For debate
How might general practitioner knowledge of patient *Helicobacter pylori* status change the management of dyspepsia in primary care?

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Abstract

**Background** Recent guidelines have suggested that testing young dyspeptic patients for *Helicobacter pylori* infection will produce more appropriate referrals for endoscopic investigation. Our aim was to describe how awareness of patient *H. pylori* status changes the practice of general practitioners (GPs) who do not currently use *H. pylori* testing and/or eradication in their management of dyspepsia. We studied a 5 per cent systematic sample (n = 177), stratified by health authority, of GPs in the North West region of England.

**Methods** A questionnaire-based assessment of self-reported practice of young patients with dyspepsia was carried out.

**Results** Over three-quarters of GPs would choose eradication therapy rather than ulcer healing drugs if they knew the patient was positive for *H. pylori* infection. Twenty-nine per cent of GPs would refer for endoscopy when the patient's *H. pylori* status was unknown, 32 per cent when it was positive, and 22 per cent when it was negative. However, GPs responded in an inconsistent manner to knowledge of patient *H. pylori* status. Some chose to refer positive patients only, others only patients with negative status, and a minority would refer both positive and negative patients.

**Conclusions** Until the use of *H. pylori* tests in primary care populations has been evaluated in appropriate prospective randomized controlled trials, advocates of testing as a means to reduce endoscopy referrals should be cautious about its potential impact on service workload.

**Keywords:** Helicobacter pylori, primary care, dyspepsia, endoscopy

Introduction

It has been suggested that an awareness of the *Helicobacter pylori* status of patients presenting with symptoms of persistent but uncomplicated dyspepsia might result in general practitioners (GPs) making more appropriate referrals for endoscopic investigation. The magnitude of this benefit will depend upon both the prevalence of *H. pylori* infection within the dyspeptic population and how GPs change their management in response to knowledge of patient *H. pylori* status. We describe how awareness of *H. pylori* status changes the practice of GPs who do not currently use *H. pylori* testing and/or eradication strategies in the management of dyspepsia.

**Methods**

A short questionnaire with multiple choice investigative and therapeutic options was constructed around brief vignettes reflecting clinical dilemmas faced by GPs in the management of dyspepsia. The questionnaire was pre-tested sequentially on two small convenience samples of GPs.

The final study population of 177 participants comprised a 5 per cent systematic sample, stratified by health authority, of GPs registered in the North West in 1995. Questionnaires were distributed by post; non-respondents were sent reminders and then contacted by telephone.

**Results**

One hundred and forty (79 per cent) GPs responded to the survey. Twenty-five indicated that they already used *H. pylori* testing and/or eradication strategies for the management of dyspepsia (Table 1), and these GPs were excluded from further analyses.

Tables 2 and 3 show how the remaining 115 GPs who did not use *H. pylori* testing would have changed their management when faced with a patient whose *H. pylori* status was known. When the patient was known to be *H. pylori* positive, five (4 per
Table 1  Management of a young patient of unknown H. pylori status, presenting with uncomplicated dyspepsia unresponsive to simple antacids and life-style advice (percentages given in parentheses)

<table>
<thead>
<tr>
<th>Management of a patient with unknown H. pylori status</th>
<th>No. of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ulcer healing drugs and monitor symptoms</td>
<td>82 (59)</td>
</tr>
<tr>
<td>Ulcer healing drugs and refer for endoscopy</td>
<td>18 (13)</td>
</tr>
<tr>
<td>Refer for endoscopy only</td>
<td>15 (11)</td>
</tr>
<tr>
<td>Eradication therapy with or without prior serology test to detect H. pylori infection</td>
<td>25 (17)</td>
</tr>
</tbody>
</table>

cent) would prescribe ulcer healing drugs alone, 71 (62 per cent) eradication therapy alone, and 37 (32 per cent) would refer for endoscopy. When the patient was known to be negative for H. pylori infection, 81 (70 per cent) GPs would use ulcer healing drugs, 25 (22 per cent) would refer for endoscopy, and three (3 per cent) would have ceased pharmacotherapy completely.

How may knowledge of H. pylori status change endoscopy referral rates?

Thirty-three (29 per cent) of the 115 GPs would refer for endoscopy the young dyspeptic patient whose H. pylori status was unknown. When the vignette revealed the patient’s H. pylori status, 37 (32 per cent) responded that they would then refer the H. pylori positive patient for endoscopy and 25 (22 per cent) the H. pylori negative patient.

Modelling the impact of H. pylori testing

The results from this survey can be used to explore the possible impact that the introduction of widespread testing for H. pylori infection in primary care might have on subsequent endoscopy workload.

