PO Box 2345, Beijing 100023, China
www.wjgnet.com
wjg@wjgnet.com

World J Gastroenterol 2006 January 7; 12(1): 66-69
World Journal of Gastroenterology ISSN 1007-9327
© 2006 The WJG Press . All rights reserved.

Helicobacter pylori

Discrepancies between primary physician practice and treatment guidelines for *Helicobacter pylori* infection in Korea

Byeong Gwan Kim, Ji Won Kim, Ji Bong Jeong, Young Jin Jung, Kook Lae Lee, Young Soo Park, Jin Huk Hwang, Jin Uk Kim, Na Young Kim, Dong Ho Lee, Hyun Chae Jung, In Sung Song

Byeong Gwan Kim, Ji Won Kim, Ji Bong Jeong, Young Jin Jung, Kook Lae Lee, Seoul National University Boramae Hospital; Department of Internal Medicine, Seoul National University College of Medicine, Seoul, Korea
Young Soo Park, Jin Huk Hwang, Jin Uk Kim, Na Young Kim, Dong Ho Lee, Seoul National University Bundang Hospital; Seoul National University College of Medicine, Seoul, Korea
Hyun Chae Jung, In Sung Song, Seoul National University College of Medicine, Seoul, Korea
Correspondence to: Dr Dong Ho Lee, MD, Seoul National University Bundang Hospital; Department of Internal Medicine, Seoul National University College of Medicine, 300 Gumi-dong, Bundang-gu, 463-707 Seoul, Korea. dhljohn@snubh.org
Telephone: +82-31-787-7006 Fax: +82-31-787-4051
Received: 2005-06-08 Accepted: 2005-07-17

Abstract

AIM: To evaluate the attitude of primary care physicians in the diagnosis and treatment of *Helicobacter pylori (H pylori)* infection.

METHODS: Primary care physicians in the Seoul metropolitan area answered self-administered questionnaire from January to March 2003.

RESULTS: One hundred and eight doctors responded to the questionnaire. The most frequent reasons for testing *H pylori* infection were gastric and duodenal ulcers (93.5% and 88.9%, respectively). For patients with *H pylori* positive dyspepsia, 28.7% of doctors always tried to eradicate the worm and 34.4% treated selectively. A large proportion (28.7%) of primary care physicians treated *H pylori* on a patient's request basis. Only 9.3% of primary care physicians always conducted follow-up testing after treating *H pylori* infection. When *H pylori* was not cleared by the first treatment, 40.7% of doctors reused the same regimen, 16.7% changed to another triple regimen and 25% to a quadruple regimen.

CONCLUSION: It has been well documented that the issuance of guidelines alone has little impact on practice. Communication between primary care physicians and gastroenterologists in the form of continuous medical education is required.

© 2006 The WJG Press. All rights reserved.

Key words: *Helicobacter pylori*; Guidelines; Primary care

Kim BG, Kim JW, Jeong JB, Jung YJ, Lee KL, Park YS, Hwang JH, Kim JU, Kim NY, Lee DH, Jung HC, Song IS. Discrepancies between primary physician practice and treatment guidelines for *Helicobacter pylori* infection in Korea. *World J Gastroenterol* 2006; 12(1): 66-69

http://www.wjgnet.com/1007-9327/12/66.asp

INTRODUCTION

It is now accepted that infection of the gastric mucosa with *Helicobacter pylori* (*H pylori*) causes chronic gastritis. More than 90% of peptic ulcer patients are infected with *H pylori* and it has been shown that successful treatment prevents ulcer relapse[1-3]. National and international guidelines have been published on the management of *H pylori*, and it is tacitly assumed that these guidelines are adhered to in clinical practice[4-7]. But, there seems to be a discrepancy between current testing and treatment guidelines and clinical practice[8,9]. In particular, the approaches used in primary practice may differ markedly from those used in referral hospitals[10-13]. Patients commonly visit both primary care physicians and gastroenterologists because of upper gastrointestinal symptoms. Variable *H pylori* detection methods, including serologic assays and the urea breath test, are currently used. Although most physicians do not believe that *H pylori* causes non-ulcer dyspepsia, the majority often prescribe antibiotics for *H pylori* eradication. The extent to which research findings regarding *H pylori* have modified physicians' practice in general has not been well studied. We conducted the present study to determine whether current guidelines regarding *H pylori* infection have influenced diagnostic and therapeutic primary care practice.

