

Self-assessment/CPD answers

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

Answers

Infectious diarrhoea

Question 1

Correct answer: D. Amoebiasis is an infection that needs to be treated as a priority, so option C is sub-optimal (though may also be necessary in addition to D). Immediate colonoscopy (A) is unlikely to provide diagnostic information and could be dangerous. The feared complication in this situation is toxic dilatation of the colon with loperamide if severe ulceration is present, so loperamide (B) is not a good choice. Ciprofloxacin (E) is not an effective treatment for amoebiasis.

Question 2

Correct answer: E. Metronidazole is most appropriate at this stage. Vancomycin (A) and faecal microbial transplantation (C) are reserved for severe, refractory or (in the case of faecal microbial transplantation) recurrent disease. *Saccharomyces boulardii* (B) is a probiotic yeast with no role here. It is desirable to stop antibiotics (D) in the case of *Clostridium difficile* infections, but this is not always possible and there might be other co-morbid infections.

Question 3

Correct answer: C. Oral vaccines against typhoid and cholera should be given. Hygiene advice (E) is insufficient as his inflammatory bowel disease could be triggered by an incident infection, and daily ciprofloxacin (D) is inadvisable because of the risk of adverse reactions. Oral vaccines are safe in the presence of immunosuppressive agents (so A is incorrect). Probiotics are unproven for this purpose (B).

Immunodeficiency and the gut

Question 1

Correct answer: A. Selective immunoglobulin (Ig) A deficiency is the commonest acquired abnormality of the immune system which predisposes to recurrent giardiasis (occasionally plasma IgA levels are normal but there is a deficiency in IgA secretion).

Question 2

Correct answer: C. parasitic infection with either or microsporidiosis or cryptosporidiosis is the only infection which would cause such large volume diarrhoea, this would be much commoner with cryptosporidiosis. Cytomegalovirus (CMV) (E) infection of the gut produces much less in the way of diarrhoea and is usually a more acute illness. Bacterial infection (A) is extremely unlikely. Colonoscopy (D) has little role in the investigation of diarrhoea of this sort.

Question 3

Correct answer: D. While the index of suspicion for HIV is very strong in this man other causes are possible and the first step therefore should be a confirmatory HIV test. The symptoms strongly indicate oesophageal involvement with *Candida*, this may not always be seen on a barium swallow (B) and does not respond symptomatically to nystatin (A).

Irritable bowel syndrome

Question 1

Correct answer: E. Based on the history it is likely that the patient has post-cholecystectomy bile acid diarrhoea. The symptoms are often indistinguishable from irritable bowel syndrome with diarrhoea. A 7-day 23-seleno-25-homotaurocholic acid (SeHCAT) test of less than 10% would be consistent with bile acid diarrhoea which can be effectively managed with bile acid sequestrants. Although the other tests would be reasonable, the test of choice given the history would be a SeHCAT.

Question 2

Correct answer: D. Lactulose (A), given that it is a non-absorbable sugar, is often fermented and can worsen abdominal pain in irritable bowel syndrome (IBS). Whilst the low fermentable oligo-, di-, monosaccharide and polyol (FODMAP) diet (B) and gut-focused hypnotherapy (C) are reasonable choices, linaclotide is the ideal treatment in this scenario given that it exerts both a laxative and analgesic effect. Bisacodyl (E) is unlikely to help as he has not responded to a stimulant laxative (senna).

Question 3

Correct answer: D. Given that pain is the predominant symptom – amitriptyline is the best option. In this context, its side effects are also useful in that it can improve sleep pattern given its sedating effect and tends to slow gastrointestinal (GI) transit which can help with diarrhoea. Whilst the other options may improve pain, meta-analytic evidence suggests that amitriptyline is the most efficacious in this regard.

Centrally mediated abdominal pain syndromes

Question 1

Correct answer: A. Continuous abdominal pain – this is the hallmark of centrally mediated abdominal pain and distinguishes it from other episodic functional GI disorders which can share the features in B-E.

