

Intensive Care Medicine SBA Questions

1. A pulmonary embolus is suspected in a patient in the ICU. He is haemodynamically stable.

Which investigation is the most useful for the diagnosis of pulmonary embolus in this patient?

- A. Transoesophageal echocardiography
- B. CT pulmonary angiography
- C. 12 lead ECG
- D. Isotope lung scanning
- E. Blood D-Dimer

ANSWER = B

2. A 75 year-old man is admitted to HDU following an episode of severe chest pain and collapse with transient loss of consciousness. On admission he is conscious but complaining of chest pain radiating into his back. Blood pressure measured in the right arm is 210/110. The left radial pulse is absent and there are signs of a left hemiparesis

Which one of the following is the most likely diagnosis?

- A. Acute pulmonary embolism
- B. Acute myocardial infarction with systemic embolisation.
- C. Dissecting aneurysm of the thoracic aorta
- D. Acute rupture of the aortic valve
- E. Rupture of a mycotic aneurysm of the aortic arch

ANSWER = C

3. A 60 year-old woman has had a mitral valve replacement for chronic mitral stenosis and is on cardiac ITU post-operatively. She is awake and self ventilating. S_{pO_2} 91%, $F_iO_2=0.6$. Monitoring shows atrial fibrillation at 90/min, blood pressure 88/60 and pulmonary artery pressures of 45/15.

Which single drug is most appropriate first line treatment to reduce the pulmonary artery pressure?

- A. Inhaled nitric oxide
- B. Inhaled prostacyclin
- C. Oral sildenafil
- D. Intravenous isoprenaline
- E. Intravenous milrinone

ANSWER = E

Acute & Chronic Pain SBA Questions

1. A previously fit 5-year-old girl is distressed & in severe pain in the recovery room following emergency appendicectomy. She is awake and cardiovascularly stable. Intraoperatively, she received fentanyl 2 mcg kg^{-1} iv, paracetamol 15 mg kg^{-1} iv & diclofenac 1 mg kg^{-1} PR.

What would be the most appropriate analgesia option for her now?

- A. Administer Entonox until the child calms down
- B. Codeine phosphate 1 mg kg^{-1} orally
- C. Codeine phosphate 1 mg kg^{-1} intramuscularly
- D. An intravenous morphine infusion at $10 \text{ mcg kg}^{-1} \text{ hour}^{-1}$
- E. Morphine 0.1 mg kg^{-1} intravenous bolus

ANSWER = E

2. A 53 year- old woman with an indwelling lumbar epidural catheter in situ following a total abdominal hysterectomy complains of incisional pain. She develops perioral tingling and a feeling of light- headedness during administration of a 10 mls bolus of 0.25% levobupivacaine.

What is the most likely cause for the patient's symptoms?

- A. Hypotension secondary to sympathetic blockade
- B. Intraneural injection of local anaesthetic
- C. Intrathecal injection of local anaesthetic
- D. Intravascular injection of local anaesthetic
- E. Subdural injection of local anaesthetic

ANSWER = D

3. A 70-year-old woman is referred to the Pain Clinic with severe shooting pains in the upper half of the left side of her face, which are made worse by eating. Physical examination and all investigations are normal. Simple analgesics have not provided effective pain relief.

Which of the following would be the single best initial treatment to offer her?

- A. Carbamazepine
- B. Topical capsaicin ointment
- C. Oral morphine
- D. Transcutaneous nerve stimulation (TENS)
- E. Fluoxetine

ANSWER = A

Clinical anaesthesia SBA Questions

1. A patient becomes severely hypotensive after induction of anaesthesia with propofol, fentanyl and succinylcholine. The patient has been resuscitated and anaphylaxis is suspected.

Which is the most informative test in the first hour following resuscitation?

- A. Urinary methylhistamine
- B. Plasma histamine
- C. Serum mast cell tryptase
- D. Specific IgE for succinylcholine
- E. Total plasma IgE

ANSWER = C

2. An 84 year-old woman scheduled to undergo surgery for a fractured neck of femur develops atrial fibrillation at a rate of 140 beats/minute following induction of general anaesthesia. Her blood pressure is 60/40 mmHg and there is no improvement following a rapid transfusion of 500 ml of colloid.

What would be the most appropriate next intervention ?

- A. Incremental doses of adenosine
- B. Bolus dose of amiodarone over 30 mins
- C. Intravenous infusion of esmolol
- D. DC cardioversion
- E. Intravenous infusion of magnesium

ANSWER = D

3. A 10 year-old girl with Down's syndrome presents for adenotonsillectomy. Her family are refugees and have recently arrived in the UK from Somalia. She has recurrent respiratory infections and tires easily when playing. On examination S_pO_2 is 93% in air, aural temperature 37.2°C and she has a non-radiating grade 3/6 systolic murmur.

What is the most appropriate management of this case?

- A. Reassure parents that this is probably an innocent flow murmur and surgery may proceed today
- B. Defer the case pending a full cardiological assessment including an echocardiogram
- C. Ask the paediatric StR to examine the patient and proceed if they think the murmur is innocent
- D. Proceed with the case but ensure that the patient receives antibiotic endocarditis prophylaxis
- E. Measure her Bp and obtain a 12-lead ECG and proceed with surgery if these are both normal

ANSWER = B

4. A 70 year- old man with abdominal pain and vomiting for three days is listed for urgent laparotomy. He is a known hypertensive and diet-controlled diabetic. Pulse rate is 110 beats per minute, blood pressure 105/60 mmHg and he has generalised limb weakness.

Investigations: haemoglobin 180 g/L, potassium 2.2 mmol/L, urea 20 mmol/L, creatinine 95 micromols/L, blood glucose 12 mmol/L

What is the most appropriate initial intervention?

- A. Infuse a litre of 0.9% sodium chloride solution containing 20 mmols of potassium chloride over one hour via a peripheral line
- B. Insert central venous and direct arterial monitoring lines
- C. Infuse a litre of Hartmann's solution over 30 minutes via a peripheral line
- D. Infuse a litre 0.9% sodium chloride solution over 30 minutes via a peripheral line
- E. Commence patient on a sliding scale insulin regimen to maintain glycaemic control

ANSWER = A

5. A 50 year- old man with Crohn's disease requires an urgent laparotomy for small bowel obstruction. He has a body mass index (BMI) of 24kg/m^2 and his airway assessment is normal. However, at previous laparotomy, he was noted to be a grade 2 to grade 3 intubation.

What is the most appropriate anaesthetic management for this patient?

- A. Perform a rapid sequence induction with propofol and rocuronium
- B. Inhalational induction with sevoflurane prior to laryngoscopy
- C. Perform a spinal anaesthetic aiming for a sensory level of T6
- D. Awake fiberoptic intubation before induction of general anaesthesia
- E. Perform a rapid sequence induction with propofol and succinyl choline

ANSWER = E

6. A previously fit 78 year-old man has a transurethral resection of the prostate (TURP) performed under general anaesthesia taking 90 minutes to complete. Half an hour after arrival in the recovery room he has not regained consciousness. Respiratory effort is adequate and vital signs are stable.

Which of the following deranged investigations is most likely to account for his current clinical condition?

- A. Haemoglobin 7.1 g/dl
- B. Serum sodium 114 mmol/L
- C. Serum glucose 2.8 mmol/L
- D. PaO_2 8.9 kPa ($\text{FiO}_2 = 0.35$)
- E. PaCO_2 7.4 kPa

ANSWER = B