

Endoscopic Study of Dyspepsia with Special Reference to Helicobacter pylori

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ABSTRACT

Introduction: In our day to day practice we encounter many patients who present with dyspepsia. Approximately 50% of world's population is estimated to be infected with Helicobacter pylori. The prevalence of this bacterium is higher in developing countries when compared to developed countries. The aim of this study was to look at the upper gastrointestinal (GI) tract endoscopic findings in patients presenting with dyspepsia and the presence of H.pylori infection in those patients.

Material and methods: It was a prospective study involving 107 patients over a period of 10 months visiting the outpatient department of Assam Medical College and Hospital for dyspepsia and meeting the inclusion criteria. Patients underwent upper GI endoscopy and tissue sampling for detection of urease enzyme production by H.pylori.

Results: 74 males and 33 females participated in the study with mean age of 39.6 years (SD ± 12.10). 74% of study population tested positive for H.pylori infection by detection of urease enzyme produced by H.pylori. 77.5% of the study population had ulcer in stomach or duodenum as detected by upper GI endoscopy.

Conclusion: This study shows that H.pylori infection is detected in a significant number of patients presenting with dyspepsia with no other specific risk factors for acid peptic disease (eg: alcohol, smoking, usage of NSAID).

Keywords: Dyspepsia, Helicobacter, Esophago-gastro-Duodenoscopy.

INTRODUCTION

Dyspepsia comes from the Greek word “dys” means “bad” and “pepsis” means “digestion”. It is defined as one or more of the following four symptoms for 3 months within the initial 6 months of symptom onset: i) postprandial fullness, ii) early satiety, iii) epigastric pain iv) epigastric burning.¹ It is an extremely common symptom with prevalence of approximately 60% in India.² Back in 1905 Lord Moynihan had declared that most cases of dyspepsia could be diagnosed by the symptoms alone but recent studies have shown that patients who present with dyspepsia are often misdiagnosed due to the variety of the conditions which could produce the symptom.³

Helicobacter pylori is a spiral, gram-negative, microaerophilic bacterium. It has co-evolved with the human race since 58,000 years and the strain pattern that predominate a certain region on the world map match with the human migration pattern.⁴ In 1982, Robin Warren and Barry Marshall discovered that H.pylori was the causative agent of gastritis and peptic ulcer⁵ and were awarded Nobel Prize for their

discovery in 2005. This discovery revolutionized the field of gastroenterology. Earlier it was thought that the human stomach was a sterile area. Today, H. pylori is recognized as the most common cause of gastritis, which in turn leads to the development of more gastrointestinal complications such as peptic and duodenal ulcers. The organism has also been found to be responsible for causing gastric adenocarcinoma. For this reason it has been classified as a class 1 carcinogen. This organism was isolated from the human stomach but has not been consistently isolated from any other niche, and thus the mechanism by which it colonizes the human stomach remains largely unknown. Being the organism of such clinical importance led the researchers to publish almost 47,193 articles over the past 35 years.⁶ The growing attention given to H.pylori by academicians and clinicians was not surprising since this pathogen colonizes more than half of the world's inhabitants.

This study was undertaken to basically show the prevalence of Helicobacter pylori in the general population presenting with dyspeptic symptoms thus rationalizing the use of empirical administration of anti- H.pylori treatment in these types of patient for 2 weeks.

Present study aimed to know the upper gastrointestinal endoscopy findings in patients presenting with dyspepsia and to study the presence of Helicobacter pylori infection in patients presenting with dyspepsia.

MATERIAL AND METHODS

It was a cross-sectional study carried out at Assam Medical College and Hospital, Dibrugarh over a period of 10 months i.e. from 1st September 2018 to 1st June 2019. Inclusion criteria were patients presenting with dyspeptic symptoms not cured by taking medications (other than H.pylori kit) for a minimum of 14 days, hemodynamically stable and ready to be a part of the study. Those patients who had a history of NSAID or steroid intake, alcoholics, smokers or

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those patients with proven Zollinger Ellison Syndrome were excluded. A total of 107 patients fulfilling the inclusion criteria participated in the study. They underwent Esophago-gastro-duodenoscopy and rapid urease test using the rapid urease kit which detects the urease enzyme produced by the H. pylori. The data was collected using a proforma and projected as tables and figures.

RESULTS

Out of 107 patients 74 were males and 33 were females aged between 25-55 years (39.6 ± 12.10 yrs). The chief presenting

