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Survey of Dyspepsia Management in Community

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ABSTRACT

Introduction: Dyspepsia is a common complaint and represents an important health problem in the community. The aim of the study was to survey the diagnostic approach and management of dyspepsia and Helicobacter pylori (H. pylori) infection by primary care physicians.

Methods: Questionnaires were given to 70 medical officers (MO) working in government polyclinics and 70 general practitioners (GP) in private practice.

Results: Questionnaires were returned from 68 MO's (response rate 97%) and 61 GP's (response rate 87%). Only 20% of MO and 50% of GP prescribed H. pylori eradication therapy. Of those who have prescribed eradication therapy, 70% would confirm H. pylori infection before therapy (50% for gastroscopy, 19% for Urea Breath test, 25% for laboratory based serology, 6% for office based serology test kits). 85% would prescribe triple therapy against 15% for dual therapy. Proton pump inhibitor (PPI) is the acid suppression agent most commonly prescribed (77%) in regimens of eradication therapy; the remaining would prescribe either bismuth subcitrate or H2 antagonists. Only 8% of respondents would confirm eradication after therapy.

Conclusion: Less than half of the primary care physicians surveyed prescribed H. pylori eradication therapy. The main reason given for not prescribing therapy was lack of facility for testing the infection. Of those who prescribed eradication therapy, majority would order the correct and reliable investigations to confirm the infection. Most of them would prescribe triple therapy which is the recommended eradication regimens.

Keywords: Dyspepsia, Helicobacter pylori

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INTRODUCTION

Dyspepsia is a common complaint in the community. The prevalence of dyspepsia in the community ranges from 26 percent in the United States to 41 percent in England[1,2]. Our local surveys in a group of healthy volunteers reported prevalence of 38% (unpublished data). Although only 25% of individuals with dyspeptic symptoms seek medical attention[2], dyspepsia nevertheless accounted for 4% of general practitioner consultations and for between 20 and 40% of all gastrointestinal consultations with general practitioners[2].

Only 10% of patients attending their primary care physicians with dyspepsia will be referred for hospital consultation or investigations; the majority of patients will be managed at the primary care level[2]. It would not be desirable nor practicable to universally refer all patients with dyspepsia for hospital consultation. The aim of the study was to survey the management of dyspepsia by our primary care physicians particularly with regard to the aspect of *Helicobacter pylori (H. pylori)* infection. Literature review of the advantages and disadvantages of different management strategies for young patients with uninvestigated dyspepsia is discussed.

METHODS

The study was performed amongst primary care physicians in Singapore using self-administered questionnaire between September 1998 to December 1998. Questions with multiple choice answers were designed to test the respondents' knowledge and practice with regards to methods of investigation, indications for therapy and therapeutic regimes for *H. pylori* infection. Two case scenarios of a young and middle-aged dyspeptic patients were illustrated with questions and choices of answers on different management pathways. 70 questionnaires were given to medical officers (MO) working in government polyclinics during two teaching sessions; 70 questionnaire were sent to and returned from general practitioners (GP) in private practice through the post.

RESULTS

Questionnaires were returned from 68 MO's (response rate 97%) and 61 GP's (response rate (87%). The median age of MO's was 31.2 years and of the GP's was 40.6 years. Only 14 of the MO (20%) and 30 of the GP's

Table I. Response rates of the MO and GP.

Questions	Respondents (% in the group)
1. Confirm infection before eradication	
Yes	31 (70)
No	13 (30)
2. Choice of testing	
a. Urea Breath test	6 (19)
b. Office based test kit	2 (6)
c. Whole blood serology	8 (25)
d. Refer to specialists	15 (50)
3. Therapeutic regime	
a. Dual	7 (15)
b. Triple	37 (85)
4. Duration of therapy (for triple)	
a. One week	30 (81)
b. Two weeks	7 (19)
5. Choice of acid suppression agents	
a. Low dose PPI*	12 (27)
b. High dose PPI*	22 (50)
c. Ranitidine	5 (11)
d. Ranitidine bismuth citrate	4 (8)
e. Bismuth compounds	1 (4)
6. Choice of antibiotics (triple therapy)	
a. Imidazole based regimes	11 (30)
b. Clarithromycin based regimes	15 (40)
c. Imidazole+Clarithromycin	11 (30)
7. Investigations to confirm eradication	
a. Yes	4 (8)
b. No	40 (92)
8. Choice of investigations after therapy	
a. Urea Breath test	2 (50)
b. Office based test kit	1 (25)
c. Whole blood serology	1 (25)
d. Refer to specialists	0

*Low dose PPI (proton pump inhibitor) is equivalent to omeprazole 20mg OM or lansoprazole 30mg OM. High dose PPI is equivalent to omeprazole 20mg BD or lansoprazole 30mg BD.

