

## MCQs

### Venous thromboembolism

#### Question 1

A 24-year-old professional ballet dancer was admitted with acute onset of heaviness, pain and functional impairment of her right (dominant) arm. The arm was cyanotic and swollen. For the past few weeks, she reported transient paraesthesia of her right arm during overhead activities.

She had no past medical history, was taking no medication and had no personal or family history of thrombosis. On examination, her right arm was significantly swollen and cyanotic.

An urgent Doppler USS of the right arm showed axillary and subclavian vein thrombosis.

What is the most appropriate management in this case?

- A Anticoagulation for 3 months
- B Anticoagulation for 6 months
- C Anticoagulation for 6 months and referral to lymphoedema clinic
- D Catheter-directed thrombolysis
- E Intravenous thrombolysis

#### Question 2

A 34-year-old semi-professional weightlifter was admitted with acute onset of heaviness, pain and functional impairment of his right arm. The arm was cyanotic and swollen. For the past few weeks, he reported transient paraesthesia of his right arm during weightlifting. He had no past medical history and no personal or family history of thrombosis.

An urgent Doppler USS of the right arm showed axillary and subclavian vein thrombosis.

What is the most appropriate next investigation in this case?

- A Adson's manoeuvre
- B Chest X-ray
- C CT scan of the abdomen and pelvis
- D CT scan of the thorax
- E Venography of the right arm

#### Question 3

A 50-year-old woman was admitted with pain, redness and swelling of her right thigh that had developed over the preceding 48 hours. Her only past medical history was gastro-oesophageal reflux disease for which she was taking omeprazole 20mg once daily.

On examination there was a 10cm area of inflammation of the superficial veins of the right inner thigh, 7cm from the groin. A Doppler USS of the right leg showed a superficial vein thrombosis in the affected area.

What is the most appropriate management in this case?

- A Catheter-directed thrombolysis
- B Oral Flucloxacillin for 7 days
- C Oral NSAIDs for 2 weeks and anti-embolism stockings
- D Prophylactic LMWH for 4 weeks
- E Treatment dose LMWH for 6 weeks

#### Question 4

A 50 year old businessman was admitted to the Acute Medical Unit with breathlessness on exertion for the last 3 days. He had a dry cough but no other symptoms. His past medical history included chronic kidney disease stage 3 and he was taking ramipril 10mg once daily. He confessed to being under considerable stress with work, was drinking more alcohol than usual and feeling anxious, and he wondered whether his symptoms could be related to that.

On examination he had normal vital signs apart from a raised respiratory rate of 24 breaths per minute and a temperature of 37.7°C. There was nothing abnormal to find on auscultation of the heart and lungs. His abdominal examination was normal. There was no leg swelling.

#### Investigations:

|   |  |
|---|--|
| Haemoglobin                                 | 140 g/L (115–165)  |
| MCV   | 85 fL (80–96)  |
| white cell count                            | $12.4 \times 10^9/L$ (4.0–11.0)  |
| platelet count                              | $350 \times 10^9/L$ (150–400)  |
| serum sodium                                | 134 mmol/L (137–144)   |
| serum potassium                             | 4.5 mmol/L (3.5–4.9)   |
| serum urea                                  | 12 mmol/L (2.5–7.0)  |
| serum creatinine                            | 180 $\mu\text{mol/L}$ (60–110)   |
| eGFR  | 50 (mL/min/1.73 m <sup>2</sup> )   |
| serum total bilirubin                       | 18 $\mu\text{mol/L}$ (1–22)  |
| serum alanine aminotransferase              | 30 U/L (5–35)  |
| serum alkaline phosphatase                  | 50 U/L (45–105)  |
| serum troponin T at presentation            | 31 $\mu\text{g/L}$ (<0.01)   |
| serum troponin T 6 hours after presentation | 62 $\mu\text{g/L}$ (<0.01)   |
| chest X-ray                                 | normal   |
| 12-lead electrocardiogram                   | 99 beats per minute<br>no other abnormalities  |
| Arterial blood gas, breathing air           | PO <sub>2</sub> 12 kPa (11.3–12.6)<br>PCO <sub>2</sub> 3.5 kPa (4.7–6.0)<br>pH 7.5 (7.35–7.45)<br>st bic 28 mmol/L (21–29) |

What is the most likely diagnosis?

