

**UNIVERSITY OF JAFFNA, SRI LANKA**

**FINAL EXAMINATION FOR MEDICAL DEGREES (1<sup>ST</sup>) – NOVEMBER 2018**

**MEDICINE PAPER II**

DATE: 26.11.2018

TIME: 3 HOURS

**Answer all TEN (10) Questions**

**Answer each question in separate answer book.**

**01** A 60-year old male presented to the medical ward with a history of central chest pain while cycling for about 15 minutes. It was relieved by rest. He has Type 2 Diabetes Mellitus and hypertension and followed up regularly at a medical clinic.

On examination, the pulse rate was 100 beats per minute, regular and BP was 160/100 mmHg. Results of his initial investigations are given below

RBS - 180mg/dl

Hb 9.5g/dl,

MCV 88fl,

Serum creatinine - 2.2mg/dl,

Na 138 mEq/l, K 4.5 mEq/l

UFR - protein +

ECG – Left Ventricular Hypertrophy

2D Echo - LVH with an EF of 55%.

His routine medications are metformin 500 mg tid, Glibenclamide 5mg bd, Amlodipine 5mg bd, HCT 25 mg daily and Atorvastatin 20 mg daily.

- 1.1 What is the working diagnosis for his presentation? (10 Marks)
- 1.2 Name the risk factors identified in this patient for the above diagnosis mentioned in 1.1 (25 Marks)
- 1.3 What is the next step in evaluating his chest pain? (10 Marks)
- 1.4 Name a drug that should be added to treat the condition mentioned in 1.1 (10 Marks)
- 1.6 List two indications to initiate ACEI. (10 Marks)
- 1.7 What two biochemical parameters you should monitor after initiating ACEI? (10 Marks)
- 1.8 How will you manage his diabetes? (25Marks)

02.

2.1 A 48-year-old female presented to the medical ward with tiredness, myalgia and poor exercise tolerance of 2 weeks duration. Her regular medication was thyroxine 100 micrograms daily. She denies any other symptoms.

Her routine investigations done a month ago revealed:

TSH 2.5, Hb 12.2g/dl, MCV 88fl, WBC 10200/cumm, N-70, L-28,  
Plaetes – 188,000 per cumm,  
ESR-35mm 1<sup>st</sup> hour. Renal and Liver profile were normal.

On examination, she was markedly pale and mildly icteric. She had a diffuse thyroid enlargement. Her pulse rate 100 bpm regular, BP 130/70 mmHg. Rest of the systemic examination was unremarkable.

Blood investigations at this presentation shows;  
Hb 5.2g/dl, MCV 101 fl, WBC 11200/cumm, N 72, L 25,  
Plt 152,000/cumm, ESR 105 mm 1<sup>st</sup> hour.

- 2.1.1 What is the clinical diagnosis for the above presentation? (10 Marks)
- 2.1.2 What are the abnormalities expected in the blood film? (20 Marks)
- 2.1.3 Name 3 blood tests you could perform to support your clinical diagnosis mentioned in 2.1.1 (20 Marks)
- 2.1.4 She was given packed cell transfusion. Name two other treatment modalities you would consider during this acute presentation. (10 Marks)
- 2.1.5 If she had frequent relapse on maintenance medications what other treatment options you could offer her? (10 Marks)
- 2.2 A 17-year-old girl presented with a history of excessive bleeding following a dental extraction 2 weeks back. On questioning, she had menorrhagia and evaluated for an episode of left knee effusion in the past. Her blood investigations showed Hb 10.5 g/dl, MCV 72fl, WBC 9200/cumm, N 72, L 25, Platelet 195,000 per cumm. Her bleeding time (BT) 15 min (1-10 min), INR 1.2(1-1.3), APTT 55 sec (30-40)
- 2.2.1 What is the most likely diagnosis? (10 Marks)
- 2.2.2 What is the confirmatory test? (10 Marks)
- 2.2.3 What is the common mode of inheritance? (10 Marks)