Table II. Response to case illustrations.

Illustrations	Number of respondents (% in the group)
A young dyspeptic patient symptoms without warning symptoms.	
1. First line of management	
a. Empirical antacids	90 (70)
b. Empirical H2 antagonist	29 (22)
c. Empirical PPI	0 (0)
d. Refer to specialist	5 (4)
e. Start investigation	5 (4)
2. Choice of investigations	
a. Barium meal	4 (80)
b. Office based H. pylori serology	1 (20)
c. Whole serum H. pylori serology	0 (0)
3. Duodenal ulcer on barium meal	
a. H2 antagonist	32 (25)
b. PPI	1 (1)
c. Empirical H. pylori eradication	15 (12)
d. Treat for H. pylori if positive	26 (20)
e. Refer to specialists	55 (42)
A middle aged dyspeptic gentleman on NSAID's.	
1. First line of management	
a. Stop NSAID's	17 (13)
b. Stop NSAID's + acid suppression	39 (30)
c. Barium meal	49 (38)
d. Refer to specialists	49 (19)
2. Gastric ulcer shown on barium meal	
a. Refer to specialist	119 (92)
b. Prescribe acid suppression agents	10 (8)

(50%) prescribed *H. pylori* eradication therapy in their practice. Lack of facility for testing the infection was the main reason given for starting therapy (80%). Other reasons given were uncertainty of therapeutic regime and benefits of eradication.

Of those who prescribed eradication therapy (44 respondents), 70% would confirm *H. pylori* infection before therapy. Methods of testing chosen were: 50% for gastroscopy, 19% for Urea Breath test, 25% for laboratory based serology and 6% for office based serology test kits (Table I). On the choice of therapy, 85% would prescribe one week triple therapy against 15% for dual therapy. Proton pump inhibitor (PPI) is the acid suppression agent most commonly prescribed (77%) in regimens of eradication therapy; the remaining would prescribe either bismuth subcitrate or H_2 antagonists. Majority of respondents would prescribe high dose PPI as part of their triple therapy (Omeprazole 20 mg BD or Lansoprazole 30mg BD). The choice of antibiotics is equally distributed for the imidazole based, clarithromycin based or combination of both antibiotics. Only 8% of respondents would confirm eradication after therapy by further testing.

On the first case scenario of a young patient with a short history of uninvestigated dyspepsia and absence of warning symptoms, over 90% of respondents would prescribe empirical therapy for symptomatic control (Table II). Antacid was the most common first line agent chosen (70%) and this was followed by H_2 antagonists. None of our respondents would prescribe PPI as the first line therapy for uninvestigated patient with dyspepsia. Only 4% of respondents would refer the patient for hospital consultation. Another 4% would start investigating the patient with barium meal. In the situation of barium meal showing duodenal ulcers, only 12% of respondents would go on to prescribe *H. pylori* therapy; majority (55%) would still refer the patient for hospital consultation.

On the second case of a middle-aged gentleman with history of being on nonsteroidal anti-inflammatory drugs (NSAID's), only 20% of respondents would refer the patient for gastroscopy. This response increased to 90% if the barium meal showed gastric ulcer; the

rest of respondents would continue to prescribe acid suppression agents.

DISCUSSION

This survey showed that less than half of our primary care physicians prescribed *H. pylori* eradication therapy. The main reason given for hesitancy in starting therapy was lack of facility for confirming the infection. This is perhaps not surprising as most methods of testing, be it invasive or non-invasive, are still very much hospital-based. In patients with uninvestigated dyspepsia, there should be documentation of infection before therapy in view of the possible side effects and associated medico-legal implications.

