UNIVERSITY OF JAFFNA, SRI LANKA
FINAL EXAMINATION FOR MEDICAL DEGREES -FEBRUARY 2023
ACADEMIC YEAR 2015/2016
MEDICINE – PAPER II

Date: 20.02.2023   **Duration: 01.30 pm - 04.30 pm (3 Hours)**

Answer All Ten Questions

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Question Number: 01

A 40-year-old male presents with central tightening chest pain of 2 hours duration. On initial assessment, his pulse rate is 90 bpm and BP is 170/90 mmHg. An urgent ECG done on arrival shows ST elevation in V1-V4.

1.1 What is the diagnosis?   (10 marks)

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1.2 List **five** risk factors you will assess in this patient for the condition mentioned in 1.1?
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1.3 What immediate blood investigations you will do in this patient?   (10 marks)

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1.4 Discuss the treatment of this patient for the first 24 hours.   (50 marks)

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1.5 On day three of admission, he developed acute shortness of breath with hypotension (BP 80/60 mmHg).Give **three** likely causes for this deterioration.

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1.6 Echocardiogram on discharge reveals an Ejection Fraction (EF) of 35%.List the medications you will prescribe on discharge for this patient.

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Question Number: 02

Part A

A 30-year-old male (weight-50kg) with no comorbidities presents to A&E with a history of ingestion of 30 paracetamol (standard release) tablets (strength of a tablet-500mg) taken 30 minutes prior under the influence of alcohol. On examination, he is clinically stable with normal vitals.

2.1 Has he taken toxic dose of paracetamol? Give reasons.   (10 marks)

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2.2 Name the antidotes used in paracetamol overdose?   (10 marks)

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2.3 When do you check plasma paracetamol level for this patient if needed?   (5 marks)

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2.4 Outline the initial management of this patient in first 24 hours   (25 marks)

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2.5 Name two blood tests that will predict the poor outcome in this patient?   (10 marks)

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Part B

A 50-year-old female from Jaffna is admitted to medical ward after being bitten by an unidentified snake three hours earlier. On examination, she has bilateral ptosis and ophthalmoplegia but there are no signs of inflammation at the site of bite. Her blood pressure is 120/80 mmHg and pulse rate is 96 bpm, regular. Examination of the respiratory system is unremarkable. Her INR is 1.2.

2.6 What is the offending snake?   (10 marks)

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2.7 Outline the management of this patient during first 4 hours?   (20 marks)

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2.8 What life-threatening complication patient might develop?   (10 marks)

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Date: 20.02.2023   **Duration: 01.30 pm - 04.30 pm (3 Hours)**

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Question Number: 03

A 70-year-old female (weight-60kg) who has been taking omeprazole for peptic ulcer disease presents with fever of 5 days duration associated with myalgia, arthralgia and retro orbital pain. Clinical examination reveals temperature of 37°C, blood pressure of 120/80mmHg with no postural drop and pulse rate of 86/minute. She also has tender hepatomegaly. Point of Care ultrasound scan confirms mild right-side pleural effusion with no ascites. Results of investigations are shown below.

Name of the test	Day 01 of illness	Day 05 of illness
WBC	5000/mm^3	2200/mm^3
N	70%	36%
L	26%	62%
Hb	12g/dL	13g/dL
Hct	36	39
Platelets	196,000/mm^3	32,000/mm^3
NS 1 Ag	Positive	

3.1 What is the complete diagnosis?   (10 marks)

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3.2 Outline the management of this patient for next 48 hours.   (30 marks)

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Patient's clinical condition started to deteriorate after 20 hours of hospital stay while receiving the recommended treatment.
Her vitals are
Blood pressure – 80/70 mmHg
Pulse rate – 126/minute, Regular

FBC (done at 20 hours after admission) shows
WBC 13,000/mm^3
Hb – 12.1g/dL
Hct – 36.3
Platelets – 12,000/mm^3

3.3 What is the likely cause for her deterioration?   (10 marks)

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3.4 Outline the management of the condition mentioned in 3.3 (40 marks)

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3.5 List two other conditions that are known to cause high WBC in this patient   (10 marks)

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Question Number: 04

A 21-year-old university undergraduate student presents with low grade fever of one-month duration associated with polyarthralgia involving small joints of hands and hair loss. On examination, she is pale, febrile and has cervical lymphadenopathy and alopecia. Rest of the physical examination is unremarkable.

