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FINAL EXAMINATION FOR MEDICAL DEGREES (1ST)-MARCH 2022

ACADEMIC YEAR 2014/2015

Medicine - Paper II

Date: 11.03.2022 **Time: 03 hours (01.30 pm – 4.30 pm)**

Answer all Ten questions

Index number: .....

Question Number: 01

A 65-year-old male with a history of hypertension and diabetes of 10 years duration presents to the medical emergency with palpitation. He had an anterior circulation Transient Ischaemic Attack(TIA) two years back. On examination his pulse rate is 110/minute irregularly irregular in nature and the blood pressure is 165/100 mmHg.

His regular medications are metformin 500 mg tid, amlodipine 5 mg od, hydrochlorothiazide 25 mg od, atorvastatin 20 mg od and aspirin 150mg od.

ECG revealed an atrial fibrillation.

1.1 Name **two** other clinical conditions that can cause **irregularly irregular pulse** (10 marks)

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1.2 Name **two** other **clinical features** of atrial fibrillation. (10 marks)

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1.3 Name **two ECG findings** of Atrial fibrillation (10 marks)

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1.4 Name three **non-cardiac** causes of atrial fibrillation. (10 marks)

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1.5 Name **two** classes of medications that could be used to **control heart rate** in atrial fibrillation (10marks)

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1.6 Outline the management principles of atrial fibrillation in this patient (30 marks)

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A diagnosis of **heart failure with preserved ejection fraction** (HFpEF) was made after the initial evaluation.

1.7 Name **two cardiac structural conditions** that can cause heart failure with preserved ejection fraction (10 marks)

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1.8 Name **two** medications that could **improve the prognosis** in a patient with heart failure with preserved ejection fraction (HFpEF). (10 marks)

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Question Number: 02

A 37 year-old, male army officer presents with constitutional symptoms, fever and headache for 2 days. He has no significant past medical history. Two of his fellow army officers were admitted for a similar presentation within the last 5 days and he is unaware of the diagnosis. He does not have any focal neurological signs or skin rashes. There is no neck stiffness, however there is a mild deterioration in GCS from 15/15 to 13/15 and he is confused. He is negative for COVID PCR. While in the ward he developed a left sided focal seizure witnessed by the house officer.

2.1 List the initial blood investigations you would carry out on admission to the ward and give reasons. (20 marks)

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2.2 Following the seizure a non-contrast CT brain is performed and is normal. What is the next most important investigation you would perform? (10 marks)

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2.3 List the findings you would expect from the investigation carried out in question 2.2 (20 marks)

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2.4 Outline the steps in the management of this patient. (50 marks)

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Question Number: 03

A 68- year- old male was transferred from D.G.H Kilinochchi for further evaluation of progressively worsening of renal function. Patient had been well and was in usual state of health a month prior to admission; but had felt vaguely unwell and progressively lethargic for one month duration and had developed bilateral leg swelling for one week duration. He does not have fever or any other constitutional symptoms. He does not have any other complaints; questions directed to other systems do not reveal any other concern as well. On arrival to TH Jaffna, his blood pressure is 170/100mmHg.There is pitting edema up to mid-shin level. His lungs are clear on auscultation.

His initial investigations performed at local hospital shows the following:

UFR Protein 2+
RBC: 50-60/HPF
Pus cells 8-10/HPF
FBC – Hb 10g/dL – MCV 83 fl
WBC – 11.7 x10^9/L
Platelets 420 x 10^9/L
CRP- 68 mg/L
ESR – 90mm/1st hour
24 hour protein excretion 1.4g
Serum creatinine on admission to the local hospital:
1st day 140µmol/l
2nd day 192µmol/l
3rd day 286µmol/l

Ultra sound KUB- showed normal sized kidneys with increased echogenicity
Hepatitis B and C screening – Negative
RAT for SARS-CoV-2 – Negative

3.1 What is the clinical syndrome manifested in the above patient? (10 marks)

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3.2 Mention the investigations you would do for this patient to establish a definite diagnosis? (10 marks)

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3.3 How would you treat this patient without undue delay? (20marks)

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3.4 What are the prognostic markers that would predict renal outcome in this patient? (15 marks)

