

H. Pylori Infection Prevalence at the Digestive Endoscopy

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ABSTRACT

Background: The diagnosis of the oeso-gastroduodenal diseases has been revolutionized by the advances in endoscopy especially gastroscopy. But there is limited data about the digestive endoscopy techniques is available.

Objective: The study was carried out to analyze the endoscopic lesions profile and occurrence of H.pylori at the time of endoscopy (digestive).

Study design: It is a retrospective study conducted at medicine department of Sialkot Medical College, Sialkot from June 2021 to December 2021.

Material and Methods: There were 121 patients that participated in this study and among them there were 58 male and 63 female members. The patients were aware of the objective and signed the consent willingly. All the patients went through gastrointestinal endoscopy and their data was collected for analysis. The review board and ethical committee of our institute teaching hospital approved the study. According to the inclusion criteria the patients that underwent the gastrointestinal endoscopy were included in this research.

Results: The data suggest that there were more female members that consulted doctor related to this issue as compared to men. It was also observed that there were more patients under 50 age who came to get their treatment done as compared to older patients. Data showed that the common sign and symptom that was reported by the patients was epigastralgia with 82% patients reporting it. Then the second most dominant symptom was vomiting followed by gastrointestinal bleeding and loss of weight. There were many patients that reported multiple of these symptoms at the same time. It was observed that the data of esophageal varices was found to be linked with male sex with a significant p value of 0.047. The gastritis linked to H.pylori was associated with lesion.

Conclusion: The goal of the study was to find the profile of endoscopic lesions and H.pylori prevalence, its infection in patients undergoing digestive endoscopy. The study was retrospective, and analysis was carried out to find the different types of endoscopic lesions and their impact on certain demographic parameters. The gastric tumor was found to be correlated with age, tobacco had some impact on peptic ulcer occurrence. And the upper gastrointestinal endoscopy was commonly observed in majority of the patients.

Keywords: endoscopic lesions, H.pylori, and gastric tumor

INTRODUCTION

Due to a lack of medical resources and the precariousness of the population, access to healthcare is limited in the Pakistan. Consequently, some Para-clinical examination like upper digestive endoscopy continues to be crucial for the diagnosis and treatment of diseases. The one of the highly known lethal malignancy is the gastric cancer. Only one out of five patients diagnosed with gastric cancer (GC) survives for more than five years after its diagnosis, making it one of the most deadly type of cancers¹⁻². H. pylori infection accounts for about 89 percent of all cases of stomach cancer. According to reports, people who previously had H. pylori infections are 14.2% more prone to development of stomach cancer than people who never had the infection³.

The diagnosis of the oeso-gastroduodenal diseases has been revolutionized by the advances in endoscopy especially gastroscopy. But there is limited data about the digestive endoscopy techniques is available. Even though digestive endoscopy is still not widely used in Africa and Asia⁴, it is nonetheless a valuable diagnostic tool for digestive tract disorders. There is a lack of clinical evidence for the diagnosis of Helicobacter pylori infection in patients. Therefore, determining a patient's H. pylori infection status is crucial for the early diagnosis of GC. For the detection of the H.pylori different invasive and non-invasive methods are used. Invasive techniques, such as H. pylori culture, and PCR techniques, are based on gastric biopsy samples⁵⁻⁶. The urease breath test, H. pylori stool antigen test, and serum IgG testing are examples of non-invasive techniques. The location, size, and quantity of biopsy samples, the staining procedure, the use of proton pump inhibitors, the administration of antibiotics, and the examiners' experience are all unavoidable external elements can affect the invasive procedures' accuracy⁷⁻⁸.

Non-invasive techniques are quick, inexpensive, and simple to perform, but there are other variables that may affect their diagnostic validity, such as the use of antibiotics and bismuth agents.

Minute mucosal structure including the patterns of gastric pits and microvascular branching can be visualized by the endoscopic techniques. These advancing techniques are increasing the chances of H.pylori diagnosis by endoscopy⁹. The study aimed to analyze the endoscopic lesions profile and occurrence of H.pylori at the time of endoscopy (digestive)¹⁰.

MATERIAL AND METHODS

It is a retrospective study conducted at medicine department of Sialkot Medical College, Sialkot from June 2021 to December 2021. There were 121 patients that participated in this study and among them there were 58 male and 63 female members. The patients were aware of the objective and signed the consent willingly. All the patients went through gastrointestinal endoscopy and their data was collected for analysis. The review board and ethical committee of our institute teaching hospital approved the study. The demographic features, endoscopic lesions and anatomical analysis of every patients was done and data was collected. According to the inclusion criteria the following patients were included in this research.

- that underwent the gastrointestinal endoscopy
- the patients who were available for all types of pathological anatomy examination

According to the exclusion criteria followings patients were excluded from the study;

- The patients who only underwent rectoscopy and colonoscopy

- Patients who were treated with proton pump inhibitors
- The patients in which control upper gastrointestinal endoscopy was diagnosed.

The collected data was analyzed statistically. For comparisons of the results the chi-square test was performed. The SPSS tool was used for analysis of data.

RESULTS

The study was carried out to analyze the profile of endoscopic lesions and occurrence of H.pylori at the time of digestive endoscopy. There were 121 patients that participated in this study and among them there were 58 male and 63 female members.

Table 1: Distribution of patients on the basis of gender (n=121)

Gender	No. of patients	Percentage
Male	58	45%
Female	63	55%

The data suggest that there were more female members that consulted doctor related to this issue as compared to men. It was also observed that there were more patients under 50 age who came to get their treatment done as compared to older patients. The patients were fully aware of the study and signed the consent willingly. All the patients went through gastrointestinal endoscopy and their data was collected for analysis.