If the proportion of patients (y) referred for endoscopy were to reflect the pooled preferences of the GPs in this survey, then the relationship with prevalence can be described as

\[ y = 0.32x + 0.22(1 - x) \]

where \( x \) is the prevalence of H. pylori infection in the population tested (Fig. 1). The application of this formula suggests that widespread testing for H. pylori infection will increase endoscopy referral rates from the baseline rate (29 per cent) only if the prevalence of infection among the young dyspeptic population exceeds 67 per cent.

Discussion

This survey has demonstrated that GP knowledge of patient H. pylori status may substantially change the choice of drugs used to treat dyspepsia in primary care. Over three-quarters of respondents would choose eradication therapy rather than ulcer healing drugs if they knew a patient was positive for H. pylori infection. The results also suggest that the systematic introduction of H. pylori testing in this population of GPs who at present do not use such investigations might reduce the baseline endoscopy referral rate of 29 per cent were the prevalence of infection among dyspeptic patients found to be less than 67 per cent.

The use of clinical vignettes as a means of assessing self-reported practice, however, requires cautious interpretation. It is possible that GPs respond in a manner which reflects that which is perceived to be optimal rather than what is routinely achievable in everyday practice. The high response rate to the questionnaire suggests a substantial level of interest in this topic.

Table 3 Comparison of respondents’ management of (1) a patient with unknown H. pylori status and (2) a patient known to be negative for H. pylori infection

<table>
<thead>
<tr>
<th>Management of a patient with unknown H. pylori status</th>
<th>Management of a patient known to be negative for H. pylori infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ulcer healing drugs only</td>
<td>Ulcer healing drugs only</td>
</tr>
<tr>
<td>Endo only</td>
<td>Endo only</td>
</tr>
<tr>
<td>UHD/Endo</td>
<td>Other</td>
</tr>
<tr>
<td>UHD only</td>
<td>65</td>
</tr>
<tr>
<td>Endo only</td>
<td>11</td>
</tr>
<tr>
<td>UHD and Endo</td>
<td>26</td>
</tr>
<tr>
<td>Other</td>
<td>18</td>
</tr>
</tbody>
</table>

Abbreviations: UHD, ulcer healing drugs; ET, eradication therapy; Endo, endoscopy; No Rx, no treatment.
among GPs at present, and we believe the conclusions drawn are valid for this population. Access to endoscopy services, serology testing, and even the prevalence of \textit{H. pylori} infection, however, may vary nationally.

The change in endoscopy workload predicted by the answers to this questionnaire has resulted from an inconsistent set of clinical responses to knowledge of patient \textit{H. pylori} status. Some GPs would refer only the \textit{H. pylori} positive patients for endoscopy, others only negative patients, and a small number both positive and negative patients. This contrasts with recent dyspepsia management guidelines from the British Society of Gastroenterology,\textsuperscript{1} which recommend that patients under the age of 45 years who test positive for \textit{H. pylori} should be referred for endoscopy and those who test negative managed symptomatically without further investigation. However, were such a policy to be uniformly adopted in our study population, then this would have had substantial implications for secondary care workload; referral rates would have increased beyond baseline once \textit{H. pylori} prevalence exceeds 29 per cent. Such a strategy also presumes that no negative patient will ever require or request an endoscopic examination.

A substantial number of GPs stated that they would refer patients for endoscopy and prescribe a concomitant course of acid suppression therapy. This may compromise the efficacy of the endoscopic examination; induced gastric acid suppression may mask peptic ulceration by enhancing mucosal healing, and thus ‘false negative’ endoscopic examinations may result. However, as the average waiting time for open access endoscopy reported by respondents in this survey was seven weeks (data not presented), a dilemma exists between the need to control patient symptoms and maximize the yield of planned diagnostic interventions.

The appropriateness of \textit{H. pylori} testing in the management of young patients with uninvestigated dyspepsia remains unclear. These results indicate a widespread willingness among GPs to eradicate \textit{H. pylori} infection on the basis of a positive serology test result with no further investigation. Such an approach has recently been endorsed by the European \textit{Helicobacter pylori} Study Group.\textsuperscript{3} The utility of eradication therapy in the management of seropositive uninvestigated dyspepsia, however, is unproven, as less than one-quarter of patients are likely to have underlying ulcer disease, and the symptomatic benefits of treating non-ulcer dyspepsia in this way are equivocal. It is probable therefore that a substantial proportion of these patients will re-present symptomatically and may, in the longer term, require endoscopic investigation to establish a definitive diagnosis. Until such a strategy has been evaluated in appropriate prospective randomized controlled trials, advocates of \textit{H. pylori} testing as a means to reduce endoscopy referrals should be cautious about its potential impact on service workload.

\textbf{References}


3 European Helicobacter pylori Study Group. Accepted on 8 December 1997