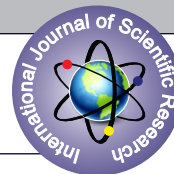


A STUDY ON HELICOBACTER PYLORI DETECTION IN PATIENTS UNDERGOING UPPER GASTROINTESTINAL ENDOSCOPY IN JLNMC, BHAGALPUR



General Surgery

Dr. Sohail Anjum Senior resident Department of surgery Jawaharlal Nehru Medical College, Bhagalpur, Bihar

Dr. Apurva kumar Rajan Senior resident Department of surgery Jawaharlal Nehru Medical College, Bhagalpur, Bihar

ABSTRACT

Aim and Objectives: H. pylori is an important factor linked to the development of peptic ulcer disease, gastric malignancy and dyspeptic symptoms. So its diagnosis is important. H. pylori can be diagnosed by endoscopic or non endoscopic methods. Aim of the study is to find the prevalence of H. pylori in patients undergoing endoscopy.

Materials & Methods: In this study, 80 cases that underwent endoscopy were taken into the study. Study was done in surgery department of JLNMC, Bhagalpur, Bihar from September 2016 to May 2017. All cases were registered fulfilled the inclusion criteria and exclusion criteria. Patients presenting with dyspeptic symptoms were subjected to upper gastrointestinal endoscopy and investigated for H. pylori infection through histopathological examination and rapid urease test of biopsy specimen.

Results: Out of 80, 28 had gastritis, 22 had esophagitis, 15 had gastric ulcer, 09 had erosive duodenitis & gastritis, 03 had duodenitis and 02 had carcinoma stomach. H. pylori infection was diagnosed in 44 patients. Male were affected more than females. Most common age group involved was between 35-45 years. We found that there was a significant association of H. pylori infection with the presence of peptic ulcer, gastritis and dysplasia/cancer.

Conclusions: There is a significant association of H. Pylori infection with upper gastrointestinal symptoms. Early detection and proper treatment are essential for prevention of serious complications.

KEYWORDS:

Upper Gastrointestinal endoscopy, Helicobacter pylori, gastritis, dyspeptic symptoms

Introduction-

Helicobacter pylori gastritis is the principal cause of chronic active gastritis and has major complications like gastric adenocarcinoma and mucosa associated lymphoid tissue lymphoma. The Helicobacter pylori is a slow growing, microaerophilic, motile, spiral, Gram negative organism that produces abundant urease. H. pylori is a gram negative flagellated bacillus that usually colonizes gastric pits under the mucus layer and in close association to gastric epithelial cells. Three modes of transmission have been described, viz., oro-faecal, oro-oral and water borne. The organism has been causally linked with gastritis, peptic ulcer, gastric adenocarcinoma and gastric B cell lymphoma. The rapid urease test (RUT) consists of urea rich agar gel medium with a pH sensitive dye. If urease is present in the mucosal biopsy specimen placed in the medium, it results in the hydrolysis of urea. The resultant increase in pH changes the colour of the indicator. Approximately, 50% of the normal population across the world harbor H. pylori, though only 10-20% of them become symptomatic. There is an association of H. pylori infection with the hygiene related conditions, life-style, and economy with annual an incidence rate of H. pylori infection \approx 4-5% in developing nations compared to that of \approx 0.5% in developed and industrialized countries. There is a high prevalence of H. pylori infection in developing countries with up to 80% of the children under the age of 10 years are infected. In India, the prevalence of this infection is 22%, 56%, and 87% in the 0-4 years, 5-9 years and in the 10-19 years age group respectively. There are many other etiological factors such as smoking, non-steroidal anti-inflammatory drugs (NSAIDs), and reflux of gastric juice (chemical gastritis) that are also implicated to cause chronic gastritis. H. pylori, though is regarded as the primary cause of gastritis, it can act as a synergist in addition with other etiological factors. Upper gastrointestinal endoscopy is now a routine procedure which has superseded the barium meal as the primary diagnostic tool and the evidence is clear that endoscopy is superior to barium X-ray & ultrasound to study the organs of the upper abdomen as they do not allow for a direct viewing of the esophagus, stomach & duodenum.

Materials and methods

In this study, 80 cases that underwent endoscopy were taken into the study. Study was done in surgery department of JLNMC, Bhagalpur, Bihar from September 2016 to May 2017. All cases were registered fulfilled the inclusion criteria and exclusion criteria. Patients presenting with dyspeptic symptoms were subjected to upper gastrointestinal endoscopy and investigated for H. pylori infection

through histopathological examination and rapid urease test of biopsy specimen. Patients coming to the OPD or getting admitted with various upper GI symptoms were interviewed, examined and investigated when required before proceeding for upper GI endoscopy. All suspicious lesions on endoscopy were subjected to rapid urease test for helicobacter pylori detection. The exclusion criterias were: (i) Age less than or equal to 10 years (ii) uncooperative / unfit patients for endoscopy (iii) patients having diseases like recent MI, severe asthma, disturbed sensorium.

Results:

Out of 80, 28 had gastritis, 22 had esophagitis, 15 had gastric ulcer, 09 had erosive duodenitis & gastritis, 03 had duodenitis and 02 had carcinoma stomach.

Diagnosis	Number of patients
Gastritis	28
Esophagitis	22
Ulcer	15
Erosive gastritis	09
Duodenitis	03
Carcinoma stomach	02

H. pylori infection was diagnosed in 44 patients. Male were affected more than females.

Males were more affected than females.

	Number of patients
Males	55
Females	25
Total	80

Most common age group involved was between 35-45 years. We found that there was a significant association of H. pylori infection with the presence of peptic ulcer, gastritis and dysplasia/cancer.

Discussion

In our study, the prevalence of the helicobacter pylori infection in patients with endoscopic diagnosis is in 44 patients. This is in comparison to the study by Hashemi et al (2006) published in world journal of gastroenterology. Several epidemiological studies have shown considerable differences in the prevalence of H pylori infection in the population studied." The infection rate is generally higher and begins at an earlier age in developing as compared to developed

countries, indicating an important role of socio-economic milieu in its transmission. For detection of H pylori infection in patients with dyspepsia, an indirect test such as serology along with a direct one such as urease or histology might be more useful, as such a combination will detect the organisms as well as the antibodies. The prevalence of H pylori infection in patients taking non steroidal anti-inflammatory drugs (NSAIDs) has been reported to range from 22% to 63%.^{32,33} Since factors such as age, ethnic background and socio-economic status are important in determining the background prevalence of H pylori infection, a matched control group is mandatory to determine whether H. pylori prevalence is similar in NSAID users and non-users. Most studies have shown no significant difference.

In the current study, the most common endoscopic findings were gastritis and ulcer occurring. Walker et al. also observed duodenal ulcer as the commonest findings in their studies i.e. 20.1%. Several socioeconomic factors have been associated with H. pylori infection. In particular, subjects with a low socioeconomic status, measured also as a low family income, had a higher likelihood of carrying H. pylori infection. Furthermore, an inverse association between educational level and H. pylori infection was found in the majority of the studies

Conclusions There is a significant association of H. Pylori infection with upper gastrointestinal symptoms. Early detection and proper treatment are essential for prevention of serious complications. More population-based studies are required to evaluate the relationship of H. pylori with other disorders of the upper gastrointestinal tract.

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