



Clinical challenge



Questions for this month's clinical challenge are based on theme articles in this issue. The style and scope of questions is in keeping with the MCQ of the College Fellowship exam. The quiz is endorsed by the RACGP Quality Assurance and Continuing Professional Development Program and has been allocated 4 CPD points per issue. Answers to this clinical challenge will be published next month.

Jenni Parsons

SINGLE COMPLETION ITEMS

DIRECTIONS Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the most appropriate statement as your answer.

Case 1 – Susan Jones

Susan, aged 33 years, is a nonsmoker who comes in for a repeat prescription of her oral contraceptive pill. She mentions in passing that her weight has increased since the birth of her third child 2 years ago, even though her eating habits haven't changed much. Examination reveals her BP is 145/85, weight 70 kg, and height 163 cm.

Question 1

Susan has never smoked and has no significant medical history or family history of diabetes or cardiovascular disease. Contraindications to exercise include all except:

- A. uncontrolled hypertension
- B. acute infection
- C. resting tachycardia >100
- D. BMI >30
- E. uncontrolled diabetes.

Question 2

Susan tells you that although she used to swim three times per week before her children were born, she now finds it hard to make the time for any regular physical activity. According to the *National physical activity guidelines for Australian adults*, recommen-

dations for patients such as Susan are:

- A. 30 minutes of moderate intensity exercise 3 days per week
- B. 30 minutes of moderate intensity exercise 5 days per week
- C. the 30 minutes per day must be undertaken in a single block to gain health benefits
- D. an energy expenditure of 1200 kcal per week is required for cardiac protection
- E. swimming is unlikely to produce 'moderate intensity' exertion.

Question 3

Susan is concerned that her BP is higher than last time she attended. You suggest that increased physical activity is likely to help control her weight and BP. You tell her that the average BP reduction is:

- A. about 10 mmHg after a single exercise session
- B. about 15 mmHg with regular endurance exercise
- C. about 7 mmHg with regular endurance exercise
- D. is greater with resistance training than endurance exercise
- E. is greater than with most antihypertensive medications.

Question 4

You discuss a physical activity prescription with Susan. You tell her:

- A. stress ECG testing is required before she commences exercise
- B. during moderate intensity activity heart rate is approximately 60% of maximum
- C. maximum heart rate for Susan would be about 160
- D. Susan should start with 20–30 minutes of resistance training
- E. it is important to do the same type of exercise each day.

Case 2 – Graeme Nunn

Graeme, aged 30 years, comes to see you with a 5 day history of respiratory symptoms. He had a runny nose for a couple of days, then a dry cough, and now has a productive cough. He has had two episodes of bronchitis in the past 3 years and has smoked 25 cigarettes per day since the age of 15.

Question 1

Graeme has acute viral bronchitis. After explaining appropriate management and arranging a work certificate, you have a few minutes to discuss smoking. The 5As approach to smoking cessation involves:

- A. asking selected patients about their smoking
- B. assessing the amount of time smoking advice adds to the consultation time
- C. advising all smokers that smoking will kill them
- D. assessing the level of nicotine dependence
- E. all of the above.

Question 2

Helpful strategies include all except:

- A. giving Graeme a lecture on the health risks associated with smoking
- B. asking Graeme what he likes about smoking
- C. assessing Graeme's readiness to quit
- D. assessing Graeme's confidence that he could quit
- E. acknowledging Graeme's smoking behaviour is a valid personal choice.

Question 3

Graeme tells you that his children and partner 'are always nagging him to quit'. He rates his own motivation to quit as about 2/10. The most appropriate next step would be to ask:

- A. what would have to happen to make this 9/10
- B. how confident are you that you could quit
- C. why don't you want to quit when you know it is bad for you
- D. don't you care about your children and partner
- E. what would increase your confidence in your ability to quit?

Question 4

During a practice meeting you discuss smoking cessation strategies. Having just read AFP, you give your colleagues a run down on strategies that work. You tell them:

- A. spending 10 minutes with each smoker is 10 times as successful as 1 minute
- B. efforts should be focussed on smokers who express low interest in quitting to get them to change their mind
- C. nicotine replacement therapy prolongs addiction
- D. the quit rate of 10 minutes GP time with a patient is about 2%
- E. the Quit active call back program increases the quit rate fourfold.

