clinical challenge

Questions for this month's clinical challenge are based on articles in this issue. The style and scope of questions is in keeping with the multiple choice questions of the RACGP Fellowship exam. The quiz is endorsed by the RACGP Quality Improvement and Continuing Professional Development Program and has been allocated 4 Category 2 points per issue. Answers to this clinical challenge are available immediately following successful completion online at www.gplearning.com.au. Clinical challenge quizzes may be completed at any time throughout the 2011–2013 triennium.

Deepa Daniel

Single completion items

CPD

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

Edward Wyles

Edward Wyles, 29 years of age, is a plumber who presents 1 week after an injury to his right hand, sustained while at work. He has a nonpainful deformity of his middle finger.

Question 1

Which of the following clinical findings would be most consistent with a diagnosis of mallet finger:

A. significant functional disability
B. inability to actively extend the distal interphalangeal joint
C. significant bruising, swelling and tenderness over the joint involved
D. inability to correct deformity with passive movement toward full extension
E. flexion deformity of the proximal interphalangeal joint.

Question 2

Clinical findings in Edward confirm a likely mallet finger injury. Choose the correct statement:

A. if presentation is delayed for 1 month after injury, splinting will not be successful and long term finger deformity is likely
B. the most likely mechanism of injury is forced extension of a flexed finger
C. bony involvement reportedly occurs in more than half of these patients
D. plain X-ray is mandated in all patients presenting with mallet finger
E. approximately two-thirds of mallet finger injuries occur in the nondominant hand.

Question 3

An X-ray of Edward's hand shows no bony involvement. You treat the injury using an extension immobilisation splint. Choose the correct statement:

A. Edward is able to continue his sporting pursuits, as long as he removes the splint before the activity and then reapplies the splint immediately after
B. the 'Stack' splint has been found to have significantly improved outcomes compared with other splints for mallet finger
C. any flexion during the 8 week treatment period requires the period of splinting to restart from zero
D. splints should immobilise both the distal and proximal interphalangeal joints
E. the splint should be used full time for 4 weeks, and then only at night for another 4 weeks.

Question 4

Edward returns following 8 weeks of splinting. Unfortunately there is ongoing flexion deformity at the distal interphalangeal joint. You consider referral to a hand surgeon. All of the following features are indications for surgical referral EXCEPT:

A. absence of full passive extension of the joint
B. inability to reduce an avulsed segment
C. injuries with volar subluxation of the distal phalanx
D. failure of appropriate conservative management (eg. splinting)
E. involvement of an avulsion fracture to greater than 10% of the articular surface.

Case 2

Asha John

Asha John, 16 years of age, presents with 6 months of multiple cutaneous warts on her hands, despite regular use of over-the-counter preparations.

Question 5

You explain to Asha the role of human papilloma virus (HPV) in warts. HPV subtypes 3 and 10 give rise to warts on which body surfaces:

A. the vulval or perianal region
B. the hands and face
C. the plantar aspect of the feet
D. the hands and feet
E. subungual areas.

Question 6

You discuss first line wart treatments with Asha. Choose the correct statement:

A. 5-fluorouracil (5-FU) works as an immunomodulator to enhance cell-mediated immunity
B. 5% imiquimod cream is often poorly tolerated due to side effects such as pruritis and erythema
C. local effects of 5-FU treatments, such as erythema, do not tend to occur when used on the face
D. the cure rates from 5-FU treatments are enhanced by the concomitant use of topical 10% salicylic acid
E. the recommended regimen for 5% imiquimod cream is weekly for up to 16 weeks.

Question 7

You explain the role of intralesional injections for the treatment of recalcitrant nongenital warts. Choose the correct statement:

A. intralesional mumps antigen has been shown to be significantly more effective compared with intralesional candida antigen
B. intralesional therapies have only been described for treating nongenital warts since 2001

C. intralesional injections are usually administered on a weekly basis
D. flagellate hyperpigmentation is a potential complication of intralesional candida antigen
E. skin MMR antigen testing is recommended before using intralesional MMR vaccine for resistant warts.

