

## Specialty Certificate in Acute Medicine Sample Questions

### Question 1

A 50-year-old woman was admitted with sepsis secondary to pneumonia. She was treated with oxygen, intravenous antibiotics and repeated fluid challenges to a total volume of 4.5 L (equivalent to 60 mL/kg) of sodium chloride 0.9%.

On re-assessment, her pulse was 122 beats per minute, her blood pressure was 82/40 mmHg (mean arterial pressure 54) and her respiratory rate was 24 breaths per minute. Oxygen saturation was 92% (94–99), breathing 40% oxygen. Her central venous pressure was 12 mmHg.

In attempting to restore the blood pressure, what is the most appropriate intravenous therapy?

- A colloid
- B dopamine
- C furosemide
- D further crystalloid
- E noradrenaline (norepinephrine)

## Question 2

A 73-year-old woman was referred to the acute medical unit for assessment of her palpitations. One hour after arriving, she complained of a return of her palpitations with a central crushing chest pain. She became distressed and agitated. She was given aspirin and sublingual glyceryl trinitrate. Oxygen was given at 15 L per minute via a reservoir mask.

On examination, her pulse was thready and hard to count. Her blood pressure was 88/55 mmHg, her respiratory rate was 20 breaths per minute and her oxygen saturation was 98% (94–99). A cardiac monitor was attached and showed a narrow-complex irregular tachycardia with a ventricular rate between 150 and 160 beats per minute. A large-bore intravenous cannula was inserted.

What is the most appropriate next step in management?

- A intravenous adenosine
- B intravenous digoxin
- C intravenous flecainide
- D intravenous verapamil
- E synchronised cardioversion

### Question 3

A 77-year-old man presented after a single episode of unilateral weakness of the left arm that lasted for 2 hours. On examination, his pulse was 80 beats per minute and regular, and his blood pressure was 170/100 mmHg. There was no neurological deficit. His ABCD2 score was 6.

He was given 300 mg of aspirin while awaiting investigations.

What is his chance of having a stroke in the first week?

- A 5%
- B 10%
- C 20%
- D 30%
- E 40%

#### Question 4

A 43-year-old woman was referred to hospital with a persistent headache of 4 days' duration. It had come on gradually and had not been associated with vomiting. Her general practitioner had found her blood pressure to be elevated at 214/118 mmHg and had arranged emergency admission. She had no other significant medical history and was taking no regular medication.

On examination, she appeared well. She had a round face and her body mass index was 32 kg/m<sup>2</sup> (18–25). Her pulse was 90 beats per minute and her blood pressure was 218/116 mmHg. Peripheral pulses were normal with no radiofemoral delay. Heart sounds were normal. Fundoscopy showed grade 2 hypertensive changes but no papilloedema.

Investigations:

urinalysis

protein 2+; blood negative; nitrite negative; leucocytes negative

12-lead ECG

sinus rhythm with changes consistent with left ventricular hypertrophy

What is the most likely diagnosis?

- A acute glomerulonephritis
- B cerebral tumour
- C Cushing's syndrome
- D essential hypertension
- E phaeochromocytoma

### Question 5

A 42-year-old woman presented with a 1-week history of vomiting and diarrhoea. This had begun after she was involved in a road traffic collision. She also complained of feeling dizzy on standing. Her family said that she had been slightly confused and slurred her words.

On examination, her pulse was 114 beats per minute and her blood pressure was 85/40mmHg.

Investigations:

haemoglobin	116 g/L (115–165)
platelet count	$364 \times 10^9/L$ (150–400)
serum sodium	123 mmol/L (137–144)
serum potassium	6.4 mmol/L (3.5–4.9)
serum creatinine	123 $\mu\text{mol/L}$ (60–110)
random plasma glucose	2.8 mmol/L

What is the most likely diagnosis?

- A autoimmune adrenal failure (Addison's disease)
- B gastroenteritis
- C hypothyroidism
- D insulinoma
- E syndrome of inappropriate antidiuretic hormone

### Question 6

A 23-year-old man presented after having collapsed in a Chinese restaurant. He gave a history of a previous similar episode after having eaten nuts. On examination, his pulse was 120 beats per minute and his blood pressure was 95/60 mmHg. His chest was wheezy with an oxygen saturation of 89% (94–99).

High-flow oxygen was administered and a dose of adrenaline (epinephrine) was requested.

In what dose and by what route should adrenaline (epinephrine) be given?

- A 500 µg intramuscularly
- B 500 µg intravenously
- C 1 mg intramuscularly
- D 1 mg intravenously
- E 10 mg intravenously

### Question 7

A 32-year-old man presented with a 3-week history of headaches, fever, sore throat, myalgia, anorexia and generalised non-pruritic rash. He had no other significant medical history and had not been given a blood transfusion in the past.

On examination, vital signs were normal except for a temperature of 37.4°C. Enlarged non-tender lymph nodes were noted in the axillae, submandibular areas and both groins. Throat examination was normal. He had no meningeal signs and detailed cardiorespiratory, abdominal and neurological examinations were normal. Generalised maculopapular rash was noted.

Investigations:

heterophil antibody test	negative
blood film	atypical lymphocytosis

What is the most likely diagnosis?

- A cytomegalovirus infection
- B group A streptococcus infection
- C HIV seroconversion
- D secondary syphilis
- E toxoplasmosis

### Question 8

A 70-year-old man was admitted to hospital with severe shortness of breath. He had a history of emphysema. On examination, he had diminished breath sounds over the left side of the chest.

Investigations:

chest X-ray

large left pneumothorax

What is the most appropriate next step in management?

- A insert 14F drain immediately above a rib margin
- B insert 14F drain immediately below a lower rib margin
- C insert 14F drain in the scalene triangle
- D insert 28F drain immediately below a lower rib margin
- E insert 28F drain in the scalene triangle

**Answers:**

1. E
2. E
3. B
4. D
5. A
6. A
7. C
8. A