EUROPEAN JOURNAL OF BIOMEDICAL AND PHARMACEUTICAL SCIENCES
http://www.ejbps.com

ISSN 2349-8870
Volume: 6
Issue: 8
401-404
Year: 2019

PREVALENCE OF HELICOBACTER PYLORI IN PATIENTS WITH DYSPEPSIA UNDERGOING UPPER G.I ENDOSCOPY

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Article Received on 17/06/2019 **Article Revised on 07/07/2019** **Article Accepted on 28/07/2019**

ABSTRACT

Introduction: Dyspepsia is a common clinical condition encountered in day to day practice and accounts for 60% of patient referrals to gastroenterology clinics and endoscopy plays a major role in the management. The prevalence of *H. pylori* infection is reported to be more than 50% worldwide. **Objective:** The objective of the present study was to study the prevalence of *H. pylori* in patients with dyspepsia undergoing upper G. I. endoscopy. **Material & Methods:** A prospective Cross sectional study was conducted in Gastroenterology Division at District Hospital Budgam over a period of Fifteen months from March 2018 – June 2019. 100 cases of dyspepsia who fulfilled inclusion criteria were enrolled in the study and were subjected to upper GI endoscopy with antral biopsies after taking informed written consent from patients. Biopsy specimens were subjected to Rapid Urea Kit test (RUT) and histopathology. RUT Positive for H Pylori was indicated by colour change of the medium from yellow to pink. **Results:** Out of 100 patients, 34 patients were *Helicobacter pylori positive {RUT + = 34 patients}, with overall prevalence of 34%.* The Prevalence was higher in the age group of 40-59 years (58.8 %), with Male Prepondance, (70.5%) were Males compared to Females (29.4%). Most predominant symptom in H Pylori positive patients were Post-prandial fullness (47%), followed by Epigastric pain (29.4%). According to endoscopic finding, Out of 34 H Pylori positive cases, Gastric Ulcer was seen in (15) patients, followed by Duodenal ulcer (12) and Gastritis in (7) patients. H Pylori was more common among Smokers (70.5%) & in residents of Rural population (88.2 %). **Conclusions:** In this study, we concluded that Helicobacter pylori were consistently associated with peptic ulcer disease. In depth studies are needed to determine associated factors of H pylori infection in this region.

KEYWORDS: Dyspepsia, Upper G.I Endoscopy, H Pylori, Rapid Urea Test.

INTRODUCTION

The clinical observation has revealed that dyspeptic symptoms are quite commonnl observed in the kashmiri population as in other parts of world. Dyspepsia is very common complaint of patients presenting in both hospital and general practice. Dyspepsia may be an early symptom of various diseases like peptic ulcer disease, cholelethiasis and Gastric carcinoma, denoted an Organic dyspepsia, but sometimes no lesion has been found, denoted as Functional dyspepsia.[1,2] H. pylori (HP) is spiral-shaped gram-negative bacterium, known to colonize, mainly the antral portion of the human gastric mucosa. H. pylori infection is correlated with the development of chronic active gastritis, peptic ulcer disease; mucosa associated lymphoid tissue lymphoma (MALT) and gastric adenocarcinoma.[3,4] Globally, it has been estimated that 50% or more of the world's population is infected by H. pylori, making it the most widespread infection across the globe.[3,4] Actual infection rates vary from one country to another however, the developing world has much higher infection rates than the developed one.[5] *H. pylori* infection is common in the Indian subcontinent.[6] Most global burden of *H. pylori* infection comes from Asia and therefore exclusion of this bacterium is an important part of diagnostic exercise in any Asian patients presented with dyspepsia to their physicians.[7]

AIMS & OBJECTIVES

The objective of the present study was to study the prevalence of *H. pylori* in patients with dyspepsia undergoing upper G. I. endoscopy.

MATERIAL AND METHODS

A prospective Cross sectional study was conducted in Gastroenterology Division at District Hospital Budgam,

Central Kashmir, North India over a period of Fifteen months from March 2018 – June 2019. 100 cases of dyspepsia who fulfilled inclusion and exclusion criteria were enrolled in the study and were subjected to upper GI endoscopy with Antral biopsies under oral lignocaine spray, Informed written consent from patients and approval from Hospital ethical committee was also taken. Biopsy specimens were subjected to Rapid Urea Kit test (RUT) & Histopathological examination at GMC Srinagar pathology department, depending upon availability. RUT Positive (rapid urease test) was indicated by change in color of the medium from yellow to pink or red. The case was taken as *Helicobacter pylori* positive when the rapid urease test was positive. The inclusion and exclusion criteria were as follows.

Inclusion criteria

1. Patients between above 18 years of age
2. Patients with dyspeptic symptoms for more than 2 weeks durations.

Dyspepsia includes a series of symptoms like upper abdominal pain, discomfort, bloating, early satiety, Heartburn, Water brush, Postprandial fullness, reflux symptoms & if associated with nausea, and vomiting were included in the study .

Exclusion criteria

1. Patients < 18 years and ≥ 80 years of age.
2. Pregnant and Lactating women
3. Patients on NSAIDs for more than one month Duration
4. Patients with esophageal growths on endoscopy.
5. Unwilling or unfit patients for Upper GI Endoscopy.

All the patients were subjected to UGI Endoscopy & ultrasonography for ascertaining the investigative diagnosis of dyspepsia either as organic or functional.

