

Diagnosis

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In most cases, the diagnosis is assumed rather than proven, and treatment is empirical. Proton pump inhibitors (PPIs) are very effective drugs in managing erosive oesophagitis and acid-related symptoms. They are often used empirically as a diagnostic trial. However, there is a significant placebo effect. A positive treatment response with 2 weeks of a PPI can be observed in 69% of GORD patients and 51% of those without GORD (as defined by pH monitoring and endoscopic oesophagitis). This may create a problem of overdiagnosis of GORD and overuse of PPIs. Endoscopic examination provides anatomical assessment, screening for complications of GORD and potential alternative diagnoses such as eosinophilic oesophagitis (EOO), oesophageal motility disorder or oesophageal cancer (Figure 66.14). In practice, many patients will have received PPIs before referral. Alan J Cameron, contemporary gastroenterologist, Mayo Clinic, Rochester, MN, USA, states that before referral to endoscopy and such information must be available before the procedure because PPIs can heal oesophagitis quickly (Figure 66.15). It is worth remembering that the correlation between symptoms and endoscopic appearances is poor. In patients with atypical or persistent symptoms despite PPI therapy, oesophageal manometry and ambulatory pH recording (with or without impedance measurement) are justified to establish the diagnosis and guide management. In patients considered for surgery, it is also prudent to have objective proof of significant reflux before embarking on a potentially irreversible invasive procedure. HRM is useful in (i) detecting major oesophageal motility disorder, e.g. achalasia, which can sometimes mimic GORD; (ii) defining the location of the LOS for accurate pH monitoring placement; (iii) assessing the function and morphology of the LOS, including the size of a hiatus hernia; and (iv) assessing oesophageal body motility to tailor intervention, especially the various antireflux procedures. PPIs are usually stopped for 2 weeks before oesophageal examination. In pH recording. For patients with a strong pretest probability of

(c) (d) (e) (f) Figure 66.14 Endoscopic appearance of an oesophageal stricture with oesophagitis (a); Los Angeles classification grade C oesophagitis (b); retrograde view of a hiatus hernia (c); end view of a hiatus hernia (d); Barrett's oesophagus (e); normal oesophagogastric junction (f).

GORD but refractory to PPI treatment, an 'on-PPI' assessment can be performed to test for breakthrough acid exposure despite PPI therapy. Wireless pH monitoring increases the duration of recording to 96 hours and could potentially increase the test sensitivity and diagnostic yield. A barium contrast study gives an objective and dynamic assessment of the oesophagogastric anatomy. This may be important in the context of surgery for rolling or mixed hiatus hernias. It is also useful in assessing surgical complications after antireflux surgery, such as a disrupted wrap, slipped fundoplication or wrap herniation. However, it is not mandatory for ordinary and uncomplicated GORD patients.

(c) (d) Figure 66.15 Grading of oesophagitis according to the Los Angeles classification. Grade A, one (or more) mucosal breaks no longer than 5 mm that do not extend between the tops of the two mucosal folds (a) . Grade B, one (or more) mucosal breaks longer than 5 mm that do not extend between the tops of two mucosal folds (b) . Grade C, mucosal breaks that are continuous between the tops of two or more mucosal folds but that involve less than 75% of the circumference Grade D, mucosal break that involves at least 75% of the oesophageal circumference (d) .

