

What proportion of dyspeptic patients having *H. pylori* breath test subsequently undergo endoscopy?

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ABSTRACT – **Background:** *Helicobacter pylori* (HP) testing in young patients with uncomplicated dyspepsia has been recommended. A test and treat strategy for dyspeptics positive for HP is recommended by the European *H. pylori* Study Group and the American Gastroenterology Association.

■ **Objectives:** To assess the rates of re-referral for upper GI endoscopy (OGD) and outpatient (OPD) attendance in uncomplicated dyspeptic patients following assessment of HP status.

■ **Methods:** 190 patients under 50 years of age with uncomplicated dyspepsia (without alarm symptoms) referred from general practitioners (GPs) to the gastroenterology department underwent HP urea breath test (UBT). GPs were informed of the results of UBT and recommended eradication therapy if positive, and if negative advised symptomatic treatment with an acid suppressant with/without a prokinetic. The patients were analysed for subsequent attendance at OGD or OPD in the following two years.

■ **Results:** HP was present in 93 of 190 patients. Twenty of 190 (10.5%) patients subsequently were re-referred and underwent OGD for continuing dyspeptic symptoms; a further 6 were seen in OPD but not endoscoped as they have been judged to have uncomplicated gastro-oesophageal reflux disease. At time of OGD all patients were negative on Campylobacter-like organism (CLO) test for HP. Findings at OGD were normal (9), hiatus hernia (6), gastritis (4) and duodenitis (1). No case of peptic ulcer disease or gastric cancer has been identified.

■ **Conclusions:** In this group of dyspeptic patients, adopting a test and treat policy after initial analysis of HP resulted in 10.5% being re-referred for subsequent OGD; findings in those endoscoped were normal or minimal. A test and treat strategy for *H. pylori* in uncomplicated dyspeptics therefore saves endoscopies and outpatient consultations without missing significant underlying pathology.

Dyspepsia is a common complaint describing pain or discomfort centred in the upper abdomen¹. The prevalence

of dyspepsia in the general population ranges from 25% to 30%². The symptom is a frequent cause of consultation in primary health care, accounting for 2–4% of all new consultations in general practice^{3,4} and up to 40% of outpatient referrals to the gastrointestinal clinic⁴. The endoscopic investigation of dyspepsia constitutes a major workload for gastroenterologists and endoscopy units. The demand for endoscopy continues to rise and there has been a steady increase in the number of endoscopies performed^{5,6}. It has been predicted that in the near future almost 1% of the United Kingdom population will undergo endoscopy every year⁷.

The justification for prompt endoscopy in dyspeptics is that significant pathology is appropriately treated and, in patients with a normal endoscopy, inappropriate anti-secretory prescribing and primary care consultations will be reduced⁸. Indeed, early endoscopy is more cost effective than empirical H₂ receptor antagonist therapy in managing dyspepsia⁹. As most peptic ulcers in patients not taking non-steroidal anti-inflammatory drugs (NSAIDs) are caused by *Helicobacter pylori* (HP)^{10,11}, other methods available for managing young dyspeptics include the 'test and treat' strategy and the 'test and investigate' approach. In the 'test and treat' strategy, the clinician will test for the presence of HP and, if present, will then treat the patient without further investigation. In the 'test and investigate' approach the clinician will test for the presence of HP and, if present, will then recommend endoscopy.

The European *H. pylori* Study Group¹² and the American Gastroenterology Association¹³ recommend a 'test and treat' strategy for the management of young patients with uncomplicated dyspepsia. Those that test positive for HP are given eradication therapy and those who test negative for the organism are given reassurance along with symptomatic treatment.

In this study the aim was to assess the rates of re-referral for upper gastrointestinal endoscopy (OGD) and outpatient (OPD) attendance in uncomplicated dyspeptic patients following assessment of HP status and use of the 'test and treat' strategy.

Methods

A total of 190 patients under 50 years of age (83 men; aged 17 to 50, mean age 34 years [Fig 1]) referred from primary care to our gastroenterology department with uncomplicated dyspepsia (ie without alarm symptoms of weight loss,

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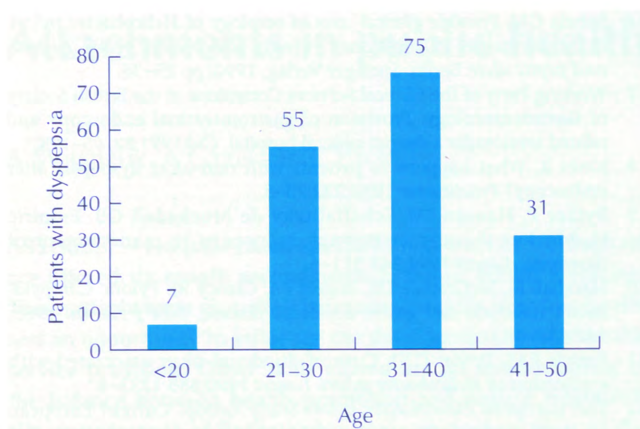


Fig 1. Age distribution in patients with uncomplicated dyspepsia undergoing ^{14}C urea breath test for *H. pylori*.

persistent vomiting, gastrointestinal bleeding, dysphagia), who were not on non-steroidal anti-inflammatory drugs (NSAIDs) and had a normal abdominal examination without anaemia, underwent HP assessment with ^{14}C urea breath test (UBT) between August 1997 and July 1998. The breath test was performed by trained endoscopy nursing staff. Once the results of the UBT were received by the consultant gastroenterologist (EB) the primary care physicians were informed by letter and eradication triple therapy (lansoprazole 30mg b.d., clarithromycin 500mg b.d., and amoxicillin 1gram b.d. for 1 week) recommended if the patient was positive to HP; if negative, symptomatic treatment with an acid suppressant with or without a prokinetic agent was advised. If the patients were re-referred, a policy to review them in the outpatient department (OPD) had been adopted.

