CHAPTER 1

Gastroenterological problems

Elicit an accurate history

Examine the patient

Gastroenterological disease can cause systemic symptoms

Systemic disease can cause gastroenterological symptoms
Introduction

Gastroenterological problems encompass the entire range of pathology, including neoplasm, infection, inflammation, immunological disorders, biochemical, metabolic and congenital conditions, and disorders of unknown cause. In addition, approximately one-third of the gastrointestinal symptoms of outpatients have no identifiable structural, infective, or biochemical disorder present - they appear as ‘functional disorders’. Within such disorders, psychological or social factors may be primarily responsible. Identification and correct management depends on accurate history taking, clinical examination, and specialist investigations.

Approach to the patient

Some cardinal symptoms focus attention on one particular organ, and dictate the most effective and economical investigational path. Be aware that some disease processes outside the abdomen may present with abdominal symptoms, and consider the patient as a whole.

Major presenting complaints

DIFFICULTY IN SWALLOWING (DYSPHAGIA)
Difficulty in transferring food from the mouth to the stomach is termed dysphagia. This is an important symptom and it is useful to distinguish between the two phases of the normal swallow. The initial oropharyngeal phase, during which a food bolus is moved from the mouth to the oesophagus, is under voluntary control. This is followed by the oesophageal phase, which is involuntary.

Difficulty in starting the swallow - oesophageal dysphagia
This relates to neurological or muscular diseases (bulbar, pseudobulbar palsy, motor neurone disease, myasthenia gravis). It is often associated with drooling due to difficulty in swallowing saliva, or aspiration of saliva and aspiration pneumonia. There may be associated problems with voice production.

Food sticking after swallowing has started - oesophageal dysphagia
This suggests the presence of a structural lesion in the oesophagus. Some patients can actually localize the level of food sticking, while others cannot.

The nature of food that elicits symptoms should be clarified. Dysphagia initially for liquids is more likely to reflect problems in muscular or neural control of swallowing. Dysphagia initially for solids is likely to reflect a structural lesion in the oesophagus. Progressive dysphagia, first for solids, then for sloppy food and liquids, is a sinister sign that is strongly suggestive of cancer of the oesophagus, although this can occur with peptic strictures from recurrent oesophagitis.

Nonprogressive dysphagia may suggest a benign structural lesion (e.g. mucosal web in upper oesophagus, benign ‘ring’ in lower oesophagus). Intermittent food sticking, affecting both solids and liquids, suggests disordered motility (achalasia, oesophageal spasm).

With any oesophageal obstruction, regurgitation of food and liquid into the mouth may occur. The fluid is bland and not bitter, as it does not contain gastric acid. Nocturnal regurgitation may be associated with choking, aspiration, pneumonia, or asthma.

Lump in throat (globus hystericus or globus sensation)
During stress, highly anxious individuals may complain of a sensation of a lump in the throat without having eaten or drunk, often with temporary inability to swallow. This is a temporary functional disorder associated with anxiety. It is more common in women and, although investigations are frequently normal, it is sometimes associated with other oesophageal conditions (reflux disease and motility disorders). Gastropharyngeal reflux accounts for the symptoms in some.

LOSS OF APPETITE
This is highly nonspecific, but may be functional if associated with anxiety or depression. When associated with weight loss, it suggests significant organic disease. A maintained appetite is a reassuring sign that serious disease is less likely to
be found. Early satiety (initial hunger but a rapid feeling of fullness after commencing eating) may reflect a poorly distensible stomach or a motility disorder.

NAUSEA AND VOMITING
These are nonspecific symptoms. In young men, morning nausea and retching without vomiting strongly suggests alcoholism. In young women, morning nausea suggests pregnancy. Nausea occurs with many abdominal pains, particularly those reflecting spasm of smooth muscle. Examples include an obstructed biliary tract, or spasm of the colon in functional bowel disease. Vomiting is a more significant disturbance involving reverse peristalsis and expulsion of gastric contents. It is rare as a purely functional disorder, although in a few patients ‘hysterical vomiting’ is the final diagnosis, generally reflecting severe family stress. More often, vomiting reflects organic disease affecting the stomach, duodenum, or small intestine.

