ORIGINAL ARTICLE

Clinical Profile in H. Pylori Positive Patients in Jammu

Rajesh Kumar, G. Bano, B. Kapoor, Sunil Sharma*, Yudhvir Gupta**

Abstract

The present prospective one year, study enrolled 265 symptomatic patients of acid peptic disease, out of which 92 patients were found H. pylori positive (by biopsy urease test and histopathological test) giving a prevalence of 34.71% . Among H. pylori positive patients, 64.13% were males and 35.86% were females. Age wise distribution showed maximum prevalence of H. pylori infection in the age group of 36-45 years and minimum in the age group of 66-75 years. Pain upper abdomen was the most frequent symptom in 49 (54.20%) patients followed by fullness after meals and retrosternal burning. Endoscopic and histopathological examination of H. pylori positive patients revealed chronic superficial gastritis in 87 (94.56%) patients followed by duodenitis in 11 (11.95%) and oesophagitis 8 (8.6%). All the positive patients were given anti-H. pylori treatment.

Key Words

H. Pylori, Acid Peptic Disease, Urease Test

Introduction

Helicobacter pylori is a gram negative, curved, microaerophilic and motile organism with multiple polar flagella. It resides in the stomach of man and other primates, lining up the gastric mucus secreting cells. Helicobacter pylori is a common bacterium infecting about half the world's population. The prevalence of H. pylori infection varies widely by geographic area, age, race, ethnicity, and socio-economic status. Rates appear to be higher in developing than in developed countries (1, 2). Helicobacter pylori has proved to be of overwhelming importance in the aetiology of a number of common gastrointestinal diseases such as chronic gastritis, peptic ulceration (90% of duodenal ulcers and 80% of gastric ulcers) and gastric cancer and is a major cause of morbidity in infected patients (3). High prevalence of the acid peptic diseases as a result of H pylori has negative impact on patient quality of life and also poses economical strains. Loss of working days due to acid peptic disease adds to economical burden. Early detection of H pylori in any population and it eradication in such patients results in a significant reduction in usage of acid suppression and an improvement in overall quality and severity of dyspeptic symptoms (4). More over, there is always a fear of resistance to anti H Pylori treatment (drugs like clarithromycin and/or metronidazole) with empirical and irrational institution of drug therapy in acid peptic disease patients(5). Thus, it is important to find out regional H pylori prevalence and identify high risk population infected with H pylori so that treatment strategies can be planned and implemented is such patients to reduce the menace of this disease.

Hence, the present prospective one year, study on symptomatic patients of acid peptic disease, was carried out to find H. pylori positive prevalence rates and study the clinical and epidemiological characteristic.

Material and Methods

The study was conducted in the Postgraduate Department of Pharmacology and Therapeutics in collaboration with Division of Gastroenterology, Postgraduate Department of Medicine and Postgraduate Department of Pathology, Government Medical College, Jammu. The subjects were chosen from patients attending medical OPD and those admitted indoor. Written informed consent was obtained from all the patients after explaining them the nature and purpose of the study. Patients of either sex within age group 18-75 years who presented to medical OPD over a period of one year and having symptoms like retrosternal burning, pain upper abdomen, belching, fullness after meals, anorexia, nausea, vomiting, regurgitation, alternate diarrhoea and constipation of more than one month duration were taken for the study. A detailed history was elicited from each patient, complete general physical and systemic examination was done and all the previous and present records and investigations

From the P.G. Department of Pharmacology & Therapeutics, *General Medicine & **Pathology Govt. Medical College, Jammu
Correspondence to : Dr Rajesh Kumar C/o H. No. 48, Kanji House, Upper Gumat, Jammu (J&K), India.

were assessed. All patients underwent following basic investigations to rule out any other disease. Hb gm%, TLC, DLC, ESR, blood sugar (fasting and postprandial), LFT (SGOT, SGPT, serum alkaline phosphatase), serum amylase, urine examination, RFT (serum urea, creatinine, electrolytes), stool examination (for ova/cyst, occult blood), ECG and ultrasonography abdomen (gall stones, cholecystitis). Patients suffering from diabetes mellitus diseases of the liver, gallbladder, kidney, pancreas and worm infestation were excluded from the study. Patients were advised to avoid smoking and alcohol during the study period. After excluding these patients, a total of 265 patients were selected for study.

Diagnosis : Upper gastrointestinal endoscopy was performed on selected patients using an Olympus GIF X f 20 fibre-optic endoscope. Patients were fasted overnight. The oesophagus, stomach and duodenum was visualised and mucosal findings on endoscopy were noticed. Multiple biopsies were taken from antrum with punch biopsy forceps. Two antral biopsy specimens were put in urease broth. Another two biopsy specimens were placed in solution containing formalin for histopathological examination. **Biopsy Urease Test** : was used for this purpose. A colour change within two hour was taken as positive test.

Histopathology : Two biopsies taken from antrum were immediately fixed in formalin solution. We in our histopathology examination used Giemsa stain. The specificity of histopathological diagnosis is almost 100%. Patients were taken as H. pylori positive when both tests (biopsy urease test and histopathology) became positive.