Question 2

Correct answer E: A rising alkaline phosphatase – this should prompt evaluation for retained stones in the common bile duct. All the other features are compatible with narcotic bowel syndrome.

Question 3

Correct answer E. This is likely to be centrally mediated abdominal pain syndrome (CAPS). Clinical psychology approaches encourage an active coping approach by the patient. Stronger opioids (A) are likely to escalate the problem further through opioid-induced hyperalgesia. Surgical removal of adhesions (B) is associated with surgical morbidity, recurrence of adhesions and worsening of pain. Local anaesthetic injections (C) are for treating anterior cutaneous nerve entrapment syndrome (ACNES) associated with a positive Carnett's sign (focal tenderness along the rectus sheath) rather than CAPS. Most patients will find a dismissive 'it's all in your mind' approach (D) highly offensive and detrimental to the therapeutic relationship, therefore engaging a patient with a clinical psychology approach (E) without implying an 'it's all in your mind' attribution of the pain is an important consultation skill to develop.

Oesophageal motility testing and 24-hour reflux studies

Question 1

Correct answer: A. This is a classic profile for gastro-oesophageal reflux disease, with a good fit to the history and endoscopic findings. There are insufficient data to diagnose excessive non-acid reflux (C), laryngopharyngeal reflux (D), and bile reflux (E), where the data needed to diagnose these conditions would typically come from a pH/impedance study. Acid exposure is above the normal range, so B is incorrect.

Questions 2

Correct answer: D. Oesophago-gastric junction obstruction fits best and could be secondary to the oesophagitis. At least two swallows fitting the relevant criteria are necessary for hypercontractile oesophagus (A), achalasia (B), and distal oesophageal spasm (E) to be diagnosed. The normal swallows also exclude absent contractility (C). Achalasia is the most well-defined oesophageal disorder but it is rare, and care should be taken not to seek it out as a diagnosis. Achalasia cannot be diagnosed if normal swallows are seen, and the symptom history does not fit well either.

Question 3

Correct answer: E. Rumination or another emetic disorder is likely rather than a typical reflux profile because of the excessive number of non-acid events with normal acid exposure and, more pertinently, because most of the events occur postprandially. Acid exposure time is normal, thus excluding a pathological acid exposure (A). There are insufficient data to diagnose laryngopharyngeal reflux (D).

Diagnosing normal acid exposure (B) or excessive non-acid reflux (C) alone, would be an incomplete conclusion that does not take the postprandial data or patient history into account.

Gastric, small bowel and colonic motility and breath-testing

Question 1

Correct answer: B. Small bowel involvement occurs in around 40% of patients with systemic sclerosis caused by myopathy, which can lead to stagnation of luminal contents and overproliferation of small intestinal microflora. A hydrogen–methane breath test is the most appropriate test due to the patient's diarrhoea, in addition to vitamin B12 deficiency, a potential consequence of small intestinal bacterial overgrowth. Barostat insufflation (A) may be appropriate if the patient was experiencing dyspeptic symptoms or nausea and vomiting. (D) Has already been performed demonstrating low amplitude contractions. (C) and (E) would help quantify the patient's intestinal motor function, but this may be inferred through the patient's history.

Question 2

Correct answer: E. Given the clinical scenario, it is likely that the patient has developed gastroparesis secondary to the underlying diabetes mellitus. The upper GI endoscopy has excluded gastric outlet obstruction, so the likely diagnosis is gastroparesis. This is often under-recognized in patients with diabetes as the neuropathic complications also adversely influence the enteric nervous system. In gastroparesis, there is unpredictable delivery of nutrients to the small bowel, and poor glycaemic control is often observed in such patients. The patient should now undergo a gastric emptying study to confirm the diagnosis.

Question 3

Correct answer: C. The wireless motility capsule (WMC) would be the most appropriate investigation to assess small and large bowel motility in this patient. The test is non-invasive and does not expose the patient to ionizing radiation. High-resolution small and large bowel manometry studies (A) would be highly invasive for the patient and compared with the WMC are poorly standardized and validated. Both scintigraphy studies (B) and radio-opaque marker studies (D) would expose the patient to radiation. Dynamic MRI (E) is a promising investigation for the assessment of small intestinal motility but is predominately used in the research setting at present.

