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Demographic and clinical characteristics of patients with Helicobacter Pylori related dyspepsia

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Abstract

Helicobacter pylori (H.pylori) is a common infection seen around the globe. Dyspepsia is a frequent symptom of H. Pylori infection. Patients with dyspepsia caused by H.pylori were surveyed in this research to determine their demographic and clinical features. From April 2019 to August 2020, researchers at Benha University Hospital and the department of hepatology, gastroenterology, and infectious diseases performed this cross-sectional observational study on 200 adult patients who had dyspepsia and were found to have H. pylori infection via an ELISA test for H. pylori stool ag. Males comprised 43.5 percent of the patients with H.pylori dyspepsia in this study. One in four patients were smokers, and their average age was 35.4 + 13.4 years, respectively, according to the study. There were 157 patients (78.5 percent) who reported postprandial discomfort, 90 (45 percent) who reported heartburn, and 80 (40 percent) who reported bloating. Baseline extra gastric symptoms were uncommon among these patients, with just a small percentage reporting them. In contrast, just nine edema-sufferers (4.5 percent) were found among the 26 dyspnea sufferers (13 percent). There were 31 patients (15.5 percent) who had at least one prior surgery. Twenty-two patients (11 percent) had high blood pressure, whereas fifteen patients (7.5 percent) had diabetes. Antibiotics were the most often reported prior medication use among the patients, with a total of one hundred and twenty patients reporting such use (60 percent). There were 39 patients (19.5%) with a proven PPI medication history and 32 patients (16%) with NSAIDs, however. Postprandial epigastric discomfort, heartburn, bloating, and nausea were the most common symptoms in H. pylori-associated dyspepsia. Antibiotic usage in the past was present in more than half of the patients, raising the possibility that H. pylori resistance may be impacted.

Keywords: Helicobacter, Pylori, Dyspepsia

1. Introduction

This condition affects around 25 percent of the population every year. Intense pain or discomfort in the upper abdomen with belching or regurgitation, bloating, early satiation, heartburn, food intolerance, nausea or vomiting are the most common symptoms of this condition [1].

The term "dyspepsia" encompasses a wide range of symptoms affecting the upper digestive system, with the most common three being reflux, ulcer, and dysmotility [2].

Dyspepsia in some cases has no known aetiology. Symptoms of functional dyspepsia or non-ulcer dyspepsia are classified below (NUD). Peptic ulcer disease, cancer, and functional dyspepsia are the most common causes of dyspepsia. [3].

Spiraling-shaped bacteria Helicobacter pylori (H.pylori) mainly lives in the stomach and digestive system. H. pylori infection is a prevalent global infection that is a major cause of peptic ulcer and gastrointestinal cancer [4].

The H. pylori bacteria has evolved to withstand the stomach's severe acidic medium. Because this bacteria is able to adapt to its environment, it is able to remain alive. Also widespread in impoverished nations, it may infect children's stomachs. There are several problems that may be caused by H.pylori infection ranging from gastritis to gastrointestinal cancers [5].

Peptic ulcer disease (both gastric and duodenal), chronic gastritis, gastric mucosal-associated lymphoid tissue lymphoma, and gastric malignancies were determined to be the primary causes of the upper gastrointestinal illnesses [6].

Some nations have yet to discover the optimal regimen for eliminating H. pylori despite the fact that many research have been carried out in this period of H. pylori therapy during the preceding 30 years [7].

Study participants with dyspepsia were surveyed for H.pylori prevalence and demographic and clinical features.

2. Patients and methods

This cross-sectional observational study was conducted on 200 adult patients with dyspeptic symptoms and H.pylori stool ag positive attending the department of Hepatology, Gastroenterology and Infectious Diseases, Benha University Hospital & outpatient clinics from April 2019 to August 2020. The committee of ethics of scientific research of Benha Faculty of Medicine approved the study protocol and written consents were obtained from the patients.

Inclusion Criteria

- Age more than 18 years old.
- Patients presented with dyspepsia.
- H.pylori stool ag positive.

Exclusion criteria:

- Pregnant or lactating women.
- Patients with advanced liver or renal disease.
- A pre-prepared sheet was filled for all patients includes the following data:
- Personal data including; Name, age, sex, , residence, occupation, special habits and marital status.

- Clincal data: history of upper gastrointestinal symptoms such as epigastric pain, post prandial pain , fulness, dysphagia, and heart burn. History of lower gastrointestinal symptoms as abdominal distension, flatulence, melena and bowel habits changes.
- Past history of DM, hypertension, renal or liver diseases.
- Drug history including proton pump inhibitor, aspirin, NSAIDS.
- Stool antigen test by using H. pylori Antigen (ELISA) according to the manufacturers (STANDARD DIAGNOSTIC, INC., Republic of Korea (17099): The patients provided fresh stool samples in airtight containers until the stool antigen tests were performed. Exclusion criteria of the stool samples were diarrhea, inadequate amount, and delayed delivery of the samples after collection.

