University of Jaffna Sri Lanka

Second Examination for Medical Degrees - Part II 1st August 2013 Pathology Paper II

Date 28.08.2013

Time: 3 hours

Answer all the ten questions
Answer each question in separate answer book

1. **A 16 year old boy presents with fever, headache and neck stiffness of three days duration. The Kernigs sign is positive.**
Pyogenic meningitis is suspected and a lumbar puncture is performed.

1.1 Name the most likely organism that could cause a pyogenic meningitis in this patient

(1 °Marks)

1.2 What investigations would you carry out on the cerebrospinal fluid obtained by the lumbar puncture? **(20Marks)**

1.3 Describe the investigation findings in the cerebrospinal fluid in this case

(30Marks)

1.4 Describe the macroscopic and microscopic appearances of the brain in this patient

(40Marks)

2. **A 55 year old man presents with haemoptysis and shortness of breath and is found to have consolidation in the right lung on chest x ray.**
His serum calcium levels are high
A bronchial carcinoma is suspected

2.1 Explain the possible basis for the hypercalcaemia

(40 Marks)

2.2 Give two investigations that would help to confirm a diagnosis of bronchial carcinoma

(1 °Marks)

2.3 Describe the histological features of bronchial carcinoma **(50Marks)**

3. A 35 year old female presented with sudden onset of pain and swelling of the left lower leg. A provisional diagnosis of deep vein thrombosis was made.

3.1 Define thrombosis

(20Marks)

3.2 What are the key factors essential for thrombus formation?

(30Marks)

3.3 Describe the pathogenesis of swelling of the lower leg in this patient

(20 Marks)

3.4 List three (3) sequelae of deep vein thrombosis (12 Marks)

3.5 List three (3) inherited conditions which increase the risk of thrombosis (09Marks)

3.6 List three (3) acquired conditions which increase the risk of thrombosis (09Marks)

4. A 50 year old man complained of worsening abdominal pain for the past week. On physical examination he was afebrile, blood pressure was 140/95, pulse 84/min and a pulsatile abdominal mass was palpated. An abdominal CT scan showed a 6cm fusiform enlargement of the abdominal aorta.

4.1 What is the most likely diagnosis?

(05Marks)

4.2 Define your answer for (a)

(05Marks)

4.3 Discuss the aetiopathogenesis of this condition

(50 Marks)

4.4 Describe the pathological features of the above condition

(20Marks)

4.5 Discuss the complications of this condition (20Marks)

5. A 3 year old boy presented with gradual onset of generalized edema. His urine output was normal. On examination of the urine tested positive for albumin 3+.
Measurement of urine protein for 24 hours was 4.6 g

5.1 What is the most likely diagnosis?

(10 Marks)

5.2 Name 2 investigations you would perform to support this diagnosis and What are the expected results?

(20 Marks)

5.3 What is the pathophysiology of this disease?

(40Marks)

5.4 What are the microscopic changes you would expect in the kidney of this patient? (30 Marks)

6. **A 50 year old male alcoholic presented to the emergency department with severe epigastric pain which relieved by bending forward and vomiting. He had the same type of episodes during the last ten years**

6.1 **What is the most likely cause for his clinical presentation?** **(10 Marks)**

6.2 **Describe the macroscopic and microscopic pathology of the main organ involved in the above condition?** **(60 Marks)**

6.3 **Discuss in brief the complications which can arise due to the cause of his Clinical presentation** **(30 Marks)**

7. **A patient with progressive dysphagia underwent for flexible oesophagoscopy and found to have a suspicious malignant lesion in the oesophagus**

7.1 **Briefly describe the different macroscopic lesions that may observed in this patient during endoscopy** **(15 Marks)**

7.2 **Mention the histopathological reports expected in this patient with interpretations** **(20 Marks)**

7.3 **List the premalignant lesions and conditions of carcinoma of oesophagus** **(20 Marks)**

7.4 **Briefly discuss how one of the above premalignant lesion predisposes to lower oesophageal carcinoma** **(30 Marks)**

7.5 **Enumerate the ways of carcinoma of oesophagus metastasis to other region** **(15 Marks)**

8. **Mention the diagnosis, aetiology and microscopic feature, and list two laboratory investigations or imaging findings (if appropriate) that will help in the diagnosis or confirm the diagnosis in each of the following conditions**

8.1 **A surgeon explores a thyroid because of a "cold" nodule of the left upper pole of the thyroid. The nodule is firm, non-encapsulated, and granular. There is an enlarged, hard lymph node in the adjacent internal jugular chain.** **(25 Marks)**

8.2 **12 year old boy presented with shortness of breath for one month and swelling of right knee joint for two weeks duration. He had the history of upper respiratory tract infection three weeks back. 2D echo cardiogram revealed masses in the mural valvular region.** **(25Marks)**

8.3 **45-year-old female patient develops a peanut sized nodule in an old midline laparotomy scar, which becomes painful during menstrual period** **(25 Marks)**

8.4 **A 40 yr old male, diagnosed case of chronic infectious hepatitis, presented to medical OPD with the history of malaise, fatigue, weight loss, and haematemesis. On examination the liver is found to be enlarged** **(25Marks)**

9.

9.1 Define oncogenesis (10 Marks)

9.2 List 5 oncogenic viruses and give one example of tumor caused by each virus (20 Marks)

9.3 45 year old female presented with left sided breast lump, which was clinically malignant

9.3.1. Mention 3 physical signs that will suggest it is a malignant lump (15 Marks)

9.3.2. Explain the physical signs mentioned above on the basis of pathogenesis (30 Marks)

9.3.3. Briefly describe how breast carcinoma is classified based on histology (15 Marks)

9.3.4. What are the methods available to collect the biopsy to arrive at a pathological diagnosis in this patient (10 Marks)

10 A 60 year old male presented with insidious onset of anemic symptoms. On examination there was massive splenomegaly. Full blood count revealed pancytopenia. Diagnosis of Idiopathic myelofibrosis was made. (Marks)

10.1 Describe the pathological changes you can observe in the blood film of this patient with idiopathic myelofibrosis (25 Marks)

10.2 Describe the pathological changes you can observe in bone marrow aspirate and trephine biopsy of the above patient (25 Marks)

10.3 Briefly describe the pathological basis for massive splenomegaly in this patient (20 Marks)

10.4 Mention the pathological basis for bone marrow fibrosis in idiopathic myelofibrosis (15 Marks)

10.5 List three other causes for pancytopenia (15 Marks)