Case 3 – Betty Simpson

Betty, aged 59 years, has come to see you for repeat prescriptions of ramipril 5 mg and simvastatin 20 mg. You note that she has type 2 diabetes (diagnosed 5 years ago and managed on diet alone) but doesn't smoke. Her BP is 145/95 and her BMI is 29 kg/m². Her recent total cholesterol was 6.0 mmol/L with a HDL of 1.0. Her HbA1c is 7.3%. She has no albuminuria.

Question 1

You discuss treatment targets with Betty. You tell her:

- A. her HbA1c meets target
- B. target total cholesterol is <4.0 mmol/L
- C. her target BP is <140/85
- D. her target BP is <125/75
- E. her target total cholesterol is <6.5 mmol/L.

Question 2

Betty has tried hard to modify her diet according to the advice of a dietician and walks for 30 minutes every day. You tell her:

- A. you are happy with her glycaemic control

- B. her lifestyle modification has been a failure
- C. metformin would be the best next step
- D. a sulphonylurea would be the best next step
- E. glycaemic control is by far the most important risk factor to manage.

Question 3

You use the UKPDS absolute risk calculator to calculate Betty's risk of CHD. You show her that her risk of CHD over the next 10 years is 15% and her risk of fatal CHD is 9%. Betty is worried and surprised, as she had thought that women were at low risk of CHD. You tell her:

- A. women are of equal risk of CHD as men
- B. women at high absolute CHD risk need less aggressive treatment than men at the same risk
- C. patients with diabetes who have not had a CHD event are of lesser risk of CHD than nondiabetic patients who have
- D. a resting ECG is recommended every 2 years for Betty
- E. caucasian women are have higher CHD risk than Indian women.

Question 4

You discuss further pharmaceutical treatment options with Betty. You tell her:

- A. stopping her ACE inhibitor and starting a beta blocker would be her best option
- B. statin therapy has been shown to reduce cardiovascular risk in patients with type 2 diabetes who don't have high cholesterol
- C. aspirin therapy is not recommended for CHD prevention in diabetics
- D. ACE inhibitors reduce CHD but not all cause mortality
- E. ACE inhibitors have no impact on renal complications of diabetes.

Case 4 – Harry Beale

Harry, aged 55 years, has recently been discharged from hospital following an acute myocardial infarction. He has had type 2 diabetes for 10 years, treated with metformin (HbA1c 7.0%). He has a past history of depression, and a strong family history of IHD. His BP is usually around 140/85.

Question 1

When tested 3 months ago his total cholesterol was 6.2 mmol/L and his HDL 1.1.

He had been on a low fat diet for 6 weeks before this test. Harry would qualify for subsidised PBS statin therapy:

- A. after the test 3 months ago
- B. not after the test 3 months ago, but would now that he has had an AMI
- C. now only if his HDL was <1.0
- D. only if his total cholesterol was >7.5
- E. only after 6 months dietary modification.

Question 2

Harry is concerned about the amount of tablets he has been prescribed. He is on aspirin, a beta blocker, ACE inhibitor, and a statin. You tell him:

- A. all these medications have level 1 evidence for reducing vascular events and mortality
- B. his aspirin dose should be 300 mg
- C. clopidogrel is used instead of aspirin if patients are in atrial fibrillation
- D. he only needs to stay on these medications for 12 months
- E. if he had normal BP he would not need the ACE inhibitor.

Question 3

Harry is enrolled in a cardiac rehabilitation program. He is reluctant to do anything physical for fear of having another heart attack. He doesn't imagine he will be able to do much with what is left of his life. All the following are true except:

- A. there is level 1 evidence that cardiac rehabilitation programs assist patients in regaining an active life
- B. there is level 1 evidence that cardiac rehabilitation reduces the risk of recurrence of cardiac events
- C. Harry needs to be assessed for depression
- D. depression is a risk factor for CHD
- E. SSRI medication is contraindicated in patients with CHD.

Question 4

Harry has proteinuria of 1.1 g/day. He is tolerating his ACE inhibitor well.

- A. BP target for Harry is 125/75
- B. BP target for Harry is 130/85
- C. BP target for Harry is 140/90
- D. Harry should be changed to an ARA as his ACE inhibitor is no longer appropriate
- E. proteinuria does not alter BP targets.

ANSWERS TO MAY CLINICAL CHALLENGE

Case 1 – Harrison Masterman

1. Answer C

Specific food or other allergies are often incorrectly implicated in exacerbations of eczema. All of the other options are more common causes.

