

PRESENCE OF HELICOBACTER PYLORI IN DYSPEPTIC PATIENTS WITH ENDOSCOPICALLY NORMAL STOMACH

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ABSTRACT

Objective: To find out the presence of Helicobacter pylori in dyspeptic patients with endoscopically normal stomach.

Methodology: In this observational study all patients above the age of 15 years with dyspepsia of more than one month duration were included in the study. Patients taking antibiotics or proton pump inhibitors were excluded. Upper Gastro intestinal (GI) endoscopy was done in all patients and specimens from the antrum of stomach were taken for rapid urease test and histology. Patients were divided into group A (who had no abnormal finding of stomach on endoscopy) and group B (patients who had abnormal finding of stomach on endoscopy).

Results: There were 100 patients in the study, 50 in group A and 50 in group B. Mean age in group A was (30.2 years) with 21 (42%) males and 29 (58%) females, while in group B it was 36.4 years with 32 (64%) males and 18 (36%) females. Most common complaint of epigastric pain was present in 40 (80%) patients in group A and 42 (84%) in group B followed by heart burn 6(12%) in group A and 22(44%) in group B. On endoscopy oesophagitis was seen in 7(14%) patients in group A and 18 (36%) patients in group B. All patients in group A had normal stomach on endoscopy while in group B 15(30%) patients showed antral erythema and 35(70%) showed pangastic erythema. Duodenum was normal in all Group- A patients while four patients in Group-B had duodenal erosions. Histologically 34(68%) patients were positive for H. pylori in Group-A, compared to 39(78%) in Group- B.

Conclusion: H. pylori is present in a significant number of dyspeptic patients with endoscopically normal stomach. Normal looking gastric mucosa in these patients could be either due to milder infection or endoscopy done early during the course of infection. H.Pylori eradication has the potential to reduce the risk of gastric cancer development whose incidence varies geographically.

KEY WORDS: Non ulcer dyspepsia, Endoscopy, Helicobacter Pylori.

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INTRODUCTION

Dyspepsia is a term used for a group of upper abdominal or epigastric symptoms, such as pain, bloating, nausea, early satiety, heart-burn or simply indigestion.¹ Non ulcer dyspepsia is a common syndrome of persistent ulcer like symptoms in the absence of radiographic and endoscopic abnormalities. Motor abnormalities, microscopic inflammation and psychiatric diseases are common causes of non-ulcer dyspepsia. Helicobacter pylori (H. pylori) infection is also probably a causative agent for non-ulcer dyspepsia.²

H. pylori is a spiral shaped gram negative bacilli.³ It is one of the most chronic infections

associated with majority of cases of gastritis, 90% of duodenal ulcers and 75% of gastric ulcer.³ The most widely available endoscopic method for *H. pylori* diagnosis is either CLO (campylobacter like organisms) test or the demonstration of *H. pylori* on endoscopic biopsy.⁴ Studies have shown high prevalence of *H. pylori* in patients of dyspepsia who have gastric mucosal abnormalities.² *H. pylori* has also been seen on biopsy specimen in patients with no gross endoscopic finding. In this regard certain studies has been done in children, which show normal mucosa on endoscopy, but the *H. pylori* was present on biopsy.^{5,6} In adults there are few studies, which show that among non-ulcer patients there is a high prevalence of *H. pylori*.⁷⁻⁹

Since enough work has not been done to show the presence of *H. pylori* associated gastritis in adult dyspeptic patients with endoscopically normal stomach, therefore we have investigated in this study, the frequency of *H. pylori* in endoscopically normal stomach and compared it with abnormal stomach. The aim of the study was to see the presence of *H. pylori* in dyspeptic patients with apparently normal stomach on endoscopy.

PATIENTS AND METHODS

This study was conducted in Medical Unit III of Jinnah Postgraduate Medical Centre (JPMC) Karachi. Patients attending the GI clinic of Medical unit III above the age of 15 years, with dyspepsia of more than one month duration were included in the study irrespective of sex, ethnic group and socioeconomic status. Those who were on antibiotics or on proton pump inhibitors were excluded from the study. Upper GI endoscopy was performed in every patient after taking consent and specimens from the antrum of stomach were taken, one for rapid urease test and histology for detection of *H. pylori*.