- A Acute coronary syndrome
- B Anxiety
- C Chest infection
- D Grave's Disease
- E Pulmonary embolism

### Question 5

A 30-year-old woman presented to Ambulatory Care with pain and swelling of her left leg, which had been present for 2 days. She had no past medical history and was not taking any regular medication apart from the combined oral contraceptive pill. On examination there was obvious swelling of her left leg compared with the right.

Her blood results were normal and a pregnancy test was negative. An urgent Doppler ultrasound scan confirmed a proximal deep vein thrombosis.

What is the correct treatment in this case?

- A Anticoagulation for 3 months
- B Anticoagulation for 6 months
- C Anticoagulation for 6 months + bilateral below knee TED stockings
- D Anticoagulation for life
- E Catheter directed thrombolysis

### Question 6

A 60-year-old man presented to Ambulatory Care with pain and swelling of his left leg, which had been present for 3 days. His past medical history included a smoking history, hypertension and osteoarthritis of the right knee. He was taking ramipril and bendroflumethiazide. There were no other findings on review of systems. On examination there was obvious swelling of his left leg compared with the right, and no other abnormalities.

His initial blood results and urinalysis were normal. An urgent Doppler ultrasound scan confirmed a proximal deep vein thrombosis.

What further investigations should he have?

- A Chest X-ray + CT of abdomen and pelvis
- B Chest X-ray + ultrasound of abdomen and pelvis
- C CT of abdomen and pelvis + prostate specific antigen test
- D CT of chest, abdomen and pelvis
- E Chest X-ray + CT of abdomen and pelvis + mammogram

### Question 7

A 30-year-old woman, who was 20 weeks' pregnant, presented to Ambulatory Care with pain and swelling of her left leg, which had been present for 2 days. She had no past medical history and was not taking any regular medication apart from prn Gaviscon for reflux. On examination there was obvious swelling of her left leg compared with the right. She weighed 70kg at the start of her pregnancy.

Her creatinine, electrolytes, liver tests and baseline clotting results were normal. An urgent Doppler ultrasound scan confirmed a proximal deep vein thrombosis.

What is the recommended initial treatment in this case (based on early pregnancy weight)?

- A Catheter directed thrombolysis
- B Clexane 1.0mg/kg daily
- C Clexane 1.0mg/kg twice daily
- D Clexane 1.5mg/kg daily
- E Clexane for a minimum of 5 days plus Warfarin

### Question 8

A 60-year-old man presented to the Acute Medical Unit via the Emergency Department with a 24-hour history of severe pain and swelling of his left leg. His past medical history included hypertension and osteoarthritis of the right knee. He was taking ramipril and bendroflumethiazide. On examination there was gross swelling and purple discoloration of his left leg compared with the right. He was in severe pain and could not mobilise.

His creatinine, electrolytes, full blood count, liver tests and baseline clotting results were normal. An urgent Doppler ultrasound scan organised by the Emergency Department confirmed an extensive proximal deep vein thrombosis.

What is the best treatment in this case?

- A Catheter directed thrombolysis
- B Intravenous thrombolysis
- C Intravenous heparin
- D Low molecular weight heparin
- E Low molecular weight heparin + left above knee TED stocking

### Question 9

A 30-year-old woman, who was 20 weeks' pregnant, presented to Ambulatory Care with pleuritic chest pain and breathlessness, which had been present for 2 days. She had no past medical history, was a non-smoker and was not taking any regular medication apart from prn Gaviscon for reflux. On examination there was nothing abnormal to find. She had no symptoms or signs of deep vein thrombosis.

Her creatinine, electrolytes, liver tests and baseline clotting results were normal. A chest X-ray was performed which was also normal.

What is the most appropriate next investigation in this case?

- A D dimer level
- B Doppler ultrasound of both legs
- C MR pulmonary angiogram
- D Perfusion scan of the lungs
- E Ventilation-perfusion scan of the lungs

### Question 10

A 54 year old female smoker was admitted with gradually worsening breathlessness over the last 10 days. She reported a cough but no obvious fever or discoloured sputum. Her past medical history included an unprovoked DVT 5 years previously. She was not taking any regular medication. There were no findings on review of systems and nothing abnormal on clinical examination apart from breathlessness.

Her blood results and chest X-ray were normal. A subsequent CT pulmonary angiogram was performed and showed bilateral proximal pulmonary emboli with no evidence of right heart strain. She was started on low molecular weight heparin and Warfarin.

For how long should she be anticoagulated?

- A 3 months
- B 6 months
- C 12 months
- D Depends on her DASH Score
- E Indefinitely

## Answers

Question:

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