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HELICOBACTER PYLORI;
PATIENTS WITH FUNCTIONAL DYSPEPSIA

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ABSTRACT… Objective: To determine the frequency of H. pylori in patients with functional dyspepsia. **Patients and methods:** This six months multidisciplinary study was conducted at tertiary care teaching hospital as well as at private hospital Hyderabad from February 2012 to July 2012. All patients presented with history of dyspepsia were admitted and evaluated for functional dyspepsia by performing endoscopy. After confirmation of functional dyspepsia the subjects were further evaluated for H. pylori infection by taking the biopsy specimen, label it and sent to laboratory for histopathological examination. The data was entered, saved and analyzed in SPSS version 11.00. **Results:** During six month study period, total 100 patients with functional dyspepsia were recruited. Majority of patients were from low socioeconomic class (78%), have history of spicy food intake (68%) and epigastric pain (94%). The associated symptoms observed were nausea and vomiting (87%), anorexia (88%), early satiety (84%) and regurgitation (84%). The mean ±SD for age of patients with functional dyspepsia was 37.95±10.85. The mean age ±SD of H. pylori identified patients was 35.81±7.72. Majority of the subjects was 30-40 years of age and the male population predominant 64% (p-value 0.02, statistically significant). The H. pylori was identified in 62% of patients, of which 35 (56.5%) were males and 27(43.5%) were females (p-value 0.04, statistically significant) respectively. **Conclusions:** The H. pylori play a significant role in causing symptoms of functional dyspepsia.

Keywords: Non ulcer dyspepsia, functional dyspepsia, Helicobacter pylori

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INTRODUCTION

Dyspepsia is defined as pain or discomfort in the upper abdomen associated with bloating, early satiety, postprandial fullness, nausea, anorexia, heartburn, regurgitation and burning or belching with or without water brash[1]. It is a very common symptom affecting more than one fourth of general population, a frequent reasons for medical consultation and affects to have a significant impact on quality of life. Its symptoms are vague and varied but for research and clinical purposes are categorized as reflux, ulcers, motility or non specific[1]. Since the etiology of dyspepsia is uncertain although H pylori has been implicated. Infection with Helicobacter pylori has been identified as a public health problem worldwide affecting approximately 50% of the world population,[2] more prevalent in developing than the developed countries and large population studies have shown that the bacteria are found more frequently in dyspeptic patients[2-4]. In dyspeptic patients peptic ulcer relapse and remit and it is possible that at the time of endoscopy an ulcer is not present and it will be diagnosed as non ulcer dyspepsia because of the presence of bacteria[5]. Dyspepsia is divided to organic dyspepsia and functional dyspepsia (FD) depending on the etiology of the symptoms. According to the study by Talley et al,[6] functional dyspepsia (nonulcer dyspepsia) means chronic or recurrent upper abdominal pain or discomfort for a period of at least 03 months, with symptoms present more than 25% of the time, and an absence of clinical, biochemical, endoscopic, and imaging evidence

of any organic disease that would account for the symptoms[6]. Functional dyspepsia (FD) and Helicobacter pylori (Hp) infection are among the most common clinical issues but the association of these two entities is still unclear.

The pathogenesis of functional dyspepsia is unknown, many mechanisms have been observed i.e. disturbance in gastric acid secretion, impaired gastric motility, disturbance in electrical control activity, impaired perception, psychological disorders, environmental factors and infection (Helicobacter pylori -H. pylori)[7]. The role of H. pylori has been documented in the pathogenesis of peptic ulcer but its role in functional dyspepsia is not clear either it causes symptoms or an associated finding[8]. The reported prevalence of H. pylori in patients with functional dyspepsia is 87%[9]. Former trials evaluates the efficacy of H pylori eradication treatment for non-ulcer dyspepsia have been designed given a conflicting results but there is a clear indication that H pylori eradication treatment is effective in at least a subset of patients with non-ulcer dyspepsia[9-12].

The present study was conducted in a governmental tertiary care teaching hospital and at private hospital of Hyderabad Pakistan, the study observe the role of H. pylori in acquiring functional dyspepsia. The objective of the present study is to determine the frequency of Helicobacter pylori in patients with functional dyspepsia.

PATIENTS AND METHODS

This six months multidisciplinary cross sectional study was conducted at governmental tertiary care teaching hospital and a private hospital of Hyderabad from February 2012 to July 2012 on the patients presented with functional dyspepsia. The data was collected from the patients of either gender with dyspeptic symptoms, bloating and epigastric discomfort and then were admitted in the hospital. The patients were evaluated for functional dyspepsia and the informed consent was taken from all patients prior to inclusion in the study. All the patients were underwent for gastroscopy and were diagnosed as functional dyspepsia according to the Rome III Diagnostic Criteria for Functional Gastrointestinal Disorders13 i.e. there was no findings (no ulcer or mucosal lesion) during endoscopy. Mucosal biopsy specimen was taken during endoscopy in formaline containing bottles, labeled accordingly and sent to the clinical laboratory for histopathological examination for the detection of Helicobacter pylori infection. All the relevant information was entered on the pre-designed proforma and all the procedures were preformed by the collaboration and cooperation of whole research team and were under medical ethics. The exclusion criteria of the study were patients already on Helicobacter pylori eradication therapy, pregnant and lactating female and the patients had symptoms of gastroesophageal reflux disease (e.g. heartburn) or irritable bowel syndrome (lower abdominal cramps, impaired bowel habits).

The data was entered, saved and analyzed in SPSS version 13. Mean ± standard deviation was calculated for age while the frequencies and percentages were calculated for gender and H. pylori in patients with functional dyspepsia. The chi-square test was applied at 95% confidence interval and the p-value =0.05 was considered as statistically significant.

