Self-assessment/CPD answers

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

Answers

Disorders of the mouth

Question 1

Correct answer: D. The new presentation of oral ulceration in an adult should raise the suspicion of an underlying medical condition. The presence of lymphadenopathy and gingival swelling with bleeding is suggestive of leukaemia, with the ulceration secondary to anaemia and bone marrow failure. Recurrent aphthous stomatitis (A) most commonly presents in adolescence and is not associated with systemic features. Erythema multiforme (B) is not typically recurrent and is associated with classic target lesions in an acral (peripheral) distribution. Mucous membrane pemphigoid (C) tends to present in the seventh decade. It is not associated with night sweats, lymphadenopathy or lethargy. Orofacial granulomatosis (E) can present in this age group with oral ulcers and gingival swelling, but it is not associated with systemic features.

Question 2

Correct answer: E. The combination of oral ulceration and visual disturbance in a young male patient should raise the possibility of Behçet's disease. A careful review of systems should be performed to identify the full spectrum of disease and involvement, in particular a history of genital ulcers. The differential diagnosis includes recurrent aphthous stomatitis (A), but given the ocular symptoms Behçet's disease should be excluded first. Erythema multiforme (B) can present with similar symptoms to Behçet's disease, although it is unlikely to explain such frequent oral ulceration. Immunobullous disease (C) is uncommon in this age group, particularly in male patients. Coeliac disease (D) would not explain the visual symptoms.

Question 3

Correct answer: C. The presence of oral, genital and nail changes suggests a dermatological condition. The most likely diagnosis is lichen planus, particularly with the presence of non-removable oral white patches. Immunobullous diseases (A, D) do not present with oral white patches or ridged nails. Recurrent aphthous stomatitis (B) is unusual in the age group and would not explain the patient's additional symptoms. Candidiasis can lead to oral and genital discomfort as well as nail changes. However, it rarely causes oral ulceration, and the white patches are removable.

Gastro-oesophageal reflux disease and hiatus hernia

Question 1

Correct answer: D. Without the history of dysphagia and food bolus obstruction, reassurance (A) lifestyle measures (B) or a proton pump inhibitor (PPI) (C) could all be considered reasonable options in a young person with a short history of symptoms. However, these features require endoscopic evaluation. Eosinophilic oesophagitis is an increasingly common cause of dysphagia (and is the commonest cause of food bolus obstruction) in young adults, and can be associated with refractory heartburn. This should be excluded with gastroscopy and oesophageal mucosal biopsies.

Squamous cell carcinoma of the oral cavity, oropharynx and upper oesophagus

Question 1

Correct answer: D. All these approaches could be useful, but positron emission tomography (PET) is the best next step. In a young fit patient, an unknown primary is likely to come from a head and neck source, and is potentially curative. PET has a high sensitivity for locating a primary, and high specificity for excluding occult primary sites elsewhere. Although it is highly likely that this is a human papillomavirus (HPV)-driven squamous cell carcinoma, confirming this with immunohistochemistry for p16 (A) is unlikely to influence immediate management. Liver function tests (B) are not useful in the diagnostic pathway. MRI (C) might help to better characterize a primary lesion if one has already been discovered, and screen for occult nodal disease in the neck, but is less useful for distant staging than PET. Full examination (E) is much more likely to discover an occult primary if the patient has undergone PET first, and doing biopsies before a PET scan can cause focal fluorodeoxyglucose-avidity in the region of the biopsy site, increasing the risk of a false-positive.

Question 2

Correct answer: C. The tongue has a rich lymphatic supply, and primary tongue tumours often metastasize to neck lymph nodes; therefore even if the clinical examination is normal, there is still a substantial risk of occult microscopic disease in the neck. Tumours of the oral cavity are generally less sensitive to radiotherapy than those of the pharynx, thus surgery is usually the primary treatment for oral tongue tumours. Therefore the answer needs to be option A or option C. Because of the risk of occult metastasis to the neck, option

A is likely to be under-treatment. It could be considered for a very frail patient, but the stem states that the patient is reasonably fit (performance status 1), and should therefore be able to tolerate the management plan outlined in C. In this case, the patient would probably need a wide local excision or hemiglossectomy and a neck dissection. Radiotherapy may well be required as an adjuvant treatment following surgery, although this will depend on what the pathological review of the surgical specimen shows, and how well the patient recovers from surgery.

Question 3

Correct answer: C. Immunotherapy drugs such as nivolumab act by removing checkpoints on T cells (as it is a programmed cell death 1 (PD-1) inhibitor). Therefore, the most common toxicities seen with these agents are new, or worsened, autoimmune conditions, and hypophysitis is an autoimmune inflammation of the pituitary gland or stalk. These agents do not cause neutropenia (so A is incorrect). Fatigue, anorexia and somnolence could indicate the development of new brain metastases (B), as could some biochemical dehydration and potentially hyponataemia. However, it would not explain the skin changes, oedema, hyperkalaemia or borderline hypoglycaemia. Although colitis (D) is a relatively common adverse effect of nivolumab, there is nothing in the history to suggest this. The borderline kidney function could be the result of evolving nephritis (E), but that would not explain the rest of the clinical picture.

