

GASTROESOPHAGEAL REFLUX DISEASE; FREQUENCY OF HELICOBACTER PYLORI INFECTION

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ABSTRACT... Objective: To find the frequency of H pylori infection among the patients of gastroesophageal reflux disease. **Study design:** Descriptive study. **Setting:** Department of Medicine, Unit-I, Services Hospital, Lahore. **Subject & method:** One hundred patients with gastroesophageal reflux disease (GERD) were included in this study. For detection and confirmation of helicobacter pylori, endoscopy with antral biopsy was done. Specimens were sent for histopathology, and rapid urease test was performed. **Main outcome measures:** Frequency of H pylori infection, frequency of regurgitation, dysphagia, nausea, vomiting and haemetemesis. **Results:** 100 patients who fulfilled the inclusion criteria were taken. There were 65 males and 35 females respectively. Their age ranged from 18 to 48 years. 39 (39%) patients were between 29-38 years while 23 (23%) were of 39-48 years. There were 38 (38%) patients between 18-28 years. The mean age of the patients was 31.79 ± 7.56 . 40 (40%) were found to be H. pylori positive on biopsy and rapid urease test, while 60 (60%) were H. pylori negative. The most common recorded symptom was chest pain/retrosternal burning (90%). Regurgitation (65%) and nausea (55%) were other common symptoms. Dysphagia and water-brash were present in 40% each. Vomiting (30%), abdominal pain (25%) and cough (20%) were the other symptoms. The least common symptom was haemetemesis (5%). **Conclusions:** A causal relationship between GERD and H. pylori infection could not be established. Therefore, routine H. pylori eradication in the treatment of patients with GERD is not recommended.

Key words: Helicobacter pylori, gastroesophageal reflux disease (GERD), dyspepsia

INTRODUCTION

Gastroesophageal reflux disease (GERD) is viewed as a problem that affects a large number of individuals with variable frequency. It affects all age groups particularly elderly. GERD encompasses a spectrum of disorders in which gastric reflux leads to symptoms and/or damage to the esophageal mucosa. Reflux esophagitis is a subset of GERD and implies the presence of esophageal inflammation. This reflux damage to the esophageal mucosa is due to a prolonged acid exposure of the esophagus arising from an imbalance between protective motility factors and aggressive acid secretory factors or by the Helicobacter pylori infection. Helicobacter pylori (H pylori) infection has been proved to be one of the most common infectious disease in the world¹.

The symptoms and presentations of GERD are numerous. These include heartburn, regurgitation, water

brash and dysphagia. However, there may also be varied symptoms such as coughing, hoarseness, and wheezing and epigastric pain. It may also be an important cause of non-cardiac chest pain². Complications of GERD may include esophageal hemorrhage, perforation, stricture, Barrett's esophagus, non-specific laryngitis, aspiration pneumonia, pulmonary fibrosis and chronic asthma³.

GERD can be diagnosed by one or more of the following diagnostic options below: Endoscopy, biopsy, roentgenography, 24 hour ambulatory PH monitoring, esophageal manometry and Bernstein test^{2,3,4}.

In our population indigestion (dyspepsia) is a frequent complaint. This complaint may originate from a variety of causes, including gastroesophageal reflux⁵. The available data on the frequency and therefore role of H pylori in the pathogenesis of GERD gives contradictory findings. Some studies give a positive correlation

between the two⁶; others conclude a negative relationship⁷ while still others⁸ find no role of H pylori in GERD. The present study was conducted to determine the frequency of H pylori infection in patients suffering from GERD presenting at the medical outdoor of Services Hospital, Lahore.

OBJECTIVE

The object of the study was to determine the frequency of H pylori infection, among the patients of gastroesophageal reflux disease presenting at medical outdoor Services Hospital, Lahore.

MATERIALS AND METHODS

The study was conducted at the department of Medicine, unit I, Services Hospital, Lahore. A total of 100 consecutive patients of any age and either sex with symptoms of and evidence of GERD on endoscopy (x 0-20 Olympus Fibroscope) were included in the study by non probability purposive sampling. Patients with esophagitis due to corrosives, radiation exposure, post-sclerotherapy, post gastric surgery, post esophageal surgery, and Zollinger Ellison Syndrome were excluded. It was a descriptive study. The rapid urease test is performed at the time of gastroscopy. A biopsy of mucosa is taken from the antrum of the stomach. It was placed into a medium containing urea and an indicator (phenol red). The urease produced by H pylori hydrolyzed urea to ammonia, which raised the pH of the medium, and changed the color of the specimen from yellow (negative) to red (positive). Data was collected on an especially designed pro forma. Data analysis was done to calculate frequencies.