Question 8

Asha returns with persistent warts following 4 months of 5-FU topical treatment. Choose the correct statement regarding treatment for persistent recalcitrant nongenital warts despite topical creams or intralesional injections:

A. a contact time of 3 seconds is the preferred duration for liquid nitrogen therapy on recalcitrant cutaneous warts
B. blistering is regarded as a hallmark of therapeutic efficacy after laser treatment
C. laser treatment can be painful, requiring local anaesthetic before administration
D. paring down before hyfrecation electrosurgical therapies is not recommended
E. surgically removed recalcitrant warts rarely relapse/recur.

Case 3

Jacob Ross

Jacob Ross, 3 years of age, has known mild infrequent episodic asthma, controlled using salbutamol via a metered dose inhaler (MDI) and spacer with a mask, as required. He presents with 2 hours of worsening shortness of breath, with minimal improvement with two puffs of salbutamol.

Question 9

Jacob is slightly agitated with a respiratory rate of 44 bpm, some mild subcostal recession, and a faint widespread wheeze. You diagnose a severe asthmatic exacerbation. Choose the correct statement:

A. severe asthma in a patient not currently using inhaled glucocorticoids is a risk factor for near fatal asthma
B. absent breath sounds and little wheeze in the face of increased work of breathing is likely to indicate a diagnosis other than asthma, such as an inhaled foreign body
C. exposure to ibuprofen, even in patients who are not allergic to aspirin/NSAIDs, appears to worsen asthma morbidity
D. <5% of children who die from asthma have previously had only mild disease
E. asthma deaths are no more common in those living in lower socioeconomic areas.

Question 10

You initiate treatment. Choose the correct statement regarding the initial management of an acute exacerbation of asthma:

A. there is no role for aminophylline for children with severe asthma
B. parenteral steroids are generally more efficacious compared to oral steroids
C. there is evidence that using a nebuliser is more efficient than using an MDI plus spacer
D. steroids act by inducing smooth muscle relaxation
E. the role of leukotriene inhibitors in severe asthmatic episodes is yet to be determined.

Question 11

You consider medication side effects. The following are potential adverse effects of salbutamol EXCEPT:

A. tachycardia
B. hypertension
C. hypotension
D. hypokalaemia
E. hypernatraemia.

Question 12

Jacob responds well to inhaled salbutamol and ipratropium bromide. You consider hospital transfer. Which of the following is NOT an appropriate stand alone indication for admission for an exacerbation of asthma:

A. tachypnoea despite three doses of inhaled salbutamol
B. inhaled ipratropium bromide in addition to the first 3 doses of inhaled salbutamol in the first 1–2 hours of treatment, irrespective of the patient's clinical response
C. subcostal retractions on examination
D. a social environment impairing delivery of acute treatment
E. no response to three doses of inhaled short acting beta agonist within 1–2 hours.

Case 4

Central Clinic

Dr Joanne Findlay is a GP and part owner of Central Clinic, a busy suburban practice. She recently employed a new practice manager, Rosa, who is keen to improve the workings of the clinic.

Question 13

Joanne considers therapeutic inertia. What does research show to be the most significant factor contributing to therapeutic inertia:

A. financial factors
B. doctor factors
C. patient factors
D. system factors
E. practice factors.

Question 14

Rosa decides to improve appointment scheduling, starting by measuring the demand for appointments. The suggested minimum amount of time required to start developing a practical pattern for appointment demand is:

A. 1 week
B. 2 weeks
C. 3 weeks
D. 1 month
E. 3 months.

Question 15

Rosa decides to measure demand using the PDSA cycle as described by Knight and Lembke. She instructs the receptionists to tally the appointment requests. To measure demand, the receptionists should record a tally mark on the:

A. day of the third next available routine appointment
B. day a patient was unable to get an appointment
C. day the appointment is requested for
D. day the appointment request is received
E. number of patients each day who were unable to get an appointment.

Question 16

Joanne and Rosa want to make the clinic more welcoming to indigenous patients. Choose the correct statement:

A. only a small proportion of Indigenous Australians identify private general practice as their main source of primary care
B. indigenous patients generally access primary care more than other Australians
C. indigenous Australian patients are more likely to be older and have more complex care needs compared to non-Indigenous Australian patients
D. clinics successfully oriented toward indigenous consultations tend to use a multidisciplinary approach to primary care
E. indigenous status is likely to be overestimated by most clinical datasets.

