



FREQUENCY OF HELICOBACTER PYLORI IN PATIENTS WITH FUNCTIONAL DYSPEPSIA.

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INTRODUCTION

Dyspepsia or indigestion is a umbrella term occupies the wide range of conditions and the diagnose depends on patients clinical history, physical examination and laboratory investigations.²⁻⁴ In dyspeptic individuals the peptic ulcer remit and relapse and during endoscopy the ulcer can be absent along with the existence of Helicobacter pylori infection and the conditions termed as non ulcer dyspepsia.⁵ Dyspepsia can be categorized in functional dyspepsia (FD) and organic dyspepsia depending on the symptomatic etiology. Functional dyspepsia (non-ulcer dyspepsia) defined as recurrent or chronic upper abdominal discomfort or pain for a at least three months with symptoms exists > 25 percent of the time, along with absence of biochemical, clinical, ultrasonographic and endoscopic evidence of any organic disorder responsible for symptoms.⁶ The most common clinical issue in gastroenterology is Helicobacter pylori (Hp) infection and functional dyspepsia

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ABSTRACT... To evaluate the frequency of Helicobacter pylori in individuals with functional dyspepsia. **Study Design:** Cross sectional descriptive study. **Period:** Six months from 01-May-2014 to 31-10-2014. **Setting:** Liaquat National Hospital, Karachi. **Materials and Methods:** All the patients between 18 to 70 years of age diagnosed as functional dyspepsia for more than 03 months duration were admitted and evaluated for Helicobacter pylori infection through histopathological examination. **Results:** Total 121 subjects with functional dyspepsia were screened for Helicobacter pylori infection. The mean \pm SD for age of subjects with functional dyspepsia was 41.74 ± 08.87 . The mean age \pm SD of Helicobacter pylori infected individuals was 40.70 ± 7.82 while the mean \pm SD of age in helicobacter pylori negative patients was 40.55 ± 10.63 . Majority of the subjects were out-patients, 30-39 years of age with male predominance. The most common duration of disease observed was 6-9 months with epigastric pain and burning the predominant symptoms. The Helicobacter pylori infection was observed in 78(64.4%) individuals, of which 55 were males and 23 were females ($p < 0.01$). **Conclusion:** The functional dyspeptic patients are prone to acquire Helicobacter pylori infection therefore present study reported 64.4% prevalence for H. pylori infection with male gender predominance.

Key words: Dyspepsia, Functional Dyspepsia, Helicobacter Pylori Infection, Peptic ulcer

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(FD) but their association remains unclear and disputed.⁸ The prevalence of H. pylori in functional dyspepsia reported as 87%,⁹ but remains unclear either an associated findings or H. pylori infection is responsible for the symptoms. Former trials determined the non ulcer dyspepsia managed by eradication of H. pylori with conflicting results but some studies reported subsiding of symptoms with eradication treatment in individuals with non-ulcer dyspepsia.⁹⁻¹² Thus, this study planned to conducted at tertiary care hospital to evaluate the frequency of H. pylori in individuals with functional dyspeptic symptoms so that early effective measure can be taken to save the individuals from life threatening complications associated with H. pylori.

PATIENTS AND METHODS

The six months (01-May-2014 to 31-10-2014) cross sectional descriptive study was conducted at Department of Gastroenterology, Liaquat National Hospital Karachi. The Sample Size was

calculated by considered the prevalence of Helicobacter pylori in functional dyspepsia 87%⁹ with 06% margin of error. Total 121 functional dyspeptic patients were taken.

The inclusion criteria were the patients of 18 – 70 years, either gender presented with functional dyspepsia for more than 03 months duration.

The exclusion criteria were patients already on Helicobacter pylori eradication therapy, gastroesophageal reflux disease or irritable bowel syndrome and previous gastrointestinal surgery.

(A) Functional Dyspepsia

The functional dyspepsia was detected according to the Rome III Diagnostic Criteria for Functional Gastrointestinal Disorders.¹³

*The criteria fulfilled for the symptom onset at least for 03 months prior to diagnosis.

(B) Helicobacter Pylori Infection

Detected on mucosal biopsy specimen taken during endoscopy and sent to laboratory for histopathology and considered as **positive** when Helicobacter pylori infection is detected. The gram stain demonstrated the spiral bacillus of Helicobacter pylori, the organism can be seen within the mucus extruding from the foveolar pits showed a proliferating colony of Helicobacter pylori obtained by biopsy.

The data was collected from patients with functional dyspepsia attended Gastroenterology out and in patient department. All patients were evaluated for H. pylori infection. The informed consent was taken and all patients were underwent Gastroscopy and histopathological evaluation was reported by histopathologist while all the relevant information was entered on the annexed proforma.

Statistical package of social sciences (SPSS version 13) was used for analysis and chi-square test was applied and the p-value ≤0.05 was considered as statistically significant.

