



FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA
SECOND EXAMINATION FOR MEDICAL DEGREES - JUNE 2011

ANATOMY PAPER II

MONDAY 20th June 2011

THREE HOURS

Answer all FIVE Questions

Answer EACH QUESTION in a SEPARATE BOOK

Use diagrams where necessary

1. A 60 year-old male patient with an advanced carcinoma of the left parotid gland had to undergo a total parotidectomy. After the surgery he developed facial paralysis on the affected side.
 - 1.1 Explain the reasons for facial paralysis in this patient. (15 marks)
 - 1.2 Describe the clinical features of facial paralysis in this patient. (15 marks)
 - 1.3 State the classification of salivary glands with examples. (10 marks)
 - 1.4 Describe the gross anatomy of the parotid gland. (30 marks)
 - 1.5 Describe the light microscopic appearance of the parotid gland. (20 marks)
 - 1.6 List the derivatives of the ectoderm. (10 marks)

2. A 52 year-old male patient complaining of a severe epigastric pain was admitted to the hospital. He had a history of gastric ulcer. Gastroscopy revealed a perforated gastric ulcer on the posterior aspect of the body of the stomach.
 - 2.1 List the structures that are at risk of being damaged by the perforated gastric ulcer. (25 marks)
 - 2.2 Explain why he experienced a pain over the epigastric region. (25 marks)
 - 2.3 Describe the light microscopic appearance of the mucosa of the body of the stomach. (25 marks)
 - 2.4 Describe the development of the stomach. (25 marks)

3. A 65 year-old hypertensive patient suddenly developed a paralysis on the right side of his body. On examination, it was found that the muscle tone was high and the tendon reflexes were exaggerated with altered sensations on the right half of his body. The Babinski sign was also positive on the affected side. On a CT scan, a part of the internal capsule showed features of necrosis. Using your knowledge in neuroanatomy answer the following.
 - 3.1 State the type of paralysis you observe in this patient. (10 marks)
 - 3.2 State two main tracts in the spinal cord affected here. (20 marks)
 - 3.3 Describe one of the tracts stated in 3.2 giving its origin, pathway and termination. (40 marks)
 - 3.4 State the probable part of the internal capsule affected in this patient. (10 marks)
 - 3.5 Describe briefly the blood supply of the internal capsule. (20 marks)

4. A 70 year-old female was admitted to a surgical unit with a complaint of difficulty in swallowing (dysphagia) of six month duration. On examination, she was emaciated, pale and had enlarged supraclavicular lymph nodes on the left side. Endoscopy revealed a growth at the lower end of the oesophagus. Biopsy confirmed a malignancy.

- 4.1 State why she complained of difficulty in swallowing and explain briefly the anatomical basis of it. (15 marks)
- 4.2 Explain why the supraclavicular lymph nodes were enlarged using your knowledge on the lymphatic drainage of the oesophagus. (20 marks)
- 4.3 Describe the immediate anatomical relations of the thoracic oesophagus. (30 marks)
- 4.4 List the embryological derivatives of the foregut. (20 marks)
- 4.5 Describe the light microscopic appearance of the lower end of the oesophagus. (15 marks)

5. A seven year-old boy has fallen from a height and hit his left elbow on the ground. Immediately afterwards he was admitted to a surgical ward with a painful and swollen elbow that he was hesitant to move. Radiological investigations revealed a displaced supracondylar fracture of the left humerus.

- 5.1 5.1.1 State one neurological structure that could be damaged and explain the possible disabilities that you would expect in him. (30 marks)
- 5.1 5.1.2 Name the major vascular structure that could be damaged and state how you would find it out clinically. (20 marks)
- 5.2 List the boundaries and contents of the cubital fossa. (15 marks)
- 5.3 Outline the clinical importance of the cubital fossa. (15 marks)
- 5.4 Briefly describe the light microscopic appearance of a compact bone. (20 marks)