**Helicobacter pylori infection: a comparative review of existing management guidelines**

Villy Meineche-Schmidt, Greg Rubin and Niek J de Wit


A central feature of general practice is the use of time in the management of patients and their illnesses. The use of active interventions such as investigations or therapies within the context of this dimension has implications for the development of clinical guidelines for primary care. Importantly, their recommendations of best practice must be compatible with the complexities of the holistic relationship between GP and patient. Many existing guidelines adopt a reductionist, algorithmic approach, losing applicability and relevance to primary care in the process. Here we identify the key features in the primary care management of the patient with dyspepsia, and examine the utility of existing guidelines for the management of *Helicobacter pylori* infection. Through this comparative analysis, the scope and nature of primary care-centred management guidelines are identified.

**Keywords.** Guideline, *Helicobacter pylori*, primary care.

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**Introduction**

The discovery of a causal relationship between duodenal ulcer disease and infection by *Helicobacter pylori* changed the management of the disease totally. Eradication of the infection put an end to the relapsing nature of the disease, and in the following years the relationship between this infection and other dyspeptic diseases was also tested, though with less dramatic results. In contrast to duodenal lesions, gastric ulcers were not always infected, and infected patients with non-ulcer dyspepsia (NUD) seemed to derive only limited if any benefit from cure of the infection. Consequently, the key problem remained the gastrointestinal disease and not the *H. pylori* infection, and the choice of dyspepsia treatment could not be decided solely on whether the patient was infected with *H. pylori* or not.

Nevertheless, guidelines for the management of *H. pylori* infection proliferated, locally, nationally and internationally. Among the most influential of these at an international level were the Maastricht Consensus Report in 1997, the European *Helicobacter pylori* Study Group in 1997 and the American Gastroenterological Association (AGA) Medical Position Statement: Evaluation of Dyspepsia in 1998. For most of these guidelines, consensus approaches were used, the panels usually being dominated by specialists. The guidelines often concentrated on the specialist point of view, focusing on the management of *H. pylori* infection in patients who had been referred for endoscopy or a specialist opinion. Most published guidelines covered different clinical situations, therapeutic strategies and treatment regimens, and the recommendations contained only minor differences (Table 1).

In fact the central issue in the management of *H. pylori* infection is not how treatment is instituted, but whether or not treatment should be considered at all. Testing and treatment should be closely related: there is no need to test for *H. pylori* unless treatment will be instituted if the test is positive. This is particularly so when, for reasons of potential litigation, it might be difficult for GPs not to treat an established infection, even if the accompanying gastrointestinal disease is not likely to be related to the infection. The key feature of management of *H. pylori* infection in primary care is the way in which investigations such as endoscopy and/or *H. pylori* testing form part of the complete management of the individual over time.

**Guidelines in general practice.**

The vast majority of patients with dyspepsia are handled in general practice on the basis of symptomatology. Patients in general practice consult because of
Management of *H.* *pylori* infection in primary care

**Symptoms, and the mission for the GP is to assess the risk of serious disease and/or the need for symptomatic treatment. Morbidity, in terms of morphological diagnoses, is low, even in patients with sinister symptoms.**

The first line consideration for the GP is to decide if diagnostic work-up is needed at all. Many patients present with uncomplicated symptoms and can be managed without making a morphological diagnosis. Such patients are given lifestyle advice or prescribed drugs to control symptoms.

Only when there is no response or a relapse of symptoms is diagnostic work-up considered. None of the guidelines incorporated this clinical approach to dyspepsia that is so particular to general practice. Suggested strategies for dyspeptic patients, which for several years had advocated prompt endoscopy, were now directed towards testing for *H.* *pylori* infection. The change in strategy was remarkable, changing from proposing to avoiding endoscopies, initially by restricting them to patients shown to be *H.* *pylori* positive. Subsequently the ‘test and treat’ strategy developed, where the suggested first option for the GP, when faced with a patient consulting with dyspepsia, was to test for *H.* *pylori* infection using serology—and to treat if positive, even though the majority of such patients would have NUD.