RESULTS

Total 121 patients with functional dyspepsia were evaluated for Helicobacter pylori infection. The mean age ±SD of functional dyspeptic patients was 41.74±08.87 while of Helicobacter pylori infected individuals were 40.70±7.82 whereas it was 40.55±10.63 in H. pylori negative subjects. The results are presented in Table-I-IV.

| | | Gender | | Total | P-Value |
|--------------|-------|--------|--------|--------|---------|
| | | Male | Female | | |
| Age | 18-29 | 5 | 4 | 9 | 0.02* |
| | | 6.7% | 8.7% | 7.4% | |
| | 30-39 | 31 | 24 | 55 | |
| | | 41.3% | 52.2% | 45.5% | |
| | 40-49 | 34 | 9 | 43 | |
| | | 45.3% | 19.6% | 35.5% | |
| | 50-59 | 3 | 7 | 10 | |
| | | 4.0% | 15.2% | 8.3% | |
| | 60-70 | 2 | 2 | 4 | |
| | | 2.7% | 4.3% | 3.3% | |
| Total | | 75 | 46 | 121 | |
| | | 100.0% | 100.0% | 100.0% | |

Table-I. The age according to gender

| | | H. Pylori | | Total | P-Value |
|--------------|-------|-----------|----------|--------|---------|
| | | Positive | Negative | | |
| Age | 18-29 | 3 | 6 | 9 | 0.03* |
| | | 3.8% | 14.0% | 7.4% | |
| | 30-39 | 34 | 21 | 55 | |
| | | 43.6% | 48.8% | 45.5% | |
| | 40-49 | 33 | 10 | 43 | |
| | | 42.3% | 23.3% | 35.5% | |
| | 50-59 | 7 | 3 | 10 | |
| | | 9.0% | 7.0% | 8.3% | |
| | 60-70 | 1 | 3 | 4 | |
| | | 1.3% | 7.0% | 3.3% | |
| Total | | 78 | 43 | 121 | |
| | | 100.0% | 100.0% | 100.0% | |

Table-II. The age accordance to helicobacter pylori infection

| | | Gender | | Total | P-Value |
|--------------|----------|--------|--------|--------|---------|
| | | Male | Female | | |
| H. Pylori | Positive | 55 | 23 | 78 | <0.01* |
| | | 73.3% | 50.0% | 64.5% | |
| | Negative | 20 | 23 | 43 | |
| | | 26.7% | 50.0% | 35.5% | |
| Total | | 75 | 46 | 121 | |
| | | 100.0% | 100.0% | 100.0% | |

Table-III. The gender according to helicobacter pylori infection

| | | H.Pylori | | Total | P-Value |
|-------------------|------|----------|----------|--------|---------|
| | | Positive | Negative | | |
| Duration (Months) | 3-6 | 17 | 4 | 21 | 0.35* |
| | | 21.8% | 9.3% | 17.4% | |
| | 6-9 | 33 | 21 | 54 | |
| | | 42.3% | 48.8% | 44.6% | |
| | 9-12 | 19 | 11 | 30 | |
| | | 24.4% | 25.6% | 24.8% | |
| | > 12 | 9 | 7 | 16 | |
| | | 11.5% | 16.3% | 13.2% | |
| Total | | 78 | 43 | 121 | |
| | | 100.0% | 100.0% | 100.0% | |

Table-IV. The helicobacter pylori infection in relation to duration of symptoms

DISCUSSION

The functional dyspepsia etiology remains unclear although the relationship with H. pylori has been detected formerly. In present study, 64.4% patients had positive and 35.5% had negative H. pylori infection and is consistent with former literature as 62%, 58% and 68% for H. pylori infection associated with functional dyspepsia.¹⁴⁻¹⁶ The pathogenesis include altered gastric emptying alterations and accommodation of stomach and gastroduodenal hypersensitivity.¹⁷⁻¹⁹ Some studies observed delays gastric emptying by H. pylori which improves by eradication therapy although former literature failed to confirm it.²⁰ H. pylori infection leads to dyspepsia by gastric acid secretion, gastric mucosa inflammation and pathological changes. It has been observed that found that non-ulcer dyspepsia & infected subjects stimulates maximal acid output as compared to uninfected controls.^{21,22} H. pylori alters release of gastrin & somatostatin as well as of ghrelin and these alterations normalize following eradication therapy.^{23,24} Certain genetic factors play a role H. pylori-associated gastritis.²⁵ Indeed, despite of existence of infection majority of individuals with H. pylori infection are asymptomatic and leads to chronic gastritis. The polymorphonuclear infiltration completely subsides following eradication while the lymphocytic infiltrate in gastric mucosa persist and exists for several months to years and these cell are responsible for releasing cytokines responsible for inflammatory process.²⁶⁻²⁸ Talley NJ observed that 50%

individuals with functional dyspepsia spare from etiology and labeled as functional or idiopathic.¹²

In present series 72% dyspeptic patients were from low socioeconomic status and is reported as 80% in the study by Graftie J, et al.²⁹ In present study the male population were in majority and is consistent with the study of Rocar et al while the study by Heikkinen M, et al is contrast.^{30,31}

Pash Le R, et al observed 80%-90% dyspeptic subjects have associate epigastric pain, bothersome postprandial fullness, early satiety, anorexia and regurgitation.³² In present study majority of patients (54) had symptoms for six to nine months and 30 patients had for 9-12 months, the findings are consistent with the study by Perri F, et al.³³ Further advance and multidisciplinary studies should be planned and conduct to evaluate the etiology of symptoms and response of eradication therapy.

CONCLUSION

H. pylori responsible for causing functional dyspeptic symptoms & in present study the proportion for H. pylori was reported as 64.4% with male predominance (71%) between 30-39 years age group.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

| Sr. # | Author-s Full Name | Contribution to the paper | Author=s Signature |
|-------|---------------------|--|---|
| 1 | Tooba | Contributions to conception and design, acquisition of data, analysis and interpretation of data. |  |
| 2 | Riaz Hussain Awan | Drafting the article and shares its expert research opinion and experience in finalizing the manuscript. |  |
| 3 | Seema Nayab | Contributed in conception and interpretation of data and give his expert view for manuscript designing. |  |
| 4 | Khadim Hussain Awan | Data analysis and interpretation. |  |
| 5 | Faqir Muhammad Awan | Collection and acquisition of data, analysis and interpretation of data and make it suitable for final version and a corresponding author. |  |