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SELF-ASSESSMENT QUESTIONNAIRE

General Internal Medicine for the Physician

■ Twenty self-assessment questions (SAQs) based on the published articles will appear at the end of each CME specialty featured in *Clinical Medicine*. The questions have been validated for the purpose of CME by independent experts. Three (3) CME credits will be awarded to those achieving 80% correct answers. This opportunity is open only to RCP Fellows and Collegiate Members in the UK who are registered for CME*.

■ A loose leaf answer sheet is enclosed, which will be marked electronically at the Royal College of Physicians. **Answer sheets must be returned by 17 September 2001 to:**

CME Department (SAQs), Royal College of Physicians,
11 St Andrews Place, London NW 1 4LE.

Correct answers will be published in the next issue of *Clinical Medicine*.

* Further details on CME are available from the CME department at the Royal College of Physicians (address above or telephone 020 7935 1174 extension 306 or 309).

Guidelines on completing the answer sheet

Your completed answer sheet will be scanned to enable a quick and accurate analysis of results. To aid this process, please keep the following in mind:

- 1 Please print your GMC Number firmly and neatly
- 2 Only write in allocated areas on the form
- 3 Only use pens with black or dark blue ink
- 4 For optimum accuracy, ensure printed numbers avoid contact with box edges
- 5 Please shade circles like this: ● Not like this: ◉
- 6 Please mark any mistakes made like this: ✕
- 7 Please do not mark any of the black squares on the corners of each page
- 8 Please fill in your full name and address on the back of the answer sheet in the space provided; this will be used to mail the form back to you after marking.

Q1 A 49 year old man presents with a 2 week history of malaise, and a 1 week history of increasing abdominal distension. On examination he is thin, has florid spider naevi, a right sided pleural effusion, moderate ascites and no ankle oedema. He has a heart rate of 110, and a blood pressure of 110/50. His investigations show:

Sodium	129mM	Bilirubin	326 μ M
Potassium	3.1mM	Alk Phos	140U/l
Urea	4.6mM	AST	96U/l
Creatinine	134 μ M	ALT	45 U/l
Hb	12.2g/dl	INR	1.9 (23 S, control 12S)
WBC	21.6 x 10 ⁹ /mm ³		
Platelets	68 x 10 ⁹ /mm ³		

- An ascitic WBC of over 250/mm³ would support a diagnosis of spontaneous bacterial peritonitis
- The relatively normal transaminase levels in the setting of the bilirubin concentration makes a diagnosis of alcoholic hepatitis unlikely
- The ascites should be treated with diuretics
- The elevated creatinine indicates a poor prognosis
- Volume expansion with colloid is indicated

Q2 Two 70 year old patients with known long standing COPD are seen in A&E with increasing shortness of breath. Both have hyperinflated lung fields on CXR but patient A also has a left lower lobe pneumonia and patient B has a clear CXR. Both have blood gases taken on air, patient A has pH 7.3, P_aO₂ 9.4, P_aO₂ 3, and patient B has pH 7.4, P_aO₂ 7.6, P_aO₂ 7.

- Patient B has the more serious derangement in gas exchange
- Patient A requires more urgent attention than patient B
- Patient B initially should be given at least 28% oxygen
- Patient A is not particularly hypoxic and therefore does not need supplemental oxygen
- Patient B will probably need acute non-invasive assisted ventilation

Q3 A 25 year old male patient with known sickle cell disease was admitted via A&E with a painful crisis in his chest, abdomen and hips. No obvious infectious cause was found, and he was not hypoxic with a pulse oximeter reading of 99% whilst breathing room air. He was sent to the ward with the usual regimen of fluids, oxygen and opiate analgesia. After a few hours, you are called urgently to the ward because his oxygen saturations have fallen to 89% on oxygen. Arterial blood gases done whilst breathing 28% oxygen are pH 7.28, P_aO₂ 8kPa and P_aO₂ 10kPa.