Barrett's oesophagus and oesophageal adenocarcinoma

Question 1

Correct answer: B. The annual cancer risk in non-dysplastic Barrett's oesophagus is 0.3% according to the most recent meta-analysis. In cases of short-segment Barrett's (<3 cm) without dysplasia, the British Society of Gastroenterology (BSG) guidelines recommend endoscopy screening every 3–5 years. Both multidisciplinary team review and ablation treatment should be considered only in patients with dysplasia. Fluorescein guidance is used to perform endoscopic confocal endomicroscopy, which is part of experimental imaging in Barrett's oesophagus, but not routine practice.

Question 2

Correct answer: D. Barrett's oesophagus recorded as indefinite for dysplasia is a separate histological category often used in the setting of active inflammation; in this, a clear distinction between regenerative changes and dysplasia cannot be made with certainty. These patients could have true dysplasia and should be followed up closely (an interval of 1 year and 2–3 years would be too long). Therefore, high-dose proton pump inhibitor treatment (e.g. omeprazole 40 mg 12-hourly) and endoscopic reassessment after 6 months is recommended. Treatment with radiofrequency ablation should be offered only to patients with definite dysplasia (such as low-grade or high-grade dysplasia) confirmed in two subsequent examinations.

Question 3

Correct answer: C. The World Health Organization (WHO) performance status categorizes patients on a 5-point scale from 0 to 4. WHO 2 describes a patient who spends <50% in bed during the day and who is capable of all self-care but unable to carry out any work activities. Although such patients are not ideal candidates for surgical treatment, minimally invasive endoscopy treatment can be feasible. For cases of early cancer within visible lesion, especially <2 cm in size, an endoscopic mucosal resection is the preferred treatment option. Long-term proton pump inhibitors should be considered to control reflux symptoms in this patient but should not be the sole treatment. Radio frequency ablation is used in the treatment of low-grade/high-grade dysplasia within flat epithelium but should not be performed for early cancers within endoscopically visible lesions. A combination of radio/chemotherapy has a limited use in oesophageal adenocarcinoma, especially in early forms, and is more commonly used in the treatment of oesophageal squamous cell cancer.

Eosinophilic oesophagitis and food allergy

Question 1

Correct answer: B. This is eosinophilic oesophagitis, and a proton pump inhibitor is the best first-line treatment. The patient has continuing symptoms so intervention is needed (A). An elemental diet (C) would probably be poorly tolerated so should not be offered as first-line treatment. Non-specific dietary advice (D) is unlikely to suffice; a dietitian review and instruction are needed, with appropriate follow-up and repeat endoscopy. pH manometry (E) may be indicated if patient remains symptomatic, but is not first-line management.

Question 2

Correct answer: B. The recent endoscopy is reassuring as symptoms recur, so it is worth trying other treatment options before repeating the endoscopy (A). Systemic steroids (C) are not indicated in treatment of eosinophilic oesophagitis; topical steroids can be used. pH manometry (D) would not add extra information at this stage. but may be useful if symptoms persist and repeat biopsies are negative for eosinophilia. Omeprazole (E) is insufficient.

Question 3

Correct answer: C. An endoscopy is required first to assess the symptoms and exclude stricture or malignancy (so A, B and E are incorrect); D. A barium swallow (D) is a reasonable alternative to screen for cancer and stricture, but biopsies cannot be taken this way.

Helicobacter pylori infection and peptic ulcers

Question 1

Correct answer: C. New-onset dyspepsia in older patients (>55 years of age) should be investigated by urgent gastroscopy to exclude malignancy. A proton pump inhibitor (PPI) before gastroscopy (A) can lead to healing of the ulcer and interfere with biopsy for *Helicobacter pylori*. *H. pylori*

eradication (B) should be deferred until the gastroscopy has been done, and serology can be falsely positive if the patient has had previous eradication therapy. Ultrasonography (D) may be needed to investigate abnormal liver function tests, which are most likely to be the result of non-alcoholic fatty liver disease; this is, however, not the best step to take next. A urea breath test (E) is unnecessary as the patient is likely to have a biopsy-based test for *H. pylori* urease enzyme at time of oesophago-gastroduodenoscopy.

