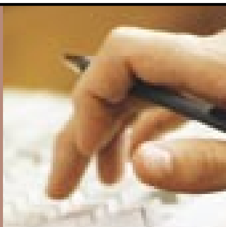

Clinical challenge

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.

Timothy Ross, Rosemary Nixon, 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 – Harrison Masterman

Harrison, aged 2 years, has eczema. It was first noted at about 6 months of age and involved his face and his trunk, but now tends to be most troublesome on the face and flexures. His mother, Kate, has asthma and hayfever and his father, Darren, has eczema.

Question 1

Kate brings Harrison in to see you today because he has had a flare of eczema on his face. Which of the following is the least likely to be the cause of an exacerbation of Harrison's eczema?

A. heat
B. dryness
C. allergies
D. infection
E. poor adherence to treatment.

Question 2

You discuss management of facial eczema with Kate. Which of the following topical treatments is not appropriate on the face in eczema?

A. 50/50 paraffin
B. mometasone 0.1% cream
C. 1% hydrocortisone ointment
D. 1% pimecrolimus cream
E. sorbolene.

Question 3

Harrison has weeping and crusting on his facial rash with increased erythema. He has no fever and is not systemically unwell. You suspect that he has a secondary bacterial infection of his eczema. You advise Kate to:

A. apply topical antibiotic cream
B. leave the scabs intact to protect the skin
C. upgrade to intermediate potency steroids
D. continue moisturisers
E. give Harrison oral amoxicillin for 5 days.

Question 4

Kate is concerned about using topical steroids to treat Harrison's eczema and asks you about alternative therapies. You tell her:

A. cognitive behavioural therapy would be the best treatment option for Harrison
B. growth delay may occur with severe untreated eczema
C. topical steroids cannot cause systemic effects
D. there is no evidence for the efficacy of Chinese herbal medicine in treating eczema
E. there is strong evidence for the efficacy of homeopathy in treating eczema.

Case 2 – Darren Masterman

Darren, aged 32 years, is a motor mechanic. He experiences hayfever in the spring months and has a long history of chronic hand eczema. He comes in today for prescriptions for steroid creams.

Question 1

Had you seen Darren for pre-employment occupational counselling, which of the following risk factors would have placed him in a high risk category for occupational contact dermatitis:

A. wool intolerance
B. moderate to severe atopic dermatitis with hand involvement
C. previous change of work due to allergic contact dermatitis
D. mucosal atopy
E. dry skin.

Question 2

Atopic patients such as Darren are more likely than 'nonatopic' individuals to experience all except:

A. allergic contact dermatitis
B. contact urticaria
C. latex allergy
D. irritant contact dermatitis
E. asthma.

Question 3

Darren has dry, cracked eczematous skin on his hands. He gets his hands covered in oil and grease at work. Appropriate skin care management includes:

A. frequent washing with soap and water to remove oil
B. use of soap substitute and moisturising greasy ointment
C. steroid cream rather than ointment
D. use of latex gloves to protect the hands
E. immediate resignation from his job.

Question 4

Darren tries using latex surgical gloves in an effort to keep oils off his hands and minimise the need for washing. However, he develops redness, burning and itching about 15 minutes after putting on the gloves. Latex allergy is:

A. not usually associated with atopy
B. less common when powdered latex gloves are used
C. associated with wheat allergy
D. not a form of contact urticaria
E. associated with banana and kiwi fruit allergy.

Case 3 – Sandra Scoles

Sandra, age 23 years, has a past history of irritable bowel syndrome. She has also attended your clinic for contraceptive advice and Pap tests, and commenced a combined oral contraceptive pill 2 months ago.

Question 1

Sandra presents with painful, tender red lumps on her shins. She has a sore throat and aches and pains in her joints. Fortunately you have just read the May 2005 issue of *AFP* and recognise the leg lesions as typical of erythema nodosum (ED). Which of the following is true of ED.