Statistical analysis

Coded data was entered on the computer using a database developed for data entry on Microsoft Office Excel program for windows, 2010. Then the data were transferred to the Statistical Package of Social Science, version 20 (SPSS – v 20) for quantitative data analysis. Quantitative data was expressed as mean and standard deviation (X ± SD) Qualitative data was expressed as number and percentage.

3. Results

Two hundred patients were involved in the study, 87(43.5%) of them were males, Only 44 (22%) of the involved patients were smokers, The mean and standard deviation of the patients' age were 35.43 and 13.43 years, respectively. (Min. 18 and Max. 71 years old). Table (1)

Table (1) Baseline Characteristics of the studied patients.

Characteristics	N.	%
Gender		
Male	87	**43.5**
Female	113	**56.5**
Marital status		
Married	132	**66**
Single	65	**32.5**
Widowed	3	**1.5**
Smoking		
Smoker	44	**22**
Non-smoker	156	**78**
Occupation		
Employee	95	**47.5**
Non-employee	105	**52.5**

The majority of the patients 157 (78.5%) suffered from postprandial pain, while only 90 (45%) suffered from heartburn and 80 (40%) had bloating, as shown in **Fig. (1)**

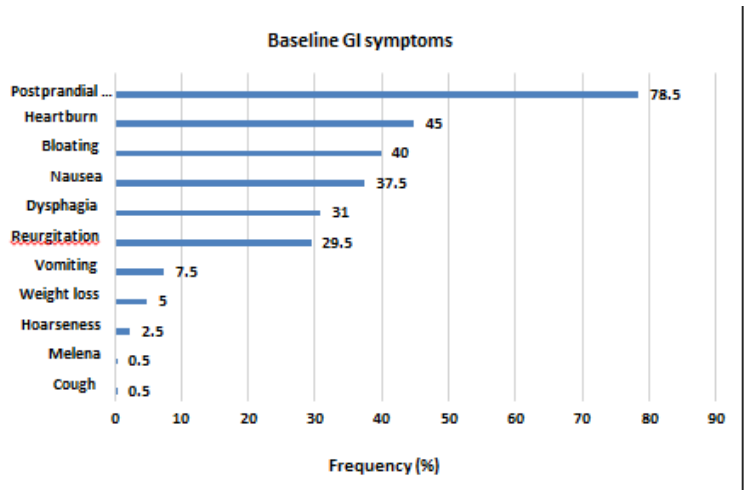

Fig. (1) Baseline GIT symptoms of the H.pylori patients.

There was low prevalence of baseline extra gastric signs among the patients. Twenty-six (13%) patients suffered from dyspnea, while only nine (4.5%) suffered from lower limb edema, as shown in **Fig. (2)**

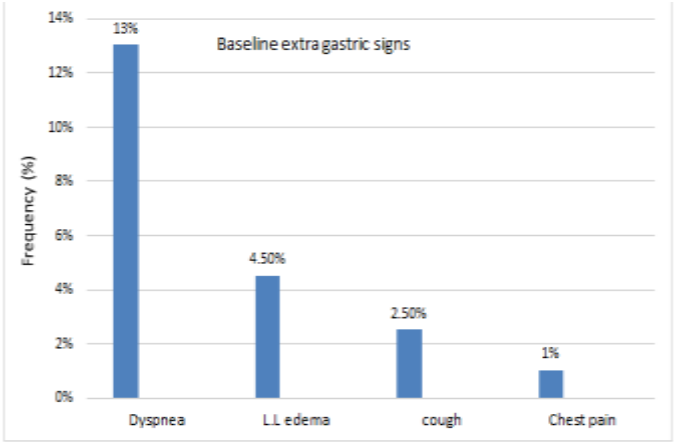

Fig. (2) Baseline extra gastric signs of the H.pylori patients.

The medical history shown in **Table (2**); thirty-one (15.5%) the patients had at least one previous operation. twenty-two (11%) patients are hypertensive and fifteen (7.5%) patients are diabetic.