MATERIALS AND METHODS

From January to March 2003, we conducted an observational, transverse study by using a self-administered questionnaire. Primary care physicians in the metropolitan area of Seoul were random-ly select-ed from the membership database of the Seoul Medical Association. Questionnaires were distributed by post, and non-respondents were sent reminders and then contacted by telephone. One hundred and thirty-five doctors participated in the study.

Table 1 Korean guidelines for *H pylori* treatment (Korean *H pylori* Study Group, 1998)

Indication for *H pylori* eradication	Peptic ulcer Regardless of the stage of ulcer Low-grade MALT associated lymphoma Stage IE1 After endoscopic mucosal resection (EMR) of early gastric cancer (EGC)
Recommended first line therapy	PPI-based triple therapy for 1-2 wk - PPI (omeprazole 20 mg or lansoprazole 30 mg or pantoprazole 40 mg) b.i.d. - Amoxicillin (not ampicillin) 1 000 mg b.i.d. - Clarithromycin (or metronidazole) 500 mg b.i.d.
Follow-up after eradication therapy	Urea breath test: test of choice, if available Or both biopsy urease test and histology At least 4 wk after completion of therapy Serology: not useful to confirm the eradication
Recommended second-line therapy	Quadruple therapy for 1 wk (PPI+conventional bismuth-based triple therapy) - PPI (omeprazole 20 mg or lansoprazole 30 mg or pantoprazole 40 mg) b.i.d. - Denol 120 mg b.i.d. - Metronidazole 400-500 mg t.i.d. - Tetracycline 500 mg q.i.d.

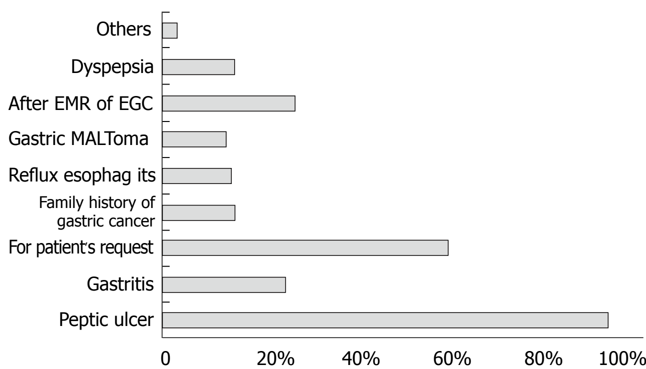

Figure 1 When do you test for *H pylori*?

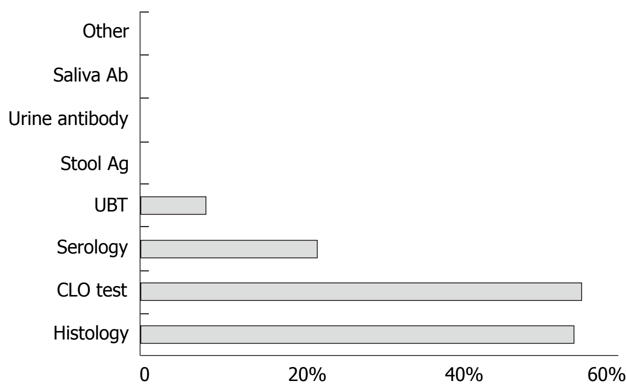

Figure 2 Which test do you prefer?

RESULTS

One hundred and eight doctors (80%) responded to the survey. We itemized below the physicians' responses to the questions given in the questionnaire.

When do you test for H pylori?

Primary care physicians widely used the *H pylori* test in cases of gastric ulcer and duodenal ulcer (88.9% and 93.5%, respectively, Figure 1). But they conducted tests for *H pylori* only in 26.9% and 13% of patients, after surgery for early gastric cancer or Maltoma (Figure 1). Frequently physicians tested for *H pylori* in cases of gastritis and due to a patient's request (25.0% and 58.3%, respectively, Figure 1).

Which test do you prefer?

More than half of the primary care physicians stated that they used the rapid urease test and biopsy, (55.6% and 54.6%, respectively, Figure 2), and a minority used the urea breath test and serology (8.3% and 22.2%, respectively, Figure 2).

How do you eradicate H pylori infection?