Most guidelines linked their recommendations to endoscopic diagnoses, even though, as stated in the Maastricht report, “it is clear that not all dyspeptic patients presenting in primary care are currently referred to a specialist” but “will receive symptomatic treatment from the primary care physician”. The AGA statement concluded likewise, while the European *Helicobacter pylori* Study Group guidelines advised treatment of *H.* *pylori*-infected patients in general practice, for economic and primary preventive reasons.

However, from the primary care perspective, endoscopy or *H.* *pylori* testing is neither needed or wanted in all patients with dyspepsia, and these guidelines consequently did not fit into daily clinical practice. In the UK, an attempt to set up guidelines from a primary care perspective was made in 1997, but only addressed part of the relevant problems.

The European Society for Primary Care Gastroenterology (ESPCG) was established in 1995 with the aim of promoting high standards in the management of gastrointestinal problems in primary care in Europe. Recognizing the absence of a primary care perspective in the existing guidelines, it set out to develop guidelines which would be relevant to primary care physicians throughout Europe, for the management of patients with dyspepsia with respect to *H.* *pylori* infection.

### Comparative evaluation

The principal elements of *H.* *pylori* management can be identified and can form the basis for a comparison of recommendations contained within published guidelines (Table 1). The major differences between the Maastricht, the AGA and the European *Helicobacter pylori* Study Group guidelines on one hand, and the guidelines from ESPCG on the other, relate to the management of patients with dyspepsia at the first presentation in general practice and the suggested action in patients who, upon endoscopy, have been diagnosed with gastritis and NUD. The ESPCG recommend that *H.* *pylori* treatment (and, as a prerequisite, *H.* *pylori* testing) should be reserved for patients who have an endoscopically documented gastrointestinal disease. In general, patients presenting in general practice with dyspeptic symptoms do not fall into this category. The assumption from the Maastricht Report, that most of these patients continue to seek medical attention on a recurring basis, is not correct. Many patients presenting with dyspeptic symptoms seek reassurance, lifestyle advice or even drug prescription, as an isolated incidence. A 12 month follow-up study from Denmark demonstrated that almost half of patients presenting with dyspepsia and receiving treatment with acid-reducing drugs (*H*₂ receptor blockers or proton pump inhibitors) were treated only once and with the smallest available package during 1 year. Furthermore, peptic ulcer disease is characterized by relapsing symptoms. Although empirical treatment of these patients at their first presentation will result in a postponement of the diagnosis, it will not deprive the patient of a curative treatment at the end of the day.

Patients who do not respond to empirical treatment or who have relapse of symptoms are subjected to diagnostic work-up. How this is best done could vary between different countries, depending on epidemiological characteristics and availability, costs and access to investigation methods. Different strategies have advantages and drawbacks. Referral to endoscopy may be very costly, but will establish a diagnosis when oesophagitis or peptic ulcer disease is present, and could prevent unnecessary *H.* *pylori* eradication or maintenance therapy in patients with NUD.

*Helicobacter pylori* testing by serology should be done using locally validated enzyme-linked immunosorbent assay (ELISA) methods only. Testing and treatment of *H.* *pylori* is a simple and cheap strategy, but will also affect patients with oesophagitis and NUD, where no effect of the treatment is documented for the benefit of those with peptic ulcer disease, who have been reported to amount to 8–10%. Testing and referral of *H.* *pylori*-positive patients to endoscopy will have the benefit of selecting higher numbers of patients with ulcers and excluding patients with NUD, targeting the treatment to patients in whom an effect is documented. However, the cost effectiveness and efficacy of these strategies need to be confirmed prospectively in the primary care population.