Short-lived vomiting with fever and diarrhoea suggests food poisoning (bacteria, bacterial toxins, viral gastroenteritis).

Prolonged vomiting over more than a few days needs further investigation. In the absence of pain, persistent vomiting suggests obstruction of the outflow tract of the stomach, as seen with antral carcinoma or narrowing of the pylorus due to long-standing duodenal ulceration.

The nature of vomitus may be significant. Vomiting food ingested many hours previously suggests obstruction of the gastric outlet, as the stomach normally empties within 4–6 hr of eating. Vomiting of blood is discussed below.

Vomiting must be distinguished from regurgitation (food returning to mouth from gullet without reverse peristalsis), and from waterbrash (mouth filled with salty water due to excess saliva, sometimes a symptom of peptic ulceration).

Both vomiting and nausea can reflect events elsewhere in the body (e.g. raised intracranial pressure, severe metabolic complications such as renal failure, side effects of drugs). Prolonged vomiting can induce metabolic changes, for example hypokalaemic alkalosis and secondary potassium loss from the kidneys.

PAIN
This is the most common reason for referral to gastroenterologists. Classic symptom complexes are sometimes recognizable, but some pains are poorly characterized and localized. The site and radiation of pain should be defined, and its duration (minutes or hours) noted. Pain character should also be noted – is the pain sharp, dull, or intermittent? Periodicity details should be noted – whether pain occurs all day, occasionally but every day, or every day for some weeks and then not at all for some months, is important diagnostically. Timing and relationship of pain to eating, defaecation, and sleep should be noted. Relieving factors should be elucidated, and associated symptoms elicited (e.g. vomiting, nausea, weight loss). Major patterns of pain are described below.

Heartburn (pyrosis)
This is best reserved to describe sensations that occur when gastric acid refluxes into the oesophagus, but patients use the term in different contexts. There is a raw burning sensation, retrosternally, lasting for some minutes, which may start in the epigastrium and travel back to the throat. Heartburn is precipitated by large meals, alcohol, stooping, or lying flat in bed. It is rapidly relieved by drinking milk/alkali. Persistent severe heartburn suggests the presence of oesophagitis (inflammation in the oesophagus) and repeated reflux. When severe, dysphagia may result. The condition may eventually be complicated by stricture. Reflux is often, but not invariably, associated with hiatus hernia.

Dyspepsia
Epigastric pain altered by food intake is the classical symptom of peptic ulceration. Symptoms of duodenal and gastric ulceration, duodenitis, and gastritis all overlap and are not distinguishable without investigation. Often, epigastric discomfort related to food is associated with negative findings on further examination, particularly in anxious patients. The classical duodenal ulcer history is epigastric pain, which is relieved by food and brought on by hunger; the pain is epigastric or radiating through to the back. Antacids relieve symptoms usually within minutes. The pain often wakes
the patient in the early hours. Symptoms may come in bouts (daily for several weeks and then remitting for months or years). Associated nausea and vomiting may be prominent with gastric ulcers or prepyloric ulcers.

**Gallbladder and biliary pain**

Pain from the biliary tract reflects either spasm of smooth muscle or acute inflammation. Spasm is due to obstruction of the common bile duct or the neck of the gallbladder, usually by a gallstone. The full-blown syndrome of biliary colic is unmistakable - severe right upper quadrant pain, radiating laterally to the back, in waves superimposed on a severe discomfort. This lasts for several hours, generally with nausea and vomiting. Patients classically roam around to find a comfortable position. An inflamed gallbladder (cholecystitis) gives similar sited pain, though it is more likely to radiate to the shoulder. Minor discomfort is attributed to postprandial contraction of the gallbladder (right upper quadrant discomfort, excessive belching, nausea) but these are often nonspecific.