A. ED is a form of lobular panniculitis
B. ED involves inflammation of the epidermis
C. ED involves inflammation of the subcutis and deep dermis
D. the surface of the lesions may be scaly
E. the surface of the lesions may be vesiculated.

Question 2

Erythema nodosum:

A. is most commonly associated with tuberculosis in Australia
B. is a common reaction to hepatitis B infection
C. may be caused by the oral contraceptive pill
D. is unlikely to be related to a streptococcal throat infection
E. may be caused by irritable bowel syndrome.

Question 3

You discuss ED with Sandra and tell her she will require some investigations. You tell her:

A. a shave biopsy is required for all cases of ED
B. a chest X-ray and Mantoux test are indicated
C. a full blood examination and a throat swab would be appropriate
D. all of the above
E. B and C.

Question 4

Sandra has an exudative tonsillitis and her throat swab is positive for streptococcus. You treat her tonsillitis with oral penicillin and her throat and systemic symptoms improve. Her leg lesions continue to be painful and she asks what can be done to treat them. You tell her:

A. treatment is not indicated as ED is self limiting
B. walking and other physical activity will reduce pain
C. prednisolone is contraindicated except in cases caused by tuberculosis
D. nonsteroidal antiinflammatory drugs (NSAIDs) can be helpful
E. the antibiotic will treat the leg lesions as well as the throat.

Case 4 – Betty Gardiner

Betty, aged 71 years, presents with a painful ulcerated lesion on her right lower leg. It began as a small painful lump. She wonders whether a spider may have bitten her.

Question 1

Betty has varicose veins and the skin around the ulcer appears thin and discoloured. She does not get pain in her calves when she walks. Her popliteal and pedal pulses are palpable. You are keen to try out your new Doppler to measure her ankle-brachial pressure index (ABPI)

A. Betty's clinical findings exclude peripheral arterial disease
B. ABPI assesses venous insufficiency
C. an ABPI of >0.8 indicates large arterial obstruction is unlikely
D. an APBI of >0.9 indicates arterial disease
E. an APBI of >0.8 indicates that compression bandages can be safely applied if needed.

Question 2

Betty's ABPI is 1.0. The least likely diagnosis for Betty's painful leg ulcer is:

A. pyoderma gangrenosum
B. white tail spider bite
C. skin infection
D. venous stasis ulcer
E. skin malignancy.

Question 3

You swab the ulcer for microscopy and culture and take an incisional biopsy. Culture is negative on the swab and tissue sample, and histology reveals pyoderma gangrenosum (PG). PG is associated with all except:

A. no systemic condition in up to 30% of cases
B. osteoarthritis
C. myeloma
D. Crohn disease
E. haematological malignancies.

Question 4

You discuss management of PG with Betty. You tell her:

A. excision of the lesion is the best option
B. prednisolone is contraindicated
C. prednisolone is appropriate treatment
D. NSAIDs are the treatment of choice
E. antibiotics are required as PG is caused by atypical infection.

ANSWERS TO APRIL CLINICAL CHALLENGE

Case 1 – Lew Trotter

1. Answer B

In Australia, there are approximately 4000 episodes of diarrhoea per 1000 children per year. The frequency of Lew's symptoms is therefore not unusual, particularly if he has regular contact with other children. Viruses account for 70% of acute infectious diarrhoea and bacteria 15%.

2. Answer B

Gastroenteritis is a diagnosis of exclusion as vomiting and diarrhoea can be nonspecific symptoms in young children. Haemolytic uraemic syndrome should be considered in a child with bloody diarrhoea, pallor and poor urine output. The differential diagnosis for GE includes surgical conditions, inflammatory bowel disease, systemic infections and metabolic conditions.

3. Answer B

The best signs for identifying dehydration are decreased peripheral perfusion (capillary refill time >2 seconds), abnormal skin turgor (pinched skin retracts slowly over 2 seconds) and an abnormal respiratory pattern (deep acidotic breathing). Although the amount of weight loss provides the best estimate of the degree of dehydration, a recent accurate weight may not be available.