- His hypoxaemia can be solely accounted for by respiratory depression secondary to excessive opiates
- Any increase in ventilation perfusion mismatch is likely to be due to a sickle chest crisis
- The treatment should be to increase the level of inspired oxygen

- The pulse oximeter reading of 89% is likely to be incorrect as a P_aO₂ of 8kPa should give a saturation reading of about 93–94%
- Exchange transfusion should be considered

Q4 Tuberculosis in HIV infected patients:

- is related to increased production of gamma interferon
- may paradoxically worsen on initiating HAART
- requires modification of rifampicin derivative treatment when used in conjunction with protease inhibitors
- can usually be eradicated by standard antituberculous therapy
- is an AIDS defining event

Q5 HIV infected individuals:

- are more susceptible to Salmonella SPP
- should receive routine influenza vaccination
- are prone to bacterial chest infections with *Haemophilus influenzae*
- have underactive B-lymphocytes
- should have primary prophylaxis against herpes virus infections

Q6 Introduction of HAART:

- has improved longevity in HIV positive patients
- is a recognized cause of a low plasma glucose
- is associated with CMV vitritis
- is recognized to exacerbate hepatitis B liver dysfunction
- is recognized to cause fever

Q7 A 75 year old man with a history of type II diabetes mellitus and intermittent claudication, undergoes coronary angiography for investigation of chest pain. The following day he complains of nausea and severe flank pain. Clinical examination demonstrates a pyrexia of 39°C and a blood pressure of 220/130. The serum creatinine rises, from a pre-procedure creatinine concentration of 130 μ mol/l, to 560 μ mol/l. Urinalysis showed microscopic haematuria (blood ++ on Multistix testing), but no casts were seen on urine microscopy. A renal tract ultrasound scan demonstrated normal size kidneys.

- Immediate management should include rapid blood pressure control with an ACE inhibitor
- A renal biopsy is the investigation of choice
- Elevated plasma lactate dehydrogenase levels with normal transaminases favours a diagnosis of renal infarction
- Thrombolysis is indicated if the patient's history does not exceed 12 hours
- His clinical presentation warrants early referral to a nephrologist

Q8 A 40 year old man, with a history of chronic schizophrenia, is admitted to hospital having been found lying unconscious on the floor of his home. On examination, his heart rate is 48 beats per minute, blood pressure 180/100 and he is found to be oliguric with a urine output of 15 ml/h. An electrocardiogram demonstrates broad QRS complexes with tented T waves through leads V1-V6. Initial laboratory investigations show a plasma urea of 28.6 mmol/l, creatinine 1100 μ mol/l, potassium 8.1 mmol/l, phosphate 4.8 mmol/l and arterial pH 7.21. Urinalysis showed microscopic haematuria (blood large on Multistix testing), but no red blood cells were observed on urine microscopy.

- He requires urgent treatment with 50 ml intravenous 8.4% sodium bicarbonate
- A muscle biopsy is required to confirm the diagnosis
- He requires forced diuresis and alkalinisation of the urine using a mannitol-alkaline solution
- Haemodialysis is indicated
- The most likely cause of his clinical presentation is prolonged immobilization

Q9 A 61 year old woman is admitted to hospital extremely unwell, following a 12 hour history of fevers, vomiting, epistaxis and haemoptysis. Her husband reported that she had recently consulted her general practitioner, complaining of painful leg cramps. On examination, her heart rate was 135 beats per minute, blood pressure 90/60 and respiratory rate was 25 per minute. She was anuric on admission. Her initial laboratory investigations were as follows: urea 64 mmol/l, creatinine 448 μ mol/l, haemoglobin 6.1 g/dl and platelet count $5 \times 10^9/l$.

- An urgent ANCA assay is the key investigation to confirm the diagnosis
- She requires immediate platelet transfusion
- Intermittent haemodialysis and plasmapheresis should be commenced immediately
- She requires a renal ultrasound examination
- Information should be sought from the general practitioner regarding her recent consultation

Q10 A 64 year old man presents to the Emergency Department with a history of acute breathlessness, haemoptysis and pleuritic chest pain. He has a previous history of COPD with an FEV₁ of 40% predicted.