**Pancreatic pain**

Chronic inflammation gives severe pain in the back just below the shoulder blades, brought about by eating or alcohol, and mildly relieved by leaning forward. This history is also compatible with duodenal ulceration. Much pancreatic pain is ill-defined - dyspepsia affecting the epigastrium, or right or left side of the abdomen, and with an indefinite relationship to food. Pancreatic cancer may be painless, but extension retroperitoneally initiates unremitting central back pain.

**Intestinal pain**

Normal peristalsis is painless. Short-lived, acute painful peristalsis - intestinal colic - is readily recognized, usually due to acute gastroenteritis. Repeated or persistent painful peristalsis generally indicates intestinal narrowing or obstruction, most commonly due to adhesions and previous surgery or tumours. There is intermittent sharp exacerbation of pain, doubling up the patient when pain is severe. The full-blown picture of complete obstruction is a constellation of crampy pains, distension, borborygmi (audible, high-pitched bowel sounds), nausea, and eventually failure to pass bowel motions or flatus.

Small-intestinal colic is poorly localized but predominantly central and above the umbilicus. Colonic colic is characteristically low in the abdomen, below the umbilicus, and is relieved by defaecation. Intestinal inflammation can be painful. Transmural inflammation with secondary inflammation of parietal peritoneum, e.g. appendicitis, gives well-localized pain over the inflamed organ, but is worse on movement or prodding.

**Severe acute abdominal pain**

A number of rare causes should be considered in addition to classical surgical emergencies of obstruction or perforation. Consider coronary artery insufficiency (angina or myocardial infarction can be epigastric). Aortic disease – dissection, aneurysm, or dilatation – may give epigastric pain. Intestinal ischaemia can cause recurrent noncolicky pain induced by eating, with characteristic weight loss as food is avoided due to fear of pain. Metabolic disorders (acute intermittent porphyria) comprise a rare but important cause.

**Bleeding**

Gut bleeding varies from acute and life-threatening, to chronic and trivial. Most bleeding comes from the upper gastrointestinal tract, presenting either with haematemesis and melaena, or just melaena. The source is variable, from oesophagus to upper jejunum. Lower gastrointestinal haemorrhage is less common as an emergency, and varies from trivial haemorrhoids (bright red bleeding on toilet paper after defaecation) to more severe causes - cancer, polyps, diverticular disease and vascular malformation, or inflammatory colitis in association with diarrhoea. Bleeding from the distal colon is normally fairly bright red, but from the caecum is plum-coloured or darker. Low-grade chronic blood loss may be invisible (occult) and present with anaemia.

**Abnormal bowel habit**

Normal bowel habit varies between people, from two or three loose stools daily to hard motions every second or third day. Changes in pre-existing pattern are more significant than long-standing deviation from what the patient or doctor considers 'normal'.
**Constipation**
This is described as infrequent passage of stools, which become dehydrated and hard from a long stay in the colon (see Chapter 10). Trivial causes include immobility, diminished food intake, and medication with constipating agents, e.g., codeine. Constipation requires further investigation when recent in origin or associated with colicky pain.

**Diarrhoea**
This requires careful definition. Diarrhoea may describe states from moderate to frequent passage of formed stools, to massive volumes of liquid stool. Many patients with a ‘diarrhoeal’ form of irritable bowel have two to three loose motions in the morning, usually after food, but the total mass of stool is normal. Diarrhoea waking a patient at night is generally significant. Passage of blood and mucus is obviously significant, but passage of mucus alone does not indicate pathology. Clinical indications of steatorrhoea (pale, floating, foul-smelling) are unreliable indicators of excess fat (malabsorption). Observation of rainbow colours on the surface of the stool or lavatory pan water implies severe steatorrhoea – such as seen in pancreatic insufficiency or extensive resection of the small gut. Inflammatory colitis, or ischaemic change in the colon, is often associated with crampy abdominal colic, but disease of the small intestine can also cause colonic colic as excess fluid enters the colon. Under normal circumstances, less than 1.25 l of intestinal fluid leaves the ileum to enter the colon, which then reduces the volume to less than 300 ml. Liquid stool volumes of more than 1.5 l a day, therefore, strongly suggest disease of the small gut.