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3.5 When would you consider therapeutic plasma exchange for this patient? (15 marks)

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3.6 How would you follow-up and manage this patient in the clinic after remission of the condition?
(30 marks)

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Question Number: 04

A 20-year-old male (weight 56kg) with type 1 diabetes mellitus on pre-mixed insulin presents with a history of fever of 6 days and dizziness of one day duration. Fever was associated with myalgia, arthralgia and retro-orbital pain. He has no symptoms suggestive of either respiratory or urinary tract infection. Examination on arrival reveals a blood pressure of 95/85 mmHg, pulse rate of 126 bpm-regular, reduced breath sound on right lung base and a temperature of 37^0 C. Peripheries are cold and pulses are week. Results of investigations done at OPD in the same day morning shows

FBC Hb 17g/dL
- Hct- 51 (base line 40)
- WBC – 1200/mm^3
- Platelets – 22,000/mm^3

CRP – 2.4 mg/L (<5)
RBS – 246 mg/dL

4.1 What is the likely diagnosis for this presentation? (10 marks)

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4.2 List four other important and relevant physical signs you would look for and write the expected findings (20 marks)

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4.3 List three findings you would expect on the point of care ultrasonography? (10 marks)

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4.4 Mention an investigation you would request to confirm the diagnosis mentioned in 4.1? (5 marks)

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4.5 Outline the management of this patient during **first one hour**? (30 marks)

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Following finding were obtained after initial one hour of treatment

BP – 90/80
PR- 126 /min, regular
Hct – 38

4.6 What is the reason for this clinical deterioration? (10 marks)

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4.7 How do you treat the condition mentioned in 4.6 ? (5 marks)

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4.8 Brief the role of vaccine in preventing this illness (10 marks)

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Answer all Ten questions

Index number: .....

Question Number: 05

A 20-year-old male presents with loss of appetite of 2 months duration with intermittent abdominal pain, vomiting and recent worsening of general well-being. On examination, he is pale, BMI is 18kg/m^2, pulse rate 92bpm,blood pressure 100/75mmHg and has pigmentation of palms which was noted by the patient for few months.

5.1 Give the clinical diagnosis? (10 marks)

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5.2 What are the other clinical symptoms and signs you would look in this patient? (20 marks)

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While in the ward this patient becomes very symptomatic with giddiness and blood pressure drops to 80/60mmHg.

5.3 What is the most likely reason for clinical deterioration? (10 marks)

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5.4 How do you investigate the condition mentioned in 5.3 ?

(15 marks)

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5.5 How will you manage the condition mentioned in 5.3? (35 marks)

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5.6 This patient's serum calcium is 1.8mmol/l(2.25-2.62mmol/l),Phosphate- 1.6mmol/l (0.97-1.45mmol/l) and has few oral thrush. What clinical entity you would consider in this patient? (10 marks)

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Answer all Ten questions

Index number: .....

Question Number: 06

Part A

A 60-year-old female who is on treatment for major depression with poor clinical response presents with seizure to the emergency unit. On arrival she is afebrile, heart rate 140bpm, blood pressure 140/90mmHg,GCS 14/15 and has dilated pupils. She develops a second episode of seizure after admission.

Initial investigations reveal

Capillary blood glucose 110mg/dL
Na 139mmol/L
K 4.2mmol/L
FBC: WBC 7600/mm^3,Hb 12.1g/dL, Platelet 280000/mm^3
CRP 1.2mg/L
NCCT brain-normal.

6.1 What is the most likely clinical diagnosis? (10 marks)

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6.2 What further information you would like to gather from the relative of this patient?

(15 marks)

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6.3 Give two predictors of poor outcome in this patient? (10 marks)

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6.4 How will you manage this patient in the **first 4 hours**? (35 marks)

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Part B

A 50-year-old previously healthy male presents with an unknown sting at the right hand 2 hours ago. On examination, he is sweating profusely, pulse rate 120bpm, blood pressure 180/110mmHg.Whole blood clotting time is less than 20minutes repeatedly.

6.5 What is the likely cause of the sting? (10 marks)

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6.6 How will you manage this patient? (20 marks)

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Answer all Ten questions

Index number: .....

