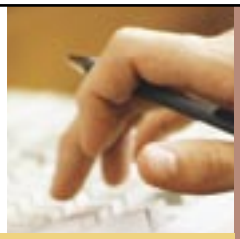
Clinical challenge



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. *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 – Lew Trotter

Lew, 3 years of age, is brought in by his mother, Jackie. Lew vomited three times overnight and has had four loose bowel actions today. He has had no blood in the bowel actions. You have seen a number of children with gastroenteritis (GE) in the past few days and GE is the top of your differential diagnoses list for Lew.

Question 1

Jackie is concerned that this is the third similar episode Lew has had in the past 12 months and asks what is causing his symptoms. You tell her that it is likely he has acute infectious diarrhoea and

A. three episodes of diarrhoea per year in a child his age is unusual
B. 70% of cases are caused by viruses
C. bacteria account for 30% of episodes
D. *Giardia lamblia* is the most common cause of GE
E. the recurrent episodes are probably because of poor hygiene at home.

Question 2

When assessing a young child with diarrhoea and vomiting, which of the following statements are true:

A. the symptoms are specific for GE
B. bloody diarrhoea and poor urine output may be associated with the haemolytic uraemic syndrome
C. bloody diarrhoea is suggestive of a viral infection
D. diarrhoea excludes surgical conditions of the abdomen from the differential diagnoses
E. urinary tract infection would not be one of the differential diagnoses.

Question 3

You examine Lew. You do not have a recent record of his weight but Jackie tells you she thinks he weighs about 20 kg. Clinical features that indicate dehydration include:

A. capillary refill time is 1 second
B. pinched skin retracts slowly over 2 seconds
C. Lew weighs 19.5 kg
D. Lew is thirsty
E. Lew is restless.

Question 4

You decide that Lew is not significantly dehydrated. You discuss management with Jackie. You tell her:

A. fruit juice diluted 1 in 2 with tap water is a suitable fluid
B. loperamide may be used to decrease stool frequency
C. solids should be avoided because they will prolong diarrhoea
D. 1 teaspoon sugar in 200 mL water is a suitable fluid
E. only commercial oral rehydration solutions are appropriate.

Case 2 – Beck Packer

Beck, 23 years of age, attends for the last of her travel vaccinations. She is heading off to India with a group of friends in 3 weeks time.

Question 1

You are discussing the various health risks associated with travel and get to the topic of traveller's diarrhoea (TD). You tell Beck

A. 10% of travellers to developing countries will contract TD in a 2 week stay
B. 30% of cases occur in the first week of travel
C. the majority of cases are of viral aetiology
D. *Enterotoxigenic E. coli* is implicated in up to 40% of TD cases
E. giardia species are the most common causative organisms.

Question 2

You tell Beck that food and contaminated water are the source of the infections and you advise her that the following items are all hazardous except:

A. seafood
B. noncarbonated locally bottled water
C. salad vegetables
D. potato salad
E. fruit that can be peeled.

Question 3

You tell Beck that if she develops diarrhoea (without blood), and has no fever, she should:

A. have oral fluid replacement and take loperamide for mild symptoms
B. take nofloxacin 200 mg stat for more severe symptoms
C. take norfloxacin 800 mg stat for any symptoms
D. take tinidazole 2 g stat as first line therapy
E. take erythromycin 500 mg twice per day for 5 days as first line therapy.

Question 4

You tell Beck that if she develops bloody diarrhoea with fever, in addition to fluid replacement she should:

A. take loperamide
B. take norfloxacin 400 mg bd for 3 days
C. take tinidazole 2 g daily for 3 days as first line therapy
D. A and B are correct
E. A and C are correct.

Case 3 – Beck Packer – 1 year later

One year after returning from India, Beck attends and says she had a severe episode of diarrhoea in India lasting for 10 days, and that since then she has not been the same. She has had a number of stool cultures that have not revealed any pathogens.

Question 1

Beck tells you she has recurrent bloating and lower abdominal pain. Her pain improves after a bowel action but she feels she does not completely empty her bowel. She has had symptoms on average at least 1 week in 4 over the past year. When she has the pain she notes her bowel actions are loose and more frequent and sometimes contain mucous but no blood. Beck's symptoms:

A. are consistent with irritable bowel syndrome (IBS)
B. are most likely caused by a persistent bowel infection
C. need to be investigated with a colonoscopy
D. are suggestive of inflammatory bowel disease (IBD)
E. do not fit with the Rome II criteria of IBS.

Question 2

Beck has had a difficult year with her university studies and has recently broken up with her fiancé. You discuss the possibility of IBS with Beck. You tell her

A. she has an anxiety disorder that is the cause of her symptoms
B. IBS is not influenced by emotional distress
C. IBS is usually caused by specific food intolerance
D. IBS is not caused by TD
E. altered gut sensitivity to distension is a causative factor in IBS.

Question 3

You discuss management strategies with Beck

A. increasing dietary fibre is contraindicated as this may make her loose bowel actions worse
B. tegarasod would be a good option
C. meberverine may be helpful
D. no complementary or herbal therapies are likely to be helpful
E. medication for anxiety is the best way to resolve symptoms.

