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 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, and are available immediately following successful completion online at www.racgp.org.au/clinicalchallenge. Check clinical challenge online for this month's completion date.

Jennifer Presser

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 – Rebecca Smith

You are doing a locum in a remote community when you are called by the midwife. Rebecca Smith, an 18 year old woman with little antenatal care, is coming to the clinic from an outlying homestead. She is in premature labour at approximately 30 weeks gestation.

Question 1

In preparation for the arrival of Rebecca at the clinic you should:

A. take your own pulse
B. try to obtain more history from the clinic notes and people at the homestead
C. wait until as much clinical information as possible is available before ringing the retrieval team
D. check the availability, location and function of equipment in the clinic
E. B and D.

Question 2

The baby is born before arrival at the clinic. In examining the newborn, which of the following is correct:

A. oxygen saturation should be assessed clinically
B. neonatal pneumothorax is uncommon in term infants
C. oxygen saturation measured in the right arm is indicative of cerebral oxygen saturation
D. with persistent pulmonary hypertension, oxygen saturation in the right arm may be low
E. the 50th percentile of mean arterial pressure in the newborn is generally greater than or equal to gestational age.

Question 3

Regarding management of the newborn, which of the following is correct:

A. studies have shown that keeping preterm newborns warm increases survival by 20%
B. cold results in hyperglycaemia and worsening respiratory distress
C. hypoglycaemia (<2 mmol/L) requires early correction with 2 mL/kg 10% dextrose
D. maintain head tilt to ensure airway patency
E. any newborn exposed to maternal narcotics within 2 hours of delivery should have naloxone administered.

Question 4

You need to gain intravenous (IV) access in the baby. Which of the following is correct:

A. in premature neonates, cannulation of hand veins with size 24 gauge cannulae should not be attempted
B. umbilical venous catheters should only be inserted in the first 24 hours after birth
C. accidental dislodgement of an umbilical catheter can lead to significant haemorrhage
D. a 5 Fr gauge feeding tube inserted to 2.5 cm can be used if you do not have an umbilical catheter
E. blood glucose, pH and full blood count from an intra-osseus needle are as reliable as measurements from peripheral blood.

Case 2 – Iris Ryding

Iris Ryding, 73 years of age, attends your outer urban general practice complaining of an 'attack' and wondering if she has anxiety. She thought she was going to pass out and was aware of her heart 'thumping' and felt 'hollow in the chest'.

Question 5

Regarding cardiac arrhythmias, which of the following statements is INCORRECT:

A. severe anxiety may cause a vasovagal episode
B. palpitations are a sensitive and specific symptom of cardiac arrhythmia
C. exercise induced symptoms may indicate aortic stenosis or supraventricular tachycardia
D. sudden cardiac death can occur in prolonged QT syndrome
E. clinical features alone can be poor predictors of arrhythmia in general practice.

Question 6

Iris' ECG and examination are normal. She has hypertension, but no other history of cardiovascular disease. You consider whether Iris is suitable for ambulatory ECG. Which of the following high risk features does Iris have:

A. syncope and cerebrovascular disease
B. symptoms and signs of cardiac failure
C. structural heart disease
D. over 65 years of age
E. abnormal ECG.

Question 7

Iris has another attack and attends the local hospital emergency department. Her ECG now shows second degree heart block.

Second degree heart block is:

A. some P waves not followed by a QRS complex
B. PR interval >200 msec
C. no relationship between P waves and QRS complex
D. bundle branch block and axis deviation
E. bifasicular heart block and first degree heart block.

Question 8

Iris becomes bradycardic and collapses in hospital. In management of bradycardia which of the following is INCORRECT:

A. bradycardia is generally defined as a heart rate of <60 bpm
B. asymptomatic patients should receive treatment
C. if symptomatic, place the patient supine, elevate the feet and give oxygen
D. in acute symptomatic heart block, give atropine at least 0.6 mg for the first dose
E. transcutaneous cardiac pacing may be required in acute symptomatic heart block.

Case 3 – Vicki Rossi

Vicki Rossi, 15 years of age, is brought to your rural general practice after being hit in the right eye with a cricket ball while playing sport on the school oval. She has significant lid oedema and the eye is shut.

Question 9

What assessment is NOT needed in Vicki's initial examination:

A. visual acuity
B. relative afferent pupillary defect
C. presence of hyphaema
D. ocular movements
E. intraocular pressure.

Question 10

Vicki's visual acuity is 6/10 on the right and 6/6 on the left. She has no hyphaema and her pupil is normal. Her recommended management is:

A. immediate referral to a hospital emergency department
B. dilated fundus examination and referral within 48 hours
C. eye shield and referral within 24 hours
D. dilated fundus examination and eye shield
E. dilated fundus examination and referral within 24 hours.

Question 11

The following year Vicki is rushed to your practice after accidentally getting pool chlorine crystals in her eyes. She has washed her eyes under the tap at home for a few minutes. She is distressed, and says her eyes are very painful and she can't see properly. Vicki's immediate management does NOT include:

A. copious irrigation of both eyes
B. slit lamp examination
C. local anaesthetic eye drops
D. measurement of eye pH
E. checking and removal of any residual material under the lids.

Question 12

After 30 minutes of irrigation you assess Vicki's eyes. Her corneas are somewhat hazy. Iris details are visible but there is one-quarter limbal ischaemia. In the Roper-Hall classification what grade are Vicki's injuries:

A. I
B. II
C. III
D. IV
E. V.

Case 4 – Greg New

A final year medical student has just started a term in your rural general practice. You decide to go through some emergency procedures in your first teaching session.