In September 1999 the patients' subsequent attendances to the OPD or for upper gastrointestinal endoscopy (OGD) were reviewed.

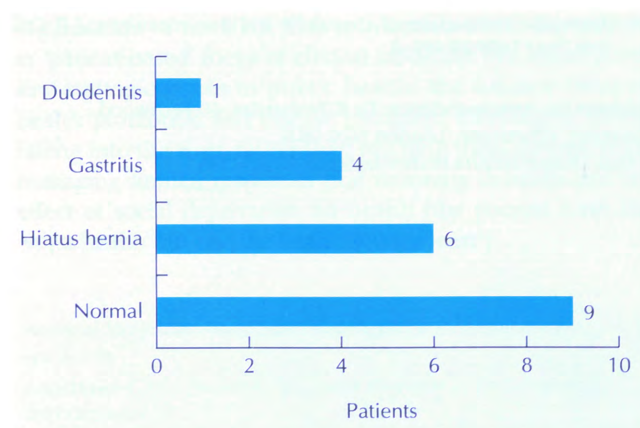


Fig 2. Diagnosis at upper gastro-intestinal endoscopy in 20 patients with continuing dyspepsia re-referred following initial management with analysis of *H. pylori*. No case of peptic ulcer or gastric cancer was identified.

Results

HP infection was present in 93 of 190 patients (48%). Following initial HP assessment with UBT and management as outlined in the methods section, 26 of 190 patients (14%) had been re-referred and seen in the OPD; 20 of these (10.5%) underwent OGD for continuing dyspeptic symptoms. The remaining 6 patients (3%) were not endoscoped because they were judged to have uncomplicated gastroesophageal reflux disease (GORD) with predominant symptoms of heartburn and regurgitation. Twelve of 20 patients endoscoped were initially infected with HP. At the time of OGD all patients were negative for HP on CLO test. Findings at OGD (Fig 2) were: normal (9), hiatus hernia (6), gastritis (4) and duodenitis (1). No case of peptic ulcer disease or gastric cancer was identified.

Discussion

This study demonstrates that a 'test and treat' strategy for HP in uncomplicated dyspeptics saves endoscopies and outpatient consultations in the following two years. In the UK, this approach may decrease the number of normal endoscopies in the long run but this is unproven over more than one year¹⁴⁻¹⁶. The weakness of this study is that it is not a randomised controlled trial and that it is a retrospective observational study.

The disadvantages of a 'test and treat' strategy are comparable with those seen with empiric therapy (i.e. a patient is treated immediately without investigation) for the management of dyspepsia. Near-patient serology, with its poor sensitivity and specificity¹⁷, can give rise to false positive results leading to over-use of antibiotics, and to false negative results with subsequent under-use of antibiotics. However, the poor sensitivity and specificity argument does not hold with UBT as this is the gold standard method of detecting HP.

Another disadvantage of a 'test and treat' strategy is that it is of no proven benefit¹⁸ in patients with functional dyspepsia and there is, as with empiric therapy, the possibility that the efficacy of subsequent treatment with proton pump inhibitors may be reduced because HP has been eradicated in these patients¹⁹. However, patients usually demand therapy for their symptoms, and as no medication is particularly effective in functional dyspepsia²⁰ it may be reasonable to prescribe HP eradication as a therapeutic trial.

A further disadvantage of the 'test and treat' strategy is that avoiding endoscopy in young dyspeptics may delay the diagnosis of upper gastrointestinal malignancy. However, gastric and oesophageal malignancy is rare in this age group and usually presents with sinister symptoms²¹. In our study there were no cases of upper gastro-intestinal malignancy in patients with continuing dyspepsia who were subsequently endoscoped. It is also possible that a 'test and treat' strategy might miss the occasional HP negative peptic ulcer and may also fail to identify peptic ulcer in patients self medicating with NSAIDs.

There are clear advantages in adopting a strategy to endoscope a patient who presents with dyspeptic symptoms before starting treatment. The clinician will be able to give an accurate diagnosis before treatment is given; patients' satisfaction with this approach is high^{14,22}. There is also a positive therapeutic effect on a patient who turns out to have a normal investigation²³, the so-called 'therapeutic gain of a negative test'. The result of the endoscopy will guide the future management of a young, otherwise healthy patient not just in the short term, but for 5–10 years later. The disadvantage of the 'to investigate' approach is the initial cost. Most endoscopies are performed as day cases so it is likely that the patient will require either half a day, if not a whole day, away from work. There is a small but recognised risk of serious complications with the procedure (approximately 1:3000) as with any procedure where sedation is required. There are limited resources and waiting lists for endoscopy will lengthen if every patient with dyspepsia is sent for endoscopy.

The 'test and treat' strategy appears to be a cost-effective approach since endoscopy is not required initially and UBT is only about 15–20% of the cost of endoscopy. In the 10–15% of patients in the UK whose underlying cause of dyspepsia is a peptic ulcer, using a 'test and treat' strategy will cure their disease.

This study supports the suggestion by the European *H. pylori* Study Group and the American Gastroenterology Association that young dyspeptics can be managed by a 'test and treat' strategy. If prospective randomised controlled trials establish this as the most appropriate way of managing dyspepsia then the number of endoscopies will be reduced in young dyspeptics, allowing more prompt investigation for those at higher risk of harbouring significant pathology.

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