CME Haematology (120486): self-assessment questionnaire

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1. A 68-year-old man taking warfarin for atrial fibrillation was found on routine testing to have an INR of 13. He had a history of a transient ischaemic attack, hypertension, chronic renal failure and type 2 diabetes. He did not have any bleeding at the time the INR was taken. In addition to withholding warfarin and investigating the cause of the high INR which one of the following best describes the next steps to be taken?

(a) give prothrombin complex concentrate and vitamin K 5 mg IV, recheck INR in 8 hours
(b) give tranexamic acid 1 g tds, recheck INR in 24 hours
(c) give vitamin K 1 mg orally, recheck INR in 24 hours
(d) give tranexamic acid
(e) observe, recheck INR in 24 hours.

2. A 73-year-old woman taking rivaroxaban 20 mg once daily for atrial fibrillation with no history of ischaemic stroke presented with a headache and confusion. She fell and hit her head 2 weeks previously. CT head showed a left sided subdural haematoma with mass effect. Her last dose of rivaroxaban was 3 hours ago. Which one of the following describes the most appropriate action to be taken to address her anticoagulation?

(a) arrange urgent haemodialysis
(b) give prothrombin complex concentrate and tranexamic acid
(c) give vitamin K 5 mg IV and tranexamic acid
(d) give tranexamic acid
(e) no action, she has probably cleared the drug by now.

3. A 43-year-old man taking dabigatran for a deep venous thrombosis 5 months ago presented with haematemesis and melaena. He was tachycardic and hypotensive. In addition to supportive measures and consideration of urgent endoscopy, which one of the following would be the drug of choice to reverse the effect of the dabigatran, if it is available?

(a) adexanet alfa
(b) cryoprecipitate
(c) idarucizumab
(d) prothrombin complex concentrate
(e) tranexamic acid.

4. A 32-year-old woman had a diagnosis of autoimmune haemolytic anaemia with occasional relapses treated with steroids. She was currently well. Which one of the below laboratory findings is most likely to be her results?

(a) decreased haemoglobin, decreased reticulocyte count, increased mean corpuscular volume (MCV), increased bilirubin, decreased haptoglobin, negative DAT
(b) decreased haemoglobin, increased reticulocyte count, decreased MCV, increased bilirubin, decreased haptoglobin, positive DAT
(c) decreased haemoglobin, normal reticulocyte count, high MCV, normal bilirubin, normal haptoglobin
(d) normal haemoglobin, increased reticulocyte count, raised MCV, increased bilirubin, decreased haptoglobin
(e) normal haemoglobin, increased reticulocyte count, normal MCV, increased bilirubin, increased haptoglobin

5. A previously healthy 65-year-old man presented with a 2-day history of fever, abdominal pain, diarrhoea, fatigue and headache. Laboratory studies revealed Hb 7.7 g/L (normal range 13.0–17.0 g/L), platelets 62 x 10⁹/L (normal range 150–400) with a normal white cell count and differential. PT and APTT are normal. Creatinine was 165 μmol/L (normal range 54–145) and the LDH 1400 IU (normal range 5–200). A comment on the blood film stated ‘red cell fragments seen’.

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Which one of the following would be the best management choice?

(a) analgesia, IV fluids and send stool sample
(b) order and await ADAMTS13 enzyme and inhibitor studies
(c) take sample for ADAMTS13 level and phone haematology to initiate immediate treatment with plasma exchange
(d) transfuse red cells and platelets urgently, commence intravenous fluids and antibiotics
(e) take a full drug history, send stool sample, EBV, CMV, HIV serology, and an autoimmune screen.

6. Which one of the following correctly describes how often coagulation tests should be performed during an episode of major haemorrhage, according to the British Society for Haematology (BSH) guidelines for major haemorrhage?

(a) every 5–10 minutes
(b) every 10–20 minutes
(c) every 20–30 minutes
(d) every 30–60 minutes
(e) every 60–90 minutes.

7. A 75-year-old man was admitted to the surgical ward for a grade 1 traumatic splenic laceration. His blood tests showed a low platelet count. Which one of the following describes the correct threshold for transfusion of platelets in a patient with suspected bleeding?

(a) 30–50 x 10⁹/L
(b) 50–70 x 10⁹/L
(c) 70–90 x 10⁹/L
(d) 90–110 x 10⁹/L
(e) 110–130 x 10⁹/L.

8. Which one of the following life-threatening complications is most commonly seen following CAR-T cell therapy?

(a) cardiac failure
(b) graft-versus-host disease
(c) cytokine release syndrome
(d) neutropenic sepsis
(e) seizures.

9. A 33-year-old man received CAR-T cells 12 days previously for relapsed B-cell acute lymphoblastic leukaemia. His wife noticed a change in his handwriting and he complained of struggling to name objects. Which one of the following is the most likely diagnosis?

(a) B-ALL in the central nervous system
(b) Parkinson’s disease
(c) neurotoxicity secondary to CAR-T cell therapy / CRES (CAR-T cell-related encephalopathy syndrome)
(d) stroke
(e) viral encephalitis.

10. Which autoimmune/inflammatory disease indication is autologous HSCT currently supported by the greatest evidence base?

(a) relapsing remitting multiple sclerosis (RRMS)
(b) systemic sclerosis
(c) Crohn’s disease
(d) rheumatoid arthritis
(e) SLE.