Question 4

Beck presents a further 6 months later. Her symptoms initially improved with the management plan you recommended but over the past month she has had diarrhoea, 2–3 times on most days. Beck has not lost weight, but does feel tired and run down. Blood tests reveal no anaemia, normal thyroid function, negative endomysial antibodies and normal CRP and ESR. The appropriate next step is:

A. colonoscopy and biopsies to exclude microscopic colitis
B. a small bowel series to detect possible small bowel Crohn disease
C. reassurance and continuance of current management
D. empirical treatment with tinidazole for gastrointestinal infection
E. referral to a psychologist.

Case 4 – Karl Kroner

Karl, 19 years of age, presents with persistent diarrhoea over the past 3 months. He has always had a 'bit of a sensitive gut', getting loose bowel actions with changes in diet and with stress. He had a bout of 'Bali belly' initially. The diarrhoea settled for a while when he got home and then got worse during his exams, but the symptoms have persisted even though he is no longer under stress.

Question 1

The following features all raise the possibility of IBD except:

A. rectal bleeding
B. weight loss
C. elevated ESR
D. normal CRP
E. persistent diarrhoea.

Question 2

Karl has a colonoscopy that reveals ulcerative colitis involving the distal colon and rectum. The best choice of medication to induce a remission of disease is:

A. mesalazine
B. oral prednisolone
C. rectal corticosteroids
D. oral azothiaprine
E. oral methotrexate.

Question 3

Karl's symptoms settle with treatment and after a couple of months he is feeling well. Ongoing management involves:

A. no further drug treatment unless relapse occurs
B. maintenance treatment with mesalazine
C. maintenance treatment with corticosteroids
D. maintenance treatment with azothiaprine
E. maintenance treatment with methotrexate.

Question 4

Important nondrug management strategies for Karl include all except:

A. smoking cessation
B. education and counselling
C. strict dietary control and vitamin supplementation
D. access to patient support and information organisations
E. surveillance for colorectal cancer after 7–10 years of disease.

ANSWERS TO MARCH CLINICAL CHALLENGE

Case 1 – the Browns

1. Answer B

Ninety percent of couples conceive within 12 months of discontinuing contraception, although the Browns are at a disadvantage because of their age. Couples aged 25 years have about a 75% chance of conceiving within 6 months – the Browns are less likely. There is no point delaying simple investigations, especially in the older couple.

2. Answer D

Sperm seen in cervical mucous collected after intercourse shows that sperm are reaching the cervix appropriately, but this doesn't mean that the timing is right. General practitioners who have developed a strong therapeutic relationship with their patients are ideally placed to discuss sexual matters.

3. Answer A

The best quality samples are collected by masturbation following 2–3 days without ejaculation. The first part of the ejaculate is the most sperm-rich, but the total volume needs to be collected. If a condom is to be used, it cannot contain a spermicide. There is no firm evidence that varicoceles affect fertility.

4. Answer D

Midluteal progesterone levels are indicative of successful ovulation and are relatively cheap and noninvasive.

Case 2 – the Browns continued

1. Answer E

Several of these alternatives are correct, but the most appropriate next action is to listen to Lesley and let her know that you understand how she is feeling.

2. Answer E

Infertility provokes a wide range of responses. Lesley is likely to respond well to you listening to her and then helping her to recognise her emotions. 'You seem quite angry and resentful, Lesley. Is that the way you're feeling?'

3. Answer A

At this stage, the process of fertilisation really moves into the hands of technicians. The couple, who have a huge emotional (and financial) investment in the outcome of the process, often feel particularly powerless and anxious.

4. Answer B

Although it's always risky to characterise the genders, men tend to internalise and repress their emotions more than women do.

Case 3 – the Browns continued

1. Answer E

Intracytoplasmic sperm injection (ICSI) is now the commonest form of in vitro assisted conception. Success rates vary between centres, but are higher than other forms, especially in a couple with both poor sperm quality and bilateral blocked tubes.

2. Answer D

Gamete intrafallopian transfer (GIFT) describes a process by which the sperm and egg are brought together in the body in an attempt to achieve in vivo fertilisation. Although its popularity has declined as other techniques (eg. ICSI) have improved, it is still preferred by some couples.

3. Answer D

Simply stimulating the ovaries to produce more follicles will not be much use to the Browns when both of Lesley's tubes are obstructed and Jack has a very low sperm count.

4. Answer C

Pre-implantation genetic diagnosis (PGD) identifies each embryo's karyotype and thus can detect chromosomal trisomies and deletions.

Case 4 – Louisa Brown

1. Answer A

Endometrial hyperplasia or cancer might be seen. Other features include obesity, noninsulin dependent diabetes, anovulation, and infertility.

2. Answer E

The Rotterdam Consensus Group criteria for the definition of PCOS include ultrasound evidence of 12 or more follicles in either ovary measuring 2–9 mm in diameter, and/or increased ovarian volume greater than 10 mL, along with oligo- and/or an-ovulation, and clinical and/or biochemical signs of hyperandrogenism. Two of the three are required for diagnosis.

3. Answer A

Louisa is at increased risk of gestational diabetes should she achieve a pregnancy. She is also at greater risk of NIDDM, dyslipidaemia, cardiovascular disease, endometrial cancer, and miscarriage. Although the OCP is useful in treatment, it's not much use while Louisa is trying to get pregnant.

4. Answer B

Even in the presence of diagnosed PCOS, the partner's semen analysis is an important investigation to undertake early on. The other investigations listed have no place at this stage of Louisa's treatment.

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