Initial investigations reveals:

Hb   9g/dl(12-15), MCV 88 fl

WBC   4200/mm^3 (4000-11000), N 75%, L15%

Platelet 95,000/mm^3 (150,000-450,000)

ESR   102mm in 1st hour (<20)

CRP   6.5mg/L (<8)

UFR   Protein   ++

   RBC   20-30/ HPF

   Pus cells 12-16/HPF

   Cast-red cell cast +

4.1 What is the most likely diagnosis?   (10 marks)

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4.2 List **five** diagnostically important blood investigations in this patient?   (15 marks)

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4.3 If her CRP has increased to 120mg/L while in the ward, what are the **three** causes you
would look in this patient? (10 marks)

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4.4 Outline the management of this patient? (45 marks)

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4.5 Outline the health related implications to her and the fetus if she becomes pregnant.

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Question Number: 05

A 38-year-old female presents to the medical clinic with tiredness, lethargy and poor exercise tolerance of one month duration on a background of sero-positive rheumatoid arthritis on regular medications. Her menstrual periods are irregular with menorrhagia for the last 6 months duration.

Her regular medications are Methotrexate 15mg once weekly, Folic acid 5 mg once weekly, Diclofenac Sodium 50 mg PRN and Omeprazole 20 mg PRN.

On examination, she is pale and has joint deformities related to her arthritis. Abdominal examination reveals a firm splenomegaly of 5cm below the costal margin.

Initial investigations reveals
Hb   8g/dL(12-15)
WBC   4800 /mm^3 (4000-11000), N-70%, L – 20%
Platelet   120,000 / mm^3 (150000-450000)
ESR   95 mm/1st hour (<20)
TSH   15 mIU/L(0.5-5.0)

5.1 Name **four** likely causes for bicytopenia in this patient?   (20 marks)

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While in the ward she developed dark colour urine, worsening of lethargy and jaundice. Subsequent investigations reveals
Hb 4g/dL   MCV 110 fl (80 – 95)
Serum total bilirubin 5mg/dl (0.1-1.2)
Direct bilirubin 1mg/dL

5.2 What is the most likely diagnosis for the acute deterioration?   (10 marks)

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5.3 List the other supportive investigations you will perform for the condition mentioned in 5.2 and give the expected findings. (20 marks)

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5.4 Name a blood test to confirm your diagnosis mentioned in 5.2 (10 marks)

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5.5 How will you manage the condition mentioned in 5.2? (40 marks)

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Question Number: 06

A 60-year-old male with decompensated liver cirrhosis complicated with portal hypertension presents with recurrent episodes of hematemesis since morning. On examination, he is pale, icteric and sweaty with pulse rate of 130 bpm and BP of 80/60mmHg. His Glasgow Coma Scale (GCS) on arrival is 15.

6.1 What is the most likely cause for the hematemesis?   (10 marks)

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6.2 How will you manage this patient during the first 24 hours?   (40 marks)

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After receiving the appropriate initial treatment at the A&E, he was transferred to medical ward. Next day morning on the ward round, you found him confused and drowsy. His vitals are stable with heart rate of 90 bpm and Blood Pressure of 110/70mmHg, but his Glasgow Coma Scale (GCS) dropped to12/15. Random blood glucose is 110mg/dL.

6.3 What is the most likely reason for his deterioration? (10 marks)

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6.4 What **three** investigations you will arrange to support the condition mentioned in 6.3?

(15 marks)

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6.5 Outline the management of the condition mentioned in 6.3? (25marks)

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Question Number: 07

A 40-year-old teacher is referred to the medical clinic for further evaluation of lethargy and exertional tiredness. She finds difficult to do her teaching activities in the newly built air conditioned class room. She has menorrhagia for past 3 months. On examination, she looks pale and her heart rate is 56 bpm,regular and blood pressure is 140/100 mmHg.