OBSERVATIONS AND RESULTS

Out of 100 patients, 34 patients were *Helicobacter pylori positive, with overall prevalence of 34%*. The Prevalence was higher in the age group of 40-59 years (58.8 %), followed by 18-39 years (29.4%). H Pylori prevalence was more among Males (70.5%), compared to Females (29.4%). H Pylori was more common among Smokers (70.5%) than in Nonsmokers & more prevalent among residents of Rural population (88.2%), compared to Urban population (TABLE 2). Most predominant symptom in H Pylori positive patients were Post-prandial fullness (47%), followed by Epigastric pain (29.4%) (TABLE 3). According to endoscopic finding, Out of 34 H Pylori positive cases, Gastric Ulcer was seen in (15) patients, followed by Duodenal ulcer (12) and Gastritis in (7) patients (TABLE 4).

Table 1: Demographic profile of the studied patients.

Characteristics		Number (n)	(%)
Age Group (yr)	18 – 39	26	26%
	40 – 59	64	64%
	60 - 79	10	10%
Gender	Male	58	58%
	Female	42	42%
Residence	Urban	12	12%
	Rural	88	88 %
Smoking	Yes	40	40%
	No	60	60%

Table 2: Prevalence of H. pylori among sample of patients (n=34).

Characteristics		Number (HP +)	Percentage (%)
Gender	Male	24	**70.5**
	Female	10	**29.4**
Age Group (yrs)	18 – 39	10	**29.4**
	40 – 59	20	**58.8**
	60 - 79	4	**11.7**
Residence	Rural	30	**88.2**
	Urban	4	**11.7**
Smoking	Yes	24	**70.5**
	No	6	**17.6**
Total	**100**	**34**	**34%**

Table 3: Prevalence of H Pylori according to G.I Symptoms (n = 34).

Predominant symptoms	No. of patients (n)	Percentage (%)
Epigastric Pain	10	29.4
Upper Abdominal discomfort	5	14.7
Postprandial fullness	16	47.0
Heart burn	3	8.8
TOTAL	**34**	**100 %**

Table 4: Prevalance of H Pylori according to Endoscopic findings.

EGD finding	No of Cases	H Pylori +	Percentage (%)
Normal study	2	0	0.0
Gastritis	68	7	10.2
Gastric Ulcer	18	15	83.3
Duodenal Ulcer	12	12	100%
Rapid urea test Positivity (+)	**100**	**34**	**34%**

DISCUSSION

This study was conducted out to uncover the predominance of *H. pylori* infection among symptomatic patients undergoing upper GI endoscopy and also to

determine the associated risk factors. The study revealed a prevalence of 34 % in the rural area of District Budgam, Kashmir, North -India, which appears to be very less compared to other studies from India. Study done by Vijaya et al, showed a prevalence of 62.7%, while Sasidharan S et al, showed a prevalence of 35.6%, Ashtari S et al, showed a prevalence rate of 83.5%. Khan S et al, showed the prevalence of 72.8%.[8,9,10,11] Low prevalence in our zone can also be explained by many plausible facts; one is the probably the disparity of prevalence from one zone to another as prevalence widely depends on the environment (geographical area, water supply, sanitation, socioeconomic status), host (age, ethnicity, race, hygiene level, crowding in the household) and laboratory detection methods (use of gold standard test like histopathology or molecular diagnosis).[12] Another probable reason could be the low sample size compare to other studies, so further large scale study can only reveal the actual prevalence rate in our zone.

As depicted in observations, Prevalence of H Pylori positive patients were highest in the age group 40-59 years (58.8%). This was consistent with the study done by Sulami AA et al, found the highest prevalence in the age group of 41-50 years (79%) and not in the older age group.[13]

We excluded patients below 17 years and above 80 years of age. The reason for establishing these age groups for exclusion was that *H. pylori* infection is acquired in early childhood and a disproportionately large number of children may have not acquired infection and if included can confound our results. On the other hand persons in higher age group have disproportionately high percentage of H. pylori positivity and also may not complaint of symptoms because of increased threshold of pain perceptions, thus above 80 years patient were also excluded.

Gender wise prevalence was higher in males (70.5%) compare to females (29.4%). Khan S et al, also found male preponderance (77.1%), Vijaya etal, also found higher infection rate in males (65.9%).[8,11] In present study the reason for male preponderance is may be due to their addiction to habits like tobacco, and smoking.

In our study majority of H Pylori + patients were smokers (70.5%) and our findings were in accordance with the study findings of khan S et al, and Ghosh et al.[11,14]

In the present study, the commonest identifiable lesion at endoscopy was gastritis (68%). According to endoscopic finding, Out of 34 H Pylori positive cases, *H. pylori* prevalence in gastric ulcer was seen in 83.3% (15/18) patients and in Duodenal ulcer 100% (12/12) patients. Ahmad *etal*[15] documenting *H. pylori* prevalence in gastric ulceration patients to be 80% and 84% respectively. Cotran *et al*[16] reported the international association of *H. pylori* with gastric ulceration to be more than 70%.

All our observations in the present study are comparable to other studies except for the overall prevalence of *H. pylori* and the percentage of gastritis/duodenitis patients with *H. pylori* positivity which was less when compared to the other studies.

CONCLUSION

In conclusion, Prevalence rate of *H. pylori* infection was found low compare to other places in India. we also found that Helicobacter pylori were consistently associated with peptic ulcer disease, which is in broad agreement with the studies done earlier. The results of this study provide important implications for public health strategies for the prevention of H. pylori infection in the Budgam zone of Kashmir valley. In depth studies are needed to determine the factors associated with H. pylori infection in this region.

Study limitation

The present study has some limitations; first, the study sample may not be representative of the population of Kashmir. since the sampling technique was a purposive sampling without randomization. Second, a cross-sectional study design is not suitable for assessing risk factors for H. pylori. Third, no controls were included as the study relied on the invasive method of H. pylori detection.

Conflict of Interest: There is no conflict of interest to be declared.

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