

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (EMERGENCY MEDICINE) EXAMINATION – OCTOBER 2022**

**Date:-** 14<sup>th</sup> October 2022

**Time:-** 9.00 a.m. – 12.00 noon

**STRUCTURED ESSAY QUESTION PAPER**

Answer **all ten (10)** questions.

Answer each question in a separate book.

1. An 84-year-old woman with long standing diabetes and hypertension was admitted to the Emergency Department with fever and progressive altered level of consciousness for five days. On arrival her respiratory rate was 22/minute, SpO<sub>2</sub> 96 %, blood pressure 90/60 mmHg, pulse rate 112 beats/minute, GCS 12/15 and temperature was 39.4°C. Her capillary blood glucose revealed a high index.
  - 1.1. List five (05) important findings in the history and examination that would help in the initial evaluation. (20 marks)
  - 1.2. State five (05) important steps in initial management. (25 marks)

Initial blood reports are available:

Serum creatinine	234 µmmol/L	(60-106)
Serum urea	15 mmol/L	(7-30)
Serum sodium	140 mmol/L	(135-145)
Serum potassium	4.8 mmol/L	(3.5-5)
Serum chloride	105 mmol/L	(95-105)
Venous blood glucose	900 mg/dL	(70-110)
Venous blood gas		
pH	7.38	
HCO <sub>3</sub> <sup>-</sup>	23 meq/L	
Urine ketone bodies	Negative	

- 1.3. State your clinical diagnosis giving reasons. (15 marks)
- 1.4. Discuss five (05) important steps in your subsequent management. (40 marks)

Contd...../2-

2. A 34-year-old patient presents to the Emergency Department with a history of sudden onset difficulty in swallowing while taking his lunch. He also complains of chest discomfort.

His vital parameters are

A	Drooling of saliva	
B	Respiratory rate	16/minute
	SpO <sub>2</sub>	99 % on air, equal air entry without any added sounds
C	Blood pressure	134/76 mmHg
	Heart rate	90 beats/minute
D	GCS	15/15
	Random blood sugar	143 mg/dL

An oesophageal food bolus impaction is suspected.

- 2.1. List three (03) specific sites in the oesophagus where a foreign body can get impacted. (15 marks)
- 2.2. List five (05) steps in your initial management. (30 marks)
- 2.3. State five (05) possible immediate complications associated with oesophageal foreign body impactions. (25 marks)
- 2.4. Name three (03) types of foreign bodies other than food, that are associated with developing complications listed in 2.3. (30 marks)

3. A 36-year-old man is brought to the Emergency Department after being assaulted. He is conscious. Pulse rate is 130 beats/minute, blood pressure is 85/50 mmHg. He complains of severe abdominal pain and chest pain.

- 3.1. State six (06) steps in the first hour of management. (30 marks)

There is no external bleeding observed.

- 3.2. List five (05) possible causes for his initial hypotension. (20 marks)

Despite the initial fluid resuscitation, his blood pressure becomes unrecordable.

- 3.3. List five (05) steps in the management of this situation. (30 marks)

This patient is successfully resuscitated in the Emergency Department. The radiological diagnosis is a grade III liver injury.

- 3.4. Discuss your approach in this situation. (20 marks)

Contd...../3-

4. A 52-year-old woman with diabetes, hypertension and on warfarin, presents to the Emergency Department with mild weakness in her left face, arm and leg. On examination, she has irregularly irregular pulse rate of 88 beats/minute and blood pressure of 180/100 mmHg. Precordial examination reveals midline sternotomy scar, with a metallic click and systolic murmur at mitral area.

4.1. List four (04) possibilities for this presentation. (10 marks)

This patient has presented one hour after the onset of symptoms. Imaging studies were ordered.

4.2. List two (02) other essential investigations that you would perform. (15 marks)

Her non contrast CT brain appears normal.

4.3. Discuss five (05) steps in the immediate management of this patient. (50 marks)

While managing the patient she developed a tachycardia of 140/minute which is irregularly irregular.

4.5. State your emergency management with the justification. (15 marks)

4.6. List four (04) risk factors that you could identify on this patient for this presentation. (10 marks)

5. A 50-year-old average built (60 Kg) man is brought to the Emergency Department with a history of vomiting and abdominal pain. He complains that he had a lump in the right groin for 2 years which disappears when lying down. He has a history of deep vein thrombosis for which he is on warfarin.

On examination he has a lump in the groin which is tender. Abdomen is distended. Digital examination revealed an empty rectum.

5.1. State the most probable diagnosis in this patient. (10 marks)

5.2. List five (05) important steps in your initial management. (30 marks)

5.3. Name six (06) essential investigations which are important in the management of this patient. (20 marks)

A decision to operate the patient is made by the surgical team.

5.4. List two (02) methods available for the reversal of the effects of warfarin. (10 marks)

On catheterization of the patient his urine output was nil.

5.5. Discuss how you would manage the present situation. (30 marks)

6. A term baby boy, who was delivered by emergency LSCS due to lack of progress was discharged home on day three. He is brought to the Emergency Department on day five with a history of four episodes of vacant staring and unresponsiveness. Few jerky movements of upper limbs have been noted by the parents during these episodes. His birth weight was 3.1 Kg and present weight is 2.6 Kg. He is lethargic and not interested in feeding.