Answers to December 2010 clinical challenge

Case 1
Stan Wallace

1. Answer E
All of the above are correct and indicate a poor prognosis for Stan.

2. Answer B
Breathlessness can be attributed to other causes such as anaemia and fatigue. Therapy should address improving the patient's subjective sensation of breathlessness. The evidence supporting the use of oxygen in mildly hypoxic patients is sparse. Benzodiazepines can be used to relieve anxiety associated with breathlessness.

3. Answer C
Anorexia is part of many end stage conditions including chronic heart failure (CHF). Constipation is common and aperients may be required. Nausea may indicate uraemia and can be treated with an anti-emetic. Passive and active exercise is important even in end stage disease to prevent complications of immobility. The cause of pain in CHF is poorly understood.

4. Answer D
Recommendations for palliative management are less explicit than for curative management. Stan should be provided with the option of delaying decisions. Core CHF drugs should be continued for as long as possible as they help with symptom control. Depression must be diagnosed and treated before advance care directives are written. Active care can continue until the end of life as new symptoms arise.

Case 2
Elsie Wilcox

5. Answer A
One of the critical pieces of information to be gained from an echocardiogram is whether left ventricular systolic function is normal or reduced. Initial investigations should include chest X-ray, ECG and a transthoracic echocardiogram. Early CHF symptoms include exertional dyspnoea and fatigue, with orthopnoea, paroxysmal nocturnal dyspnoea and ankle oedema occurring later. BNP levels may be elevated in renal impairment or pulmonary. Retrospective studies suggest that patients with a clinical diagnosis of heart failure who have had an echocardiogram have a better outcome than those who have not.

6. Answer C
Reports generally include important findings such as pericardial abnormalities.

7. Answer B
Lower LVEF is associated with a worse prognosis. Angiotensin converting enzyme inhibitors (ACEIs) improve cardiac symptoms and prognosis. No specific pharmacologic therapy has been shown to improve mortality in HFNEF. An implantable defibrillator is recommended if the LVEF is below 35%. Beta blockers improve both cardiac symptoms and prognosis.

8. Answer D
3-D echocardiography quantifies LVEF but is not readily available. Annual echocardiography is not appropriate if there has been no change in symptoms. Elsie's echocardiogram is suggestive of ischaemic heart disease so coronary angiography should be considered. Chronic heart failure management programs have been shown to reduce readmission rates, improve quality of life and prolong survival.

Case 3
Barbara Martins

9. Answer A
ACEIs are indicated in all classes of CHF. ACEIs should be started at low dose and titrated upward over 3–4 weeks. The ACEI should be discontinued if the creatinine increases by more than 20% from baseline. Renal function and electrolytes should be checked within 2 weeks of commencement, re-checked after 1 month and then 3–6 monthly.

10. Answer E
Barbara will need to reduce, not necessarily cease, the beta blocker dose if her heart rate falls below 55 bpm. All the other statements are correct.

11. Answer C
Sodium restriction to <2 g/day. Fluid restriction of 1.5 L/day. She should weigh herself daily, not weekly. She should do regular physical activity except during an acute exacerbations.

12. Answer C
The New York Heart Association classification grades symptoms including dyspnoea, fatigue and angina. Class III refers to symptoms with less than normal activities. Spironolactone has been shown to have a mortality benefit in patients with Class III/IV CHF.

Case 4
Winston Harris

13. Answer E
All of the above are appropriate initial management.

14. Answer B
The five vital signs you should look for in Winston are temperature, pulse, blood pressure, respiration and oxygen saturation. All of the other statements are correct.

15. Answer D
Patients with COPD receive high flow oxygen initially as oxygenation is the priority. The aim is for SBP above 100 mmHg. Positive airway pressure support is contraindicated if SBP is <90 mmHg. IV morphine is an anxiolytic, which will reduce his respiratory work but not affect cardiac output.

16. Answer A
Acute pulmonary oedema is an acute coronary syndrome until proven otherwise. As you don't know Winston's wishes, it is appropriate to resuscitate him in the event of a cardiac arrest. Spironolactone should only been given in the volume overloaded patient with poor response to IV frusemide. Winston should be supine if unconscious or in cardiogenic shock. Adrenaline infusions and vasopressin antagonists are used in intensive care units.

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