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UNIVERSITY OF JAFFNA, SRI LANKA  
SECOND EXAMINATION FOR MEDICAL DEGREES-SEPTMBR 2020  
Pathology Paper II

Date: 16.09.2020.

Time: 03 hours

ANSWER ALL THE 10 QUESTIONS

Write the answers in the given space below each question.

1. A 30-year-old man who was a chronic alcoholic from young age, with a past history of recurrent left hypochondrial and epigastric abdominal pain radiating to back with nausea and sometimes vomiting over the past 10 years, presented with coma to the Accident and emergency. He was rehabilitated from alcohol dependency 2 years ago and maintains abstinence. On admission his capillary blood glucose was >28mmol / L.

1.1. What is the most likely diagnosis? (05 Marks)

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1.2. What can be the aetiology for the condition you mentioned in 1.1? ( 05 Marks)

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1.3. Outline the pathophysiology behind this diagnosis mentioned in 1.1. (20 marks)

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1.4. List four (04) biochemical tests you will perform in this patient at this situation and give the expected findings. (40 marks)

- 1.....
- 2.....
- 3.....
- 4.....

1.5. Name one (01)non biochemical investigation that you will perform to confirm the aetiology which you mentioned in1.2. (10marks)

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1.6. Outline four (04) long term complications that may occur if the condition mentioned in 1.1 is uncontrolled for a longer period. (20marks)

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- 2. Haemopoiesis depend on many factors.
  - 2.1 List the factors required for haemopoiesis and indicate one disease which relates to the defects in each factor stated. (15 marks)  
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  - 2.2. Briefly outline “haemopoiesis in patients with thalassaemia major”. (25 marks)  
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  - 2.3. List four (04) tests useful to assess haemopoiesis and expected results in anaemia due to marrow underproduction (marrow failure). (15 marks)
    - 1.....
    - 2.....
    - 3.....
    - 4.....

2.4. Outline the pathological basis of anaemia in thalassaemia major. (25 marks)

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2.5. Outline how beta thalassaemia major and beta thalassaemia minor is diagnosed.(20 marks)

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3. A 68- year-old man was admitted to Teaching Hospital Jaffna with a clinical suspicion of severe iron deficiency anaemia (IDA).

3.1. Outline the pathogenesis of

3.1.1 Anaemia in iron deficiency. (15marks)

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3.1.2 Red cell changes observed in iron deficiency. (15 marks)

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3.2 Outline the expected automated full blood count (FBC) report in IDA. (25 marks)

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3.3. Statefive (05) different questions you would ask from the patient to ascertain underlying cause/s for iron deficiency. (15 marks)

1.....  
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3.4. Outline the findings of serum iron studies in a patient with IDA. (15 marks)

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3.5. Explain how you would monitor response to therapy. (15 marks)

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4. A 35-year-old man presented to the surgical clinic of Teaching hospital Jaffna with multiple sinuses in the perianal region for 6 months duration.

4.1 List three (03) possible causes for the given clinical presentation. (15 Marks)

- 1.....
- 2.....
- 3.....

4.2. Briefly describe the pathogenesis of any one cause mentioned in 4.1. (25 Marks)

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4.3. Describe settings in which chronic inflammation occurs with suitable examples. (40 marks)

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Eg.....

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Eg.....  
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Eg.....  
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Eg.....  
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4.4. Name three (03) samples/tests that can be done to arrive at a diagnosis in this patient. (15 marks)

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4.5 Name one (01) special stain used in the laboratory to identify etiological agent in chronic inflammation. (05 Marks)

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5. The surgeon wishes to commence a one stop clinic service for patients of age range 20-60 years visiting the surgical clinic at TH Jaffna with breast lumps.

5.1 State two (02) laboratory tests that can be offered to the patients. (10Marks)

- 1.....
- 2.....

5.2. State two (02) advantages and two (02) disadvantages of the two (02) tests mentioned in 5.1. (20 marks)

1).

Advantage :

- 1.....
- 2.....

Disadvantage:

- 1.....
- 2.....

2).

Advantage :

- 1.....
- 2.....

Disadvantage :

- 1.....
- 2.....

5.3. List five (05) pathological conditions that may be encountered in the patients of the above age range. (25 Marks)

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....

5.4. Describe the macroscopy and microscopy of any one of benign conditions mentioned in 5.3. (30 Marks)

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5.5. What is your recommendation if the surgeon requests to consider to include hormone/ molecular testing in the same clinic visit? (10 Marks)

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5.6. Mention the suitable sample and test method to assess the hormone status in breast cancer. (05 marks)

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6. Briefly explain the following.