If the diagnosis of *H. pylori* infection is to start at the primary care physician level, then non-invasive tests will become increasingly important. Rapid office-based serology test has the advantages of being cheap and can be carried out in the doctor's office using patients' whole blood obtained by finger puncture. It has been found not to be sensitive locally[3]. Reassuringly, only 6% of our primary care physicians used this method. Patients' serum can be sent to local laboratories for antibodies to be detected serologically by either enzyme-linked immunosorbent assay or latex agglutination. It is a more sensitive and specific test than rapid office-based tests. It is a useful test to follow patients after eradication therapy as fall of antibody titre of more than 50% from baseline at six months is indicative of successful eradication[4].

Urea breath tests (UBT) is a highly reliable test with sensitivity and specificity close to 100% for pre- and post-treatment[4]. It should not be performed on a patient within four weeks of taking antibiotics, bismuth compounds and PPI as these agents cause false negative results. Other non-invasive tests under investigations are detection of antibody in saliva and immunoassay of *H. pylori* antigens in stool[5] but both methods need further validation.

On the therapeutic regimens, our respondents generally showed good knowledge with regard to the duration and choice of drugs used in triple therapy. Only 15% of our respondents would prescribe dual therapy. Dual therapy combining PPI with either amoxycillin or clarithromycin is now considered to be obsolete due to lack of efficacy[3,6,7]. Of those who prescribe triple therapy, 80% chose one-week duration of treatment. Most combinations of triple therapy based on bismuth compounds or PPI with two antibiotics for one week duration have been found to achieve good eradication rates of over 80%[6,7], However, bismuth based triple therapy has been surpassed by one week triple regimens using PPI with two antibiotics due to better side effects profile. The eradication rates of the different PPI's (omeprazole, lansoprazole and pantoprazole) are not significantly different[8], All the major guidelines recommend PPI-based triple therapy as first line in combination with two antibiotics[6,7]. Higher dose of PPI i.e. omeprazole 20mg or lansoprazole 30mg at twice daily dosing is recommended due to better results. We recently showed that the combinations of omeprazole, tinidazole and clarithromycin achieved eradication rates of nearly 90%[9].

With the high efficacy of most triple therapy regimen, some experts advocates that checking for treatment success is unnecessary unless symptoms fail to resolve. Symptom resolution has been demonstrated to be a powerful predictor of successful eradication[10]. For patients with uncomplicated peptic ulcer disease, we agree that post-treatment test may not be required especially if symptoms resolves after treatment. We would however recommend that eradication of *H. pylori* be confirmed in patients with complicated peptic ulcer disease (e.g. bleeding) and MALT Iymphoma. UBT is most sensitive for assessing eradication if repeat endoscopy is not required. It should be performed at least 4 weeks after the completion of therapy. Serology pre- and 6 months post-treatment may be a less expensive alternative but may be the ideal test for primary care physicians[4].

As close to 95% of duodenal ulcers are associated with *H. pylori*[11], most experts would agree that it would be reasonable to start eradication therapy without further confirmation of the infection. In the second case of a middle-aged man with dyspepsia, only 20% of respondents would refer the patient for endoscopy. In the major guidelines[6,7] produced so far, age is one the main criteria for further investigations and the guideline from Ministry of Health has adopted the cut-off at 35 years old due to early onset of gastric cancer in this region. Clinical presentation with alarm symptoms[6] and possibly fear of serious disease[12] are other criteria for referral.

In conclusion, this study showed that less than 50% of the primary care physicians surveyed prescribed *H. pylori* eradication therapy. The main reason for hesitancy in prescribing is the lack of facility for testing the infection. Of those who have prescribed eradication therapy, majority would prescribe the regime recommended by the major guidelines. Serological tests and UBT are currently the ideal investigations and need to become more accessible if the diagnosis of *H. pylori* is to start at the primary care level especially for young patients with uninvestigated dyspepsia. However, the Asia Pacific Consensus[7] does not encourage 'test and treat' approach in areas with high incidence of gastric cancer due to the association of *H. pylori* with gastric malignancy. The guideline proposes

the 'test and investigate' approach i.e. referring *H. pylori* infected patients for further investigations such as gastroscopy. Screening for H. pylori infection in young patients with uninvestigated dyspepsia helps primary care physicians to select infected patients who should be referred further for endoscopy and non infected patients who can be treated empirically with acid suppressing agents or antacids. However, the risks and benefits of this approach will need to be defined by prospective trials in our local setting.

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The questionnaire can be obtained directly from the authors.