An 88% of physicians responded that they prescribed a proton pump inhibitor (PPI)-based triple regimen according to Korean guidelines (Table 1, Figure 3), and only small numbers were found to prescribed dual and quadruple regimens (2.8% and 2.8%, respectively, Figure 3).

How long do you treat H pylori infection?

The majority of physicians responded that they prescribe medication for 7,14 d (90.7%), according to Korean guidelines (Figure 4). A small number responded that they prescribed for less than 7, 21 or 28 d, accounting for 4.6%, 1.9%, 2.8%, respectively (Figure 4).

Do you perform follow-up testing after treating H pylori infection?

Only 9.3% replied that they always conducted follow-up testing after treating *H pylori* infection (Figure 5). The majority of primary care physicians stated that they selectively apply follow-up tests (Figure 5).

What kind of method do you prefer as follow-up test?

The majority percent of physicians stated that they used the rapid urease test or biopsy, accounting for 35.2% and 25.9%, respectively (Figure 6), while a minority favored urea breath testing or serology, accounting for 21.3% and 6.5%, respectively (Figure 6).

Treatment plan after failure to eradicate H pylori

Surprisingly, a large proportion (40.7%) of primary care physicians prescribed the original regimen after failure to eradicate *H pylori* (Figure 7). Only 25.0% physicians

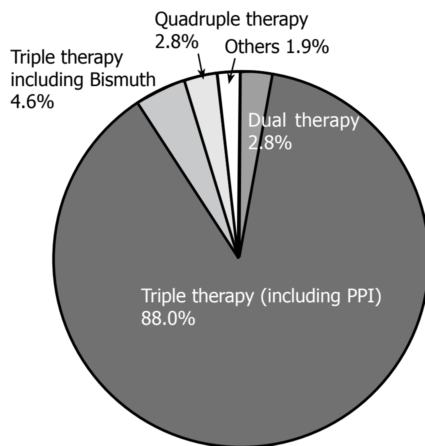

Figure 3 How do you eradicate *H pylori* infection?

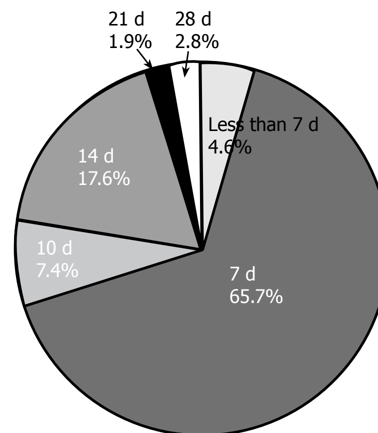

Figure 4 How long do you treat *H pylori* infection?

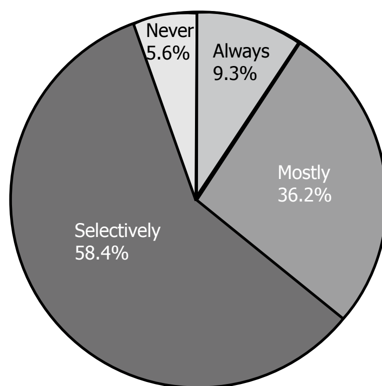

Figure 5 Do you perform follow-up testing after treating *H pylori* infection?

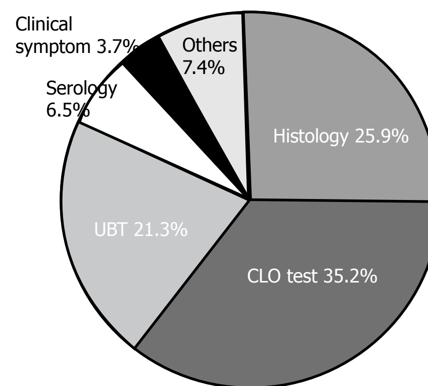

Figure 6 What kind of method do you prefer as follow-up test?

prescribed regimens complying with Korean guidelines (Figure 7).

Do you treat H pylori infection in dyspepsia patients without peptic ulcer?

Physicians (31.5%) responded that they always eradicate H pylori (Figure 8), while 10.2% treated *H pylori* on patient's request without testing (Figure 8).

Do you medicate for H pylori eradication by patient's request?

A large number (28.7%) of physicians responded positively (Figure 9).