- A positive D-dimer establishes a diagnosis of pulmonary embolism
- He should have an urgent V/Q scan
- If the clinical risk for PE is estimated to be high he should receive heparin treatment whilst awaiting results of confirmatory tests
- His risk of an underlying malignancy is high if the results confirm PE
- If confirmed, he will need to continue to be treated with heparin for the rest of his life

Q11 Important predictors of future back problems include:

- weak back muscles
- previous history of back pain
- physically demanding work
- poor industrial relations
- being a middle-aged man

Q12 Red flags to indicate possible serious spinal pathology include:

- unilateral lower limb pain radiating to the foot and toes
- constant progressive back pain
- malaise and weight loss
- morning stiffness
- being middle-aged

Q13 Suicidal intent in people who have deliberately harmed themselves is:

- lower among those who told someone about the plan before the incident
- higher among those who make changes that anticipate death (eg making changes to a will)
- greater when violent methods of self harm have been used (eg use of firearms or strangulation)
- greater in those who have contemplated the act over a longer period
- related to the number of tablets taken in an overdose

Q14 Regarding patients who have taken an overdose:

- Most say that they did it as a 'cry for help'
- Elderly patients are over represented
- A minority are depressed
- Psychosocial assessment is the responsibility of mental health liaison services
- Patients who repeatedly take overdoses are more likely to eventually die by suicide than those who have only taken one

Q15 Suicide:

- is more common in Britain than in most other European countries
- is one of the most common causes of death in young people
- rates are higher in those who have had contact with psychiatric services
- rates in the elderly are increasing
- is preceded by a history of self harm in about 50% of patients

Q16 In the prevention of hospital acquired pneumonia:

- a) the use of topical antibiotics applied to the oropharynx and intravenous cefotaxime has been associated with decreased mortality
- b) sucralfate has been shown to be better than H₂-antagonists
- c) early removal of nasogastric tubes post-operatively leads to increased risk of infection
- d) nursing the patient in the semi-recumbent position is best avoided
- e) hand-washing is effective

Q17 Regarding the pathogens implicated in hospital acquired pneumonia:

- a) *Haemophilus influenzae* is more commonly detected in 'early-onset' hospital acquired pneumonia than in 'late-onset' hospital acquired pneumonia
- b) *Staphylococcus aureus* is rare and need only be covered in multiple trauma patients
- c) In comatose neurosurgical patients, methicillin-resistant *S aureus* infection is common
- d) *Acinetobacter* spp. infection commonly occurs as part of outbreaks
- e) *Legionella* spp. infection should be considered in patients on high-dose steroids

Q18 A 65 year old man is referred by another team with recurrent fever for three weeks. He has been complaining of pain in the back and shoulders for some weeks. There is no temporal artery tenderness or thickening. Rectal examination reveals a firm and slightly tender left lobe of prostate. Investigations have demonstrated a high CRP and ESR and moderate renal impairment. CXR is normal.

- a) A trial of steroids for polymyalgia rheumatica is indicated
- b) A monoclonal IgG band of 4g/l confirms myeloma
- c) An abnormal PSA would make disseminated prostatic carcinoma very likely
- d) Prostatic abscess should be treated with a short course of ciprofloxacin
- e) Early morning urines would not be a useful method of diagnosing tuberculosis

Q19 An 18 year old student nurse is referred from Casualty with a 24 hour history of high fever, vomiting and abdominal pain. After an overnight stay on the surgical ward she gives a history of four previous similar episodes lasting a few days each. Liver function tests show a mild transaminitis. Abdominal ultrasound reveals some peritoneal thickening with small para-aortic nodes.

- a) The diagnosis of Familial Mediterranean Fever can be confirmed by genotypic testing
- b) The diagnosis of FMF is excluded by the absence of a family history
- c) Rectal biopsy would be a useful diagnostic procedure
- d) Factitious fever is a likely cause
- e) Liver biopsy would probably be helpful in establishing the diagnosis

Q20 A 45 year old Pakistani lady is admitted suffering from generalised aching, night sweats and fever for more than a month. She is taking a non-steroidal anti-inflammatory for her pain. Physical examination reveals moderate hepatosplenomegaly and blood count shows anaemia and thrombocytopenia.

- a) Serology for plasmodium vivax would help to confirm infection
- b) Systemic lupus is an unlikely explanation for her symptoms
- c) A normal eosinophil count excludes NSAIDs as a cause of fever
- d) Positive Hepatitis C serology would be an insufficient explanation for her symptoms
- e) Splenic puncture would be a safe method of diagnosing visceral leishmaniasis