03. A 36-year-old female with poorly controlled bronchial asthma while on step 3 management, was admitted to Emergency Department with worsening of symptoms. On examination, her respiratory rate 32/min, pulse 130 bpm. SpO<sub>2</sub> 90% on air, blood pressure 130/80 mmHg and bilateral diffuse polyphonic wheeze.
- 3.1 How will you manage her at emergency unit for the 1<sup>st</sup> one hour? (40 Marks)
- 3.2 Write 7 possible causes for her poor control of symptoms. (20 Marks)

Investigations revealed;

Hb-9.5 g/dl,

WBC 12,000 /cumm, N 50%, E 30%, L 15%, M 5%,

Platelet 250,000 /cumm,

MCV 86fl, MCH 29 pg,

Urine full report:- Albumin trace, Puss cell Nil, RBC 5-10/hpf,

Blood Urea- 30 mg/dl,

Na 140 mEq/l, K 3.9 mEq/l,

Serum creatinine 82 μmol/l, S.ca<sup>++</sup> 2.2 mmol/l. (2.1 – 2.4)

Further evaluation revealed numbness of right leg, painless ulcer over the right foot and erythematous rashes over feet.

- 3.3 What is the most likely condition that will explain all her clinical problem? (10 Marks)
- 3.4 Write 3 investigations that will help in the diagnosis of the above condition mentioned in (3.3) (15 Marks)
- 3.5 List other three pulmonary conditions that can present with high eosinophil count. (15 Marks)

04. A 40-year-old young man was admitted to Emergency Department with acute onset of altered level of consciousness and headache. His blood pressure was 180/120 mmHg, pulse 68 /min, and urgent non-contrast CT brain revealed subarachnoid haemorrhage.

One of his brother had renal disease and awaiting renal transplantation. His father died of intracranial bleeding at his age of 47 years.

His blood investigations were as follows.

Hb 10g/dl, MCV 90fl, MCH 30pg,

WBC 10,000/cumm, N 62%, L 20%, E 3%, M 5%, Platelet 300,000/cumm,

Blood urea 8 mmol/l, PTT 26 seconds, ESR 12mm,

CRP 1.3 mg/L

UFR: Alb +, RBC 30-50/field

- 4.1 List the medical problems he is suffering from. (15 Marks)
- 4.2 What is the unifying diagnosis? (10 Marks)
- 4.3 How you would manage his blood pressure during 1<sup>st</sup> 24 hours? (15 Marks)
- 4.4 How will you investigate his renal problem? (30 Marks)
- 4.5 He wants to know whether his children will develop the same disease, how will you explain? (10 Marks)
- 4.6 What are the reno -protective advices you would give him? (20 Marks)

- 05 A 55-year-old male presented with low backache of three months duration especially in the morning and mobilizing after a period of rest. On examination, he had well demarcated erythematous plaques involving both knees and tenderness on the right sacro-iliac region.
- 5.1 What is the most probable clinical diagnosis of the above presentation? (15 Marks)
- 5.2 What are the other specific sites you will look for the above described rashes? (20 Marks)
- 5.3 What patterns of joint involvement and other physical signs are expected in this clinical condition? (20 Marks)
- 5.4 What are the medications you would prescribe this patient and give reasons? (30 Marks)
- 5.5 List three drugs that can trigger this skin lesions. (15 Marks)
- 06 A 32-year-old male known to have bipolar affective disorder and epilepsy was brought to the emergency department with sudden onset of altered level of consciousness. He was on regular supervised medications and his monthly clinic visits were regular. The next clinic date is due in 5 days. His regular medications are olanzapine 5 mg daily, carbamazepine 400 mg tid and lithium 1 g daily. On clinical examination, his GCS was 8/15 and there were no localizing neurological signs.
- 6.1 What is the most probable reason for his altered level of consciousness? (10 Marks)
- 6.2 Name two other conditions for the above clinical picture. (20 Marks)
- 6.3 What are the clinical parameters you will monitor in this patient? (20 Marks)
- 6.4 What investigations you will request on admission to support the initial management and give reasons? (20 Marks)
- 6.5 How will you treat this patient in the emergency department? (30 Marks)
- 07 A 24-year-old male, a university student presented with fever, anorexia, nausea, jaundice and tender hepatomegaly of one week duration.
- His blood tests were as follows:  
 Serum ALT 2400 IU/L (NR 30-40), AST 2000IU/L  
 Serum ALP 165 IU/L (NR 44 - 147)  
 Hb 13 g/dl, WBC 4500 / cumm, Platelet count 250,000/cumm
- 7.1 What is the most likely diagnosis? (20 Marks)
- 7.2 What tests would you do to arrive at an aetiological diagnosis? (20 Marks)
- On the next morning, he was found to have confusion and flapping tremors.
- 7.3 What complication has occurred? (20 Marks)
- 7.4 Outline the management of this complication. (40 Marks)