**RECTAL SYMPTOMS**
Symptoms from the rectum include:
- Tenesmus: this refers to a feeling of rectal fullness and a sensation that the bowel needs evacuation (even if a bowel motion has recently been passed). It reflects the presence of rectal inflammation.
- Constant anal pain (suggesting the presence of an abscess or thrombosed haemorrhoid).
- A tearing pain on defaecation (suggesting an anal fissure).
- Proctalgia fugax: an intense intermittent anal pain attributed to spasm.
- Pruritus ani: anal itch, which occurs idiopathically or in the presence of pinworm infection.

**WEIGHT LOSS**
In combination with other gastrointestinal symptoms, this is a major symptom. Systemic conditions (thyrotoxicosis, tuberculosis, diabetes, cancer, and anxiety) should also be considered.

**OTHER GASTROINTESTINAL SYMPTOMS**
Other less well-defined complaints should be considered. Abdominal distension, particularly after meals, is one classical manifestation of functional bowel disease, probably reflecting delayed emptying of small-intestinal contents into the caecum. Other symptoms include alternation between constipation and diarrhoea, colicky colonic pain, and intermittent discomfort in the right upper quadrant, left upper quadrant, or left lower quadrant of the abdomen. Long-standing symptoms in the presence of otherwise good health, dating back many years, or persistent abnormality of bowel habit following an acute attack of gastroenteritis, are suggestive clinical features for diagnosis of irritable bowel syndrome.

1. ‘Silver stool’ – the pale steatorrhoeic stool, together with the presence of altered blood, in a patient with a combination of obstructive jaundice and bleeding into the gut.
Functional gastrointestinal syndromes

Many patients present with symptoms that seem to arise from the gastrointestinal tract, but for which no specific structural explanation is apparent. These are termed functional gastrointestinal syndromes. They are common in the general population and account for a large proportion of new referrals to gastrointestinal outpatient clinics. Typically, there are other symptoms in other systems, for example gynaecological symptoms or fibromyalgia. As a group, patients score highly in indices of depression and anxiety, although individual patients do not usually meet the criteria for formal psychiatric diagnosis.

IRRITABLE BOWEL SYNDROME

Definition
Irritable bowel syndrome is characterized by chronic abdominal pain, associated with an altered bowel habit in the absence of an organic cause.

Epidemiology
There is a common constellation of symptoms, reported by around 20% of the general population in surveys. However, most sufferers do not seek medical attention. The disease is mostly diagnosed in young adults, and more frequently in women (female: male 2:1). Familial clustering has been noted in some studies, either representing heritable pathophysiological changes or an environmental contributor.

Aetiology
The aetiology of irritable bowel syndrome is not known. There are a number of theories, including changes in visceral pain perception, alteration of motility, and bacterial overgrowth. Frequently, patients give a history of an antecedent infective gastroenteritis. Psychological dysfunction (typically anxiety, depression, and somatization) is over-represented in patients referred to tertiary care centres, but is insufficient to meet criteria for formal psychiatric diagnosis.

Clinical features
The features of irritable bowel syndrome are variable and frequently fluctuate. There may be a history of diarrhoea or constipation, or alternation between these patterns. Abdominal pain tends to accompany the changes in bowel habit. Features such as rectal bleeding, nocturnal symptoms, or systemic symptoms such as weight loss should lead to a consideration of other diagnoses.

Management
A proactive approach to making the diagnosis with the minimum of investigation is better than making irritable bowel syndrome a diagnosis of exclusion. Careful and reassuring explanations of the benign nature of the condition are frequently helpful.