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Oesophageal cancer has a poor prognosis, which is in part related to late presentation; patients with early disease have no symptoms and the cancer tends to metastasise early . Both squamous cell and adenocarcinoma develop from dysplastic mucosa. Most adenocarcinomas are mucin producing with intestinal-type features. Squamous cell cancers tend to be found in the middle and upper part of the oesophagus, while adenocarcinoma predominantly affects the lower oesophagus and OGJ. Both cell types may directly infiltrate adjacent organs and, depending on tumour location, can involve the trachea and bronchi (leading to haemoptysis, airway obstruction and even oesophagus–airway fistula), aorta (though aorto-oesophageal fistula is rare), diaphragmatic crura or pericardium. The oesophageal wall has a rich network of submucosal lymphatics, and therefore longitudinal submucosal spread of cancer is common. Lymph node metastasis can involve the cervical area, the mediastinum as well as the perigastric/ coeliac axis. Distant haematogenous spread can occur to non- regional lymph nodes, lungs, liver, brain and bones. Peritoneal metastasis is an important mode of spread of adenocarcinoma of the OGJ but is rare for squamous cell cancer. Progressive dysphagia is the most common symptom, related to increasing luminal obstruction by cancer. Early symptoms may include a mild hold-up sensation that, if ignored, will progress from dysphagia to a solid, soft and even - tually to a liquid diet. There may often be anorexia, weight loss, odynophagia and regurgitation symptoms. Hoarse - ness may indicate involvement of either recurrent lar yngeal nerve. Aspiration and choking symptoms may be related not - only to tumour obstruction but also to the presence of an oesophagus–airway fistula. Choking and cough on drinking wa ter are typical of fistulation and associated haemoptysis is - common. Blood loss is less common for squamous cell can - cer than adenocarcinoma. Chronic blood loss can lead to iron - deficiency anaemia. Acute gastrointestinal bleeding can occur, though it is rarely severe, except for aorto-oesophageal fistula, which usually presents with a smaller sentinel bleed followed pi - by massive bleeding that is invariably fatal. Early cancers are usually asymptomatic and are only picked up on endoscopy performed for other reasons, except in countries where a screening programme exists . For squa - mous cell dysplasia and cancer, chromoendoscopy using Lugol's iodine is a useful adjunct (Figure 66.44); the normal squamous mucosa will be stained brown, while dysplastic and early cancer remains unstained. NBI light consists of only two wavelengths: 415-nm blue light and 540-nm green light. The di ff erential absorption and reflection of these spectra facilitates detection of mucosal abnormalities (see Chapter 9). A classi - fication of an intraepithelial papillary capillary loop (IPCL) system has been introduced to grade the severity of these early neoplastic changes (Figur e 66.45). For patients with advanced cancer, diagnosis is usually not di ffi cult. A barium contrast study may demonstrate the - tumour as an ulcerated or stenotic lesion with proximal plant. dilatation (Figure 66.46). Endoscopy will visualise the tumour (Figure 66.47), allowing biopsies or brush cytology to confirm the histology . Attempts can be made to traverse the tumour stenosis. If significant dysphagia and weight loss are present, a nasogastric tube can be placed for nutritional build-up. The stomach is assessed for other pathologies in case it

will be used to replace the oesophagus when oesophagectomy is performed. Care should also be taken to assess the rest of the oesophagus, pharynx and larynx to ensure no synchronous tumours are present. The movement of the vocal cords should be assessed. For cancers of the mid- or upper oesophagus in proximity to the airway, a bronchoscopic examination is required to ensure no airway involvement, in which case oesophagectomy will be contraindicated (Figure 66.48).

Figure 66.44 Early squamous cell cancer of the oesophagus. shown up on narrow-band imaging with magnification (abnormal intraepithelial papillary capillary loops can be seen); by Lugol's iodine. IPC classification by H Inoue (2001) IPCL type I IPCL type II Tissue IPCL type III characterisation of IPCL at lesion IPCL type IV IPCL type V-1 m1 IPCL type V-2 m2 Cancer in IPCL infiltration depth IPCL type V-3 m3, sm1 or deeper IPCL type V-N sm2 or deeper Indication for EMR/ESD Relative indication for EMR/ESD Surgical treatment Figure 66.45 Intraepithelial papillary capillary loop (IPCL) classification system. Pictorial diagram showing the appearance of the various types of IPCL correlating with the depth of invasion. EMR, endoscopic mucosal resection; ESD, endoscopic submucosal dissection. (a) A suspicious lesion under white light (marked by white arrows); (b) the area (c) the lesion is not stained Japanese Esophageal Society (JES) classification (2017) JES type A

- Normal IPCL or abnormal microvessels without severe irregularity JES type B1 Dilatation,
- Abnormal microvessels with meandering, severe irregularity or highly irregular calibre dilated abnormal vessels and form variation
- With loop-like formation Extension of IPCL of type V-1 JES type B2 Advanced
- Type B vessels without a destruction of IPCL loop-like formation Generation of new JES type B3 tumour vessel
- Highly dilated vessels with calibres that appear to be more than three times that of usual B2 vessels

Figure 66.46 Barium contrast study showing midoesophageal cancer. Mucosal irregularity with mild luminal narrowing at the lower third of the oesophagus (arrows). Figure 66.47 Endoscopic picture of an ulcerating cancer of the oesophagus.

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