4. Answer D

If parents are making solutions at home, appropriate recipes include 1 teaspoon sucrose per 200 mL water or cordial 1 part in 16 parts water. The risks of adverse effects of antidiarrhoea agents such as loperamide in children outweigh the benefits and they should not be used. Early return to solid feeding shortens the duration of diarrhoea and improves weight gain.

Case 2 – Beck Packer

1. Answer D

Bacterial pathogens are the most common aetiological agents in traveller's diarrhoea and *Enterotoxigenic E. coli* are implicated in 40% of cases. TD affects 30–50% of travellers to developing countries in a 2 week stay, with over 60% of cases occurring within the first week.

2. Answer E

High risk foods include seafood, salads, cold meat and peeled fruit. Water must be boiled before consuming. While international brand bottled water is considered safe, beware of locally bottled noncarbonated water.

3. Answer A

For mild TD without blood in bowel motions, oral fluid replacement plus loperamide to reduce frequency of bowel actions is appropriate. For more severe symptoms presumptive treatment is with norfloxacin 800 mg stat. In southeast Asia, where quinolone resistance is high, azithromycin may be a better option.

4. Answer B

Loperamide is not advisable for patients with bloody diarrhoea or fever. Presumptive treatment for bloody diarrhoea is norfloxacin 400 mg bd for 3 days.

Case 3 – Beck Packer – 1 year later

1. Answer A

Beck's symptoms fit with the Rome II criteria for diagnosis of IBS of at least 12 weeks of symptoms over a 12 month period of abdominal pain, relieved by defaecation and associated with change in stool frequency and/or form. Although IBS is a diagnosis of exclusion, Beck does not have alarm symptoms that indicate the need for colonoscopy. IBS commonly starts following an episode of gastroenteritis.

2. Answer E

A bout of gastroenteritis precedes IBS in up to 25% of cases. Altered gut sensitivity to distension and gaseous distension of the small bowel have a causative role in IBS. The role of the brain-gut axis is well recognised in IBS with many gut neurotransmitters and hormones being similar to those in the brain. In particular corticotropin releasing factor (CRF) may have a role in visceral responses to stress, and the development of IBS symptoms.

3. Answer C

There is no single successful therapy in IBS and treatment may include a range of strategies including dietary modification, pharmacotherapy, psychological therapies and herbal or complementary remedies. A high fibre diet and bulking agents are as valuable with diarrhoea as constipation. Tegarasod is used in patients with bloating/constipation. Antispasmodics such as meberverine are often helpful for pain.

4. Answer A

When persistent diarrhoea is a feature of IBS, biopsies are required to exclude microscopic colitis. In a patient with anaemia, elevated ESR or CRP or family history of Crohn disease, a small bowel series is indicated.

Case 4 – Karl Kroner

1. Answer D

Chronic diarrhoea and rectal bleeding are two symptoms warranting endoscopic examination of the large bowel. Other features raising the possibility of IBD are weight loss, abdominal mass, fever, elevated CRP, ESR or white cell count, or pus cells on faecal microscopy.

2. Answer A

Mesalazine is the key drug in treating acute ulcerative colitis and can be given orally and/or rectally depending on the extent of the disease. Corticosteroids induce remission also but because of their side effect profile they are better reserved for more severe cases or those in whom mesalazine has not been fully effective.

3. Answer B

Immunosuppressants are used in chronically active disease and for patients with frequent relapses.

4. Answer C

Many patients with IBD take vitamin supplements that are probably unnecessary. Seeds and indigestible fibre should be avoided if there are obstructing lesions, and wheat and onions avoided if there is bloating prominent; but otherwise dietary advice is directed toward a balanced diet to ensure adequate nutrition. The Australian Crohn's and Colitis Association is a good support and information source for patients.

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