Question Number: 07

A 43-year-old mason presents with a history of lethargy, loss of weight and fever of 2 months and productive cough of 6 weeks duration. On clinical examination, he has left upper zone crackles with no clubbing or cervical lymph node enlargement.

7.1 What is the most likely diagnosis ? (5 marks)

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7.2 List **three** important differential diagnosis you would consider in this patient? (10 marks)

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7.3 If you are a house officer, mention the investigations you will perform in this patient and give reasons? (20 marks)

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7.4 How do you manage the likely diagnosis mentioned in 7.1? (45 marks)

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7.5 Outline the management of massive haemoptysis If this patient develops while in the ward.

(20 marks)

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Date: 11.03.2022

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Answer all Ten questions

Index number: .....

Question Number: 08

A 25-year-old female presents with gum bleeding, menorrhagia and rash over the limbs and trunk for 2 weeks duration. She has been otherwise well. Examination reveals multiple purpura and ecchymosis over the limbs and trunk.

Her full blood count reveals

Hb – 10.5g/dL
WBC – 8,000/mm^3, N – 60%, L – 30%, M – 5%, E – 3%
Platelets - 24, 000/mm^3

8.1 What is the most likely diagnosis for this presentation? (10 marks)

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8.2 List five causes for each infective and non-infective causes for persistent thrombocytopenia? (20 marks)

Infection	Non-infective

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8.3 Mention the investigations you would perform to arrive at a diagnosis and give reasons? (30 marks)

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8.4 Discuss the management for the diagnosis you have mentioned in '8.1'? (30 marks)

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After initial treatment she has lost the follow up and presents again with gum bleeding and ecchymosis at the POA of 37 weeks of pregnancy (G_1P_0). Obstetric care team has taken the decision to have a caesarian section in 5 days time.

FBC on admission shows

Hb-9.5g/dL
WBC- 10,000/mm^3
Platelets- 22,000/mm^3

8.5 What specific treatment you will consider to increase the platelet count before the planned surgery. (10 marks)

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Index number: .....

Question Number: 09

Part A

A 46-year-old male is evaluated for a 3 months history of large volume, watery, non-bloody diarrhea even at nights. He reports no abdominal pain but experience 6 kg of unintentional weigh loss. On examination, he is pale, dehydrated and lethargic. Vital signs are normal with a heart rate of 95bpm, regular, blood pressure of 100/50 mmHg.

9.1 What are the clinical features that differentiate secretary diarrhoea from osmotic diarrhoea? (10 marks)

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9.2 List **three** differential diagnosis for above presentation? (10 marks)

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9.3 If you are the house officer, mention the investigations you will perform on this patient? (15 marks)

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9.4 How will you manage this patient when he develops profuse diarrhoea causing tachycardia at 122bpm and hypotension with BP 85/60mmHg? (20 marks)

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Part B

A 45-year-old male who is a diagnosed patient with chronic liver cell disease with portal hypertension presents with worsening of abdominal distension and discomfort of 3 days duration. On examination temperature 38^0 C, pulse rate 104 bpm, blood pressure 100/70mmHg, abdomen is diffusely tender with free fluid.

9.5 What is the most likely diagnosis (10 marks)

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9.6 Outline the management (35 marks)

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Question Number: 10

A 32-year-old policeman is evaluated for back pain over a period of 6 months duration. He experiences severe pain at the lower back almost every day when he wakes up in the morning, finding difficult to go to duty. Sometime he lost sleep due to this pain. However he could manage to perform his official duties during the day. Physical examination is unremarkable except tenderness over either side of sacrum.

10.1 How will you clinically differentiate inflammatory from non-inflammatory back pain?

(15 marks)

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10.2 Mention the specific clinical tests you perform in this patient to demonstrate the inflammatory back pain?

(10marks)

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10.3 Mention the initial investigations you will perform for this patient? (15marks)

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10.4 Give 5 differential diagnosis of his presentation? (15 marks)

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10.5 This policeman has a family history of similar back pain, what could be the likely diagnosis? (10 marks)

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10.6 Outline the management steps of the condition mentioned in 10.5? (25 marks)

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10.7 List three complications he may develop due to his illness mentioned in 10.5? (15 marks)

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