Self-assessment/CPD answers

Below, you can find the answers to the self-assessment questions published in this chapter.

Answers

Symptoms and signs of upper gastrointestinal disease

Question 1

Correct answer: B. Gastric volvulus is most likely with chest pain, coffee ground vomiting and a known hiatus hernia. Although peptic ulcer disease (C) is possible, it is usually painless, in the acute setting and this patient's blood tests show no sign of bleeding. Oesophageal rupture (E) is possible, but patients would typically be very unstable and chest X-ray would show a pneumomediastinum or a combination of pneumothorax and pleural effusion. Acute coronary syndrome (D) is unlikely given the history and normal ECG, although it is possible. Pulmonary embolism (A) is very unlikely given the normal PO_2 and history.

Question 2

Correct answer: A. Eosinophilic oesophagitis is most likely given the history of recurrent boluses and atopy, and the demographic of the patient. An oesophageal pouch (B) would normally present with regurgitation in an older patient. Achalasia (C) tends to present with pain, and although this is a possible diagnosis, it is less likely than eosinophilic oesophagitis. Functional dysphagia (D) is unlikely with a food bolus needing endoscopic removal. Oesophageal cancer (E) is unlikely in this age group and would tend to have progressive symptoms.

Question 3

Correct answer: C. Gastroparesis is most likely with a history of poorly controlled diabetes mellitus and peripheral neuropathy, early satiety and large-volume vomiting. Gastroenteritis (A) is unlikely given the long history. Coeliac disease (B) is unlikely as, although there is bloating, there is no weight loss or diarrhoea, and coeliac disease does not tend to cause vomiting. Rumination syndrome (D) is unlikely as this usually presents with effortless regurgitation of smaller volumes of food. Gastro-oesophgeal reflux disease (E) is unlikely as there is no history of heartburn or reflux.

Symptoms and signs of lower gastrointestinal disease

Question 1

Correct answer: A. Nocturnal diarrhoea with episodic pale stools raises the possibility of bile acid diarrhoea, especially post-cholecystectomy. Diverticular disease is unlikely with this stool type and in a young patient. Sulfonylureas, unlike metformin, are not common causes of diarrhoea. Diarrhoea without other symptoms is unlikely to be related to bacteria.

Question 2

Correct answer: D. Rectal prolapse can occur at any age and is often associated with chronic constipation and straining at stool. Anal fissures can occur with chronic straining, but are invariably painful and not always associated with elevated resting anal tone. Small volumes of soft stool are often present in the normal rectum – impaction requires large volumes of hard stool.

Question 3

Correct answer: E. Recurrent episodic obstructive symptoms with good health in between episodes suggests a mechanical cause, especially in the context of past peritonitis. Irritable bowel syndrome is characterized by abdominal pain which has a temporal relationship to bowel function, which is not the case here. Diverticular disease, endometriosis and inflammatory bowel disease do not usually present with mechanical type symptoms and are classically associated with rectal blood loss.

Common causes of iron deficiency anaemia in gastroenterology patients

Question 1

Correct answer: D. This patient has signs of a lower gastrointestinal cancer until proven otherwise. Although he requires colonoscopy, this should be arranged urgently rather than routinely (B). Oral iron can be instigated as a treatment, but it is often poorly tolerated and does not treat the underlying cause (A). A negative faecal occult blood result does not remove the need for investigation (so C is incorrect). Stool culture (E) should be undertaken to rule out an infective cause once other differential diagnoses such as malignancy have been ruled out.

Question 2

Correct answer: C. All parameters other than total iron binding capacity (TIBC) are decreased. TIBC is inversely related to iron concentration; hence it is high in iron deficiency.

Question 3

Correct answer: D. This mixed anaemia is a combination of iron deficiency anaemia resulting from blood loss related to a

recent flare of Crohn's disease, and anaemia of chronic disease resulting from systemic inflammation and corticosteroid use (normal ferritin and raised C-reactive protein concentrations).

Oesophageal emergencies

Question 1

Correct answer: A. Intraoesophageal injection of corticosteroids and stenting is the treatment of choice for refractory strictures in the context of a previous caustic injury.

Question 2

Correct answer: C. The likely diagnosis is an iatrogenic perforation of the oesophagus and the patient will need to be kept nil by mouth and will require intravenous antibiotics. Further investigations would include a CT scan with multidisciplinary input as to the most effective method of management.

Acute upper gastrointestinal haemorrhage

Question 1

Correct answer: B. The history of repeated vomiting followed by bright red blood is typical for an oesophageal tear. There are no risk factors for a peptic ulcer (A). Gastritis (C) is possible but less likely, there is no previous history to support a variceal bleed (D), and malignancy (E) is very unlikely.

Question 2

Correct answer: A. Fluid resuscitation is the priority and this should be with crystalloid. There is evidence that a lower target haemoglobin is beneficial, particularly in patients with cirrhosis (E). Antibiotics (B), terlipressin (C) and a urinary catheter insertion (D) will all be needed but resuscitation is needed first.

Question 3

Correct answer C. Aspirin should be continued, as the cardiovascular benefits conferred outweighs the risk of bleeding, particularly when given with a proton pump inhibitor (PPI) as in this case. Ibuprofen is likely to be contributing to this patient's ulceration, so (A) is incorrect. He is not on warfarin, so there is no indication to give vitamin K (B). There is no indication to change the aspirin to clopidogrel (D), and one PPI is not superior to another in this case, so (E) is also incorrect.

