



Evaluation of the endoscopic findings in patients with dyspepsia

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Abstract

Introduction: Dyspepsia involves at least one of the cases of belly dysfunction after meals, early onset satiety when a person eats a normal meal, and epigastric pain or burning sensation. The aim of this study was to investigate endoscopic and pathological findings in patients referred to Imam Khomeini Hospital in Urmia, Iran.

Methods: One hundred patients who complained of two different types of dyspepsia enrolled and findings were recorded during the endoscopy. Also specimens were taken from all patients during endoscopy and sent to the lab for pathological examination. Pathologic findings of all patients were recorded from *Helicobacter pylori* (*H. pylori*) colonies.

Results: 60 patients were women (60%) and 40 were men (40%). 67% of patients had pain type dyspepsia and 33% of them had postprandial distress type. There was no significant relationship between gender and type of dyspepsia. Endoscopy findings consisted of 54% antral gastritis, 20% peptic ulcer, 43% esophagitis (mostly includes grade A), 5% hiatal hernia, 5% gastric metaplasia, 15% prepyloric ulcer, 18% duodenal ulcer, 38% positive for *H. pylori*, and 1% Barrett's esophagus disease which had no significant relationship with dyspepsia. Pathologic study findings showed 38% of patients had *H. pylori* infection with a significant higher incidence in patients with pain type dyspepsia.

Conclusion: According to this study, the incidence of any endoscopic findings in patients with two different types of dyspepsia was not significantly different, but the rate of *H. pylori* infection in patients with pain type dyspepsia was much more than the postprandial type.

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Introduction

One of the most common complaints in clinical medicine is dyspepsia and about 25% of the population experiences it every year. Based on Rome IV criteria, dyspepsia includes at least one of these symptoms: epigastric pain, burning, or postprandial distress. The symptoms of the patient should be chronic (occurring at least once a week for 6 months) without any organic disorder. Forty percent of patients with dyspepsia refer to the doctor and their condition has a

negative effect on activities and presence in the society. This problem in 2009 imposed 18 billion US dollars (USD) on health systems of the United States.^{1,2}

On the other hand, relationship between pain type dyspepsia with Barrett's esophagus and adenocarcinoma is an important issue. Gastric cancer is currently the second leading cause of cancer deaths in the world. According to a study by the Ministry of Health,³ stomach adenocarcinoma is the most common fatal cancer in Iran. Usually stomach

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cancers do not have any specific symptoms in early stages and there are often non-specific symptoms such as weight loss, loss of appetite, and dyspepsia which are also seen in other digestive disorders.³

Currently 75% of patients with dyspepsia do not have any organic disorder. The fact that the most common cause of gastritis is infectious causes has increased the need for non-invasive tests to detect *Helicobacter pylori* (*H. pylori*) because neither clinical symptoms nor risk factors have been successful in determining the exact presence of ulcers in patients with dyspepsia.⁴

If the infection occurs in childhood, its effects persist lifelong. In addition, studies have proved the relationship between dyspepsia and ulcers with depression and anxiety; in this cases, antidepressants and psychological treatments are effective; and on the other hand, patients with gastric ulcer have shown many psychological disorders.⁴

The overlap between symptoms of dyspepsia and other digestive diseases including irritable bowel syndrome (IBS) and celiac disease is one of the most important issues. The findings of this study showed that *H. pylori* infection in patients with duodenal ulcer and patients with non-ulcer dyspepsia was not significantly different. From this study, it can be concluded that *H. pylori* infection is more associated with gastric metaplasia than with duodenal ulcer and *H. pylori* cannot be considered as the main cause of ulceration.⁴⁻⁷

Methods

This cross-sectional descriptive study was conducted on patients with dyspepsia who referred to the Imam Khomeini Hospital, Urmia University of Medical Sciences, Urmia, Iran, during six months from May 2017 till October 2017. After explaining the goals and privacy policy and obtaining informed consent, history of the disease was obtained and according to history and the type of dyspepsia, patients were divided into pain type and postprandial distress type.

Demographic data such as age and gender were recorded.