Patients were divided into Group A and Group B. Group A consisted of 50 patients who had no abnormal finding of stomach on endoscopy and group B consisted of 50 patients who had abnormal finding of stomach on endoscopy.

Statistical Analysis: P value was calculated by using chi-square with Yates correction for discrete variables. Two tailed fisher exact test was used if value of any of the variable was less than five. P value of <0.05 was taken as significant. SPSS version 10 was used for data analysis.

RESULTS

Mean age in Group- A was 30.2 ± 9.4 years with 21 (42%) males and 29 (58%) females, while in Group- B it was 36.4 ± 13.7 years with 32 (64%) males and 18 (36%) females. Presenting symptoms of all 100 patients were assessed. The most common complaint was epigastric pain in both the groups and was found in 40 (80%) and 42 (84%) patients in group A and B respectively. Details regarding the clinical feature are shown in Table-I.

The oesophagus was normal in 39 (78%) patients in Group-A while 21(42%) patients in Group- B showed no abnormal finding. Oesophagitis was more commonly seen in group B patients. All the patients in group A had normal stomach on endoscopy while 15(30%) had antral erythema and 35(70%) showed pangastric erythema in group B. Duodenum was normal in all Group A patients while 4 patients in Group B had duodenal erosions Table-II. There were 34(68%) patients who were positive for *H. pylori* in group A while 39(78%) patients were positive in group B for the same organism.

DISCUSSION

There is high prevalence of *H. Pylori* in low socioeconomic strata and studies have estimated a prevalence of 80 to 90 percent in the developing world in patients with symptoms of dyspspsia.⁸ Most of the patients visiting JPMC belong to this group so it is expected that many of these patients of dyspepsia will be harboring *H. pylori*.

Overall 100 patients with history of dyspepsia were included with the mean age of 33.3 years. The patients in our study with the symptoms of dyspepsia were relatively younger ($p = 0.049$) than in western studies. This may be

Table-I: Distribution of symptoms of two groups

<i>Symptoms</i>	<i>Endoscopically normal stomach (Group A) (n = 50)</i>	<i>Endoscopically abnormal stomach (Group B) (n = 50)</i>	<i>P value</i>
Epigastric pain	40 (80)*	42 (84)	0.794
Heart burns	6 (12)	22 (44)	0.0008
Bloating	7 (14)	3 (6)	0.317
Nausea	1 (2)	0 (0)	1.0
Regurgitation	2 (4)	1 (2)	1.0
Vomiting	7 (14)	7 (14)	1.0
Belching	2 (4)	1 (2)	1.0
Abdominal pain	3 (6)	2 (4)	1.0

* Figures in parenthesis are percents from within groups.

multifactorial, like early exposure to *H. pylori*, psychological stress, low socioeconomic groups, lactose intolerance and infections. Again patients in endoscopically normal stomach (Group-A) were younger than patients with abnormal finding (Group-B). This could be due to the fact that endoscopy was done early in the course of disease before the gross endoscopic changes become apparent.

Most of our dyspeptic patients presented with ulcer like dyspepsia i.e. epigastric pain. 40(80%) patients in endoscopically normal group and 44(84%) patients in endoscopically

abnormal stomach group with epigastric pain. There is not much difference in the two groups. So epigastric pain is not always related to severity of inflammation of stomach.

Heartburn was more frequent symptom in endoscopically abnormal group. Twenty two (44%) patients in group B as compared to 6(12%) in Group A ($p = 0.0008$) presented with heartburn. The patients in Group- B have high prevalence of oesophagitis ($p = 0.0005$), gaping lower oesophageal sphincter and hiatal hernia along with antral or pangastric erythema. This could either be due to hiatal hernia and gaping lower oesophageal sphincter predisposing to reflux oesophagitis or group B had more active gastritis with the possible more release of gastric and more acid production. Increased acid or the reflux might be causing heartburn and oesophagitis in these patients.¹⁰ Normal looking gastric mucosa in the endoscopically normal stomach group could be either due to milder infection or endoscopy done early during the course of infection.

