



FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA
FINAL EXAMINATION FOR MEDICAL DEGREES
MEDICINE PAPER 1

5th December 2011

Answer all 10 questions.

3 hours (1.00-4.00 pm)

Answer each part in a separate answer book.

PART A

- 1. An 18 year- old boy was brought to the Emergency Trauma Centre of the Teaching Hospital, Karapitiya with an attack of acute asthma.
 - 1.1 Give FIVE likely causes that may have precipitated this attack. (25 marks)
 - 1.2 How would a chest radiograph help in the management of this patient? (15 marks)
 - 1.3 His arterial blood gas (ABG) estimation done on admission showed a PaO₂ of 95mmHg (12.6 kPa) and a PaCO₂ of 30 mmHg (4.0 kPa). How would you interpret these results? (15 marks)
 - 1.4 State FIVE different groups of drugs that would be useful in treating this attack? (25 marks)
 - 1.5 What is your interpretation if PaCO₂ is 60 mmHg (8.0 kPa), on repeating of ABG estimation one hour after admission? What further therapy would be indicated in that situation? (20 marks)

- 2. A 59 year- old male presented with two weeks history of progressive breathlessness and ankle swelling. Physical examination and investigations on admission revealed the following.

Physical examination

Bilateral pitting ankle oedema, regular pulse of 110/min., blood pressure of 170/100 mmHg, cardiac apex in the 6th left intercostal space with a sustained heaving impulse. Auscultation revealed a grade 3 pan systolic murmur at the apex and fine bilateral crepitations up to the mid zones of lung fields.

Investigations

Haemoglobin - 8.7 g/dL , blood urea – 23 mg/dL, random blood glucose – 124 mg/dL
ECG - sinus tachycardia with deep Q waves in anterior leads.

- 2.1 What is the diagnosis? (10 marks)
- 2.2 List FIVE abnormalities you would expect to see in this patient's chest radiograph? (20 marks)
- 2.3 What single investigation would confirm your diagnosis? (10 marks)
- 2.4 List FOUR precipitating factors present in this patient which may have contributed for the condition you mentioned in 2.1. (30 marks)
- 2.5 List FOUR groups of drugs you would use to treat this patient on admission mentioning the mode of action of each of them. (30 marks)

PART B

- 3. A 40 year-old woman with longstanding rheumatoid arthritis was admitted with fever and painful swelling of the right knee. On examination, her right knee was tender and swollen.
 - 3.1 List TWO possible causes for this presentation. (20 marks)
 - 3.2 List FOUR investigations that would help to differentiate between the two conditions you mentioned above and mention the expected findings in each condition. (60 marks)
 - 3.3 List FOUR therapeutic steps you would take during the acute stage. (20 marks)

- 4. A 26 year-old woman was admitted for investigation of pallor and her initial investigations were as follows.
Hb: 9.5 g/dL, platelet count: 155,000/mm³, WBC: 10,400/ mm³ (N 65%, L 35%),
Blood picture: normal white cells and platelets with normocytic normochromic red cells.

- 4.1 List THREE possible diseases which can cause this illness. (30 marks)
- 4.2 List FOUR physical signs that would help to find out the cause of her illness. (30 marks)
- 4.3 List FOUR investigations that could either confirm or support the conditions you have mentioned giving expected findings. (40 marks)

PART C

5. A 50 year-old male is admitted with fever and vomiting for 5 days. He had two episodes of loose stools at the onset of the illness. He has no dysuria but had dark urine over the previous two days. On examination, temperature was 39°C and mild icterus was present. Abdominal examination revealed tender hepatomegaly of 2 cm. Rest of the physical examination was normal.
- 5.1 Give THREE possible diagnoses. (30 marks)
- 5.2 Give THREE questions that you would ask in the history to differentiate the diagnoses mentioned in 5.1. (20 marks)
- 5.3 Give FIVE investigations that you would perform indicating their usefulness in the differential diagnosis or management of this patient. (50 marks)
6. A 20 year-old girl was admitted with swelling of face and feet for one week duration. She has passed decreasing amounts of urine which is dark in colour. On the day of the admission she had severe headache and had a generalized tonic clonic convulsions lasting for five minutes.
- On examination she was conscious and afebrile. There was periorbital and pedal oedema. The JVP was 5 cm elevated. Blood pressure was 160/100 mmHg. Crepitations were present at both lung bases. The neurological examination was normal except bilateral papilloedema and few fundal haemorrhages.
- 6.1 What is the most likely diagnosis? (15 marks)
- 6.2 Give THREE complications that are already present in this patient which have arisen due to the primary condition mentioned in 6.1. (15 marks)
- 6.3 Give FIVE further investigations that you would perform to arrive at a diagnosis/ manage this patient. (25 marks)
- 6.4 Briefly outline the management in the first 24 hours. (45 marks)

PART D

7. A 45 year-old male comes to you complaining of anorexia, nausea, lack of energy and abdominal pain. His serum sodium is 120 mmol/L.
- 7.1 List THREE likely causes for this presentation (15 marks)
- 7.2 Further investigations revealed haemoglobin of 10.8 g/dL with MCH of 29 pg and MCV of 88 fL. The total white cell count was 6800/mm³ with neutrophils of 48%, lymphocytes of 41% and eosinophils of 11%. Blood urea - 50 mg/dL. Serum potassium - 5.0 mmol/L. What is the most likely diagnosis? (10 marks)
- 7.3 List THREE physical examination findings to support the diagnosis. (15 marks)
- 7.4 List ONE investigation to confirm diagnosis and explain its rationale. (20 marks)
- 7.5 List TWO groups of drugs essential in the management of this patient giving the rationale for their use and briefly mention the advice you would give to this patient. (40 marks)
8. A 34 year-old woman was transferred from a local hospital with a history of gradual onset, progressive weakness of both upper and lower limbs for 1 week. There was no preceding febrile illness or past history of similar illness.
- 8.1 List FOUR possible differential diagnoses for this presentation. (30 marks)
- 8.2 Examination on admission revealed bilateral symmetrical weakness in upper and lower limbs with weakness varying from MRC grade 3 in proximal and 4 in distal muscle groups. All the tendon reflexes were diminished and there were no sensory deficits. Considering these findings, what is the most likely diagnosis? (20 marks)
- 8.3 List TWO investigations to confirm your diagnosis and describe the expected findings in each. (30 marks)
- 8.4 List TWO specific therapies you would consider during the acute stage of the illness. (20 marks)

PART E

9. A 30 year-old female with a 10 year history of psychiatric illness is brought to the psychiatry clinic by her parents. The patient said that three prominent politicians from Colombo are constantly in conversation with her and they are even making her to do things the way they want. She said they even know that she is now talking to the doctor at the clinic.

Parents said that she was given many drugs but continues to behave abnormally despite being on treatment regularly.

- 9.1 What is the diagnosis? (10 marks)
- 9.2 Support your diagnosis with available information. (10 marks)
- 9.3 State other important / relevant information that you would look for in the history to plan your management. (20 marks)
- 9.4 Describe the immediate management. (30 marks)
- 9.5 Describe the long term management. (30 marks)

10. A 40 year-old female schoolteacher was referred to psychiatry clinic from the cardiology clinic. The patient has been getting admitted to cardiology unit almost once a week mainly at nights with chest pain over last 2 months. All the cardiac and pulmonary investigations have been normal.

- 10.1 State THREE important leading questions you would ask from this patient to arrive at a diagnosis. (30 marks)
- 10.2 Give TWO possible diagnoses for the above presentation. (20 marks)
- 10.3 Describe the management of this patient. (50 marks)