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Diagnosis of upper gastrointestinal malignancy

BACKGROUND

Dyspepsia is a common complaint in clinical practice. In the majority of cases this symptom will result from gastro-oesophageal reflux or peptic inflammation or ulceration; however, upper gastrointestinal malignancy may present in a similar way.

OBJECTIVE

The article aims to assist the general practitioner in determining which patients presenting with dyspepsia warrant further investigation.

DISCUSSION

Patients over the age of 40 years with recent, new symptoms and those with dysphagia, weight loss, early satiety, iron deficiency anaemia, or more obvious signs such as a palpable epigastric mass or liver enlargement, require investigation in the first instance with endoscopy. In patients without these 'alarm features' it is reasonable to treat acid reflux symptoms with appropriate proton pump inhibitor therapy and only investigate in the event of inadequate symptomatic response. Those with symptoms suggestive of gastritis or duodenitis can be noninvasively tested for *Helicobacter pylori* infection and re-assessed after successful eradication has been confirmed.

Dyspepsia is a common complaint in clinical practice; cancer of the oesophagus or stomach is fortunately uncommon, and lymphoma less common again. The difficulty confronting primary care doctors is how to separate the 'wheat from the chaff' and deciding which patients should be referred early for investigation.

Some information about the likelihood of a serious diagnosis may help in the decision making process. Gastric cancer has declined in incidence over the past 50 years, possibly related to a declining prevalence of *Helicobacter pylori* gastric infection. Oesophageal cancer has increased in frequency. To put this in perspective, however, oesophageal cancer is still one-tenth as common as colorectal cancer in Australia. Colorectal cancer, affecting 3413 individuals, accounted for nearly 16% of new cancer diagnoses in Victoria in 2002, oesophageal cancer made up 1.3% (282) and gastric cancer 2.4% (515).¹ Mortality rates for the

two upper gastrointestinal cancers are however much greater than for colorectal cancer; often the disease is advanced at the time of diagnosis and treatment is supportive rather than curative. The low rates of these cancers preclude an effective population based screening strategy, so that early diagnosis remains the best hope for cure.

Ironically, in this era of effective anti-acid and anti-reflux measures – both medical and surgical – acid reflux is thought to add significant risk for the development of oesophageal cancer, along with alcohol, tobacco, and geographical factors (certain areas of China and South Africa have a high rate of this malignancy, a risk that may accompany migrants from these regions).²

Gastric cancer and mucosal lymphoma (MALToma) are epidemiologically related to helicobacter infection;³ while the latter may respond at least partly to treatment of the infection (and can in many cases be cured), gastric cancer remains a feared diagnosis and therapy is often palliative at best.

Presentation

The initial symptom may be entirely nonspecific: dyspepsia. Many patients complain of indigestion. However, it is important to investigate if:

- the symptoms are new and recent, and the patient is aged over 40 years
- there is dysphagia
- there is weight loss
- there is early satiety
- there is anaemia (particularly if iron deficient), and
- there is a palpable epigastric mass or liver enlargement.

Therefore, as ever in clinical medicine, history and physical examination can provide useful guidance regarding the need for additional tests.

The most useful specialist investigation is flexible upper gastrointestinal endoscopy. However, infiltrating gastric cancer (linitis plastica) may not be appreciated endoscopically, and a clue to this diagnosis may be obtained with computerised tomography (CT) scanning (although gastric wall thickening reported in this way may be subjective). Radiological imaging, with either ultrasound or CT, has more utility in the investigation of biliary and pancreatic disease in the upper abdomen.

Treat and test or test and treat?

In persons under 40 years of age without alarm symptoms (Table 1), it is entirely reasonable to treat acid reflux symptoms with appropriate proton pump inhibitor (PPI) therapy and only investigate with endoscopy in the event of inadequate symptomatic response. Those with symptoms suggestive of gastritis or duodenitis can be noninvasively tested for *H. pylori* infection (eg. by breath

Table 1. 'Alarm' symptoms

Age over 40 years
Dysphagia
Early satiety
Weight loss
Anaemia
Inadequate treatment response to PPI drugs
Palpable epigastric mass

Table 2. Alternative and differential diagnoses

Diagnosis	Investigation
Gallstones	Ultrasound
Cardiac disease	Stress electrocardiogram
Liver disease/hepatitis	Liver function test
Pancreatic disease/cancer	CT scan

Case 1 – Mr BT, age 59 years

Although questioning revealed a significant history of mild controlled dyspepsia, recently he had noted a sensation of food 'sticking on the way down'. He had not lost weight, and was not anaemic, but physical examination revealed irregular and firm liver enlargement suggestive of metastatic disease. Prompt endoscopy revealed an oesophageal cancer, and imaging confirmed liver metastases. Treatment was palliative.

Case 2 – Ms AK, age 41 years

Persistent epigastric discomfort despite PPI therapy led to endoscopy. An early gastric cancer was diagnosed on biopsy of a suspicious ulcerated area. Partial gastrectomy was successful and Ms AK remains well some 8 years later.

Case 3 – Ms MC, aged 62 years

Continued epigastric pain and weight loss despite ongoing appropriate PPI therapy resulted in endoscopic diagnosis of a mucosal associated lymphoid tumour of the stomach (MALToma). Helicobacter eradication resulted in partial regression of the lymphoid neoplasm, but cytotoxic chemotherapy was required for complete resolution. Six years later she remains well and there has been no recurrence.

Case 4 – Mr AD, aged 67 years

Mild dyspepsia and indigestion symptoms for years, followed by relatively sudden weight loss and early satiety led to endoscopy which revealed minimal mucosal ulceration but a lack of distensibility of the stomach with air insufflation. Subsequent CT scan showed diffuse thickening of the gastric wall and a diagnosis of infiltrating gastric cancer (linitis plastica) was made at laparoscopy. Treatment was palliative.

testing), and re-assessed after successful eradication has been confirmed. In practice, the widespread and ready availability of endoscopy often results in early investigation. This is a safe, quick, easy and accurate way to provide useful diagnostic information and allow rational treatment decisions to be made.

It is beyond the scope of this article to exhaustively discuss the long list of alternative diagnoses which may also present with dyspeptic symptoms, but after acid-peptic disease has been excluded by an inadequate treatment response and endoscopy eliminates mucosal disease, including cancer, disorders of adjacent organs should be considered (Table 2).

Alarm symptoms should be treated with respect as they may signify serious pathology, and therefore warrant early invasive investigation.

Conflict of interest: none declared.

References

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