

The Frequency of H. Pylori Infection Among Patients Experiencing Digestive Endoscopy a Multi Center Study

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ABSTRACT

Background: The development of endoscopy, particularly gastroscopy, has changed the diagnosis of oeso-gastroduodenal disorders. There is little information accessible on the methods of intestinal endoscopy.

Objective: The study's goal was to evaluate the pathologic diagnosis of endoscopic lesions and the presence of H. pylori during endoscopy (digestive examination).

Methodology: 100 patients participated in the study, and there were 42 men and 58 women in it. This Multi center study was done department of gastroenterology and medical department hmc and lrh Peshawar between May 2022 and November 2022. The patients freely signed the permission form after being made informed of the goal. The data from each patient's gastrointestinal endoscopy were gathered for analysis. The research was authorized by the ethics and review committees of our institute's teaching hospital. The patients who had gastrointestinal endoscopies were included in this study by the inclusion criteria.

Results: According to data, more female patients than male patients sought medical treatment for this problem. It was also observed that patients under the age of 45 comprised a greater percentage of the patient group than patients over the age of 45. Epigastralgia, which was reported by 72% of patients, was the most frequent sign and symptom, according to the data. Vomiting was the next most prevalent symptom, followed by gastrointestinal bleeding and weight loss. Several patients simultaneously reported many of these symptoms. Esophageal varices were shown to be associated with males, with a significant p-value of 0.045, it was discovered. The H. pylori-related gastritis was connected to a lesion.

Conclusion: The study's objective was to determine the prevalence of H. pylori infection and the characteristics of endoscopic lesions in patients having gastrointestinal endoscopies. Analysis was done to determine the impact of different endoscopic lesions on various demographic parameters in this retrospective study. Age and stomach tumors were shown to be connected, and smoking may have had some influence on the development of peptic ulcers. And the majority of patients had an upper gastrointestinal endoscopy regularly.

Keywords: H. Pylori infection, digestive endoscopy,

INTRODUCTION

Healthcare access is limited in Pakistan because of a shortage of medical resources and the vulnerability of the population. As a result, several rehabilitation and treatment tests, such as upper digestive endoscopy, are still important for the diagnosis and management of disorders. The most well-known and deadly cancer is stomach cancer. Gastric cancer (GC) is one of the most dangerous types of cancer since just one out of every five patients lives for more than five years following diagnosis^{1,2}. Around 89% of all cases of stomach cancer are caused by H. pylori infection. Those who have previously had H. pylori infections are reported to be 14.2% more likely to acquire stomach cancer than those who have never had the virus³.

Gastroscopy has revolutionized oeso-gastroduodenal disease diagnosis. Digestive endoscopy data is scarce. Africa and Asia still seldom utilize digestive endoscopy⁴. Nonetheless, it is a useful diagnostic tool for conditions of the digestive system. Clinical data cannot back up the patient Helicobacter pylori diagnosis. To diagnose GC early, H. pylori status must be evaluated. Invasive and non-invasive methods detect H. pylori. Gastric biopsy samples support invasive H. pylori culture and PCR^{5,6}. Urease breath, stool antigen, and serum IgG tests are non-invasive. Invasive surgeries may be affected by external variables such as biopsy sample location, size, and quantity, staining procedure, proton pump inhibitor utilization, antibiotic use, and examiner competence^{7,8}.

Non-invasive procedures can be completed quickly, cheaply, and easily, but there are additional factors, such as the use of antibiotics and bismuth agents, that might impair their diagnostic validity.

Gastric pits and microvascular branching may be seen endoscopically. These novel methods improve H. pylori detection with endoscopy⁹. The objective of this study was to examine the profile of endoscopic lesions and the presence of H. pylori at the time of endoscopy (digestive)¹⁰.

METHODOLOGY

This Multi center study carried out at department of gastroenterology and medical department hmc and lrh Peshawar from May to November 2022. This study contained 100 patients, 42 of whom were male and 58 of whom were female. The patients freely signed the permission form after being made informed of the objective. The data from each patient's gastrointestinal endoscopy were gathered for analysis. The study was authorized by the ethics and review committees of our institute's teaching hospital. Each patient's demographic characteristics, endoscopic lesions, and anatomical analyses were completed, and information was gathered. The inclusion criteria of the patients, who were accessible for different forms of pathogenic anatomy investigation had gastrointestinal endoscopy.

Patients were excluded from this study, who received a rectoscope and colonoscopy, proton pump inhibitors, and controlled upper gastrointestinal endoscopy.

Statistics were used to assess the information gathered. The chi-square test was used to compare the findings. The data analysis software SPSS version 23 was used.

RESULTS

The goal of this study was to examine the profile of endoscopic lesions and the presence of H. pylori during digestive endoscopy. 100 patients participated in the study, and there were 42 males and 58 females in it.

Table 1: Patients' Gender Distribution (n=100)

Gender	No. of patients	Percentage
Male	42	42%
Female	58	58%

According to the statistics, more female members than male members sought medical advice about this problem. Also, it was noted that patients under the age of 45 made up a larger portion of

the patient population than patients beyond the age of 45. The patients willingly provided their approval after being properly informed about the study. The data from each patient's gastrointestinal endoscopy were gathered for analysis.