Drug therapy
This is led by the dominant symptoms. Diarrhoea is treated with antidiarrhoeal drugs such as loperamide. Antispasmodic drugs are frequently prescribed, although there is little evidence of efficacy. Low-dose tricyclic antidepressants are used particularly for abdominal pain, and seem to have an action independent of anxiety or depression. Global symptom improvement has been reported with selective serotonin reuptake inhibitors (SSRIs).
Physical examination of the gastroenterology patient

The historical features outlined above will have suggested a short differential diagnosis. In many patients with gastrointestinal disease, no abnormal physical findings will be demonstrable. Nonetheless, a physical examination, which should not be confined to the abdomen, should be made. Aspects of the general physical examination that may provide useful clues to gastroenterological and hepatic conditions are given in Table 1 (2–8).

LIVER
An enlarged, tender liver may be inflamed, congested, or the site of an abscess or tumour. The patency of the hepatic venous drainage can be checked by showing elevation of the jugular venous pressure on pressing over the liver.

Table 1 General physical signs of gastrointestinal disease

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<tr>
<td>Liver palms</td>
<td>Acute or chronic liver disease</td>
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<td>Clubbing (2, 3)</td>
<td>Cirrhosis, Crohn’s disease</td>
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<td>Leukonychia (white nails)</td>
<td>Liver disease, protein-losing enteropathy</td>
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<td>Dupuytren’s contracture</td>
<td>Alkoholism</td>
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<th>Skin</th>
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<td>Spider naevi</td>
<td>Cirrhosis or hepatitis</td>
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<td>White spots</td>
<td>Chronic liver disease (4)</td>
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<td>Pigmentation (4)</td>
<td>Haemochromatosis, internal malignancy, malabsorption</td>
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<td>Blisters, depigmentation</td>
<td>Porphyría cutanea tarda</td>
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<td>Erythema nodosum (5)</td>
<td>Inflammatory bowel disease</td>
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<th>Eyes</th>
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<td>Colouration</td>
<td>Jaundice (6)</td>
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<td>Episcleritis (7)/iritis</td>
<td>Inflammatory bowel disease (3)</td>
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<td>Retinal appearances</td>
<td>Pseudoxanthoma elasticum</td>
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<td>Venous pressure</td>
<td>Hepatic pain in congestive cardiac failure</td>
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<td>Cardiological causes of ascites or protein-losing enteropathy</td>
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<td>Lymphadenopathy</td>
<td>Carcinoma of the stomach and other malignancies</td>
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<td>Cyanosis</td>
<td>Severe liver disease</td>
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<tr>
<td>Anaemia</td>
<td>Acute and chronic gastrointestinal blood loss</td>
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<tr>
<td>Cardiac disease and peripheral pulses</td>
<td>Intestinal angina, ischaemic gut disease, mesenteric emboli</td>
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<tr>
<td>Gynaecomastia</td>
<td>Chronic liver disease</td>
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<td>Peripheral neuropathy</td>
<td>Alkoholism, amyloidosis, porphyria, vitamin B12 deficiency due to malabsorption</td>
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<td>Encephalopathy</td>
<td>Liver disease</td>
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<td>Erythema ab igne (8)</td>
<td>Chronic pain</td>
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(mottled pigmentation of the skin due to application of external heat)
2 Clubbing of the fingers.
3 Clubbing and multiple scars point to chronic inflammatory bowel disease.
4 Gynaecomastia, ascites, and pigmentation all point to chronic liver disease in this patient.
5 Erythema nodosum, seen in Crohn's disease or ulcerative colitis.
Palpating the spleen can be difficult. Rotating the patient on to the right side, a helping examiner’s hand on the left flank, and deep inspiration may all make the examination easier.

While gross ascites is easy to detect (4, 333), one may be misled into diagnosing ascites in gross obesity, as fat is liquid at body temperature. Minor degrees of ascites can be difficult to detect clinically, but ultrasound examination will settle any doubt.

Bruits in the epigastrium are not necessarily pathological, as the superior mesenteric artery may often be stretched over the pancreas. Nonetheless, they should lead to consideration of a diagnosis of intestinal ischaemia or a pancreatic tumour.

Hernial orifices and scars are relevant in the context of colicky abdominal pain, as they may indicate obstruction in the hernial sac or the presence of adhesions.