



THE HONG KONG COLLEGE OF ANAESTHESIOLOGISTS

FINAL FELLOWSHIP EXAMINATION (INTENSIVE CARE) LONG ANSWER PAPER

2 Questions

Monday 10 July 2023
1:00 pm - 3:00 pm

NOTICE

- Write your answers to the two questions in separate books.
- Read the questions carefully, and in view of the time available, balance your answers to encompass points of great importance without going into needless detail.
- Record your number on the cover of each book and hand in all books.
- Use ink or ball-point pen.

QUESTION 1

A 24-year-old woman with no significant medical history was brought to the Accident and Emergency department (AED) for abnormal behavior. When arrived at AED, she was running a low-grade fever, mumbling incomprehensible sounds and not cooperative with the physical examination. Her initial GCS was E2V2M4. Her blood pressure was 100/75 mmHg, pulse 110 bpm and SpO₂ was 97% on room air.

- List 5 differential diagnosis of her clinical presentation and explain the underlying rationale. (10 marks)**

She was noted to have lower limbs twitching and evolved in to grand mal seizures. It subsided transiently with intravenous Midazolam, yet she developed another episode of generalized seizures. She was taken over to ICU for further management.

- What is the definition of Status epilepticus (5 marks)**
 - Name 5 systemic complications of Generalized Convulsive Status Epilepticus (10 marks)**
- Briefly outline how you would manage her seizures. (20 marks)**

Urgent MRI brain and lumbar puncture were performed.

- Please interpret the CSF findings (5 marks)**

CSF Parameters	
Opening pressure cmH ₂ O	12
Protein (mg/dL)	50
Glucose (mmol/L)	3 (blood glucose level 5mmol/L)
WCC (count/mm ³)	800
WBC differential	Mononuclear lymphocyte predominates
Gram stain	Negative

Initial findings on her MRI brain showed asymmetrical changes in signal intensities in the mesial temporal lobes, inferior frontal lobes, and insula.

5. What is the diagnosis? (5 marks)

6. What are the roles of EEG in this condition? (10 marks)

After 8 days of treatment, she was noted to have brown urine. Her serum creatinine kinase (CK) level was elevated (7000 U/L) and her urine was positive for myoglobin.

7. (a) What is the diagnosis (5 marks)

(b) Outline the management plan (10 marks)

8. After her condition was settled, she was found to have generalized weakness. Physical examination noted reduced muscle tone and tendon reflexes. What are the risk factors for this condition? (5 marks).

Three weeks after admission, her GCS was E2VtM4 without any sedatives and was tracheostomized. She required intermittent assisted ventilation. During a morning round, she was noted to be tachypneic and sweating with a respiratory rate of 40-50 /min and SpO₂ of 93% on FiO₂ 0.4. Her blood pressure shoots up to 180/100 mmHg with sinus tachycardia of 130 bpm.

9. Name 3 differential diagnosis and briefly outline how you manage this situation. (10 marks)

The patient develops cardiac arrest and cardiopulmonary resuscitation (CPR) was initiated immediately with return of spontaneous circulation (ROSC) after 5 minutes. She was stabilized subsequently on low dose inotropic and moderate level of mechanical ventilatory support. The family wishes to discuss the option of do not attempt CPR (DNACPR).

10. Please explain how you would approach this request. (5 marks)

QUESTION 2

A 47-year-old hotel waiter was rescued from a hotel fire. He was trapped in the corridor of the hotel for about 30minutes. He is brought to the nearest major trauma hospital where trauma call is activated. At Accident and Emergency Department(AED) the assessment is as follows.

GCS E2V2M5

Pulse 98bpm Blood pressure 110/60mmHg

SpO2 98% while on non-rebreathing mask O2 15L/min. Respiratory rate 30/min

He has 10% second degree burns over the chest. His mouth is swollen and there is soot in his sputum.

No other external injuries noted.

He had good past health.

- 1. Describe in detail your management of this patient during his stay in AED (20 marks)**
- 2. (a) How would you assess the extent and degree of his burn injury? (10 marks).
(b) Explain how you would calculate the fluid requirement in burns patients for the first 24 hours. (5 marks)**
- 3. The patient's carboxyhaemoglobin level was 30% and decided for Hyperbaric Oxygen therapy(HBOT). How would you prepare this patient for transport? (10 marks)**

The patient is returned to your ICU after receiving HBOT.

- 4. (a) Describe the pathophysiology of inhalational injury. (5 marks)
(b) How would you manage his inhalational lung injury and mechanical ventilation? (20 marks)**
- 5. By day 10 in ICU he is on low ventilator support. His conscious state remains poor and your team decides that he needs a tracheostomy.
(a) List the contraindications for percutaneous tracheostomy. (5 marks)
(b) Describe in detail how you would perform percutaneous tracheostomy. (25 marks)**

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