



DEMOGRAPHIC AND CLINICAL PROFILING OF PATIENTS WITH HELICOBACTER PYLORI

Dr. Arpita Singh	Junior resident, Department of Pathology, MGM's medical college, Navi Mumbai, Maharashtra
Dr. Reeta Dhar*	Professor, Department of Pathology, MGM's medical college, Navi Mumbai, Maharashtra*Corresponding Author
Dr. Navdeep Kaur	Senior resident, Department of Pathology, MGM's medical college, Navi Mumbai, Maharashtra
Dr. Shilpi Sahu	HOD Department of Pathology, MGM's medical college, Navi Mumbai, Maharashtra

ABSTRACT The overall prevalence of H. pylori is high in developing countries whereas lower in developed countries as well as varies areas of different countries. Variation in prevalence involve socioeconomic differences between populations and this is considered as a principal reason. Aim: To study the incidence of Helicobacter pylori in various gastric lesions comprising of gastritis, gastric ulcer, duodenal ulcer and malignancies and to study the clinicopathological correlation of H. pylori in relation to age, sex and clinical presentation. Materials and Methods: A prospective study on 50 adult patients who were suspected of H. pylori and out of which 27 were found to have H. pylori diagnosed by various histopathological staining techniques. These 27 H. pylori positive cases were studied for age, gender, clinical features and histopathological diagnosis. Results: The overall prevalence of H. pylori was 54%. It was highest among females (52%) and age group of 21-30 years. Epigastric pain was the most common complain and Gastritis being the most common endoscopic and histopathological diagnosis in such patients. Conclusion: In conclusion, we proved that in line with the worldwide trends, the prevalence of H. pylori infection has increased with changes in society, socioeconomic status and living standards like to poor sanitary conditions, overcrowding, or poor educational attainment. About half of the world's population is infected with H. Pylori.

KEYWORDS : H. pylori, epidemiology, incidence, gastritis

INTRODUCTION

Helicobacter is a helical, S, U or V-shaped, or curved gram-negative rods, 0.5-1.0 µm wide and 2.5 to 3.5 µm in length. Although usually spiral-shaped, the bacterium can appear as a rod, while the coccoid shapes appear after prolonged in vitro culture or antibiotic treatment⁽¹⁾. They are motile by means of single or multiple unipolar, bipolar, or lateral flagella. H. pylori is one of the world's most common bacterial infections, as more than three quarters of the population of the developing world is infected from an early age⁽²⁾.

H. pylori has been recognized as gastrointestinal pathogen and its role in causation of chronic gastritis, gastric ulcers, intestinal metaplasia and prolonged or untreated infection may predispose to gastric adenocarcinoma and even mucosa-associated lymphoid tissue lymphoma (MALToma). Its prevalence is variable in relation to geography, ethnicity, age, and socioeconomic factors. As the public health implications of infection become clearer, an understanding of the epidemiology of H. pylori assumes greater significance, if successful attempts are to be made to limit its spread. A lack of proper sanitation, of safe drinking water, and of basic hygiene, as well as poor diets and overcrowding⁽³⁾.

An excess of H. pylori prevalence in one gender versus the other has been reported^(4,5) Woodward and colleagues observed that there is a higher prevalence of H. pylori in men than in women⁽⁵⁾, whereas other found no gender-related difference in the prevalence of H. pylori infection^(6,9).

The aim of this study is to obtain the incidence of Helicobacter pylori in various gastric lesions comprising of gastritis, gastric ulcer, duodenal ulcer and malignancies and to study the clinicopathological correlation of H. pylori in relation to age, sex and clinical presentation.

Materials and Methods

This study is a prospective study performed on the gastrointestinal endoscopic biopsies received from the department of Gastroenterology/Surgery to the department of Pathology in a tertiary care hospital at Navi Mumbai, with a sample size of 50, over a period of 15 months after obtaining ethical clearance from the institution.

Inclusion criteria:

Male and female patients aged above 18 years, endoscopically established for various chronic upper abdominal symptoms including epigastric pain, dyspepsia, heartburn, nausea and vomiting from

department of surgery (gastroenterology), received in the histopathology lab of department of pathology.

Exclusion criteria:

1. Anatomical abnormality of stomach
2. Patients undergoing any gastroduodenal surgery.
3. Active bleeding.
4. Patients on helicobacter pylori eradication therapy.

The study included 50 gastrointestinal biopsies from the patients who came to the department of Surgery with various chronic upper abdominal symptoms including epigastric pain, dyspepsia, heartburn, nausea and vomiting. All relevant clinical details including age, sex, clinical presentation, endoscopic findings and clinical diagnosis of patients were noted in the proforma prepared for this study.