Acute lower gastrointestinal bleeding

Question 1

Correct answer: D. CT angiography is most likely to identify the source of lower gastrointestinal bleeding in a patient with a bleeding rate of >1 ml/minute, i.e. in the presence of shock. It gives an indication of underlying pathology as well as bleeding site, and can guide further treatment. Colonoscopy (C) is more commonly used in stable or stabilized patients. Mesenteric angiography (B) is usually only carried out with a view to embolization after a positive CT angiogram. Capsule endoscopy (A) and red cell scintigraphy (E) are more commonly used in patients with recurrent lower gastrointestinal bleeds in whom no source of the bleeding has been found on CT angiography and colonoscopy.

Question 2

Correct answer: C: Restrictive blood transfusion is associated with better outcomes in patients with lower gastrointestinal bleeding with a target of keeping haemoglobin concentration in range 70–80 g/litre. Transfusion should ideally be used only in unstable patients with haemoglobin concentration <90 g/litre, in stable patients with haemoglobin <70–80 g/litre, or in patients with history of critical coronary ischaemia with haemoglobin concentration <100 g/litre.

Question 3

Correct answer: B. Although the bleeding has probably been caused by diverticular disease, no definite bleeding site has been seen, and limited flexible sigmoidoscopy would not exclude other causes of bleeding. This is especially true for colonic polyps or tumour, which are more common in patients aged >50 years. A full, prepared colonoscopy would be the ideal investigation in a stable patient in whom bleeding has stopped spontaneously. CT angiography (C) has minimal diagnostic yield in patients who are not actively bleeding. Colonoscopy also identifies right colon angiodysplasia (D) if present. Clinic review is a reasonable option (E), but colonoscopy is still advisable even if there have been no further bleeding episodes.

Toxic dilatation of the colon

Question 1

Correct answer: C. 50% of patients with toxic megacolon in ulcerative colitis will respond to medical therapy, and joint surgical/medical review is indicated. If there is no immediate indication for surgery then iv corticosteroids should be used. Daily joint surgical/medical review is essential, and as long as daily films show the megacolon is improving, medical treatment should continue. Rescue therapy with infliximab should be considered after 3–5 days of treatment if there is no improvement in bowel frequency, and assuming that the colonic dilatation is continuing to resolve.

Question 2

Correct answer: A. This young woman is critically ill, and the presence of gas in the colonic wall is suggestive of impending perforation. Surgery should be the first priority after fluid resuscitation. Corticosteroids and infliximab (B, C) are unlikely to be effective fast enough, particularly in someone who has already had a week in hospital without treatment. Antibiotics (D) are inadequate.

Question 3

Correct answer: B. This patient is at risk for *Clostridium difficile* infection and the endoscopic appearance is typical of

pseudomembranous colitis. Treatment should be with oral vancomycin, and corticosteroids have no role. He has two reversible factors for toxic megacolon (codeine and a recent sigmoidoscopy). There are reports that kneeling in the knee elbow position enables air to pass from the transverse colon into the left colon and then be expelled more easily and may help in this situation to resolve the dilatation more rapidly. Further broad-spectrum antibiotics are not appropriate if *C. difficile*. This is potentially treatable, and colectomy is not inevitable. Infliximab is not indicated with untreated *C. difficile*.

Acute pancreatitis

Question 1

Correct answer: D. A typical history and pain supported by a biochemical diagnosis of acute pancreatitis (elevated amylase and lipase concentrations) confirm a clinical diagnosis of acute pancreatitis. An early goal-directed approach to resuscitation, using 5–10 ml/kg per hour of Ringer's lactate, aiming to promptly return the clinical and biochemical parameters to normal (i.e. urine output >5 ml/kg per hour, heart rate <120 beats per minute, haematocrit 35–45%) are recommended by both the International Association of Pancreatology/American Pancreatic Association and American Gastroenterological Association. The routine use of antibiotics is no longer recommended and should be reserved for cases where an infection is clinically suspected or confirmed.

Question 2

Correct answer: E. This patient shows features of biliary obstruction with ascending cholangitis. Early endoscopic retrograde cholangio-pancreatography (within 24–48 hours) is recommended by the American Gastroenterological Association 2018 guidelines as it allows for sphincterotomy and stone extraction. In the absence of clinical evidence of biliary tree obstruction, diagnostic imaging (magnetic resonance cholangio-pancreatography (A) and endoscopic ultrasound (B)) could be performed in order to assess the biliary system. Cholecystectomy (C) should be offered during the index admission or within 2 weeks of discharge in cases of mild acute pancreatitis, whereas in severe cases resolution of the inflammatory process is best awaited. Cholecystectomy will not, however, address upstream biliary tree stones, such as in this case where the common bile duct is obstructed.

Question 3

Correct answer: D. This patient has a severe case of infected necrotic pancreatitis and requires admission to the intensive therapy unit. Early enteral feeding has a role in maintaining intestinal mucosal barrier integrity and preserving motility while reducing bacterial translocation, with a subsequent reduction in infective complications. Therefore the International Association of Pancreatology/American Pancreatic Association and American Gastroenterological Association support early enteral feeding (D) with either a nasogastric or a nasojejunal tube when oral feeding is not tolerated. Therefore the approaches described in answers (A), (B), and (C) are no longer recommended. In severe acute pancreatitis, enteral nutrition is recommended to prevent infective complications. Parenteral nutrition (E) should be avoided unless the enteral route is not available, not tolerated or not meeting caloric requirements.

Small bowel ischaemia

Question 1

Correct answer: E. Reproducible pain after eating is a typical feature of mesenteric ischaemia. A history of cardiovascular disease would represent a potential risk factor.

Question 2

Correct answer: C. In this context, CT angiography is the most sensitive test.

Question 3

Correct answer: A. Endovascular therapy is the treatment of choice in higher risk patients, although it can need repeating because of re-stenosis.