Presenting problems in Gastrointestinal disease

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Dysphagia

- Dysphagia is defined as difficulty in swallowing. It may coexist with heartburn or vomiting but should be distinguished from both globus sensation (in which anxious people feel a lump in the throat without organic cause) and odynophagia(pain during swallowing, usually from gastro-oesophageal reflux or candidiasis).
- Dysphagia can occur due to problems in the oropharynx or oesophagus. Oropharyngeal disorders affect the initiation of swallowing at the pharynx and upper oesophageal sphincter. The patient has difficulty initiating swallowing and complains of choking, nasal regurgitation or tracheal aspiration.
- Drooling, dysarthria, hoarseness and cranial nerve or other neurological signs may be present. Oesophageal disorders cause Dysphagia by obstructing the lumen or by affecting motility.
- Patients with oesophageal disease complain of food 'sticking' after swallowing, although the level at which this is felt correlates poorly with the true site of obstruction. Swallowing of liquids is normal until strictures become extreme.

Investigations

- Dysphagia should always be investigated urgently. Endoscopy is the investigation of choice because it allows biopsy and dilatation of strictures.
- Even if the appearances are normal, biopsies should be taken to look for eosinophilic oesophagitis.
- If no abnormality is found, then barium swallow with video fluoroscopic swallowing assessment is indicated to detect major motility disorders.
- In some cases, oesophageal manometry is required. High-resolution manometry allows accurate classification of abnormalities.

Dyspepsia

- Dyspepsia describes symptoms such as discomfort, bloating and nausea, which are thought to originate from the upper gastrointestinal tract. There are many causes (Box 21.14), including some arising outside the digestive system.
- Heartburn and other 'reflux' symptoms are separate entities and are considered elsewhere.

- Although symptoms often correlate poorly with the underlying diagnosis, a careful history is important to detect 'alarm' features requiring urgent investigation .
- Dyspepsia affects up to 80%of the population at some time in life and most patients have no serious underlying disease.
- People who present with new dyspepsia at an age of more than 55 years and younger patients unresponsive to empirical treatment require investigation to exclude serious disease.

Heartburn and regurgitation

- Heartburn describes retrosternal, burning discomfort, often rising up into the chest and sometimes accompanied by regurgitation of acidic or bitter fluid into the throat.
- These symptoms often occur after meals, on lying down or with bending, straining or heavy lifting.
- They are classical symptoms of gastro-oesophageal reflux but up to 50% of patients present with other symptoms, such as chest pain, belching, halitosis, chronic cough or sore throats.
- In young patients with typical symptoms and a good response to dietary changes, antacids or acid suppression investigation is not required, but in patients over 55 years of age and those with alarm symptoms or atypical features urgent endoscopy is necessary.

Vomiting

- Vomiting is a complex reflex involving both autonomic and somatic neural pathways. Synchronous contraction of the diaphragm, intercostal muscles and abdominal muscles raises intra-abdominal pressure and, combined with relaxation of the lower oesophageal sphincter, results in forcible ejection of gastric contents.
- It is important to distinguish true vomiting from regurgitation and to elicit whether the vomiting is acute or chronic (recurrent), as the underlying causes may differ.

Diarrhea

- Diarrhea is defined as the passage of more than 200 g of stool daily and measurement of stool volume is helpful in confirming this. The most severe symptom in many patients is urgency of defecation, and faecalincontinence is a common event in acute and chronic diarrhoeal illnesses.

Acute diarrhea

- This is extremely common and is usually caused by faecal–oral transmission of bacteria or their toxins, viruses or parasites .
- Infective diarrhea is usually short-lived and patients who present with a history of diarrhea lasting more than 10 days rarely have an infective cause.
- A variety of drugs, including antibiotics, cytotoxic drugs, PPIs and NSAIDs, may be responsible.

Chronic or relapsing diarrhea

- The most common cause is irritable bowel syndrome , which can present with increased frequency of defecation and loose, watery or pellety stools.
- Diarrhea rarely occurs at night and is most severe before and after breakfast. At other times, the patient is constipated and there are other characteristic

symptoms of irritable bowel syndrome. The stool often contains mucus but never blood, and 24-hour stool volume is less than 200 g.

- Clinical presentation, examination of the stool, routine blood tests and imaging reveal a diagnosis in many cases. A series of negative investigations usually implies irritable bowel syndrome but some patients clearly have organic disease and need more extensive investigations.

Malabsorption

- Diarrhea and weight loss in patients with a normal diet are likely to be caused by malabsorption. The symptoms are diverse in nature and variable in severity.
- A few patients have apparently normal bowel habit but diarrhea is usual and may be watery and voluminous.
- Bulky, pale and offensive stools that float in the toilet (steatorrhoea) signify fat malabsorption. Abdominal distension, borborygmi, cramps, weight loss and undigested food in the stool may be present.
- Some patients complain only of malaise and lethargy. In others, symptoms related to deficiencies of specific vitamins, trace elements and minerals may occur .

Pathophysiology

- Malabsorption results from abnormalities of the three processes that are essential to normal digestion:

1. Intraluminal maldigestion occurs when deficiency of bile or pancreatic enzymes results in inadequate solubilisation and hydrolysis of nutrients. Fat and protein malabsorption results. This may also occur with small bowel bacterial overgrowth.
2. Mucosal malabsorption results from small bowel resection or conditions that damage the small intestinal epithelium, thereby diminishing the surface area for absorption and depleting brush border enzyme activity.
3. 'Post-mucosal' lymphatic obstruction prevents the uptake and transport of absorbed lipids into lymphatic vessels.