08. A 30-year-old female presented with heat intolerance, palpitations, tremors, fatigue and mood disturbances. She also complains of a foreign body sensation in her eyes. Her medical history is otherwise unremarkable. On examination, she was noted to have sweating. Her pulse rate was 110 beats per minute at rest. Examination of the lower limbs revealed waxy discoloured induration of skin in the anterior aspect of legs.
- 8.1 What is the diagnosis? (20 Marks)
- 8.2 List five other clinical features that would look for to support your clinical diagnosis? (20 Marks)
- 8.3 What are the investigations you would perform to confirm your diagnosis and write the expected abnormalities? (20 Marks)
- 8.4 Enumerate the treatment options that are available to treat this condition. (30 Marks)
- 8.5 What are the side effects of the drug treatment? (10 Marks)
- 09 A 21-year-old female presented with a generalized tonic clonic seizure which was witnessed by her mother and a video recording of the event confirmed the seizure. The seizure persisted for 20 minutes despite medications. On further questioning from the age of 15 she had jerky movements of the hand and had two episodes of complex partial seizures which involved the hand with jerky movements. The general practitioner had started her on carbamazepine following which she developed frequent episodes of absences.
- 9.1 What is the current diagnosis of the acute presentation? (10 Marks)
- 9.2 Outline the management steps of this patient during 1<sup>st</sup> 24 hours. (60 Marks)
- 9.3 What is the type of epilepsy syndrome she is having? (10 Marks)
- 9.4 What is the drug of choice for this type of epilepsy? (5 Marks)
- 9.5 Considering the age what advices would you give regarding the drug mentioned in 9.4 (15 Marks)

- 10 A 30-year-old previously healthy male (weight 64 kg) was transferred from a peripheral hospital with a history of fever of 5 days duration which was associated with myalgia, arthralgia and head ache. Clinical examination findings on arrival were shown below.

Temperature	37°C
Blood pressure	85/70 mmHg
Capillary refilling time	5 seconds
Heart rate	142/minute, regular
Abdominal examination	Tenderness over right hypochondrial
Respiratory system	Breath sound reduced on right base

Following results were obtained from transfer form.

FBC	Day 1 of illness	Day 5 of illness
WBC	5000/mm <sup>3</sup>	1500/mm <sup>3</sup>
Neutrophil	60%	40%
Lymphocyte	35%	56%
Hb	13.3 g/dl	17.3 g/dl
PCV	40	52
platelets	206,000/mm <sup>3</sup>	46,000/mm <sup>3</sup>

- 10.1 What is the most likely diagnosis? (15 Marks)
- 10.2 Write 4 step in the management of this patient in the first hour. (40 Marks)
- 10.3 Write an important information you would like to gather from the peripheral hospital to manage this patient? (10 Marks)

After initial treatment, following results were obtained on clinical assessment and investigations

Blood pressure (BP) – 90/70 mm Hg

HR – 126 bpm

AST – 8600 U/L

ALT – 5490/U

FBC WBC – 13,460/mm<sup>3</sup>

Hb 12g/L

PCV 36

Platelets – 36,000/cumm

- 10.4 List two reasons for raised WBC (20 Marks)
- 10.5 What type of fluid you would like to administer? (15 Marks)