Question 2

Correct answer: B. The patient has a higher risk of non-steroidal anti-inflammatory drug (NSAID)-induced ulceration because of her previous history of duodenal ulcer. Previous *H. pylori* eradication may not have been successful, and co-prescription of PPI will further reduce her risks. NSAIDs with a PPI (A) would be satisfactory if previous *H. pylori* eradication had been successful but there is a failure rate. Cyclooxygenase (COX)-2 (C) inhibitors can be associated with a lower risk of gastrointestinal bleeding, but are more expensive, have potential cardiovascular toxicity and still need confirmation of *H. pylori* eradication. Avoidance of NSAIDs (D) would be ideal, particularly with the history of ulcer and hypertension, but she is already taking two strong drugs for rheumatoid arthritis and needs symptom relief. Ranitidine (E) is not as good as a PPI in offsetting the risks of NSAIDs.

Question 3

Correct answer: E. The patient has failed two courses of eradication for *H. pylori* and is likely to have a clarithromycin-resistant strain. Culture and sensitivity will guide best further treatment. Bismuth-based therapy (A) may be appropriate if it has not already been given, but is not the best management. Surgery (B) for refractory ulcer is not necessary in this situation unless there is concern regarding malignancy or complications. Repeat OGD and biopsy (C) is indicated despite previous negative biopsies, but sensitivity testing is probably more important and could be done at the same time. Smoking (D) is a risk factor for ulcers and delayed ulcer healing but is not first choice in this situation.

Drug-induced gastrointestinal disorders

Question 1

Correct answer: B. This patient has classic symptoms of narcotic bowel syndrome. Increasing the dose of morphine sulphate (A) will lead to further worsening of her symptoms. Reducing the dose (B) will ease the symptoms and there is the added benefit of weaning her off opiates. There is no suggestion that this patient's pain is caused by her irritable bowel syndrome, which has been well controlled for many years Therefore buscopan (C) is unlikely to provide added relief. Laxatives (D) might be of some benefit in easing the constipation, and dietary changes (E) will also aid with her symptoms. However, B remains the most appropriate management step in individuals with narcotic bowel syndrome.

Question 2

Correct answer: D. This patient has a new-onset history of diarrhoea that coincides with his diagnosis of type 2 diabetes mellitus. Metformin is known to commonly cause diarrhoea. It is appropriate to either change to modified-release metformin, which is known to have better gastrointestinal tolerability, or change to an alternative hypoglycaemic agent. Infection (A) is unlikely for this period in a non-traveller. Ramipril (B) and simvastatin (C) are known to cause diarrhoea, but the patient has been taking these for a long time. Bile acid malabsorption (E) is possible but less likely.

Question 3

Correct answer: C. The most common causes of acute upper gastrointestinal bleeding (AUGIB) as identified in the 2015 National Confidential Enquiry into Patient Outcome and Death report in descending order of frequency are: aspirin (34%), clopidogrel (13%), warfarin (13%), non-steroidal anti-inflammatory drugs (6%) and direct-acting oral anticoagulants (<1%). Simvastatin (B) is not known to cause AUGIB.

Gastric tumours

Question 1

Correct answer: B. The MAGIC trial provided level 1 evidence for a survival advantage in patients given perioperative chemotherapy compared with gastrectomy alone (C). The tumour is within 5 cm of the gastro-oesophageal junction and therefore too proximal for a subtotal gastrectomy (A). It is invading the muscularis propria and thus not suitable for endoscopic mucosal resection (D). The patient is medically fit with a potentially curable cancer (so E is incorrect).

Question 2

Correct answer C. The tumour is inoperable but is human epidermal growth factor receptor 2 (HER2)-positive, indicating that survival can be increased with chemotherapy and trastuzumab. The presence of lymph node involvement makes surgery (A, E) inappropriate. B is wrong because it is simply a symptom-relieving procedure which in fact is not indicated for this scenario. D is wrong because the point of the question is to be specific about the chemotherapy and the selection of trastuzamab to target the HER2 receptor.

Question 3

Correct answer: C. The tumour is >2 cm and therefore has a higher malignant potential. As the patient is anaemic and otherwise fit, surgical resection is the optimum treatment. Postoperatively, the mitotic count will determine the need for adjuvant imatinib (A, D).

Coeliac disease

Question 1

Correct answer: B. The UK National Institute for Health and Care Excellence and British Society of Gastroenterology guidelines recommend that adult patients with suspected

coeliac disease should undergo duodenal biopsies to confirm the diagnosis. The British Society of Paediatric Gastroenterology, Hepatology and Nutrition guidelines suggest that some populations (with tissue transglutaminase 2 (tTG2) >10 times the upper limit of normal on assay, positive anti-endomysial antibodies and positivity for either human leukocyte antigen (HLA)-DQ2 or HLA-DQ8) do not require a duodenal biopsy. A gluten-free diet (A, C) should be recommended only after duodenal biopsies have been taken. The role of capsule endoscopy (E) in coeliac disease is still to be clarified, but endoscopy is usually reserved for patients with continuing symptoms of diarrhoea despite a negative tTG2, to exclude ulcerative jejunitis. A bone density scan (D) should be considered if coeliac disease is established.