Ulcerative colitis

Question 1

Correct answer: C. The patient clearly has an acute colitis with a short timeframe for onset. Stool microscopy, culture and sensitivity will help differentiate between the onset of acute severe ulcerative colitis and infectious colitis. The other options, while all helpful are unlikely to alter management in the first 24 hours.

Question 2

Correct answer: E. This lady has severe disease with a partial response to intravenous steroids, she should now be treated with rescue therapy in the form of infliximab to reduce the likelihood of requiring an urgent subtotal colectomy. Vedolizumab is not licensed as rescue therapy. Her magnesium level is low, which would preclude the safe use of cyclosporin and continuing hydrocortisone or converting to oral corticosteroids is unlikely to produce a longer term remission at this point in time.

Question 3

Correct answer: B. She is reporting a mild increase in symptoms with blood in her stool. Although stool cultures should still be performed to exclude an infective cause, the presence of blood is an indication of active ulcerative colitis and calprotectin or invasive investigation is not required. These symptoms warrant an escalation of her therapy from maintenance doses to treatment doses. Should she fail to respond to this course of action corticosteroids would be the next step. Azathioprine is safe to continue during pregnancy and should not be stopped. The obstetric team should be made aware of this lady and actively manage her pregnancy in conjunction with the gastroenterology team, but treating her disease activity is more important.

Crohn's disease**Question 1**

Correct answer: D. Ulcers in Beçhet's disease are mostly solitary, larger and deeper. They usually have a discrete border and are located in the ileocaecal area. The absence of fever and a clear chest X-ray makes the diagnosis of tuberculosis (A) unlikely. Ulcers in Crohn's disease (B) can occur anywhere in the gut, and Crohn's disease is more commonly associated with the development of fistula and strictures. Non-steroidal anti-inflammatory drug-related enteropathy (C) is not associated with oral and vaginal ulcers. Cytomegalovirus infection of the gut (E) more commonly occurs in immunocompromised patients.

Question 2

Correct answer: C. Ustekinumab is an anti-interleukin-17/23 agent and is associated with a lower risk of tuberculosis

compared with the anti-tumour necrosis factor properties of infliximab (A) and adalimumab (B). With multiple poor prognostic factors (young age of disease onset, current smoker, history of surgery), single immunomodulatory therapy with methotrexate (D) is insufficient. Further surgery (E) will result in a short gut.

Question 3

Correct answer: E. Endoscopic recurrence predates clinical recurrence so identification and treatment of early mucosal recurrence may prevent clinical recurrence; therefore a 6-month colonoscopy is appropriate. Symptoms (A) and inflammatory markers (B) are not good predictors. Metronidazole (C) can reduce postoperative recurrence but does not preclude the need for colonoscopy. Ciprofloxacin (D) is not recommended in the management of postoperative Crohn's disease.

Microscopic colitis**Question 1**

Correct answer: E. Colonoscopy allows biopsies to be taken, including from the right and left colon. Barium enema (A) is no longer used in this situation, and CT (B) would not provide the diagnosis. Flexible sigmoidoscopy (C) can miss patchy inflammation. Although coeliac serology (D) can give some clues, it would not be sufficient.

Question 2

Correct answer: B. Superficial mucosal tears in the context of microscopic colitis are not a cause for particular concern, although the patient should be observed closely. Other interventions are not required and indeed may make the situation worse due to the time required (e.g. to deploy clips). Taking biopsies (E) and completing the colonoscopy (C) would both be potentially hazardous.

Question 3

Correct answer: C. The symptoms are mild and the indications for continuing the proton pump inhibitor (A) and non-steroidal anti-inflammatory agent (B) are strong. Budesonide (D) is relatively contraindicated by her osteoporosis. Loperamide is more likely to work than the exclusion diet.