2. Answer B

Potent topical steroids such as mometasone 0.1% should be avoided on the face as the skin is thinner and the risk of complications higher. More potent fluorinated topical steroids commonly cause perioral dermatitis, an acneiform reaction. Atrophy of the skin may also occur. Hydrocortisone (1%) or steroid free antiinflammatory cream such as pimecrolimus are suitable alternatives.

3. Answer D

Bacterial infection should be treated with oral flucloxacillin or cephalexin for 7-10 days. Topical antibiotics should be avoided because of the high incidence of bacterial resistance. Scabs should be soaked and gently wiped off before application of moisturiser.

4. Answer B

Cognitive behavioural therapy can be effective in reducing the habitual scratching that contributes to eczema. However, in a 2 year old child it would be unlikely to be a useful pursuit. It may be a good option for his father, Darren. Growth delay can occur as a result of severe untreated eczema itself or, less commonly, with overuse of corticosteroids. There is some mixed evidence for the effectiveness of Chinese herbal remedies in treating eczema. This may relate to plant steroids.

Case 2 – Darren Masterman

1. Answer B

Individuals with moderate to severe atopic dermatitis with hand involvement, chronic hand eczema or previous change of work

due to irritant contact dermatitis (ICD) are at high risk of occupational contact dermatitis. Occupations with wet work or exposure to irritants are likely to cause problems.

2. Answer A

People with a history of atopic eczema are at increased risk of ICD and immediate hypersensitivity reactions such as contact urticaria and latex allergy. They probably develop allergic contact dermatitis at the same rate as nonatopic individuals.

3. Answer B

Wet work, frequent washing and soap are likely to make Darren's dermatitis worse. He should use a moisturising nonsoap cleanser and regularly apply a moisturising cream such as 10% olive oil in sorbolene, or other lipid rich creams or greasy ointment. Steroid ointments are better than creams for treating skin inflammation in this setting.

4. Answer E

Contact urticaria is an immediate hypersensitivity reaction seen most commonly to latex proteins. Latex allergy is more common if powdered latex gloves are used and is more common in atopics. Patients with latex allergy will often be allergic to banana, kiwi fruit, avocado and chestnut, which contain similar amino acid sequences to latex proteins.

Case 3 – Sandra Scoles

1. Answer C

Erythema nodosa (ED) produces a panniculitis (inflammation of the subcutis and deep dermis) centred around the fibrous septa between fat lobules, ie. a septal panniculitis. The epidermis is not involved so although the skin may be red it is not scaly or vesiculated.

2. Answer C

Although many cases of ED are idiopathic, and some are drug induced (eg. by oral contraceptive drugs), ED most often occurs as a reaction to a systemic illness. In Australia, this is often a streptococcal throat infection, sarcoidosis or inflammatory bowel disease. Tuberculosis and hepatitis B are rare causes.

3. Answer E

Classic cases of ED may not require a biopsy, but if taken, the biopsy must be an incisional biopsy. Other investigations are geared toward establishing the underlying cause and typically include FBE, chest X-ray (looking for tuberculosis and sarcoidosis), throat swab or streptococcal serology and a Mantoux test.

4. Answer D

ED is a self limiting condition but symptoms can be relieved by elevation of the legs, rest and NSAIDs. Prednisolone can help in severe cases, once underlying tuberculosis has been excluded.

Case 4 – Betty Gardiner

1. Answer E

ABPI can be used to assess for arterial insufficiency, which cannot be excluded by the absence of symptoms or the presence of peripheral pulses. An ABPI of <0.9 indicates arterial disease and <0.5 severe arterial disease. If the ABPI is >0.8 the use of compression bandages is unlikely to compromise arterial supply further.

2. Answer B

White tail spiders are often accused of causing these ulcers but it is unlikely that they do. Pain is characteristic of pyoderma gangrenosum but skin infection also causes pain. Venous stasis ulcers and basal cell or squamous cell carcinomas should also be considered in this setting.

3. Answer B

Pyoderma gangrenosum (PG) can be associated with inflammatory bowel disease, inflammatory arthritis, myeloma and haematological malignancies. An underlying association is not found in up to 30% of cases.

4. Answer C

Prednisolone is likely to be needed for immunosuppression in PG. Tissue culture is required to exclude atypical infection first.