



Questions for this month's clinical challenge are based on articles in this issue. The clinical challenge is endorsed by the RACGP Quality Improvement and Continuing Professional Development (QI&CPD) program and has been allocated 4 Category 2 points (Activity ID:32452). Answers to this clinical challenge are available immediately following successful completion online at <http://gplearning.racgp.org.au>. Clinical challenge quizzes may be completed at any time throughout the 2014–16 triennium; therefore, the previous months answers are not published.

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



Clinical challenge

Case 1

Jason, 58 years of age, is a patient well known to your practice who is currently undergoing treatment for non-Hodgkin lymphoma through the local hospital. He presents today with three days of watery stools, approximately five motions per day, and with associated nausea and abdominal cramping. Examination reveals normal vital signs and some mild, generalised, non-specific tenderness to abdominal palpation. Following your examination, Jason mentions that he has just finished a course of antibiotics that the hospital prescribed for a skin infection. He cannot remember the name of the medication but thinks it started with 'C'. You are aware that Jason has a serious penicillin allergy. You decide to ask Jason to collect a stool sample to be sent for microbiological analysis.

Question 1

Which one of the following preliminary results on microscopy would make you concerned that the pathogen involved could be *Clostridium difficile*?

- A. Aerobic, Gram-positive cocci
- B. Aerobic, Gram-negative rods
- C. Anaerobic, Gram-positive bacilli
- D. Anaerobic, Gram-negative rods
- E. Microaerophilic, Gram-negative, curved organisms

Question 2

Which one of the following would be considered a 'classical' risk factor for *C. difficile* infection?

- A. Advanced age
- B. Inflammatory bowel disease
- C. Malignant haematological disorders
- D. Non-surgical gastrointestinal procedures
- E. Use of proton pump inhibitors (PPIs)

Case continued

C. difficile infection is confirmed on stool microscopy and culture.

Question 3

If Jason's symptoms persist despite cessation of the antibiotic for his skin condition, the most appropriate first-line treatment at that time would be:

- A. faecal microbiota transplant
- B. intravenous vancomycin
- C. oral clindamycin
- D. oral fidaxomicin
- E. oral metronidazole.

Question 4

Jason asks for information to help him prevent transmission of the *C. difficile* infection to the other members of his household. Which one of the following is correct?

- A. Regular use of alcohol-based hand rubs will reliably kill the organism and minimise transmission.

- B. The organism is ubiquitous in the environment as spores and can be very difficult to eradicate.
- C. The organism causes illness in any human host that contracts it so his family are also likely to become unwell.
- D. Spores of the organism can only survive outside a host for a few hours at a time, which reduces the risk of transmission.

Case 2

Georgina is a smoker aged 33 years, who presents with 12 months of intermittent nausea, heartburn and upper abdominal discomfort, which has become more frequent over the past few weeks. Clinical assessment suggests that the first step is an 8-week trial of a proton pump inhibitor (PPI) and management of lifestyle factors.

Question 5

Which of the following additional features in the history would have prompted consideration of endoscopy rather than PPI for initial management?

- A. Any GI bleeding
- B. Recurrent vomiting
- C. Progressive unintentional weight loss
- D. Progressive difficulty swallowing
- E. All of the above

Case continued

Georgina returns 9 weeks later, after completing her 8-week trial of PPI, and reports that although her symptoms improved on the medication, they did not resolve completely and have now returned as before. You refer her for direct access endoscopy. The following information is contained in the procedure notes and pathology report:

Oesophagus

Features of moderate oesophagitis and an area of 4 cm length showing glandular mucosa consistent with Barrett's oesophagus; biopsies taken Oesophageal biopsies – evidence of intestinal metaplasia with goblet cells; no dysplasia; chronic inflammatory changes

Gastric body

Features of moderate gastritis and gastric polyp; biopsies taken Gastric biopsies – hyperplastic gastric polyp; positive rapid urease test for *Helicobacter pylori*

Question 6

On the basis of the information in the reports, which one of the following is the most appropriate management for Georgina?

- A. Referral for endoscopic treatment
- B. Repeat gastroscopy in 6 months
- C. Treat *H. pylori* infection and repeat gastroscopy in 2–3 years
- D. Treat *H. pylori* infection and repeat gastroscopy in 1 year
- E. Treat *H. pylori* infection and commence lifelong PPI treatment

Question 7

If Georgina's results had instead stated there was no gastric polyp, which one of the following would have been the most appropriate management?

- A. Refer Georgina for endoscopic treatment.
- B. Repeat the gastroscopy in 6 months.
- C. Treat the *H. pylori* infection and repeat the gastroscopy in 2–3 years.

- D. Treat the *H. pylori* infection and repeat the gastroscopy in 1 year.
- E. Treat the *H. pylori* infection and commence lifelong PPI treatment.

Case continued

Georgina's endoscopist also sent duodenal biopsies for histology. The findings are reported as: Normal villous architecture with increased intraepithelial lymphocytes in two of four biopsies, consistent with lymphocytic duodenitis

Question 8

This clinical information is NOT consistent with which of one of the following diseases?

- A. Coeliac disease
- B. Grave's disease
- C. *H. pylori* infection
- D. Immunoglobulin A deficiency
- E. Hypergammaglobulinaemia

Case 3

Fred is 66 years of age and has been battling with alcohol dependence for many years. He has presented on four occasions over the past 12 months, complaining of epigastric pain with radiation to the back lasting several days before subsiding. Fred has lost 8 kg over the previous 12 months. Investigations thus far, including liver function tests, serum lipase, upper abdominal ultrasound and upper GI endoscopy, have not revealed a definitive cause for these episodes of pain. You suspect that the cause of the pain may be chronic pancreatitis.

Question 9

Which one of the following radiological investigations has in the past been considered the 'gold standard' for diagnosis of this condition?

- A. Computerised tomography (CT) scan of the abdomen
- B. Endoscopic retrograde cholangiopancreatography (ERCP)
- C. Endoscopic ultrasound (EUS)

- D. Magnetic resonance cholangiopancreatography (MRCP)
- E. Abdominal ultrasound

Question 10

Which one of the following is the most appropriate first-line treatment for pain control?

- A. Codeine
- B. Image-guided coeliac plexus block
- C. Long-acting oxycodone
- D. Paracetamol
- E. Vitamin C and methionine supplements

In light of Fred's weight loss, you suspect he may have pancreatic enzyme insufficiency (PEI) as a result of his chronic pancreatitis.

Question 11

You are considering prescribing pancreatic enzyme replacement therapy (PERT) for his PEI. Which one of the following is the correct reasoning in making this decision?

- A. Diagnosis of PEI is by measurement of faecal elastase-1 concentration.
- B. PERT has a central role in the control of chronic pancreatitis pain.
- C. The dosage of PERT should be titrated using faecal elastase-1 concentration.
- D. PERT will only work with substantial dietary modification and so patient compliance is an issue.

Case continued

You continue to review Fred regularly and he is able to minimise his alcohol consumption and manage any pain episodes with simple analgesia and occasional tramadol. His weight stabilises after commencing PERT.

Question 12

During the follow-up for Fred, re-imaging to exclude the development of pancreatic cancer should occur:

- A. with documented further weight loss
- B. when new-onset type 1 diabetes is diagnosed
- C. routinely every 3 years
- D. routinely every 5 years