RESULTS

During six months study period, total 100 patients with functional dyspepsia were recruited. Majority of patients were from low socioeconomic class (78%), history of spicy food intake was observed in 68% and epigastric pain (94%). The associated symptoms observed were nausea and vomiting (87%), anorexia (88%), early satiety (84%) and regurgitation (84%). The mean ±SD for age of patients with functional dyspepsia was 37.95±10.85. The mean age ±SD of H. pylori positive patients was 35.81±7.72. The distribution of age in relation to gender is shown in Table-I. The gender and age distribution in relation to H. pylori in patients with functional dyspepsia is shown in Table-II and III.

		Gender		Total	P-value
		Male	Female		
Age	**20-29**	9 (14.1%)	9 (25.0%)	18 (18.0%)	0.003*
	30-39	40 (62.5%)	9 (25.0%)	49 (49.0%)	
	40-49	9 (14.1%)	8 (22.2%)	17 (17.0%)	
	50-60	6 (9.4%)	10 (27.8%)	16 (16.0%)	
Total		64 (100.0%)	36 (100.0%)	100 (100.0%)	

Table-I. Age in relation to gender
**Statistically significant*

		Gender		Total	P-value
		Male	Female		
Age	**20-29**	11 (17.7%)	7 (18.4%)	18 (18.0%)	0.31*
	30-39	27 (43.5%)	22 (57.9%)	49 (49.0%)	
	40-49	11 (17.7%)	6 (15.8%)	17 (17.0%)	
	50-60	13 (21.0%)	3 (7.9%)	16 (16.0%)	
Total		62 (100.0%)	38 (100.0%)	100 (100.0%)	

Table-II. Age in relation to helicobacter pylori infection
**Statistically non significant*

		Helicobacter pylori		Total	P-value
		Yes	No		
Gender	**Male**	35 (56.5%)	29 (76.3%)	64 (64.0%)	0.04*
	Female	27 (43.5%)	9 (23.7%)	36 (36.0%)	
Total		62 (100.0%)	38 (100.0%)	100 (100.0%)	

Table-III. Helicobacter pylori in relation to gender
**Statistically significant*

DISCUSSION

The present six months multidisciplinary study was carried out at government tertiary care hospital as well as private hospital of Hyderabad. Our study was based on dyspeptic patients presented with various symptoms due to different etiologies, both male and female in age group of 20-60 years. Talley NJ observed in its study that 50% of patients with functional dyspepsia have no apparent cause and the dyspepsia is considered idiopathic or functional.

In our dyspeptic patients 78% were belonged to low socioeconomic status. The study by Graftie J, et al[14] also showed 80% of the dyspeptic patients have low socioeconomic status. As depicted in observations, majority of the patients were in age group 30-40 years (49%) and as the age advanced

the prevalence of dyspepsia decreased. This is consistent with the study of Jones RH, et al[15]. We excluded patients below 20 years and above 60 years of age. Talley NJ,[16] studied a group of 20-60 years who have taken a modest upper limit, its because of the difference in life expectancy in our and western population. The reason for establishing this age groups for exclusion is H. pylori infection acquired in early childhood and a disproportionately 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 60 years patient were also excluded from present study. Dyspepsia as a symptom that is more common in males as compared to females. Out of one hundred patients examined, 64 were males and 36 were females. The difference was significant confirming male outnumbered female because females might have not come forward with complaints in order to seek medical attention. The higher number of males in dyspepsia group was also observed by Rocar et al i.e. 34 males and 21 females[17]. But few studies show that dyspepsia is moderately higher in females than males[18].

In our dyspeptic patients, about 68% patients who came to OPD had history of eating spicy food, consumption of coffee in large amount with chief complaints of heart burn and the similar findings were observed by Heikkinen M, et al. 18In our dyspeptic patients most of them 94% patients have epigastric pain during day time and less number of patients having epigastric pain during night time while associated symptoms observed were nausea and vomiting 87%, anorexia 88%, early satiety 84 and regurgitation 84%. Pash Le R, et al[19] shown in their study that 80%-90% of the dyspeptic patients have associated symptoms of epigastric pain, anorexia, nausea, vomiting, early satiety and regurgitation.

In our study H. pylori was observed in 62%. Kachintorn U, et al[20] in their study evaluated the prevalence of H. pylori infection in subjects with upper gastrointestinal symptoms and also its association with histological gastritis and detected overall prevalence of H. pylori was 63.3 percent[20]. Duodenal ulcer has the highest prevalence rate of H. pylori infection (66%); gastric ulcer was less frequently associated with H. pylori infection (55%). In contrast, none of these patients seen with normal antrum had H. pylori infection. Moncada J, et al[21] in their study also proved association between functional dyspepsia and H.pylori. A study by Shrivastava UK, et al[9] identified that H. pylori may be responsible for symptoms in a small proportion of patients with non-ulcer dyspepsia and in some of these cases anti-H. pylori therapy may be beneficial, this remains to be established.

Based on the results of the present study, it can be summarized that the etiopathogensis of functional dyspepsia is heterogeneous in nature. H. pylori play a significant role in causing symptoms of functional dyspepsia. Patients should be investigated for H. pylori and managed accordingly. Treatment of H. pylori infection with triple drug regimen in these patients may bring a significant long-term improvement in the symptoms. In patients who are negative for H. pylori, other factors such as increase acid secretion or psychological factors may play a role in acquiring symptoms. Further advance studies are warranted in such patients to establish the exact cause of symptoms and in relation to treatment response.

CONCLUSIONS

In present study the H. pylori was identified in 62% patients with functional dyspepsia. The H. pylori found to be more common in low socio- economic status, majority of the patients were males and in 31-40 years age group.

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