Table 2: Distribution of the participants on the basis of symptoms

Signs and symptoms	No. of patients	Percentage
Epigastralgia	99	82%
Vomiting	82	68%
Intestinal bleeding	70	58%
Heart burn	66	55%
Weight loss	59	49%
Dysphagia	31	26%

Data showed that the common sign and symptom that was reported by the patients was epigastralgia with 82% patients reporting it. Then the second most dominant symptom was vomiting followed by gastrointestinal bleeding and loss of weight. There were many patients that reported multiple of these symptoms at the same time.

Table 3: Distribution of the patients as per type of endoscopic lesion observed

Endoscopic lesion	Percentage of patients
Gastritis	83%
Esophagus	61%
Cardiac beanee	10%
Hiatal hernia	8%
Duodenal ulcer	7.1%
Gastric ulcer	4.8%
Esophageal varices	4.2%
Gastric tumor	3.7%
Mycosis of esophagus	2.7%
Esophageal strictures	1%
Esophagic tumor	90.6%

The prevalence of gastric ulcer was quite common in these patients, the lesions like benign esophageal strictures and gastric tumor were seen as commonly found conditions. It was observed that the data of esophageal varices was found to be linked with male sex with a significant p value of 0.047. The gastritis linked to H.pylori was associated with lesion.

Table 4: Association of Gastro-Duodenal ulcer with age (esophageal varices)

Gender	No	Yes	P value
Male	(54) 97%	(3) 4%	
Female	(58) 93%	(4) 6%	0.047**
Total	(114) 95%	(7) 5%	

Table 5: Cases reported as per presence of Helicobacter pylori

	No. of patients (n)	Percentage (%)
Positive for H.pylori	44	37%
Negative for H.pylori	76	63%

DISCUSSION

In this study the analysis was carried out to find the profile of endoscopic lesions of the patients that went through digestive endoscopy and the occurrence of H.pylori was linked with the lesions. The study was carried out on male and female participants and data was presented in form of table¹¹⁻¹². As per this study there were more female than male participants included. In one of the previous studies there were 51% male and 49% female that were included in the study. Our data was similar to another study where they took 57% female and 43% male members in their study. This may be because the women are more cautious towards the treatment and their health as compared to men. There were more patients under 50 that consulted the physician about their condition as compared to younger population¹³⁻¹⁴. In our study it was found that the common sign and symptom found among the patients is epigastralgia which was found in 83% of the patients. In another study carried out to find the profile of gastric lesions it was found that the dominant symptom was epigastralgia in case of 57% of the patients. As per another study, the percentage of patients that had epigastralgia was 43%.

As per previous studies it was found that the inflammation was the leading cause of lesion reported in endoscopy. The formation of ulcers like gastric, and duodenal were also reported in the patients. In our study the high rate of incidence was because of H.pylori which is commonly found in developing as well as underdeveloped countries. In addition to H.pylori there are multiple¹⁵ other factors that played role, including the self-medication and its toxicity. As per studies there were more over 50 years' age patients that reported gastric tumors, it was found that the average age at which the gastric tumor is triggered is approximately 51 years. There are majority of patients between the ages of 54 to 70 years that report gastric tumor¹⁶⁻¹⁷. As per studies it was reported that H.pylori was known to be type I carcinogen and it has some role in causing stomach cancers. The esophageal varices were found to be linked to male participants' more than female patients. As it was noticed that there were 3% women and 5% men that had esophageal varices. Patients with age greater than 50 years had more chances of getting gastro-duodenal ulcers as compared to patients of less than 50 years of age.

As per studies it was found that the incidence of gastric tumor was more in men as compared to women and the results were significant with a p value of 0.013. The dominance of male participants was seen in many other studies as well. One reason can be frequent usage of tobacco by these men. Likewise, the occurrence of esophageal tumor was also more abundantly reported in case of male patients. The incidence of gastroduodenal ulcer increased with the age¹⁸. The older patients (more than 50 years) had more cases of gastroduodenal ulcer as compared to younger patients. In our study it was seen that the esophageal varices were significantly linked with the male members with a value of p less than 0.05. These findings were in accordance with the previous results where the male gender association with the esophageal varices was observed¹⁹.

In our study the distribution of cases on the basis of absence or presence of pathogen H.pylori was carried out and it was found that there were 63% cases where there was presence of H.pylori. Similar results were found in case of other studies as well where the occurrence was found to be 73%. In developing countries, the incidence is more because of the ignorance of infection and limited resources²⁰. Another study did analysis to find the association of NSAIDs usage and peptic ulcer. The use of smoking was checked to look for its link with occurrence of ulcers. It was found that there were 14% patients that confirmed about using tobacco and they had peptic ulcers as well. Another study revealed 25% patients suffering from peptic ulcers and they were consuming tobacco.

The work was based on samples taken from a single hospital so the data was limited to single population. More precise information can be deduced if data was taken from different hospitals²¹⁻²².

CONCLUSION

The goal of the study was to find the profile of endoscopic lesions and H.pylori prevalence, its infection in patients undergoing digestive endoscopy. The study was retrospective, and analysis was carried out to find the different types of endoscopic lesions and their impact on certain demographic parameters. The gastric tumor was found to be correlated with age, tobacco had some impact on peptic ulcer occurrence. And the upper gastrointestinal endoscopy was commonly observed in majority of the patients.

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