Results

Out of total two hundred sixty five patients, ninety two patients were H. pylori positive (by biopsy urease and histopathological test) giving a prevalence of 34.71% (Table-I). Out of total ninety two H. pylori positive patients assigned for study, fifty-nine were males and thirty three were females (Table-II). The minimum age of H. pylori positive patient was 18 years and maximum age was 74 years. The maximum numbers of patients were in the age group of 36-45 years with a mean age of 43.07±11.76 (Table-III). Pain upper abdomen was the most frequent symptom seen in 49 of H. pylori positive patients with epigastric fullness (21) and retrosternal burning (20), the second and third most common complaints. Rest of the clinical features like belching, vomiting and anorexia were almost of equal frequency in both H. pylori positive as well as negative patients. Multiple complaints were recorded in same patient (Table-IV). Regarding endoscopic and histopathological features, chronic superficial gastritis was the most common feature seen in 87 patients. Duodenitis and oesophagitis were the other common findings documented in 11 and 8 patients, respectively. A single chronic gastric ulcer was noted in two and acute duodenal ulcer in four patients. Multiple endoscopic and histopathological changes were recorded in the same patient (Table-V). Overall, inadequate sanitation practices, low social class (32/92), and crowded or high-density living conditions seem to be related to a higher prevalence of H. pylori infection. All the positive patients were given anti-H. pylori treatment.

Table I : Prevalence of H. pylori.

Total patients	265
Positive patients	92

$$\text{Prevalence} = \frac{92}{265} \times 100 = 34.71\%$$

Table-II : Number of *H. pylori* positive patients according to sex.

Sex	Number of positive patients (n)	Percentage (%)
Male	59	64.13
Female	33	35.86

Table-III : Number of *H. pylori* positive patients according to age group.

Age group	Number of patients (n)	Percentage (%)
18 - 25	5	5.43
26 - 35	14	15.21
36 - 45	40	43.47
46 - 55	22	23.91
56 - 65	8	8.69
66 - 75	3	3.26

Table-IV: Symptom profile in *H. pylori* positive patients.

Symptom	Number of patients (n)	Percentage (%)
Pain upper abdomen	49	54.20
Fullness after meals	21	23.10
Retrosternal burning	20	22.30
Belching	14	15.60
Vomiting	10	11.80
Anorexia	9	9.5
Normal	Nil	Nil

Table-V : Endoscopic and histopathological features of H. pylori positive patients.

Endoscopic and histo pathological features	No. of patients	Percentage (%)
Chronic superficial gastritis	87	94.56
Duodenitis	11	11.95
Oesophagitis	8	8.69
Duodenal ulcer	4	4.3
Gastric ulcer	2	1.8
Gastric carcinoma	1	1.08
Normal	Nil	Nil

Discussion

The present prospective one year, study enrolled 265 symptomatic patients of acid peptic disease having symptoms like retrosternal burning, pain upper abdomen, belching, and fullness after meals, anorexia, nausea, vomiting, regurgitation, alternate diarrhoea and constipation of more than one month duration. Out of which 92 patients were found H. pylori positive (by biopsy urease and histopathological test) giving a prevalence of 34.71%. Rates have been suggested to be higher in developing than in developed countries in previous studies (1, 2). However, recently even in developed countries like Northeastern Mexico high H. pylori prevalence in symptomatic patients has been suggested. Overall prevalence of H. pylori was 67.8%. It was more common in patients with peptic ulcer disese (77.8%) than with nonulcer dyspepsia (43.2%) (6).

In one of the Indian study from chandigarh, two hundred and fifty-four individuals were screened for H.pylori. There were 80 symptomatic and 67 asymptomatic individuals. Helicobacter pylori was positive in 38 (56.7%) asymptomatic and 49 (61.3%) symptomatic individuals ($P > 0.05$).Helicobacter pylori was present in 11/13 (84.6%) subjects with peptic ulcer (7). Similarly in other Indian study, H pylori prevalence in patients with dyspepsia and in control subjects was 65% and 46% respectively (8). The over all prevalence recorded in our study appers to be less in comparison to the recent studies from India(7,8) and outside India(6). This can be explained by the fact that the prevalence of H. pylori infection varies widely by geographic area, age, race, ethnicity, and socio economic status.

In the present study among H. pylori positive patients, 64.13% were males and 35.86% were females. Age wise distribution showed maximum prevalence of H. pylori infection in the age group of 36-45 years and minimum in the age group of 66-75 years.This also varied from studies from out side and from India. As female/male 1.44, ratio and mean age of 53 years was recorded in study from northeastern Mexico (6). Where as, In Indian study (8) Age-related prevalence in the age groups of 10-19 years, 20-29 years, 30-39 years, 40-49 years and > or = 50 years were 52%, 70%, 69%, 60% and 59%, respectively.

Pain upper abdomen was the most frequent symptom in 49 (54.20%) patients followed by fullness after meals and retrosternal burning. Endoscopic and histopathological examination of H. pylori positive patients revealed chronic superficial gastritis in 87 (94.56%) patients followed by duodenitis in 11 (11.95%), oesophagitis 8 (8.6%) and 1 case of gastric cancer in the present study. Whereas, in study from outside India , 80.1% had nonulcer dyspepsia (NUD), 11.5% peptic ulcer disease and 8.4% high-grade dysplasia or gastric cancer (6). Where as, Helicobacter pylori was present in 11/13 (84.6%) subjects with peptic ulcer in an Indian Study (8).

Conclusion

The present study revealed substantial prevalence of H. pylori positive patients in Jammu region, with male more affected and maximum prevalence in the age group of 36-45 years. Pain upper abdomen was the most frequent symptom and on endoscopic and histopathological examination chronic superficial gastritis was common presentation. Early detection of H pylori in any population and it eradication in such patients may help in significant reduction in usage of acid suppression and an improvement in overall quality and severity of dyspeptic symptoms as well as to formulate treatment strategies for such patients to reduce menace of disease.

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