ABSTRACTS

First National Workshop on
Helicobacter pylori: The Indian Scenario
(under the auspices of the Indian Society of Gastroenterology)
Mumbai, February 22 and 23, 1997


Introduction: Abdominal pain and biliary vomiting are the major symptoms of alkaline reflux gastritis. Gastric erythema is a common endoscopic finding; histologically, superficial gastritis and atrophic gastritis have been described. Bile salts and bacterial degradation products have been implicated in the symptoms. Aims: To determine the prevalence of H. pylori infection in patients operated on for peptic ulcer disease, who have endoscopic evidence of alkaline reflux gastritis. Methods: All patients who had undergone surgery for peptic ulcer and presented with symptoms suggestive of bile reflux gastritis underwent upper GI endoscopy. Antral biopsies were taken for the rapid urease test. Results: Of the 50 patients tested (46 men; aged 14 - 70 y, mean 44), 13 of 33 who had undergone gastrojejunostomy and 16 of 17 who had undergone pyloroplasty were positive for H. pylori.

A2. Sensitivity and specificity of two rapid urease tests with respect to histology for detection of Helicobacter pylori infection. Anita Kamath, Preeta R Mehta, Satish G Kulkarni, Sundeed S Shah, TK Joseph, Ila M Vora, Pankaj S Dhawan, Shobha J Bhutia. Departments of Microbiology, Gastroenterology and Pathology, BYL Nair Hospital, Mumbai 400 008.

Aims: We used an in-house rapid urease test (RUT) and a commercially available RUT (Helicocheck®) and compared their results for detection of Helicobacter pylori, using histology as gold-standard. Methods: We prospectively studied 59 patients (30 men; aged 18-50 y) undergoing endoscopy for dyspepsia. Three antral biopsies (1 each for Helicocheck, in-house RUT, and histology) were taken for detection of H. pylori. For histology, biopsies were stained with hematoxylin and eosin, and Gimenez stain. In-house RUT was freshly prepared daily. RUT was considered positive if the color change occurred within 24 hours, and the time for conversion was noted. Results: Endoscopy was normal in 11 patients, and showed gastritis (19), reflux esophagitis (4) and peptic ulcer (5) in others. H. pylori was detected on histology in 31 patients; in-house RUT was positive in 22 and Helicocheck in 16. The RUT was falsely positive in one patient with gastric atrophy. The sensitivity of in-house RUT was 77% and of Helicocheck, 68.1%, the specificities were 99% and 100%, respectively. The mean (SD) time for positive reaction with in-house RUT was 3.1 (3.4) h and that for Helicocheck was 2.4 (2.6) h (p=ns). None of the six patients with positive reaction on in-house RUT after 7 hours gave a positive reaction on Helicocheck in spite of positive histology. The cost of Helicocheck is Rs 65/- and that of the in-house RUT, Rs 1/- per test. Conclusions: Our in-house RUT is sensitive and cheap, and is more sensitive than the commercially available Helicocheck.

A3. Helicobacter pylori eradication and reinfection after therapy with omeprazole and amoxicillin. Satish G Kulkarni, Pankaj S Dhawan, Anita Kamath, Ila M Vora, Shobha J Bhutia. Departments of Gastroenterology, Microbiology and Pathology, BYL Nair Hospital, Mumbai 400 008.

Background: Helicobacter pylori eradication rates with omeprazole and amoxicillin vary widely. The reinfection rates with H. pylori in India are believed to be high. Aims: To study eradication of infection and reinfection rate of H. pylori with therapy using omeprazole and amoxicillin. Methods: Twenty four patients (19 men; aged 24-54 years; 6 smokers; 9 with previous history of ulcer disease) with duodenal ulcer (DU) on endoscopy, with H. pylori demonstrated in gastric biopsies using rapid urease test (RUT) and histology, were included. Patients who had received acid-suppressive therapy, antibiotics or NSAIDs in the previous two weeks, and pregnant and lactating women were excluded. Patients were treated with a combination of omeprazole (20 mg bid) and amoxicillin (1 g bid) for two weeks, followed by omeprazole (20 mg od) for a further two weeks. Endoscopy and gastric biopsies were repeated one month after the end of therapy. Eradication was defined as absence of H. pylori on histology and negative RUT in both antral and corpus biopsies. Patients who had eradicated the infection were asked to follow up at three-monthly intervals. Results: All 24 patients completed the study. Ulcers healed in 23 (96%) patients. Four weeks after completion of therapy, H. pylori was eradicated in 6 (25%) patients. RUT was negative in 18 cases (75%); H. pylori was detected by histology in 12 of these (4 antrum alone, 4 corpus alone, and 4 both antrum and body). In six cases H. pylori was detected by both RUT and histology. Diarrhea occurred in 3 patients, but did not necessitate stopping therapy. Three-month follow up was available in 4/6 patients who had eradicated H. pylori; two of them remained asymptomatic. Three patients were reinfected with H. pylori; two had DU on endoscopy. Conclusions: Omeprazole and amoxicillin are not effective in eradicating H. pylori. After therapy, H. pylori should be evaluated in both antrum and corpus using at least two methods. Reinfection after eradication is high in Mumbai.