7.1 What is the unifying diagnosis?   (10 marks)

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7.2 List the other clinical signs you may be able to elicit in this patient.   (20marks)

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7.3 What investigations you would request for this patient in the clinic and give the abnormalities expected? (20 marks)

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7.4 List **three** possible causes of anemia in this patient? (15 marks)

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7.5 How will you manage this patient? (35 marks)

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Question Number: 08

A 63-year-old man is admitted for further evaluation of generalized body swelling for 3 months duration. He also has noted intermittent leg swelling for last one year duration. He has shortness of breath on moderate exertion but denies any chest pain or palpitation. He has been a diabetic for last 20 years and on regular medications.

On examination, he has bilateral pitting edema up to knee with early clawing of the toes. His BP is 150/90mmHg and has both reduced breath sounds and vocal resonance in the right base of the lung.

His investigations are

Hb   12g/dL (12-15), WBC 11,000/mm³(4,000-11,000),Platelets 170,000(150,000-450,000)

UFR   Protein +++

        Pus cells 05-08/HPF

        RBC- Nil

Serum Creatinine   1.6 mg /dl (0.7-1.1)

Serum Sodium   124mmol/l   (135-145)   Serum Potassium 4.8 mmol/l (3.5-5.5)

Total protein   62 g/L (60-83)   Serum Albumin   28g/L(34-54)

Urine Protein : Creatinine ratio : 460 mg/mmol (Normal <15)

Ultrasound scan KUB shows normal sized kidneys and normal bladder without any features of obstruction.

Transthoracic echocardiography shows a preserved ejection fraction of 60%.

8.1 a) What is the diagnosis for the current presentation?   (10marks)

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  b) What is the most likely aetiology?   (10 marks)

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8.2 What further physical signs would you expect in the focused examination?   (20 marks)

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8.3 Briefly discuss the measures that you would consider for this patient to reduce the

proteinuria and retard the progression of kidney disease?   (30 marks)

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8.4 List **four** clinical/laboratory findings that would suggest you to evaluate for an alternative
aetiology for this clinical presentation. (10 marks)

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8.5 a) What is the likely mechanism of hyponatraemia in this patient? (10 marks)

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b) How would you treat the hyponatraemia in this patient? (10 marks)

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Question Number: 09

A 34-year-old female with Type 1 DM for last 10 years presents with drooping of eyelids for last 3 weeks duration. Her symptoms are more in the evening. On further questioning she reports shortness of breath on moderate exertion and tiredness. Examination reveals bilateral ptosis. Other nervous system examination and system examinations are unremarkable.

9.1. What is the most likely diagnosis for this presentation?   (5 marks)

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9.2 List **three** other clinical manifestations she can develop related to the diagnosis mentioned in 9.1?

(10 marks)

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9.3 List **two** bed side tests that can be performed to support your diagnosis mentioned in 9.1?

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9.4. List **four** diagnostically important investigations for the condition mentioned in 9.1?

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9.5 Discuss the treatment for the diagnosis mentioned in 9.1   (40 marks)

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9.6. After 3 months, patient gets admitted with unconsciousness. List **five** most likely causes
for unconsciousness in this patient? (15 marks)

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Question Number: 10

A 30-year-old male presents with day time somnolence and worsening of difficulty in breathing of 2 weeks duration. He is a non-smoker. On examination, he is obese with BMI of $38kg/m^2$, drowsy with Glasgow Coma Scale (GCS) of 15/15, plethoric and has bilateral oedema up to mid-calf region. His vitals include a pulse rate of 110bpm and a blood pressure of 150/90 mmHg. Respiratory examination reveals no abnormalities.
S_PO_2 at the time of admission is 87% on room air.

His Arterial Blood Gas (ABG) findings are
pH   7.35(7.35-7.45)
PCO2   78mmHg(35-45)
PaO2   53mmHg(75-100)
HCO3$^-$ 39mmol/L(22-28)
Base excess +7 mmol/l(-2 to +2)

10.1. What is the interpretation of the ABG findings?   (10 marks)

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10.2 What is the likely disease that has caused the above ABG abnormality?   (10 marks)

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10.3. List **five** salient points in the history that you would gather to support the diagnosis

mentioned in 10.2?   (15 marks)

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10.4. Name the test to be performed to confirm the diagnosis mentioned in 10.2?   (10 marks)

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10.5. List the other relevant investigations you would carry out in this patient?   (20 marks)

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10.6 Outline the management of this patient?   (35 marks)

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