

## Dyspepsia: A test and treat management strategy

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Dyspepsia defined as pain or discomfort centred in the upper abdomen, is a frequent symptom in the community with a prevalence of 40% over a 6 month period.<sup>1</sup> It accounts for 2-3% of general practice consultations in the United Kingdom. It is a major financial burden on health care systems and accounts for a considerable proportion of over the counter medication consumption. 60% of dyspeptic patients are estimated to self-treat in this way.<sup>2</sup> It is also responsible for a substantial proportion of workdays lost, specialist referral and a reduction in overall quality of life.<sup>3</sup> Dyspepsia may result from a variety of gastroduodenal pathologies. The contribution of *Helicobacter pylori* (*H. pylori*) infection to the development of dyspepsia has been studied. Rosenstock et al have reported that being *H. pylori* positive irrespective of underlying pathology infers a significant risk of developing dyspepsia, with an estimated one year prevalence of 13%.<sup>4</sup> This study along with previous work by Parsonnet et al promotes the hypothesis that *H. pylori* infection precedes and is casually associated with the onset of dyspepsia.<sup>5</sup> Data available from a recent review of an open access endoscopy service reported that in those under 45 yrs presenting with dyspepsia, 32% had gastro oesophageal reflux disease and carcinoma, 24% peptic ulcer disease, 39% non-ulcer dyspepsia and 5% other.<sup>6</sup> *H. pylori* infection accounts for 90% of duodenal and 70% of gastric ulcers and is associated with non-ulcer dyspepsia. NUD is a diagnosis to describe patients who have epigastric symptoms for more than three months and who have no structural lesions at endoscopy. Thus of the likely underlying diagnoses in patients with dyspepsia, *H. pylori* infection can be associated with disease development in the majority of cases. The management of dyspepsia must therefore include strategies, which address the issue of *H. pylori* infection.

### MANAGEMENT OF DYSPEPSIA

The standard management, on first presentation, depended on addressing life style issues and employing a therapeutic trial of H<sub>2</sub> receptor antagonists. Although the rationale for this approach is not evidence based. There is data indicating that greater gastric acid suppression is of benefit to some patients,<sup>7</sup> in particular for those who had a negative endoscopy. Empiric therapy has been previously proposed by several groups for the initial management of dyspepsia.<sup>8</sup>

There is data to support prompt endoscopy as being more effective than empiric treatment. In one report patients who underwent early endoscopy benefited from positive reassurance which resulted in less time from work, a reduced need for medication and overall symptom improvement.<sup>9</sup> This study was performed without reference to *H. pylori* status. Consultation practices vary from country to country and indeed in some countries patients refer themselves to a specialist and in this context they are more likely to be investigated. Availability of open access endoscopy also varies on a geographical basis. As such the use of early endoscopy rather than empiric therapy in patients with dyspepsia varies regionally.

The development of effective and affordable non-invasive diagnostic techniques, Radio labelled C13 Urea Breath Test (UBT), serology and more recently stool tests has led to the development of new approaches to dyspepsia management.<sup>10</sup> Firstly *H. pylori* infection may be diagnosed in a community setting and as such negates the need for referral and enables primary care practitioners to employ eradication therapy as a first line treatment.

Strategies which have been proposed for dyspepsia management include screening non-invasively for *H. pylori* status and subsequently performing endoscopy on patients who are positive, i.e. to test and scope, thus establishing a firm diagnosis and treating as appropriate.

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This protocol results in a reduced endoscopy workload of about 37%.<sup>11,12</sup> The corollary is also true, where those who are positive undergo empiric eradication therapy and negative patients are referred for investigation.<sup>13</sup> Factors dictating success of the latter strategy depend on the prevalence of peptic ulcer in the population and the percentage of *H. pylori* infected non-ulcer dyspeptics who respond to eradication therapy.<sup>14</sup> As a result of the reduction in the number of endoscopies being performed, a substantial gain is possible, over a number of years.<sup>15,16</sup>

## EUROPEAN GUIDELINES

The recently published Maastrich Guidelines recommended non-invasive testing of patients under the age of 45 years without alarm symptoms at first presentation and the treatment of patients who test positive with eradication therapy.<sup>19</sup> The eradication therapy should have greater than 80% efficiency on intention to treat in clinical trials. The most cost-effective treatment is the most efficacious treatment even though current recommended one-week triple-therapy regimens are expensive. Treatment failure incurs additional cost as these patients need further investigation and retreatment. Empiric treatment is suggested for those who are *H. pylori* negative. Both Canadian and American guidelines have been subsequently published and on the whole suggest a test and treat strategy, all be it on a case by case basis.<sup>17,18</sup>

A test and treat policy will include all patients with peptic ulceration but will also include patients with non-ulcer dyspepsia. The prevalence of peptic ulceration varies from 10-30%.<sup>20</sup> The argument against a test and treat policy is that patients without PUD, for whom the benefits from eradication remain to be clearly established, are exposed to possible side effects of treatment regimens and to the development of antibiotic resistant strains. However, such prescribing practices are not uncommon in general practice, where antibiotics are used in many situations without confirmation of actual bacterial infection. In addition, current medical practices promote the use of therapeutic agents for disease prevention. Thousands of individuals are treated with antihypertensives and lipid lowering agents to prevent a small number of cardiovascular events. As such the employment of eradication therapy following establishment of infection with proven benefit to at least a subset of subjects appears less of a risk and indeed some what conservative. The current situation is less than ideal. A recent study into prescribing patterns in general practice revealed that only 30% of documented cases of *H. pylori* related PUD re-

ceived eradication therapy while it was used inappropriately in up to 10% of cases.<sup>21</sup> Although opinion is currently divided about the efficiency of treating patients with non-ulcer dyspepsia and with documented *H. pylori*, there is strong supportive evidence from several trials that at least a subset of patients benefit in the long term from eradication.<sup>22-26</sup> An economic analysis determined that if only 10% of patients with non-ulcer dyspepsia responds to eradication therapy, it is cost effective.

Asymptomatic infection with *H. pylori* has been shown to be associated with a wide range of gastroduodenal pathology.<sup>27</sup> In one study which involved a five year follow-up it was shown that individuals with positive serology were more inclined than controls to become dyspeptic and indeed to develop peptic ulcer.<sup>4</sup> There is as yet no evidence to support screening of large asymptomatic population groups. However, dyspeptic patients with *H. pylori*, when compared to asymptomatic individuals with positive serology, were more likely on investigation to have significant pathology.<sup>20</sup> Thus another potential benefit in testing and treating is the prevention of subsequent peptic ulcer development and of possible long term sequelae of *H. pylori* infection, namely gastric carcinoma.

## CONCLUSION

The acceptability and availability of effective non-invasive *H. pylori* diagnostic tests makes this management strategy for patients with dyspepsia more appealing. Radiolabelled C13 UBT is the gold standard non-invasive test for *H. pylori* assessment with sensitivity and specificity in excess of 90%.<sup>28</sup> It is also a rapid and effective means of confirming success of eradication. Serological tests when validated locally reach comparable efficacy levels. To test and treat is a safe, acceptable efficacious and cost effective management strategy. It has been promoted by the European Maastricht consensus report and is applicable to most general practice situations. Ideally the employment of the strategy should be universal to establish both a significant financial and public health gain.

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