Table (2) Baseline medical history of the studied patients

Past history	Number	%
Previous Operation	31	**(15.5%)**
Liver Disease	7	**(3.5%)**
Heart Disease	2	**(1%)**
Diabetes mellitus	15	**(7.5%)**
Hypertension	22	**(11%)**

Regarding the past drug history, using antibiotics was the most reported among the patients, about one hundred and twenty patients (60%), However only 39 (19.5%) and 32 patients (16 %) had used PPI and NSAIDs, respectively, as shown in **Fig. (3)**

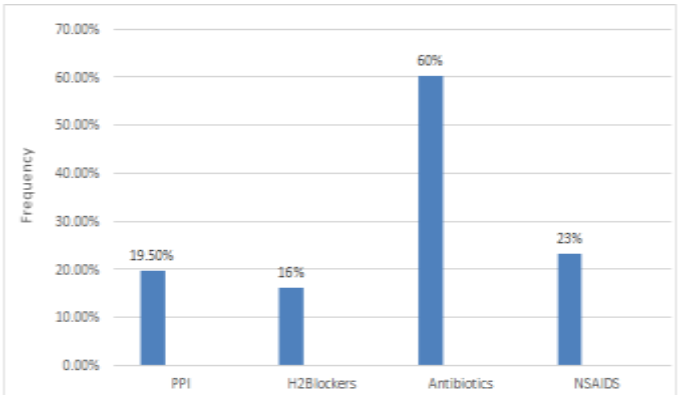

Fig. (3) Past drug history of the H.pylori patients.

4. Discussion

As a result of dyspepsia, the upper abdomen may feel bloated, full, or regurgitated, and epigastric pain may be present. Dyspepsia may be classified as organic or functional. Gastroesophageal reflux and persistent peptic ulcer disease are the most common causes of organic dyspepsia [8].

Spiral-shaped bacterial pathogen Helicobacter Pylori (H. Pylori) generally inhabits the stomach and digestive system, resulting in a broad range of gastrointestinal illnesses from asymptomatic gastritis to specific malignancies such as lymphoma and carcinoma [9]. Duodenal ulcers and stomach ulcers are the most prevalent complication of H. Pylori infection, with antral and corpus-dominant gastritis being the most common forms [10].

H. pylori strains tend to vary in their virulence, and this interaction with host and environmental factors causes to variances in the manifestation of illness, according to Hunt, et al. H. pylori infection incidence and prevalence are influenced by a variety of characteristics, including age, ethnicity, gender, location, and socioeconomic position [11].

More than half the world's population is infected with H. pylori, and prevalence in Egypt was more than 40.9 percent in the general population when we conducted a systematic review and meta-analysis [12].

More than 95% of duodenal ulcers and less than 70% of stomach ulcers were connected with an infection with H. Pylori, a research has shown [13]. Extrinsic symptoms of H. Pylori infection include ITP, iron deficiency anaemia, insulin resistance, and other heart-related illnesses [14].

About half of the world's population is infected with H. Pylori [15]. According to many parameters, such as geographic location and socioeconomic status, its frequency ranges from 30 to 50 percent in industrialised nations to as high as 95 percent in poor countries [16]. In other research, greater rates of H. pylori infection have been linked to less sanitary conditions, overcrowding, or poorer educational attainment [17].

There were participants aged 18 to 71, with a mean age of 35.43 years and a standard deviation of 13.43 years. The research participants varied in age from 18. There were 56.5 percent females in this research compared to the findings of a previous study that found that out of 263 patients, 150 (57.13%) were females [18]. According to previous research, ladies were more likely than men to be infected with H. Pylori [19].

Only 157 (78.5 percent) of the H. pylori-positive patients in this research had heartburn or bloating, whereas 90 (45 percent) and 80 (40 percent) reported postprandial discomfort. Among these individuals, there was a low prevalence of extra gastric symptoms at the start of the study. Only nine (4.5 percent) individuals had lower limb edoema, which was consistent with prior reports of dyspnea in 26% of patients [20], In terms of the most frequent symptoms, epigastric discomfort and heartburn were the most prevalent.

Post-prandial fullness affected 25 out of 34 subjects (73 percent) for at least six months, according to Oling et al. [21]. Early satiety affected 20 of the 25 subjects (80%) for at least six months. One hundred and eighty-six (86%) of the 100 individuals with epigastric discomfort sought treatment. Seven of the patients complained of both heartburn and dyspepsia.

5. Conclusion

H. pylori was shown to be more prevalent in females than men in this investigation. Most of the patients (157, or 78.5%) had postprandial discomfort, whereas only 90 (45%) and 80 (40%) had heartburn or bloating, respectively. Only 44 (22% of the patients participating) were smokers. Among the patients, there was a low prevalence of extra gastric symptoms at baseline. Dyspnea was reported by 26 individuals (13 percent of the total).

Conflict of interest

The authors declare no conflict of interest.

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Author contribution

Authors contributed equally in the study.

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