss the steps in the management of anemia in this patient. (20 marks)
- 2.4 Briefly discuss the principles of nutritional therapy in this patient. (20 marks)
- 2.5 Discuss the choice of antihypertensive agents in this patient. (10 marks)

Part B

3. A 32 year-old female was referred for evaluation of anemia. Examination revealed mild pallor with firm moderate splenomegaly. Her initial investigations are given below.

Haemoglobin - 9.1 g/dL, White cell count – 14300 / mm³ (N-56%, L - 42%), Platelet count- 134000 / mm³
Serum bilirubin - 2.3 mg/dL, direct bilirubin - 0.8 mg/dL

- 3.1 What is the most likely hematological diagnosis? (10 marks)
- 3.2 List FOUR possible causes for the diagnosis mentioned in 3.1 (20 marks)
- 3.3 Mention ONE relevant feature you would elicit in history of this patient in support of each of the diagnoses listed in 3.2. (20 marks)
- 3.4 List FOUR investigations that you would perform to confirm the hematological diagnosis mentioned in question 3.1 and mention the expected findings in each of them. (20 marks)
- 3.5 List FOUR investigations, you would perform to diagnose each of the underlying causes mentioned in 3.2. (20 marks)
- 3.6 Briefly discuss the management of one of the conditions mentioned in 3.2. (10 marks)
4. 64 year-old female was admitted with high spiking fever for 12 days. On examination, she looked unwell and had temperature of 40°C. There was a macular rash in both lower limbs. Blood pressure was 130/80 mmHg. On examination heart, respiratory system and abdomen were normal.

The full blood count revealed a total WBC of 13,000 mm³ (Neutrophils 80%), Haemoglobin of 10.1g/dL and Platelet count of 140,000 mm³. Serum creatinine was 1.6 mg/dL, AST was 32 IU/dL and ALT was 26 IU/dL. UFR showed red cells 8-10/HPF and pus cells 6-8 / HPF with granular casts (+) and proteins (+).

- 4.1 List FOUR differential diagnoses you would consider in this patient. (20 marks)
- 4.2 Describe FIVE features in the history or examination and explain their value in the differential diagnosis. (40 marks)
- 4.3 List FIVE investigations you would request and explain their value in arriving at a specific diagnosis. (30 marks)
- 4.4 List FIVE steps in the management of one of the conditions listed in 4.1. (10 marks)

PART C

5. A 35 year-old man was brought to the hospital with a recent history of severe headache for three days. He has had intermittent unilateral headaches for previous ten years.

- 5.1 Mention THREE features in the history that would indicate an urgent need for investigations. (15 marks)
- 5.2 Mention the diagnosis suspected with each feature in the history mentioned in 5.1. (15 marks)
- 5.3 List the expected specific examination findings in each of the diagnoses in 5.2. (10 marks)
- 5.4 List ONE specific investigation to support each of the diagnoses mentioned in 5.2 with expected results. (30 marks)
- 5.5 Discuss management of ONE of the conditions that you mention in 5.2. (30 marks)

6. A 18 year-old boy with loss of weight over one month was admitted to medical emergency with epigastric pain, vomiting and drowsiness for three days. On examination he was dehydrated and tachypnoic with a blood pressure of 100/65 mmHg and pulse rate of 110 / bpm. Examination of lungs revealed no abnormality.

Initial investigations showed

Hb -15 g/dL, WBC - 15000/ mm³ (80% neutrophils), platelet count - 250,000 mm³, blood urea - 45mg/dL
Serum Na⁺ -145 mmol/L , Serum K⁺ - 3.2 mmol/L , Arterial pH 7.2 and serum HCO₃ 18 mmol/L

- 6.1 What is the most likely diagnosis? (10 marks)
6.2 List TWO essential investigations to confirm the diagnosis? (20 marks)
6.3 Briefly describe the management of this patient during the first 48 hours. (60 marks)
6.4 Briefly indicate the steps in the long term management of this patient. (10 marks)

PART D

7. A 55 year-old male was admitted with productive cough of two months duration. He had three episodes of fever during this period which was relieved following antibiotics received from general practitioner. Last week he had several bouts of haemoptysis leading to hospital admission.

He has a history nocturnal cough for a long period which on and off becomes productive and that was attributed to five pack years of smoking. Last month he was investigated at chest clinic and sputum for AFB was negative. Examination revealed BMI 22 kg/m², temperature 101°F, pulse 100 bpm and BP 120/80 mmHg.

There was no pallor, cyanosis or oedema. Clubbing was noted in fingers and toes. Respiratory system examination revealed respiratory rate of 25/min, central trachea, bilateral diffuse rhonchi and coarse crepitations at both lung bases.

- 7.1 What is the most likely diagnosis? (10 marks)
7.2 List TWO differential diagnoses? (20 marks)
7.3 List SIX further investigations which would be helpful in confirming the diagnosis or management of this patient giving the expected results in each. (60 marks)
7.4 Briefly discuss the steps in the long term management of this patient. (10 marks)

8. A 50 year-old male presented with gradual onset progressive abdominal distension and swelling of both feet of one month duration. Physical examination revealed bilateral, pitting ankle oedema and there was flank dulness on abdominal examination.

Initial investigation results were as follows.

ESR - 15 mm in 1st hour, Urine albumin - nil , Hb - 12.5 g/dL , WBC - total 9800 mm³ (neutrophils- 65%)
ECG, chest radiograph and serum TSH were normal.

- 8.1 What is the most likely diagnosis? (20 marks)
8.2 List TWO investigations with expected findings in each to support the diagnosis you mentioned in 8.1. (30 marks)
8.3 List FIVE features you would elicit in this patient's history to find out the etiology of the condition mentioned in 8.1. (30 marks)
8.4 List FIVE investigations to find out the etiology of the condition mentioned in 8.1. (10 marks)
8.5 List FOUR complications of the condition you mentioned in 8.1. (10 marks)