Question 13

In cardiac arrest, which of the following drug regimens is correct:

A. adult: adrenaline 1.0 mg every 10 minutes
B. paediatric: adrenaline 0.1 mg/kg
C. VF/VT: atropine 1.2–3.0 mg (adult)
D. asystole/bradycardia: lignocaine 1.0 mg/kg
E. asystole/bradycardia: atropine 20 µg/kg (child).

Question 14

In anaphylaxis, which of the following is INCORRECT:

A. adult: adrenaline 0.5 mg
B. paediatric: adrenaline 0.01 mg/kg
C. adrenaline is contraindicated if there is also arrhythmia, or myocardial/cerebrovascular ischaemia
D. adrenaline is given every 5 minutes intramuscularly (IM) to the anterolateral thigh
E. up to 10 doses of adrenaline may be given.

Question 15

During the tutorial a 42 year old man is brought to the surgery with asthma. He is agitated, talking only in single words and has a SpO_2 of 88%. Your management does NOT include:

A. oxygen, at least 8 L/min to maintain SpO_2 >94%
B. nebulised salbutamol 10 mg every 15 minutes
C. salbutamol 250 µg IM
D. nebulised ipratropium 500 µg 2 hourly
E. hydrocortisone 250 mg IV.

Question 16

You finish your tutorial with a discussion of how your asthma management would have been different if the patient in question 15 had been a child. Which of the following paediatric asthma management options is correct:

A. oxygen, at least 4 L/min to maintain SpO_2 >94%
B. nebulised salbutamol 10 mg driven by oxygen
C. ipratropium 20 µg/dose MDI via spacer, two puffs every 20 minutes in the first hour
D. hydrocortisone 1 mg/kg IV
E. consider IV atropine in extremis.

ANSWERS TO JUNE CLINICAL CHALLENGE

Case 1 – Natalia Kapralova

1. Answer C

The most common cause for chronic abdominal pain (CAP) in childhood is a functional gastrointestinal disorder. CAP refers to pain that has occurred at least weekly for a minimum of 2 months. It has two peak periods; 5–7 years and 8–12 years of age.

2. Answer D

'Red flags' in the history, which might indicate the presence of organic disease, include abdominal distension, weight loss, poor growth, prolonged fever, bile stained or persistent vomiting, chronic or nocturnal diarrhoea, dysphagia and nocturnal pain. Constipation may be a feature of functional CAP.

3. Answer D

'Red flags' on examination, which might indicate the presence of organic disease, include growth failure, weight loss, anaemia, mouth ulceration, perirectal disease, delayed puberty and arthritis. Children with CAP look well and examine normally.

4. Answer A

It is important to explain that CAP pain is real, occurs in the absence of organic disease and relates to brain-gut interaction. A symptom diary may be useful. Nonpharmaceutical pain management strategies may include muscle relaxation, art, movement and imagery. School attendance should be encouraged.

Case 2 – Natalia Kapralova continued

5. Answer D

School refusal occurs in 1–5% of all school children, peaking at ages 5–7 years, then 11 years and 14 years. It occurs across all socioeconomic groups, and equally among boys and girls.

6. Answer B

Longer periods (>2 years) of refusal, occurrence in adolescence, association with depression (or other serious underlying mental health disorder), and lower IQ are associated with a poor prognosis.

7. Answer A

A considerable percentage of early school refusal situations will improve spontaneously or with consistent and firm parental input.

8. Answer E

The aim of management is to plan a school return strategy involving the child, the parents and the school. Strategies may include helping Natalia to acknowledge her feelings and problem solving about making friends.

Case 3 – Gordon Byron

9. Answer D

According to the DSM-IV, patients with ODD refuse to accept responsibility for their actions. They persistently test limits set by parents, deliberately annoy others, blame others for their mistakes, and loose their temper easily. They refuse to comply with instructions or to compromise with parents or peers.

10. Answer D

Factors contributing to ODD include being difficult to soothe as a baby, having a difficult temperament as a child, high motor activity and a propensity toward extreme emotional reactions. Periods of different care givers, serious conflict between the parents, history of mental illness in parents, and harsh, inconsistent or neglectful parenting may also contribute.

11. Answer C

Around 65% of children diagnosed with ADHD have a co-occurring diagnosis of ODD. It may be difficult to determine which features of a child's presentation are due to ODD or ADHD.

12. Answer E

Early intervention is important. Management may include paediatric, psychological, social and school based interventions. A Mental Health Plan can help prioritise interventions and reduce the cost of necessary therapy. There is little research on the use of pharmacological treatments for ODD. SSRIs and clonidine may help, however long term efficacy and side effects of these medications has not been assessed.

Case 4 – Sara Isaak

13. Answer D

A positive Dix-Hallpike test on the right suggests asymmetrical vestibular input, a diagnosis of BPPV and mobile canalith on the right. The success of the Epley manoeuvre depends on the mobility of the canalith.

14. Answer C

The extension of the Dix-Hallpike test is called the Epley manoeuvre.

15. Answer C

Sara should practise vestibular exercises at home, either a modified Epley manoeuvre or Brandt-Daroff exercises. Other general advice includes sleeping semi-recumbent (at a 45 degree angle) and avoiding sleeping on the 'bad' side initially.

16. Answer B

According to Austroads patients with BPPV and symptoms in the upright position should not drive a private standard vehicle while symptoms persist in an upright position.

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