

Prevalence of Helicobacter Pylori in Dyspeptic Patients Presented in Nawaz Sharif Social Security Hospital Multan Road Lahore

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ABSTRACT

Aim: To investigate the prevalence of H. pylori in dyspeptic patients and its relationship with gastro-duodenal pathologies using gastric biopsy for histology.

Methods: One hundred consecutive adult patients with dyspepsia underwent upper gastrointestinal endoscopy using forward-viewing endoscopes. Antral biopsy specimens were collected for histology. Diagnosis of H. pylori infection was made if histology was positive.

Results: Of the 100 subjects, there were 44 (44%) males and 56(56%) females. The age range was 26 to 67 years with a mean of 37±14.5 years. Diagnosis of H. pylori was made in 71(71%) patients. Gastritis was the commonest endoscopic finding (82%), serious gastro-duodenal pathology (gastric ulcer, duodenal ulcer and gastric cancer) were documented in only 10 (10%) patients.

Conclusion: The prevalence of H. pylori among dyspeptics using biopsy based methods is high in patients presented in Nawaz Sharif Social Security Hospital Multan Road Lahore. It is therefore important to test and treat H. pylori among labour class with dyspepsia.

Key words: H. pylori, dyspepsia, antral biopsy.

INTRODUCTION

The discovery of Helicobacter pylori (H. pylori) by Warren and Marshall, in 1983 was a major breakthrough in the management of dyspepsia¹. H. pylori is a gram negative, spiral, flagellated bacterium with a capability for abundant urease production which has been implicated in several upper gastrointestinal diseases that present as dyspepsia^{2,3}. The organism is usually found under the mucus layer in the gastric pits in close apposition to gastric epithelial cells where it causes damage to the cells⁴. It is a major etiological factor in chronic gastritis, peptic ulcer disease, gastric carcinoma, and gastric mucosal associated lymphoid tissue (MALT) lymphoma^{2,3}. Peptic ulcer disease is now viewed as an infectious disease since eradication of H. pylori leads to its cure⁴. Various diagnostic tests for H. pylori have been developed and they can be broadly classified into invasive and non-invasive tests⁴. Invasive tests utilize endoscopic biopsy samples for histology, culture, rapid urease test (RUT) and polymerase chain reaction. All these tests have been found to have sensitivity and specificity that are well above 90%⁵. The non-invasive tests do not require endoscopy. These include urea breath test (UBT), immunoglobulin G and M serology, stool antigen test,

saliva antibody test and urinary antibody test⁴. In Pakistan, the non-invasive tests are not generally available except Immunoglobulin G (IgG) serology. The value of serological tests in a hyper-endemic area like Pakistan is limited, because of their low discriminatory power between previous and current infection. The aim of this study was to determine the prevalence of H. pylori among dyspeptic patients seen at Nawaz Sharif Social Security Hospital Multan Road Lahore and its association with gastro-duodenal pathologies using gastric biopsy histology. The hospital serves as a referral centre for a substantial part of the Punjab province.

METHODS

The study was carried out at the Endoscopy unit of the Nawaz Sharif Social Security Hospital Multan Road Lahore. Ethical clearance was sought and obtained from the Nawaz Sharif Social Security Hospital Institutional Review Committee. One hundred consecutive adult patients with dyspeptic symptoms undergoing endoscopy from April 2008 to February 2009 were recruited after obtaining informed consent from them. Patients who were previously treated for H. pylori infection or who had received antibiotics, proton pump inhibitors or bismuth compounds in the preceding 4 weeks were excluded. Base line bio-data were obtained. Oesophago gastro duodenoscopy (OGD) was performed on all the participants using Olympus

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(GIF-E3) forward-viewing Oesophago-gastro-duodenoscope. Endoscopic features of each patient were recorded. Endoscopic appearance was considered normal if the mucosal was pink in colour, smooth and lustrous. Two gastric antral mucosal biopsies were taken for histology. A diagnosis of *H. pylori* infection was made when both or one of these two samples were positive.

The two antral biopsies were fixed in 10% formaldehyde and transferred to the histopathology laboratory for processing. Four micron thick paraffin sections were stained with routine Haematoxylin and Eosin for detection of *H. pylori* and gastritis. Giemsa stain was also used for better yield. Slides were examined microscopically for *H. pylori* by the Pathologist. Presence of Helicobacter-like organisms was regarded as positive while absence was regarded as negative.

RESULTS

There were 44 (44%) males and 56(56%) females. The mean age was 37(\pm 14.5) years. The age ranged from 26 to 67 years. Seventy one (71%) patients were *H. pylori* positive with histology. The most common abnormality at endoscopy was gastritis which was seen in 82(82%) patients, followed by duodenitis 9(9%) and duodenogastric reflux 12(12%). Gastric ulcer (GU) was recorded in 6(6%) patients, 21(21%) patients had oesophagitis, while 3(3%) patients had gastric cancer. Serious gastroduodenal pathologies (GU, DU and gastric cancer) were documented in only 10(10%) patients. It is noteworthy however, that there was a considerable overlap in the endoscopic findings in these subjects as many of them with other endoscopic lesions also had gastritis. Eighty six (86%) patients had endoscopically identifiable cause for their dyspepsia while the remaining 14(14%) had normal endoscopic findings. These relationships however were statistically significant.

DISCUSSION

In this study, *H. pylori* was diagnosed in 71% of the patients. This is consistent with results of previous studies conducted in Nigeria and other parts of West Africa which have consistently shown a high prevalence of *H. pylori* with the use of biopsy based methods⁶⁻¹¹. Previous studies conducted in various parts of South-Western Nigeria (including the University College Hospital, Ibadan) in which patients were investigated for *H. pylori* with the use of either histology or campylobacter-like organism (CLO) test showed prevalence rates of 60.5% to 73%^{6,7,12}. Seroprevalence studies conducted in the same

region showed prevalence rates as high as 88% to 94.5%^{3,13}. These are not unexpected in a hyper-endemic area like Nigeria since serological tests cannot discriminate between previous and current infections. The sero-prevalence assay's IgG antibody lasts for up to 3 years or more in the serum even after the organism has been eradicated. The most common identifiable lesion at endoscopy in this study was gastritis which had a frequency of 82%. This is not comparable to a frequency of 60% obtained in a study conducted in Nigeria⁹.

CONCLUSION

This study shows that the prevalence of *H. pylori* among dyspeptic patients using biopsy based methods is high in Nawaz Sharif Social Security Hospital Multan Road Lahore patients. It also suggests that gastritis is the commonest lesion seen at endoscopy among patients with dyspepsia and that the high prevalence of *H. pylori* infection in labour class getting treatment from Nawaz Sharif Social Security Hospital Multan Road Lahore. The prevalence of serious gastroduodenal pathology (GU, DU and gastric cancer) is low. The high prevalence of *H. pylori* in endoscopically normal patients warrants to treat *H. pylori* among labour class patients with dyspepsia.

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