As far as gastric cancer is concerned, *H.* *pylori* is a recognized causative agent and it has been suggested that the
Table 1  Recommendations for handling of patients with gastrointestinal diseases related to possible infection by H. pylori: comparison of four different guidelines

<table>
<thead>
<tr>
<th></th>
<th>Maastricht</th>
<th>AGA</th>
<th>EHPSG</th>
<th>ESPCG</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;45 years, first presentation</td>
<td>Prompt test</td>
<td>Prompt test</td>
<td>Consider test</td>
<td>No action</td>
</tr>
<tr>
<td>&gt;45 years, empirical treatment failure or relapsing symptoms</td>
<td>Prompt test</td>
<td>Prompt endoscopy</td>
<td>NA</td>
<td>Consider test or endoscopy</td>
</tr>
<tr>
<td>&gt;45 years, first presentation</td>
<td>Prompt endoscopy</td>
<td>Prompt endoscopy</td>
<td>Prompt endoscopy</td>
<td>Prompt endoscopy</td>
</tr>
<tr>
<td>&gt;45 years, empirical treatment failure or relapsing symptoms</td>
<td>Prompt endoscopy</td>
<td>Prompt endoscopy</td>
<td>NA</td>
<td>Prompt endoscopy</td>
</tr>
<tr>
<td>Alarm symptoms present</td>
<td>Prompt endoscopy</td>
<td>Prompt endoscopy</td>
<td>Prompt endoscopy</td>
<td>Prompt endoscopy</td>
</tr>
<tr>
<td>History of duodenal ulcer and symptomatic</td>
<td>Prompt therapy</td>
<td>NA</td>
<td>Prompt therapy</td>
<td>Prompt therapy</td>
</tr>
<tr>
<td>History of gastric ulcer and symptomatic</td>
<td>Prompt therapy</td>
<td>NA</td>
<td>Prompt therapy</td>
<td>Prompt testing</td>
</tr>
<tr>
<td>Gastritis</td>
<td>Prompt therapy</td>
<td>NA</td>
<td>Prompt therapy</td>
<td>No action</td>
</tr>
<tr>
<td>Maintenance therapy for peptic ulcer, no symptoms</td>
<td>NA</td>
<td>NA</td>
<td>Prompt therapy</td>
<td>Prompt therapy</td>
</tr>
<tr>
<td>Family history of gastric cancer</td>
<td>Consider therapy</td>
<td>NA</td>
<td>Consider therapy</td>
<td>NA</td>
</tr>
<tr>
<td>Non-ulcer dyspepsia</td>
<td>Consider therapy</td>
<td>NA</td>
<td>Consider therapy</td>
<td>No action</td>
</tr>
<tr>
<td>GORD and maintenance therapy with PPI</td>
<td>Consider therapy</td>
<td>NA</td>
<td>Consider therapy</td>
<td>NA</td>
</tr>
<tr>
<td>Family members H. pylori infected</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>No action</td>
</tr>
<tr>
<td>NSAID treatment to be continued</td>
<td>Consider therapy</td>
<td>NA</td>
<td>Consider therapy</td>
<td>NA</td>
</tr>
<tr>
<td>Patients wish, patient characteristics</td>
<td>Consider therapy</td>
<td>Prompt therapy</td>
<td>Consider testing</td>
<td></td>
</tr>
</tbody>
</table>

AGA, American Gastroenterological Association; EHPSG, European Helicobacter pylori Study Group; ESPCG, European Society for Primary Care Gastroenterology; GORD, gastro-oesophageal reflux disease; NA, not addressed; PPI, proton pump inhibitor.

intervention should be directed towards the infection as such. The Maastricht and the AGA guidelines do not support this attitude, whereas the European Helicobacter pylori Study Group were ‘uncertain’. The ESPCG guidelines do not address this issue. If an intervention to treat the H. pylori infection is to be undertaken, it should be organized more appropriately using a population-based approach, in order to include those 75% of dyspeptic patients who do not consult a GP.

Conclusion

In conclusion, guidelines developed with a primary care perspective differ in fundamental ways from those formulated by specialists. This is particularly evident in their recommendations for when investigations for the purpose of treatment should be undertaken, and in terms of which patient groups should be treated.

References

8 Folkersen BH, Larsen B, Qvist P. General practitioners’ handling of patients with dyspepsia. *Ugeskr Læger* 1997; 159: 3777–3781.


