

CME: Haematology (140053): self-assessment questionnaire

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SAQs and answers are ONLINE for RCP fellows and collegiate members

Format

Candidates are asked to choose the best answer from the five possible answers. This best of five format is used in many medical examinations; however, the questions are not intended to be representative of those used in the MRCP(UK) Part 1 or Part 2 Written Examinations.

The answering process

- 1 Go to <https://cme.rcplondon.ac.uk>
- 2 Log on using your usual RCP username and password
- 3 Select the relevant CME question paper
- 4 Answer all 10 questions by selecting the best answer from the options provided
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1. A 42-year-old woman was brought in by ambulance to the emergency department (ED) with a Glasgow coma score (GCS) of 10. Her partner reported a 2-day history of confusion and drowsiness. Prior to this, she had been complaining of abdominal pain, headaches and limb weakness. Her haemoglobin was 92 g/L (115–155), platelets were $15 \times 10^9/L$ (150–450) and creatinine was 230 $\mu\text{mol/L}$ (47–99). Her coagulation profile was normal. Her blood film was reported with 'marked thrombocytopenia, polychromasia and red cell fragments'. A direct antiglobulin test was negative. She was not pregnant.

Which of the following is the most likely diagnosis?

- (a) Disseminated intravascular coagulation (DIC).
- (b) Haemolytic uraemic syndrome (HUS).
- (c) HELLP (haemolysis, elevated liver enzymes and low platelets) syndrome.
- (d) Immune thrombocytopenia purpura (ITP).
- (e) Thrombotic thrombocytopenic purpura (TTP).

2. A healthy 19-year-old woman was admitted to the medical ward after travelling back from Nigeria. She presented with fatigue, chills, sweats and myalgia. Her full blood count showed haemoglobin of 98 g/L (115–155) and bilirubin of 90 $\mu\text{mol/L}$ (<21). A blood film was reported as 'anaemia, ring forms found inside red blood cells.' Further testing confirmed malaria falciparum.

Which of the following features are characteristic of intravascular red cell destruction?

- (a) Haematuria, haemosiderinuria, low haptoglobin, low lactate dehydrogenase (LDH), low bilirubin and low reticulocyte count.
- (b) Haematuria, raised haptoglobin, raised LDH, raised bilirubin and low reticulocyte count.
- (c) Haemoglobinuria, haemosiderinuria, low haptoglobin, raised LDH, raised bilirubin and low reticulocyte count.
- (d) Haemoglobinuria, haemosiderinuria, low haptoglobin, raised LDH, raised bilirubin and raised reticulocyte count.
- (e) Haemoglobinuria, haemosiderinuria, raised haptoglobin, raised LDH, raised bilirubin, low reticulocyte count, thrombocytopenia and anaemia.

3. A healthy and active 62-year-old woman was admitted to the acute assessment unit with a 3-day history of fatigue, jaundice, shortness of breath and palpitations. Five days previously, she was given some antibiotics by her general practitioner (GP) for an uncomplicated urinary tract infection. Her blood tests showed haemoglobin of 68 g/L (115–165), mean corpuscular volume (MCV) of 108 fL (77–100) and LDH of 800 IU/L (<240). A blood film was reported as 'anaemia, polychromasia and spherocytes.' A direct antiglobulin test was positive for both immunoglobulin (Ig) G and C3d.

Which of the following management options is the most appropriate?

- (a) Commence steroids and continue antibiotics.
- (b) Commence steroids, intravenous (IV) fluids and IV antibiotics.
- (c) Give a blood transfusion and folic acid, and stop the antibiotic.
- (d) Give blood transfusion, and refer to haematology for a bone marrow aspirate and trephine.
- (f) Give folic acid and IV iron, and bring back for outpatient review in 2 days' time.

4. A 45-year-old woman presented with new onset mucosal bleeding when brushing her teeth. She reported being generally run down during the previous week with frequent headaches and blurred vision. She was confused, with a GCS

of 14. She was usually fit and well, taking only paracetamol for her headaches. Observations showed a regular heart rate (HR) of 96 beats per minute, blood pressure (BP) of 110/65 mmHg, respiratory rate (RR) of 18 breaths per minute, oxygen saturations of 94% and temperature of 38.3°C. Initial blood results showed haemoglobin of 70 g/L (120–160), platelet count of $42 \times 10^9/L$ (150–400), serum creatinine 150 $\mu\text{mol/L}$ (60–110), urea 12 mmol/L (2.5–7.5). A blood film confirmed thrombocytopenia and red cell fragments.

What is the most important next step in management?

- (a) Give a stat dose of intravenous immunoglobulins (IVIG).
 - (b) Give high-dose steroids.
 - (c) Give platelets.
 - (d) Urgent haemodialysis.
 - (e) Urgent plasma exchange.
5. A 36-year-old woman in the 3rd trimester of pregnancy was referred to haematology after a routine blood test showed a new isolated thrombocytopenia of $120 \times 10^9/L$ (150–400). Repeat full blood count confirmed this finding and clotting studies were normal and her blood film did not show any fragments. She denied any bleeding, recent infections or drug changes. She was otherwise well. Her observations, including blood pressure, were within the normal range.

What is the most likely diagnosis?