H. pylori was seen in 34(68%) patients in endoscopically normal stomach while 39(78%) patients of endoscopically abnormal group were harboring *H. pylori*. This compares well with some of the other regional studies. Ronald J Schlemper et al, studied *H. pylori* in Japanese employees and found that it is 70% in NUD patients, and 65-89% in those with NUD.¹¹ Li et al studied NUD in China and gave a figure of 63.5% as the positivity rate of *H. pylori*.¹² Javed et al, gave a figure of 86.4%,¹³ Zaitom AM a study done in United Arab Emirates, showed the overall colonization rate of *H. pylori* was 90% while 89% NUD was harboring *H. pylori*.¹⁴ Endoscopy has its own limitation in making a diagnosis. There is poor correlation between the results of endoscopy and histological examination.¹⁵

We analyzed our 100 patients together for presence of *H. pylori* and its influence on different parameters. There were 73 patients who were *H. pylori* positive as compared to 27 who were negative for *H. pylori*. There was not much difference between age and sex distribution of the two groups. Chief dyspeptic

Table-II: Endoscopic finding of two groups.

	<i>Endoscopically normal stomach (Group A) (n = 50)</i>	<i>Endoscopically abnormal stomach (Group B) (n = 50)</i>	<i>P value</i>
<i>A. Endoscopic finding of oesophagus (%)*</i>			
Normal	39 (78)	21 (42)	0.0005
Oesophagitis	7 (14)	18 (36)	
Gapping LES	2 (4)	2 (4)	
Hiatal hernia	2 (4)	7 (14)	
Irregular Z line	0 (0)	2 (4)	
<i>B. Endoscopic finding of stomach (%)*</i>			
Normal	50 (100)	0 (0)	0.0001
Antral erythema	0 (0)	15 (30)	
Pangastric erythemic	0 (0)	35 (70)	
<i>C. Endoscopic finding of duodenum (%)*</i>			
Normal duodenal	50 (100)	46 (92)	0.117
Erosion's	0 (0)	4 (8)	

* Figures in parenthesis are percents from within groups.

symptom was epigastric pain in both the groups.

Dyspeptic symptoms have been reported by intentional self-infection with *H. pylori*.¹⁶ Although some studies have demonstrated improvement of dyspeptic symptoms after eradication of *H. pylori* and equal number of studies have not.¹⁷ We have taken antral biopsies in endoscopically normal stomach to document the presence of *H. pylori* and stress its important due to these facts.

1. According to some studies *H. pylori* infection is higher among patients with NUD than among age- match control.¹⁸
2. Intentional self-infection with *H. pylori* has caused dyspeptic symptoms.¹⁶
3. Antral gastritis can progress to ulcer disease.¹⁹
4. *H. pylori* may be associated with the development of gastric adenocarcinoma.²⁰⁻²³

It is still controversial whether to eradicate the *H. pylori* in NUD, especially in a country where it is highly prevalent in the low socio-economic strata. However, the European Helicobacter Study Group (EHSG) recommend eradication of *H. Pylori* infection in patients with peptic ulcer disease, patients with unexplained iron deficiency anaemia, patients with chronic idiopathic thrombocytopenic purpura, patients with atrophic gastritis and patients with first degree relatives who are suffering from gastric cancer.²⁴

CONCLUSION

H. pylori is present in a significant number of dyspeptic patients with endoscopically normal stomach. Normal looking gastric mucosa in these patients could be either due to milder infection or endoscopy done early during the course of infection.

Treatment of *H. Pylori* infection with triple therapy using proton pump inhibitors (PPI) with clarithromycin and amoxicillin is first line therapy. Bismuth containing quadruple therapy is also considered a treatment option. *H. Pylori* eradication has the potential to reduce the risk of gastric cancer development whose incidence varies geographically.

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