6.1. Pathogenesis of acute appendicitis. (20 Marks)

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6.2 Systemic effects of neoplasia. (20 Marks)

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6.3. Use of laboratory tests in cancer diagnosis. (20 Marks)

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6.4. Pathogenesis of multinodular colloid goiter. (20 marks)

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6.5. Presence of brown pigment in tissues. (20 marks)

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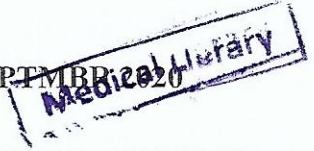
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7. A 65- year-old obese man with hypertension gave a history of recurrent episodes of colicky abdominal pain on 2 occasions which subsided and then presented to the emergency unit with acute generalized abdominal pain and subjected to an emergency laparotomy. A large segment of the small intestine was gangrenous. He succumbed to multi organ failure post operatively. The post mortem revealed extensive atheromatous plaques in the aorta and occlusive thrombi in the mesenteric vessels.

7.1. Briefly explain the possible reasons for the changes observed in the mesenteric vessels and intestines. ( 15 Marks)

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7.2. Briefly explain the risk factors of atherosclerosis.

(30 Marks)

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7.3 Briefly describe the pathogenesis of atherosclerosis.

(30 Marks)

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7.4. Describe the microscopic appearance of an atherosclerotic plaque. (15 marks)

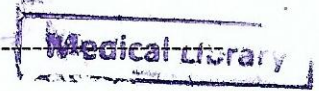
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7.5. List five (05) complications following a complicated atheromatous plaque. (10 marks)

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8. A 35-year-old man presented to the medical unit with bilateral swelling of feet and facial puffiness. Urine 24 hour protein was 7g. Urine microscopy examination revealed 50-60 RBC/HPF and presence of granular casts. Blood investigations revealed low serum protein and complement levels, and ANA test was positive in 1:80titre. A renal biopsy was performed.

8.1 State the most likely diagnosis and state the reason for your diagnosis. (10 Marks)

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8.2. Briefly explain the expected light microscopic appearance of the renal biopsy of this patient. (30 Marks)

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8.3. Explain the pathogenesis of the renal pathology / lesion of this patient. (30 Marks)

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8.4. State a serological test that may be useful for diagnosis mentioned in 8.1. (10 Marks)

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8.5. Mention 2 specialized tests that will help to confirm renal lesion in this patient. (20 Marks)

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9. A 70-year-old man is brought to the emergency unit after coughing up several table spoon of bright red blood. For the last 3 months, he had a chronic nonproductive cough. More recently, he noticed some scant blood streaked sputum. Patient has smoked one pack of cigarettes per day for the past 35 years. He also complained increased fatigue, decreased appetite and weight loss in the past 3 months.

9.1. What is the most likely diagnosis? (05marks)

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9.2. List three (03) causes for haemoptysis other than you have mentioned in 9. 1. (15 marks)

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9.3. List three (03) other different clinical presentations of the condition mentioned in 9.1. (15 marks)

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9.4. List five (05) investigations that you would order to differentiate the conditions you have mentioned in 9.1 and 9.2, and indicate the expected findings. (20 marks)

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9.5. Outline the histological types of the condition you have mentioned in 9.1. (10 marks)

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Physical examination of the patient revealed left sided pleural effusion and diagnostic thoracentesis was performed.

9.6. List three (03) causes of pleural effusion. (15 marks)

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9.7. List five (05) tests that can be performed in the pleural fluid to differentiate the conditions mentioned in 9.6 and indicate the expected findings. (20 marks)

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10. Mention

- 1. The most likely diagnosis (05 marks),
  - 2. One risk factor / aetiology (05 marks),
  - 3. One complication (05 marks) and
  - 4. The pathological changes (macroscopic and microscopic) (10 marks)
- that may occur in the following conditions.

10.1. A 70-old-year man presented to the surgical ward with acute retention of urine and was catheterized by the house officer. Digital rectal examination revealed a nodular firm prostate. The patient was subjected to ultrasound guided prostate needle biopsy. Serum Prostate specific antigen level was 4.2 ng/ml (0 to 5.0 ng/mL).

- 1. Diagnosis: .....
- 2. Risk factor / aetiology: .....
- 3. Complication: .....
- 4. Pathological changes:  
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10.2. A 50-year-old woman presented with Jaundice and new onset of abdominal swelling. Her history revealed a blood transfusion in the past. Ultrasound examination of the liver revealed irregular echogenicity demonstrating nodules.

1. Diagnosis: .....

2. Risk factor / aetiology: .....

3. Complication: .....

4. Pathological changes:

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10.3. A 35-year-old man admitted to the ward with a 1-day history of high fever. Examination revealed a new heart murmur. The patient is an intravenous drug user.

1. Diagnosis: .....

2. Risk factor / aetiology: .....

3. Complication: .....

4. Pathological changes:

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10.4. A 55-year-old man presented with progressive dysphagia for solid & liquid. The patient's past medical history reveals severe gastro -esophageal reflux disease.

1. Diagnosis: .....

2. Risk factor / aetiology: .....

3. Complication: .....

4. Pathological changes:

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