Table 2: Participants' distribution according to symptoms

Persistent indications	No. of patients	Percentage(%)
Epigastralgia	85	85%
Vomiting	72	72%
gastrointestinal bleeding	61	61%
Heartburn	59	59%
Weight loss	48	48%
Dysphagia	28	28%

Epigastralgia, which was reported by 85% of patients, was the most frequent sign and symptom, according to the data. Vomiting was the next most prevalent symptom, followed by gastrointestinal hemorrhage and weight loss. Many patients simultaneously reported some of these symptoms.

Table 3: The breakdown of patients by endoscopic conditions

Endoscopic conditions	Patients percentage
Gastritis	80%
Esophagus	58%
Cardiac beanie	12%
Hiatal hernia	6%
Duodenal ulcer	8.2%
Gastric ulcer	5.2%
Esophageal varices	3.8%
Gastric tumor	4.0%
Mycosis of esophagus	2.5%
Esophageal strictures	1.5%
Esophageic tumor	92%

These patients had a high rate of gastric ulcer prevalence, and benign esophageal strictures and stomach tumors were also often seen as lesions. Esophageal varices were shown to be associated with males, with a significant p-value of 0.045, it was discovered. The lesion was connected to H. pylori-related gastritis.

Table 4: Gender and gastro-duodenal ulcer. (esophageal varices)

Gender	(No)	(Yes)	P value
Male	(38) 90.47%	(4) 9.52%	
Female	(53) 91.37%	(5) 8.62%	0.045**
Total	(91) 91%	(9) 9%	

Table 5: Cases reported of H. pylori

	No. of patients (n=100)	Percentage (%)
Helicobacter pylori-positive	38	38%
Helicobacter pylori Negative	62	62%

DISCUSSION

The frequency of *Helicobacter pylori* was shown to be associated with the endoscopic lesions in this study's analysis of the patient profiles who underwent digestive endoscopy. The study had both male and female participants, and a table was used to illustrate the findings^{11, 12}. There were more female participants than male participants, according to this study. This could be a result of females being more protective of their health and treatment than males. Compared to the younger group, people under 45 saw the doctor frequently to describe their condition^{13, 14}. Epigastralgia, which was present in 85% of the patients in our study, was shown to be the patients' most common symptom and indication. Epigastralgia was shown to be the most common symptom in 57% of patients in a study examining the profile of stomach lesions. According to another study, 43% of the patients exhibited epigastralgia.

According to previous findings, inflammation was the main factor contributing to endoscopy-reported lesions. Duodenal and stomach ulcers have also been found to occur in patients. The high incidence rate in our study was caused by H. pylori, which is often

prevalent in developing and developing nations. Apart from H.pylori¹⁵. additional elements, such as the toxicity of self-medication, also came into play. According to studies, where more than 48-year-old patients with stomach tumors were included, it was discovered that the average age at which a gastric tumor is initiated is about 50 years. The majority of people with stomach tumors are between the ages of 50 and 72^{16, 17}. According to studies, H. pylori is a category I carcinogen and may contribute to the development of stomach cancer. More male participants than female patients were reported to have esophageal varices. As esophageal varices were found in 4% of females and 6% of males, respectively. Compared to individuals under 45 years of age, people over 45 had a higher risk of developing gastro-duodenal ulcers.

According to studies, males were shown to have a higher incidence of stomach tumors than females, and the findings were significant with a p-value of 0.013. Many other studies have also shown the predominance of male participants. The regular use of tobacco by these males may be one of the reasons. Furthermore more often documented in cases of male patients was the incidence of esophageal tumors. With age, the chance of getting a gastroduodenal ulcer increased by¹⁸. In comparison to younger patients, those patients who were over 45 years old had more occurrences of gastroduodenal ulcers. With a value of p 0.05, it was discovered in our study that esophageal varices were substantially associated with the male participants. These results were consistent with the earlier studies, which showed a male gender connection with esophageal varices¹⁹.

The distribution of patients according to whether the pathogen H. pylori was present or absent was done in our study, and it was discovered that there were 62% of patients when H. pylori were present. Similar findings were made in other studies as well, where it was shown that 73% of cases occurred. The prevalence is higher in underdeveloped nations because of a lack of awareness of infection and few resources²⁰. Another study analyzed the data to determine the relationship between NSAID use and peptic ulcer. To determine if smoking was associated with the development of ulcers, smoking was investigated. It was discovered that 14% of the patients had both peptic ulcers and confirmed tobacco use. According to a different study, 25% of patients with peptic ulcers also smoked.

As the study used samples from one hospital, it was limited to certain demography. More accurate data might be obtained from several hospitals^{21, 22}.

CONCLUSION

The study's objective was to determine the prevalence of H. pylori infection and the characteristics of endoscopic lesions in patients having endoscopies of the digestive system. The study analysis was done to determine the various endoscopic lesions' effects on various demographic factors. Age and stomach tumors were shown to be connected, and smoking may have had some influence on the development of peptic ulcers. And the majority of patients had an upper gastrointestinal endoscopy.

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