DISCUSSION

The prevalence of *H pylori* among Korean adults is 60%-80%[14], and gastric cancer remains the most common malignancy in Korea[15]. Most Korean primary care physicians are interested in *H pylori*, and more frequently prescribe medication for the treatment of *H pylori* than gastroenterologist. The indications for *H pylori* eradication in Korea (Korean *H pylori* Study Group, 1998) are peptic ulcer, low-grade MALT-associated lymphoma, and post-endoscopic mucosal resection of early gastric cancer (Table 1). The recommended first-line therapy in Korea is the PPI-based triple therapy for 1 to 2 weeks. PPI would be the omeprazole, lansoprazole, or pantoprazole (Table 1). The treatment of choice in terms of antibiotics is the amoxicillin+clarithromycin (Table 1). The recommended second-line therapy according to the Korean guidelines is quadruple therapy for a week (Table 1), based on PPI, Denol, metronidazole, and tetracycline (Table 1). The issued Korean guidelines are similar to those issued by the Asia Pacific Consensus Conference on the management of *H pylori* infection[6]. The survey conducted for the present study involved mailing a questionnaire to primary physicians in Seoul, Korea. The questions primarily addressed physician decisions concerning the evaluation and treatment of *H pylori* infection in patients with gastroenterologic disease. Alternative treatment regimens were also examined. The survey results indicate that primary care physicians widely adopt *H pylori* testing in cases of gastric ulcer and duodenal ulcer according to Korean guidelines. However, physicians only conduct *H pylori* testing in 26.9% and 13.0% of postoperative early gastric cancer and Maltoma patients. In addition, they frequently test for *H pylori* in cases of gastritis and due to a patient's request, accounting for 25.0% and 58.3%, respectively, but many do not perform follow-up testing after *H pylori* treatment. Only 9.3% of primary care physicians always conduct follow-up testing after *H pylori* treatment. The majority of primary care physicians prefer the rapid urease test

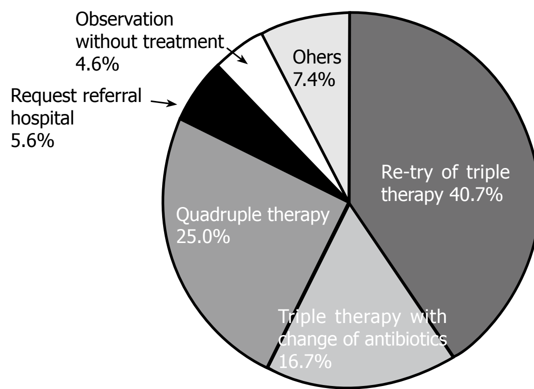

Figure 7 Treatment plan after failure to eradicate *H pylori*.

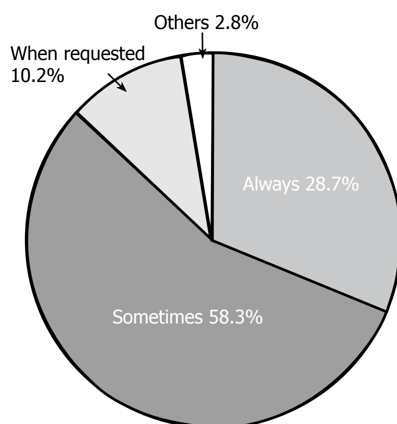

Figure 8 Do you treat *H pylori* infection in dyspepsia patients without peptic ulcer?

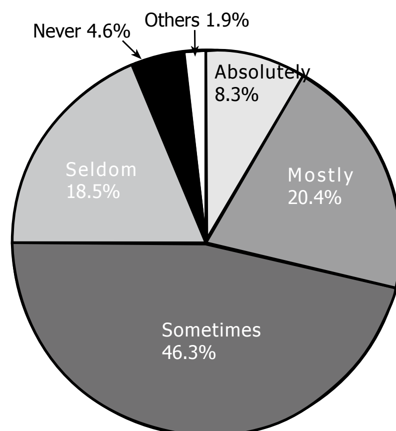

Figure 9 Do you medicate for *H pylori* eradication by patient's request?

or biopsy, accounting for 35.2%, 25.9%, respectively, as follow-up tests, because generally in Korea primary care physicians have an endoscopic unit, but not urea breath test equipment; 6.5% physicians use a serology-based follow-up test. Only 25.0% prescribe a quadruple regimen as second line therapy, contrary to the Korean guidelines and a large number (40.7%) of physicians prescribe the same regimen after failing to eradicate *H pylori*. In addition, they frequently treat *H pylori* in cases of non-ulcer dyspepsia and patient's request. This finding is at odds with the current guideline and primary care practice for the diagnosis and treatment of *H pylori* infetion in Korea. Moreover, the finding of the present study compare well with data published in other countries[10-13]. Thus, the issuance of guidelines has little impact on practice. Our findings suggest that communication programs, such as continuous medical education, between primary care physicians and gastroenterologists are needed. Moreover, schemes designed to ensure guideline implementation should be preceded by a detailed analysis of likely primary care physician response.