Results and Observations

This randomized prospective study was conducted in Department of Pathology, MGM Medical College & Hospital, Kamothe, Navi Mumbai. This hospital is multi-specialty tertiary healthcare centre mainly catering peri urban population. During the study period of over 18 months an average of 69 suspected patients visited Department of Surgery, out of which 50 patients were included in this study from OPD as well as IPD and endoscopic biopsies were taken and submitted for examination in the Department of Pathology.

TABLE 1: Incidence of H. Pylori in Upper GI Endoscopic biopsies

H.pylori	No. of Cases	Incidence
Positive	27	54.0%
Negative	23	46.0%
Total	50	100.0%

TABLE 2: Age related distribution in H. pylori patients

AGE IN YEARS	FREQUENCY
21-30	9(18%)
31-40	3(6%)
41-50	5(10%)
51-60	4(8%)
61-70	2(4%)
71-80	3(6%)
81-90	1(2%)

Total	27 (54%)
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TABLE 3: Association between gender and H pylori positive patients

GENDER	FREQUENCY
Female	15(30.0%)
Male	12(24.0%)
Total	27 (54.0%)

Table 4: Incidence of Common Symptoms with relation to H. pylori Infection

CLINICAL SYMPTOMS	POSITIVE
Epigastric pain	19 (57.6%)
Vomiting	09 (56.6%)
Dyspepsia	07 (50%)
Decreased Appetite	06 (46.2%)
Dysphagia	04 (40.0%)

TABLE 5: Histopathological Diagnosis of gastric biopsies

Histopathological Diagnosis	Positive
Chronic gastritis	13 (26%)
Gastric ulcer/erosion	6 (12%)
Lymphocytic gastritis	3 (6%)
Chronic active gastritis	2 (4%)
Eosinophilic gastritis	1 (2%)
Moderately differentiated adenocarcinoma	1 (2%)
Intestinal Metaplasia	1 (2%)
Total	27 (54%)

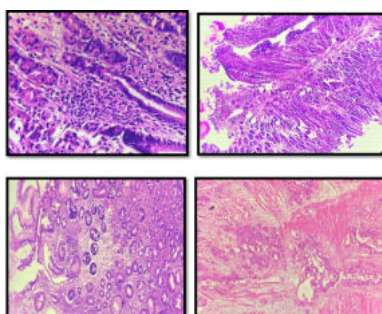


Figure 1: Photomicrograph of Chronic gastritis showing intense chronic inflammatory infiltrate in lamina propria H&E (40x) **Figure 2:** Photomicrograph of gastric erosion showing denudation of mucosal epithelium H&E(10x) **Figure 3:** Photomicrograph of Chronic gastritis with intestinal metaplasia, H&E (4x) **Figure 4:** Photomicrograph of Moderately Differentiated Adenocarcinoma, H&E(10x)

Discussion

The present study showed an overall incidence of H. Pylori in 27/50 cases (54%). Having examined the potential factors associated with a higher H. pylori incidence, our results were in concordance with the studies done by Kumar V et al., (10) (51%) followed by P. Sharma et al., (11) (47%) and S. Adlekha et al., (12) showing (62%) respectively. Out of the 50 cases age ranged from 21 to 90 years with a mean age of 49 years and peak incidence (48%) was seen in 21 to 40 years. This study was in accordance with Smita S Sonawane et al., (13) showing incidence in 21 to 40 years and had mean age of 39.2 years, same was observed in the study of Vishwapriya. M. Godkhindi et al., (7) with an average age of 40.6 years and incidence (34.54%) in the peak age of 31 to 40 years.

The present study showed that out of 27 H. pylori positive cases, 15 (57.6%) were females and 13 (54.2%) were males. There was female preponderance with M: F ratio of 1: 1.15. This was comparable with the studies done by Kahase D et al., (14), however other authors observed male preponderance in their respective studies.

Our study showed epigastric pain in 19 cases (70.3%) as the most common symptom in H. pylori infection followed by dyspepsia (37%). High incidence of epigastric pain was also seen by Vishwapriya. M. Godkhini et al., (7) (80.90%) and Masood javed et al., (4) (90%).

In our study Gastritis was the most common histopathological

diagnosis in 15 (56%) of H. pylori positive cases, which was comparable with the studies done by S. Adlekha et al., (12) 292 (65.9%) and S. Mustapha et al., (15) as 176 (89.1 %).

Conclusion

In conclusion, we proved that in line with the worldwide trends, the prevalence of H. pylori infection has increased with changes in society, socioeconomic status and living standards like poor sanitary conditions, overcrowding, or poor educational attainment. About half of the world's population is infected with H. Pylori. According to many parameters, its frequency ranges from roughly 50 % in developed countries to as high as 95 % in developing countries. One of the possibilities that H. pylori resistance may be impacted was due to excess antibiotic usage. Generally accepted risk factors for H. pylori positivity appeared valid for the studied population.

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