Both groups were subjected to endoscopy by an assistant professor of gastroenterology. Based on the endoscopy of patients, presence or absence of sliding hiatal hernia, ulcer, esophagitis and its grades, the presence of *H. pylori*, and the rate of *H. pylori* eradication success and its relationship with symptoms relief were recorded. During endoscopy of patients, biopsies were performed from suspected area and biopsy specimens were reported by an experienced pathologist and their reports were recorded. In biopsy samples taken from patients, the presence of *H. pylori* colonies was considered as the definitive presence of *H. pylori* infection.

Information obtained through checklist was recorded separately for each patient and entered SPSS software (version 20, IBM Corporation, Armonk, NY) for statistical analysis. In order to analyze qualitative data, frequency and comparison of percentage in two groups, chi-square test was used. Mean and standard deviation (SD) in two groups were analyzed with quantitative t-test. The significance level was considered to be less than 0.050.

Results

In this study, 100 patients with dyspepsia were studied. 60 (60%) were women and 40 (40%) were men, 26 cases of men (65%) had pain type dyspepsia and 14 of them (35%) had postprandial distress. On the other hand, 41 cases of the women (68.3%) had pain type dyspepsia and 19 of them (31.7%) had postprandial distress (Figure 1). Among all patients with dyspepsia, 67 patients (67%) complained of pain and/or heartburn (pain type) and 33 patients (33%) had postprandial distress. Therefore, there was no significant relationship between the sex of the patients and the type of dyspepsia ($P = 0.782$).

Among 100 cases with dyspepsia, 54 patients (54%) had endoscopic examination of antral gastritis, 36 patients (66.7%) had pain type, and 18 patients (33.3%) had postprandial distress.

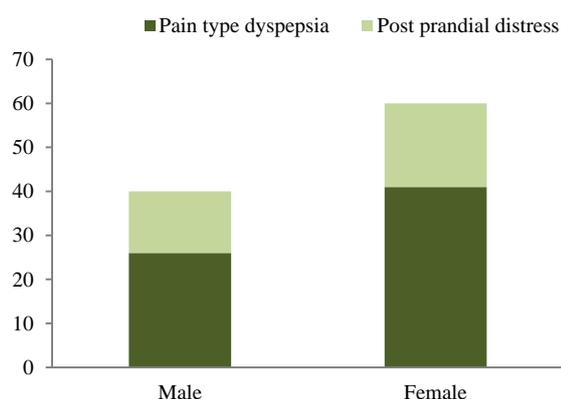


Figure 1. Dyspepsia distribution by gender

Therefore, no significant difference was detected ($P = 0.939$). In the pathological study, 96 patients (96%) had different degrees of antral gastritis. Therefore, significant difference was not found in endoscopic and pathologic findings ($P = 0.390$) (Table 1).

Table 1. Distribution of patients with and without antral gastritis in endoscopy according to the type of dyspepsia

Patients	dyspepsia Pain type	dyspepsia Postprandial distress
With antral gastritis	36	18
Without antral gastritis	31	15
P	0.939	

Endoscopic findings showed that 43 patients (43%) had esophagitis. Among patients with esophagitis according to Los Angeles (LA) erosive esophagitis grading, 35 patients (81.4%) had grade A esophagitis, 7 patients (16.3%) had esophagitis grade B, 1 patient (3.2%) had grade C esophagitis, and no one had grade D esophagitis (Figure 2).

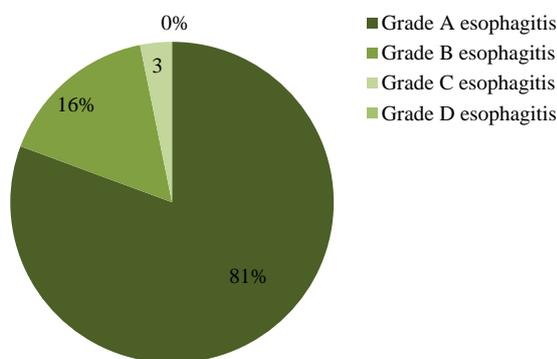


Figure 2. The prevalence of esophagitis grades

Endoscopic findings showed that 43 patients (43%) had esophagitis which 26 of them (60.5%) had pain type dyspepsia and the rest of them (39.5%) had postprandial distress type. In figure 2, the frequency of the grading of esophagitis (according to LA grading) is shown. According to statistical analysis, significant difference was not found ($P = 0.227$) (Table 2).