REFERENCES

1 **Marshall BJ**. Helicobacter pylori. *Am J Gastroenterol* 1994; **89**: S116-S128
2 **Rauws EA**, Tytgat GN. Cure of duodenal ulcer associated with eradication of Helicobacter pylori. *Lancet* 1990; **335**: 1233-1235
3 **Graham DY**, Lew GM, Klein PD, Evans DG, Evans DJ, Saeed ZA, Malaty HM. Effect of treatment of Helicobacter pylori infection on the long-term recurrence of gastric or duodenal ulcer. A randomized, controlled study. *Ann Intern Med* 1992; **116**: 705-708
4 Current European concepts in the management of Helicobacter pylori infection. The Maastricht Consensus Report. European Helicobacter Pylori Study Group. *Gut* 1997; **41**: 8-13
5 American Gastroenterological Association medical position statement: evaluation of dyspepsia. *Gastroenterology* 1998; **114**: 579-581
6 **Lam SK**, Talley NJ. Report of the 1997 Asia Pacific Consensus Conference on the management of Helicobacter pylori infection. *J Gastroenterol Hepatol* 1998; **13**: 1-12
7 **Peterson WL**, Fendrick AM, Cave DR, Peura DA, Garabedian-Ruffalo SM, Laine L. Helicobacter pylori-related disease: guidelines for testing and treatment. *Arch Intern Med* 2000; **160**: 1285-1291
8 **Sharma VK**, Howden CW. A national survey of primary care physicians' perceptions and practices related to Helicobacter pylori infection. *J Clin Gastroenterol* 2004; **38**: 326-331
9 **Huang J**, Lam SK, Malfertheiner P, Hunt RH. Has education about Helicobacter pylori infection been effective? Worldwide survey of primary care physicians. *J Gastroenterol Hepatol* 2003; **18**: 512-520
10 **Provenzale D**, Ofman J, Gralnek I, Rabeneck L, Koff R, McCrory D. Gastroenterologist specialist care and care provided by generalists--an evaluation of effectiveness and efficiency. *Am J Gastroenterol* 2003; **98**: 21-28
11 **Cardin F**, Zorzi M, Furlanetto A, Guerra C, Bandini F, Polito D, Bano F, Grion AM, Toffanin R. Are dyspepsia management guidelines coherent with primary care practice? *Scand J Gastroenterol* 2002; **37**: 1269-1275
12 **Martínez-Sánchez G**, Saperas E, Benavent J, Mearin F, Piñol JL, Barenys M, Mascort JJ, Forné M, Bordas JM, Azagra R, Piqué JM. [The attitude of primary health care physicians in the metropolitan area of Barcelona about the diagnosis and treatment of Helicobacter pylori infection in gastroduodenal diseases]. *Gastroenterol Hepatol* 1998; **21**: 473-478
13 **Breuer T**, Goodman KJ, Malaty HM, Sudhop T, Graham DY. How do clinicians practicing in the U.S. manage Helicobacter pylori-related gastrointestinal diseases? A comparison of primary care and specialist physicians. *Am J Gastroenterol* 1998; **93**: 553-561
14 **Kim JH**, Kim HY, Kim NY, Kim SW, Kim JG, Kim JJ, Roe IH, Seo JK, Sim JG, Ahn H, Yoon BC, Lee SW, Lee YC, Chung IS, Jung HY, Hong WS, Choi KW. Seroepidemiological study of Helicobacter pylori infection in asymptomatic people in South Korea. *J Gastroenterol Hepatol* 2001; **16**: 969-975
15 **Bae JM**, Jung KW, Won YJ. Estimation of cancer deaths in Korea for the upcoming years. *J Korean Med Sci* 2002; **17**: 611-615

S- Editor Wang XL and Guo SY **L- Editor** Elsevier HK **E- Editor** Wu M and Li HY