The following investigations are available

Serum electrolyte		
Sodium	128 mmol/L	(136-145)
Potassium	6.8 mmol/L	(3.5-5)
Random blood sugar	32 mg/dL	

- 6.1. List two (02) most important differential diagnoses to be considered in this child. (20 marks)
- 6.2. List five (05) other physical signs you would look for to arrive at a diagnosis. (25 marks)
- 6.3. Give four (04) other investigations indicated in this baby. (20 marks)
- 6.4. Briefly outline the initial management. (35 marks)
7. A 31-year-old woman with recurrent exacerbations of asthma presents to the Emergency Department. After the initial management, her attending team decides that she needs short term ventilation.

- 7.1. List the ventilator setting you would use in this patient. (40 marks)

Five minutes after intubation and commencing ventilation, patient starts to desaturate.

- 7.2. Mention five (05) possible causes for her desaturation. (20 marks)

Your registrar attends to the patient and her oxygenation is now improved with a SaO<sub>2</sub> of 95%. The patient is awaiting to be transferred to the intensive care unit but becomes hypotensive with a blood pressure of 75/40 mmHg. Patient had a normal pre-intubation blood pressure.

- 7.3. List four (04) possible reasons for this situation and how you would manage each of those. (40 marks)

Contd...../5-

8. A 57-year-old laboratory worker was brought to the Emergency Department after an accidental aspiration of a mouthful of diesel while trying to siphon from a tank. On the same evening he had consumed more than his usual amount of illicit alcohol. On admission he had severe abdominal pain, vomiting, visual disturbances, and unsteadiness of gait. He had no significant past medical history of relevance.

On examination he was oriented in time and space but appeared distracted. Respiratory rate was 32/minute with few crackles in both lung fields. His oxygen saturation was 96 % on room air. His blood pressure was 105/57 mmHg and pulse rate was 112 beats/minute, good volume. Cardiovascular examination was otherwise normal. His temperature was 98°F.

His muscle tone, power, reflexes and sensation were symmetrically intact. His gait was unsteady with wide-based stance, heel to shin test and rapidly alternating movement signs were positive. CT brain was reported as normal.

- 8.1. Give two (02) possible differential diagnoses for the above clinical presentation. (30 marks)

The arterial blood gas, on air

pH	7.28	
pCO <sub>2</sub>	27 mmHg	
pO <sub>2</sub>	98 mmHg	
HCO <sub>3</sub> <sup>-</sup>	12.4 mmol/L	
Base Excess	12.6 mmol/L	
Sodium	146.6 mmol/L	
Potassium	4.5 mmol/L	
Chloride	102 mmol/L	
Lactate	1.26 mmol/L	
Urea	4.5 mmol/L	(2.9-7.9)
Random Blood Glucose	6.6 mmol/L	

- 8.2. What is your interpretation of the arterial blood gas report? (10 marks)
- 8.3. Mention one (01) other important information that can be obtained from the above data. (10 marks)

His chest x-ray is reported as normal.

- 8.4. Name two (02) other blood investigations that would help you in arriving at a diagnosis of the acid base imbalance. (10 marks)
- 8.5. Name four (04) treatment options in the management of the likely diagnosis. (40 marks)

9. A 30-year-old man presents to Emergency Department with progressive difficulty in walking for the last 48 hours. There is no history of recent trauma. He is normally fit and well and plays cricket three times a week.

9.1. Give five (05) possible causes for his presentation. (20 marks)

9.2. List five (05) salient features in the history which would help you reach a diagnosis. (20 marks)

Neurological examination revealed that his lower leg power is 3/5 (globally) and has absent knee and ankle reflexes. Lower limb sensory examination was normal.

9.3. What is the most likely diagnosis and how would you confirm? (10 marks)

9.4. List four (04) potential life-threatening complications of this condition. (20 marks)

9.5. Give four (04) steps that you would take in the Emergency Department to prevent the above complications. (20 marks)

9.6. What is the definitive treatment for this condition? (10 marks)

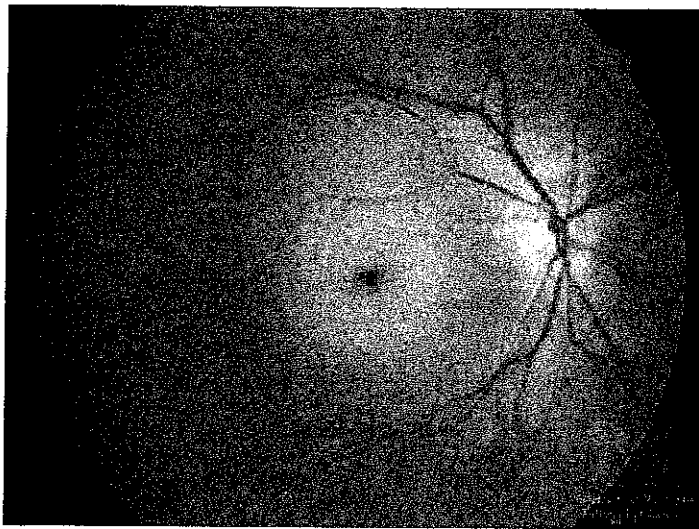
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10. A 70-year-old man presents to the Emergency Department with loss of vision in his right eye while watching television. He denies any trauma or pain in his eye. His past history reveals diabetes and hypertension. He has been a smoker for the last 50 years.

10.2. List six (06) potential causes for sudden loss of vision of his right eye. (30 marks)

Further examination reveals that his right eye pupillary reflex is sluggish to direct light but normal to consensual stimulation.

Fundoscopy reveals the following.



10.3. Describe two (02) findings in his fundoscopy. (20 marks)

10.4. Indicate the most likely diagnosis. (10 marks)

10.5. Discuss your management of this patient in the Emergency Department. (40 marks)