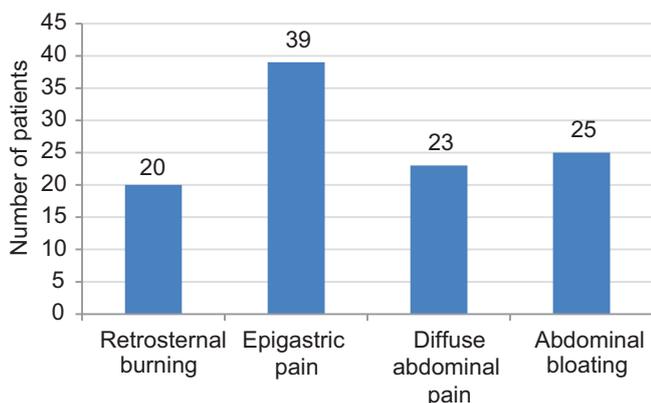


Figure-1: Various dyspeptic symptoms with which the patients presented

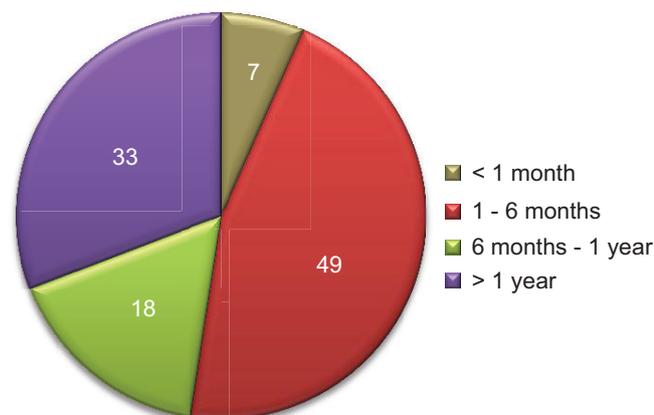


Figure-2: Time period of dyspeptic symptom

S. No.	Endoscopic findings	Number of cases [N = 107]	H.pylori positive [N = 79] (out of number of cases)
1	Normal	03 (03%)	02 (66%)
2	Reflux Esophagitis	08 (07%)	03 (38%)
3	Gastritis	11 (10%)	09 (82%)
4	Gastric ulcer - Fundus - Body - Pylorus	53 (49%) 11 23 19	42 (79%)
5	Duodenal ulcer	30 (28%)	22 (73%)
6	Suspected malignancy	02 (02%)	01 (50%)

Table-1: Endoscopic findings in various patients

symptom of the patient is projected in Figure 1. The time period for which the patient had been suffering from the dyspeptic symptom is shown in Figure 2. Helicobacter was identified by rapid urease kit test in 79 out of 107 patients i.e. 74%. Out of 107 patients 83 (77.5%) had gastric and/ or duodenal ulcer. The endoscopic findings and H.pylori positivity have been shown in Table 1.

DISCUSSION

Esophago-gastro-duodenoscopy is the gold standard for diagnosing any disease in the upper gastrointestinal tract.⁷ Dyspeptic symptoms are one of the most common causes of hospital visit with a mean work loss of 36 weeks.⁸ Most of those patients have a history of alcohol consumption or smoking or NSAID intake but in this study we had excluded all those patients. In our study the frequency of patients presenting with epigastric pain was the highest i.e. 36% which was almost similar to the study conducted by Sarkar *et al*⁹ where it was 31%. Other vague features like abdominal bloating diffuse abdominal pain and retrosternal were also present. It is very difficult to differentiate the patients who have got peptic ulcer disease with others dyspeptic patients based just on clinical features.¹⁰ Most patients (46%) presenting to our outpatient department had their dyspeptic symptoms ranging from 1 month to 6 months. The most common reason for not attending any health centre for this long was either self-medication or home based remedies. There were three cases with normal endoscopic findings which is given the term “Functional dyspepsia”. It is synonymous with the term “irritable stomach syndrome”. There have been many studies which have evaluated functional dyspepsia but still the pathogenesis has not been sought. In a study done by Schemann¹¹ various factors such as sensorimotor dysfunction connected with hypersensitivity to mechanical and chemical stimuli, motility disorders, activation of the immune system, increase in the mucosal permeability in the proximal small intestine, and disorders of the autonomic and enteric nervous systems were found to be responsible for functional dyspepsia. But, the temporal association between a definite cause and the disease has not been established. The incidence of reflux disease has increased worldwide and so the rise in the adenocarcinoma of Esophagus has also occurred. Similar to a study done in Denmark¹² the incidence of reflux disease in our study was found to be about 7%. Maximum cases i.e. 83 out of 107, presenting with dyspeptic symptoms were found to be suffering from gastric or duodenal ulcer. 79% of the gastric ulcers and 73% of the duodenal ulcer were found to be H.pylori positive. This was similar to the study done by Singh V et al, Adlekha et al, Kaore et al in northern, southern and central part of India respectively. This shows that the prevalence of H.pylori is almost equal in all parts of India. The results are in complete contrast to studies of western countries where the prevalence rarely exceeds 10%.¹³⁻¹⁶ This is due to the difference in dietary habits and the environmental factors of the western countries as compared to India, which is a tropical country. One out of two cases suspected to be malignant was found

to be positive for H.pylori which is consistent with the fact that this bacteria is the strongest risk factor for developing gastric cancer.¹⁷ These two patients were in the group that had dyspeptic symptoms for more than one year.

Limitations

Limitations of the studies should also be considered. The study was done over a short duration of time and the sample size was small to support rationalizing empirical administration of anti- H.pylori treatment in dyspeptic patients for 2 weeks. Multicentric studies involving large sample size are required to provide more valuable data to support the proposed rationale.

CONCLUSION

To conclude, H. pylori is very common in this part of the country. Healthcare professionals should advise an endoscopy to patients coming with dyspeptic symptoms as the prevalence of positive finding in those patients is very high (79 out of 107 i.e. 74%). If due to some reason the patient is not able to do the investigation then based on the results of this study it is better to start them on anti H.pylori treatment.

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