- (a) Disseminated intravascular coagulation.
 - (b) Gestational thrombocytopenia.
 - (c) Primary immune thrombocytopenic purpura.
 - (d) Spurious result.
 - (e) Thrombotic thrombocytopenic purpura.
6. A 32-year-old man with sickle cell disease (haemoglobin (Hb) SS) presented to the ED with rib and back pain. He was not able to control his pain at home with 1 g paracetamol, 400 mg ibuprofen and 5 mg oxycodone immediate release liquid, all taken 2 hours previously. He had three admissions for painful crises over the previous 5 years and took only folic acid 5 mg once daily and penicillin V 250 mg twice daily regularly. He had a productive cough and had noted some coryzal symptoms in the previous few days. His temperature was 37.7°C, with oxygen saturations of 96% on air, RR of 16 breaths per minute, BP of 148/80 and HR of 90 bpm and pain score 8/10. His chest was clear and he appeared euvolaemic. His bloods demonstrated a Hb of 69 g/L (120–160), white blood cells (WBC) of $13 \times 10^9/L$ (4–11), reticulocytes of $189 \times 10^9/L$ (50–100) and C-reactive protein (CRP) 76 mg/L (<10).

What is the most appropriate initial intervention in ED?

- (a) IV antibiotics, IV fluids, oxygen via nasal specs and IV broad-spectrum antibiotics.
 - (b) IV paracetamol and review pain scores in 30 minutes, and start IV antibiotics.
 - (c) Paracetamol, non-steroidal anti-inflammatory drugs (NSAIDs), subcutaneous (SC) oxycodone and oral antibiotics.
 - (d) SC oxycodone and oral antibiotics.
 - (e) Transfuse 2 units of packed red blood cells.
7. A 22-year-old man with sickle cell disease (HbSC) presented with a painful vaso-occlusive crisis in his legs, chest and back.

He also reported rigors and had crepitations at the right base on chest auscultation. Other than a temperature of 38.5°C, his observations were normal. He was usually well and took no regular medications. He was prescribed regular paracetamol, ibuprofen and oral oxycodone modified release (MR), with oral oxycodone immediate release (IR) as required. His haemoglobin was 98 g/L (120–160) and CRP was 95 mg/L (<5). He was commenced on IV co-amoxiclav and clarithromycin. Blood cultures, an atypical screen and respiratory viral panel were sent. By the time he was moved to the ward, he reported his pain was better controlled but that he felt quite drowsy with the oxycodone. On day 2 of admission, his RR was 26 breaths per minute, oxygen saturations were 85% on room air and GCS was 14 (E3V5M6). His repeat chest X-ray showed worsening consolidation on the left and new infiltrate on the right.

What should happen next?

- (a) Crossmatch 8 ABO compatible, extended Rh and Kell-matched HbS negative units; arterial blood gases; review opiate requirements; oxygen to aim >94%; exchange transfusion and consider intensive treatment unit (ITU) review.
 - (b) Give 200 μg naloxone, oxygen to aim 88–92%, escalate antibiotics to IV meropenem and urgently transfuse 2 ABO matched units.
 - (c) IV fluids, escalate antibiotics to IV meropenem and ITU review.
 - (d) Review opiate requirements, oxygen to aim >94%, and crossmatch 2 ABO compatible, extended Rh and Kell-matched HbS negative units.
 - (e) Urgent red blood cell transfusion with ABO compatible blood, 400 μg naloxone, escalate antibiotics to IV meropenem and ITU review.
8. A 56-year-old man started induction chemotherapy for acute myeloid leukaemia with a high white cell count the previous day. His bloods a day later showed uric acid of 600 $\mu\text{mol/L}$ (150–400), calcium of 1.5 mmol/L (2.2–2.6), phosphate of 1.9 mmol/L (0.74–1.4) and potassium of 5.8 mmol/L (3.5–5.5).

What is the most appropriate initial management?

- (a) Start IV antibiotics.
 - (b) Supportive management with IV fluids.
 - (c) IV fluids, rasburicase and discussion with the renal team and ITU.
 - (d) Renal dialysis.
 - (e) Urgent allopurinol.
9. A 78-year-old woman was reviewed in the ED. She presented with confusion, lethargy and feeling thirsty. During the history taking, she went to pass urine four times. Her GP blood results from the previous week showed an IgG paraprotein of 33 g/L and serum-free kappa light chains of 1,500 mg/L (3.3–19.4).

Which of the following would explain this patient's symptoms?

- (a) Acute kidney injury.
- (b) Addisonian crisis.
- (c) Anaemia.
- (d) Hypercalcaemia.
- (e) Type 2 diabetes.

10. A 72-year-old patient was found to have an IgG paraprotein level of 20 g/L. Bone marrow aspirate showed 33% monoclonal plasma cell infiltrate. The patient had no evidence of anaemia, hypercalcaemia, renal impairment or lytic lesions.

What would be the appropriate management plan for this patient?

- (a) Bortezomib.
- (b) Cyclophosphamide.
- (c) High-dose steroids.
- (d) Monitor with 3-monthly review.
- (e) Thalidomide.

CME ophthalmology SAQ

Answers to the CME SAQ published in *Clinical Medicine* in March 2022

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
(c)	(d)	(c)	(b)	(d)	(b)	(c)	(b)	(b)	(d)