RESULTS

The study was conducted on 100 patients who fulfilled the inclusion criteria. There were 65 males and 35 females respectively.

They ranged from 18 to 48 years of age. The majority of patients were between 29-38 years i.e. 39 (39%), 23 (23%) were in the age group of 39-48 years and 38 (38%) patients between 18-28 years. The mean age of the patients was 31.79 ± 7.56 .

Common symptoms seen were chest pain/retrosternal

burning (90%), regurgitation (65%) and nausea (55%). Dysphagia and water-brash were present in 40% each while vomiting (30%), abdominal pain (25%) and cough (20%) were also present (Table-I).

Table-I. Symptoms

Symptoms	%age
Chest pain / retrosternal burning	90
Regurgitation	65
Nausea	55
Water brash	40
Dysphagia	40
Vomiting	30
Abdominal pain	25
Cough	20
Haemetemesis	05

The endoscopic findings in 90% patients were a combination of gastritis and gastroduodenitis. 40 (40%) were found to be H. pylori positive on biopsy and rapid urease test, while 60 (60%) were H. pylori negative. Of these 40 positive patients there were 26 males and 14 females.

DISCUSSION

In our study frequency of H. pylori infection was 40%. The frequency of H pylori in GERD has been variously reported in different studies. In a review by Kandulski et al¹. It is reported to colonize more than 50% of the population and is thought to be causative factor in chronic gastritis. This chronic gastritis can result in various complications such as peptic ulcers and gastric malignancies. This effect may be dependant on many factors such as the genotype of H pylori, genetic tendency and environmental factors. They recommended that H pylori may be eradicated to decrease the incidence of gastroduodenal ulcer and prevents its recurrence. In Brunei Darusalam⁶ a study was conducted on 4,700 patients who underwent endoscopy for different reasons. 51.5% of these patients were found to have active H pylori infection. There are

some studies which have found a negative correlation between H pylori and GERD. One study⁷ conducted on Californian patients with GERD found a negative correlation between GERD and the anti-H Pylori-Ab positive rate. Grande et al performed a study on 146 patients with GERD and investigated them for H pylori. They concluded at the end that H pylori infection was unrelated to GERD and was neither an exacerbating factor nor a preventive factor⁸.

Scarpa⁹ et al performed a retrospective study on 638 patients who had undergone upper GI endoscopy for GERD. Mucosal biopsy was taken in these patients for the detection of H pylori. Out of those 638 patients only 133 (20.8%) were found to be H pylori positive. In the study by Chaurasia¹⁰ 123 patients with a mean age of 40.5 years and symptoms of GERD underwent endoscopy and test for H pylori detection. The lower frequency of in our patients could be due to different selection criteria or self medication, common in our community, which might lead to eradication of infection.

Although various invasive and non invasive tests¹¹⁻¹³ are performed for the detection of H pylori, we performed the rapid urease test in our patients. The specificity and sensitivity of these tests vary. In a study conducted by Talib et al¹⁴, H pylori was found to be 82% by ELISA, 72% by H flex, 66% by histopathology, 52% by Helicourease and 46% by culture. It is less accurate than PCR9 but better than serology and stool antigen test⁸. Our choice depended on the availability and economy of the test available.

The decision whether to treat H pylori or not is still open to debate. While certain studies do not recommend treating H pylori^{7,8} others recommend that H pylori be eradicated to control the symptoms of GERD. In 2004, the dept. of Gastroenterology, MH Rawalpindi carried out an interventional study¹⁶ to evaluate the efficacy of H pylori eradication in patients with dyspepsia who did not have peptic ulcer disease. 500 patients were taken in whom upper GI endoscopy was performed. Out of these, gastric biopsy was carried out in 245 patients. Gastritis was found in 187 patients and H pylori in 129 (69%). The H pylori positive patients were given one week's

eradication therapy. Sixty three percent (n=81) improved although the dyspeptic symptoms persisted in thirty seven percent (n=48). Their recommendation was to eradicate H pylori in all patients who have symptoms of dyspepsia and who do not have peptic ulcer disease.

We have analyzed the presence of H pylori in patients with GERD-related symptoms by performing endoscopy and rapid urease test. A long-term prospective study is needed to more accurately assess GERD risks. A lot of medicines are prescribed to patients with upper abdominal symptoms to decrease the production of acid, including proton pump inhibitors. These therapeutic modifications make it difficult to execute such studies. As GERD is a disease that is directly related to diet and lifestyle diseases such as obesity and diabetes, thorough investigation of the correlations of these factors to upper gastrointestinal symptoms is also a necessary part of investigating such patients.

CONCLUSIONS

We were unable to establish a causal relationship between GERD and H pylori infection. Routine H pylori eradication in the treatment of patients with GERD cannot be recommended on the basis of our study.

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