Background: H. pylori treatment involves multi-drug regimens comprising a proton-pump inhibitor, bismuth compound and antimicrobial agents. However, treatment failure is possible due to increasing drug resistance. Aim: To determine the antimicrobial susceptibility of H. pylori strains from patients from Mumbai. Methods: Fifteen isolates of H. pylori were tested for susceptibility to tetracycline (disco content 30 mcg), amoxicillin (10 mcg), metronidazole (5 mcg), tinidazole (5 mcg), clarithromycin (15 mcg), erythromycin (15 mcg), ciprofloxacin (5 mcg), norfloxacin (10 mcg), and furazolidone (100 mcg), by disc diffusion on Muller-Hinton agar supplemented with 8% sheep blood. Results: Resistance to tetracycline was seen in 27%, amoxicillin (73%), metronidazole (100%), tinidazole (100%), clarithromycin (91%), and furazolidone (91%); no resistance to norfloxacin and ciprofloxacin was observed. Conclusion: H. pylori strains from India are resistant to commonly used antimicrobial agents.

A5. Attempt to isolate Helicobacter pylori from drinking water outlets in Mumbai. Kupa Mulchandani, Neena Sandhu, Philip Abraham. Department of Gastroenterology, KEM Hospital, Mumbai 400 012.

Background: The modes of transmission of H. pylori are not clear, though there is evidence for fecal-oral and oral-oral spread. The organism has been isolated from water supply sources in Peru. Aim: To detect H. pylori in drinking water samples obtained from various regions of Mumbai. Methods: Nineteen water samples were obtained from 5 administrative wards of the city, selected to obtain representations from major supply lines. One well-water sample was also collected. Fourteen of these were filtered and 5 centrifuged. The filtrates were enriched and then plated, while the sediments were plated directly, on Columbia blood agar plates with Skirrow’s supplement and 5% sheep blood. The plates were incubated microaerophilically for 3-5 days. Results: Cultures were positive in 9 water samples. Two of these tested positive for oxidase, catalase and urease. Conclusion: The organisms isolated may be H. pylori, but this needs to be confirmed by protein profiles and PCR.


Methods: Six patients with H. pylori infection (positive urease test and histology) were studied. A 10F salem sumps nasogastric tube was positioned in the stomach. Aliquots of intragastric contents were collected at regular intervals, and pH measured in each with a glass electrode and digital pH meter (ADCO type DPH 500). Plasma gastrin was measured by RIA (Campagne Oris Industries SA; specific for G-34 gastrin). The subjects remained ambulant throughout the study and were served food in congenial surroundings. Statistics:

Correlation between intragastric acidity and plasma gastrin was tested using Spearman rank correlation test. Results: Median integrated acidity was lower in these patients than in controls (normal subjects and patients with H. pylori-negative duodenal ulcer studied earlier). Peak gastrin level was achieved at 30 min after meals, but the rise was slow and not smooth, while the fall was even slower. In controls, intragastric acidity correlated inversely with plasma gastrin in patients this relationship was erratic. Conclusion: H. pylori-positive patients have low intragastric acidity and their gastric response to meal is erratic.


Aims: To determine the efficacy of a 7-day regimen of omeprazole, clarithromycin, tinidazole, and compare it with that of a 14-day regimen of omeprazole, amoxicillin, tinidazole. Methods: Thirty patients with endoscopically proven gastritis or peptic ulcer, who were positive for the rapid urease test and at least one of cytology/histology for H. pylori, were studied. After endoscopic antral biopsy, patients were randomized into two groups. Group A received omeprazole 20 mg od, clarithromycin 250 mg bid, tinidazole 500 mg bid for 7 days; Group B received omeprazole 20 mg od, amoxicillin 500 mg qid, tinidazole 500 mg bid for 14 days. Biopsy was repeated 1 month after stopping treatment. Results: Two of 15 patients in Group A had organisms on histology at 1 month (eradication rate 87%). Six of 15 patients in Group B had organisms on histology and one on RUT at 1 month (eradication rate 53%).


Background: H. pylori is reported to be present in over 50% of the general population and associated in over 90% of patients with duodenal ulcer (DU) and 70% of those with non ulcer dyspepsia (NUD). Aim: To study the prevalence of H. pylori in patients with gastroduodenal diseases using the rapid urease test. Methods: 614 patients referred for routine endoscopy were screened for H. pylori using the rapid urease reaction: 308 of them had NUD, 98 had DU, 88 gastritis, 44 portal hypertension, 10 carcinoma stomach, 6 gastric ulcer, and 60 had other gastrointestinal disorders. Results: H. pylori was detected in 371 patients. The prevalence rates were: NUD 204 (66%), DU 84 (86%), gastritis 48 (54%), portal hypertension 18 (41%), carcinoma stomach 2, gastric ulcer 3, and others 12 (18%). Conclusion: 1. H. pylori is widely prevalent in the southern part of Tamil Nadu. 2. The rapid urease test is useful, simple and cheap for detecting the organism. 3. The prevalence of the infection was nearly as high in non ulcer dyspepsia as in those with DU.