Question 2

Correct answer: C. The most likely diagnosis is olmersartan-induced enteropathy. Olmesartan, approved by the US Food and Drug Administration in 2002, is one of several angiotensin receptor blockers (ARBs) used for the treatment of hypertension. No other ARBs, angiotensin-converting enzyme inhibitors or direct renin inhibitors have been associated with the development of villous atrophy. Small bowel histology is similar as that seen in coeliac disease, but tissue transglutaminase 2 (tTG2) status is negative. It is important to recognize that certain drugs are associated with diarrhoeal illnesses and villous atrophy. Although the other diagnoses listed are possible, the most likely diagnosis is C.

Question 3

Correct answer: D. Patients with recently diagnosed coeliac disease in whom there is an initial response to a gluten-free diet with associated loss of tissue transglutaminase 2 (tTG2) positivity followed by recrudescence should be considered to have refractory coeliac disease unless proven otherwise. Repeat duodenal biopsies should be undertaken, examining for cell surface expression of CD3. Absence of CD3 expression is a precursor of lymphoma. In patients with weight loss and night sweats, a CT scan should also be undertaken.

Intestinal failure and short bowel syndrome

Question 1

Correct answer: D. Loperamide is the best first-line option. This man has a normal small intestine length and is highly unlikely to need any other support such as oral rehydration drinks. Codeine phosphate (E) should be avoided first line because of its central effects. The patient's stoma output is too high for him to be discharged (C). Octreotide (A) is not indicated as it reduces splanchnic blood flow and gastrointestinal protein synthesis. Although high, the stoma output is likely to settle over time.

Question 2

Correct answer: E. The patient has type II intestinal failure, with 120 cm of small bowel proximal to the stoma. He is almost certainly going to need parenteral fluids with or without parenteral nutrition. He should be referred to a multidisciplinary nutrition team and then to a specialist centre once his condition is stable. Surgery may be appropriate in the future (D), after at least 6 months' stability. Individual specialists, though appropriate need to work in a team.

Question 3

Correct answer E. His requirements are for approximately 2.5 litres volume, 80 mmol sodium and 80 mmol potassium per 24 hours. If the ileus is prolonged, or if he has a low magnesium he may need additional electrolytes. A is too much volume and too much sodium, 1 litre 0.9% saline contains 154 mmol sodium, this sodium load will make his ileus worse. B is too much volume and too much sodium, 1 litre compound sodium lactate contains 130 mmol sodium, it does not contain adequate potassium. Again the sodium load will prolong the ileus. C. 3 litres 5% glucose risk hyponatraemia. D. This regimen only contains approximately 30 mmol sodium. Consideration should be given to the timing of the fluid. Does it really need to be running for 24 hours a day?

Small bowel transplantation – the latest developments

Question 1

Correct answer: D. Prophylactic antibiotics (A) will promote the development of resistant organisms. Frequent changes of feeding lines and sites (B) will increase damage to the large access veins and will not reduce infection risk. Intensive training (C) is unlikely to produce additional benefit after 3 years unless she has not previously been adequately trained, which is unlikely if she is managed in an appropriate medical centre.

Question 2

Correct answer: E. Feeding into the intestinal tract is advantageous whenever possible and probably reduces the risk of liver disease associated with intestinal failure. It is most likely that this patient will required intravenous feeding to restore and maintain adequate nutrition and this can be given in addition to supplementary oral or naso-gastric feeding which will help to maintain intestinal integrity. Continuity surgery can be considered at a later date. There is no indication for small intestinal transplantation (A), which is currently associated with a lower 5-year survival than parenteral nutrition. Continuity surgery (C) should not be entertained until the patient has made a satisfactory recovery and is adequately robust, both physically and psychologically.

Question 3

Correct answer: E. Patients on parenteral nutrition can develop incipient severe liver fibrosis and cirrhosis with few if any physical or biochemical abnormalities. The development of severe liver fibrosis or cirrhosis can necessitate the inclusion of a liver graft if small bowel transplantation is required, and this will considerably reduce 5-year survival

compared with isolated intestinal transplantation. Intestinal failure-associated liver disease does not usually progress after intestinal transplantation and is often reversed. A CT scan of the abdomen (A) or a FibroScan® (ultrasound elastography; B) will not provide sufficient information to exclude advanced liver fibrosis or impending cirrhosis. Repeating the liver function tests in 6 months (C) can cause a delay in appropriate treatment; it is also possible for the liver function tests to return to normal even in the presence of severe liver disease. The cause of intestinal failure-associated liver disease remains uncertain, and there is no evidence that correction of hyperlipidaemia (D) is a reliable treatment.