- Increased pressure in these vessels results in leakage into the intestinal lumen, leading to protein-losing enteropathy.

Weight loss

- Weight loss may be physiological, due to dieting, exercise, starvation, or the decreased nutritional intake that accompanies old age. Weight loss of more than 3 kg over 6 months is significant and often indicates the presence of an underlying disease. Hospital and general practice weight records may be valuable in confirming that weight loss has occurred, as may reweighing patients at intervals; sometimes weight is regained or stabilises in those with no obvious cause.
- Pathological weight loss can be due to psychiatric illness, systemic disease, gastrointestinal causes or advanced disease of many organ systems
- Physiological causes
- Weight loss can occur in the absence of serious disease in healthy individuals who have changes in physical activity or social circumstances. It may be difficult to be sure of this diagnosis in older patients, when the dietary history may be unreliable, and professional help from a dietitian is often valuable under these circumstances.

Investigations

- In cases where the cause of weight loss is not obvious after thorough history taking and physical examination, or where an existing condition is considered unlikely, the following investigations are indicated:
  1. urinalysis for glucose, protein and blood;
  2. blood tests, including liver function tests, random blood glucose and thyroid function tests;
  3. CRP and ESR (may be raised in unsuspected infections, such as tuberculosis, connective tissue disorders and malignancy);
  4. Sometimes invasive tests, such as bone marrow aspiration or liver biopsy, may be necessary to identify conditions like cryptic miliary tuberculosis .
  5. Rarely, abdominal and pelvic imaging by CT may be required, but before embarking on invasive or very costly investigations it is always worth revisiting the patient's history and reweighing at intervals.

Constipation

- Constipation is defined as infrequent passage of hard stools.
- Patients may also complain of straining, a sensation of incomplete evacuation and either perianal or abdominal discomfort.
- Constipation may occur in many gastrointestinal and other medical disorders .

Clinical assessment and management

- The onset, duration and characteristics are important; for example, a neonatal onset suggests Hirschsprung's disease, while a recent change in bowel activity in middle age should raise the suspicion of an organic disorder, such as colonic carcinoma.
- The presence of rectal bleeding, pain and weight loss is important, as are excessive straining, symptoms suggestive of irritable bowel syndrome, a history of childhood constipation and emotional distress.
- Careful examination contributes more to the diagnosis than extensive investigation. A search should be made for general medical disorders, as well as signs of intestinal obstruction.
- Neurological disorders, especially spinal cord lesions, should be sought.
- Perineal inspection and rectal examination are essential and may reveal abnormalities of the pelvic floor (abnormal descent, impaired sensation), anal canal or rectum (masses, faecal impaction, prolapse).
- It is neither possible nor appropriate to investigate every person with constipation. Most respond to increased fluid intake, dietary fiber supplementation, exercise and the judicious use of laxatives.
- Middle-aged or elderly patients with a short history or worrying symptoms (rectal bleeding, pain or weight loss) must be investigated promptly, by either barium enema or colonoscopy.
- For those with simple constipation, investigation will usually proceed along the lines described below.

1. Initial visit

Digital rectal examination, proctoscopy and sigmoidoscopy (to detect anorectal disease), routine biochemistry, including serum calcium and thyroid function tests, and a full blood count should be carried out. If these are normal, a 1-month trial of dietary fiber and/or laxatives is justified.

2. **Next visit**
   If symptoms persist, then examination of the colon by barium enema or CT colonography is indicated to look for structural disease.
3. **Further investigation**
   If no cause is found and disabling symptoms are present, then specialist referral for investigation of possible dysmotility may be necessary. Intestinal marker studies, anorectal manometry, electrophysiological studies and magnetic resonance proctography can all be used to define the problem.

Abdominal pain

There are four types of abdominal pain:

• *Visceral.*

Gut organs are insensitive to stimuli such as burning and cutting but are sensitive to distension, contraction, twisting and stretching.

• *Parietal.*

The parietal peritoneum is innervated by somatic nerves and its involvement by inflammation, infection or neoplasia causes sharp, well-localisedand lateralisedpain.

• *Referred pain.*

Gallbladder pain, for example, may be referred to the back or shoulder tip.

• *Psychogenic.*

Cultural, emotional and psychosocial factors influence everyone's experience of pain. In some patients, no organic cause can be found despite investigation, and psychogenic causes (depression or somatisationdisorder) may be responsible.

Gastrointestinal bleeding

Acute upper gastrointestinal hemorrhage

- This is the most common gastrointestinal emergency, accounting for 50–170 admissions to hospital per 100 000 of the population each year in the UK. The mortality of patients admitted to hospital is about 10% but there is some evidence that outcome is better when individuals are treated in specialized units. Risk scoring systems have been developed to stratify the risk of needing endoscopic therapy or of having a poor outcome .The advantage of the Blatchford score is that it may be used before endoscopy to predict the need for intervention to treat bleeding. Low scores (2 or less) are associated with a very low risk of adverse outcome.

Lower gastrointestinal bleeding

- This may be caused by hemorrhage from the colon, anal canal or small bowel. It is useful to distinguish those patients who present with profuse, acute bleeding from those who present with chronic or subacute bleeding of lesser severity .