Table 2. Distribution of esophagitis according to the type of dyspepsia

Patients	dyspepsia Pain type	dyspepsia Postprandial distress
With esophagitis	26	17
Without esophagitis	41	16
P	0.227	

In the endoscopic examination of the population, 20 patients (20%) were diagnosed with antral ulcer. 15 of them (75%) had pain type and the other 5 patients (25%) had postprandial distress. This makes no significant difference ($P = 0.395$) (Table 3).

Table 3. Distribution of antral ulcer by type of dyspepsia

Patients	Postprandial distress dyspepsia	Pain type dyspepsia
With antral ulcer	5	15
Without antral ulcer	28	52
P	0.395	

In the endoscopic examination, 15 patients (15%) were diagnosed with prepyloric ulcer. 10 of them (66.7%) had pain type dyspepsia and the other 5 patients (33.7%) had postprandial distress. This makes no significant difference ($P = 0.596$) (Table 4).

Table 4. Distribution of prepyloric ulcer in patients according to type of dyspepsia

Patients	Pain type dyspepsia	Postprandial distress dyspepsia
With prepyloric ulcer	10	5
Without prepyloric ulcer	57	28
P	0.395	

18 patients (18%) were diagnosed with duodenal ulcer. 12 of them (66.7%) had pain type dyspepsia and the other 6 patients

(33.3%) had postprandial distress. Thus, the prevalence of duodenal ulcer in patients with pain type dyspepsia was 17.9% (12 patients) and in patients with postprandial distress was 18.2% (6 patients). According to statistical analysis, this makes no significant difference ($P = 0.974$) (Table 5).

Table 5. The prevalence of duodenal ulcer in patients according to type of dyspepsia

Patients	Pain type dyspepsia	Postprandial distress dyspepsia
With duodenal ulcer	12	6
Without duodenal ulcer	55	27
P	0.974	

In the pathological study, 38 patients (38%) had colonization of *H. pylori*. Of them, 30 patients (78.9%) had pain type dyspepsia and 8 patients (21.1%) had postprandial distress. The prevalence of *H. pylori* infection among patients with pain type dyspepsia was 44.77% (30 patients) and among patients with postprandial distress was 24.44% (8 patients). In statistical analysis, this difference was significant ($P = 0.047$) (Table 6).

Table 6. Distribution of Helicobacter infection by type of dyspepsia

Patients	Pain type dyspepsia	Postprandial distress dyspepsia
With positive <i>H. pylori</i>	30	8
With negative <i>H. pylori</i>	34	25
P	0.047	

H. pylori: Helicobacter pylori

Among all patients in this study, 5 patients had hiatal hernia. 4 of them (6%) were in pain type group and 1 patient (3%) was in postprandial distress group. According to the statistical analysis, no significant difference was detected ($P = 0.526$).

In the study population, only 1 patient (1%) was diagnosed with Barrett's esophagus identified in the endoscopic examination of duodenal ulcer and confirmed in the pathological study.

There was also a patient (1%) with ulcer in the body of the stomach with complaint of postprandial distress.

Discussion

One of the most common complaints in clinical medicine is dyspepsia and about 25% of the population experiences it every year and its symptoms are similar to peptic ulcer.^{1,2} In this study, epigastric pain was the most common complaint among patients. Most patients with non-ulcer dyspepsia undergo peptic ulcer treatment for years; ultimately, failure of recovery leads to increased problems in these patients.

One of the important endoscopic findings was prepyloric ulcer found in 15 patients (15%). 20 patients (20%) were diagnosed with antral ulcer. 18 patients (18%) were also diagnosed with duodenal ulcer. One patient (1%) was also suffering from the ulcer of the body of stomach. In general, during the endoscopy by an experienced endoscopist, dyspepsia without ulcer can be distinguished from dyspepsia with peptic ulcer. However, with history and physical examination, it is rare to recognize these two diseases; but it should be noted that, basically, three quarters of patients with dyspepsia have no endoscopic findings.^{8,9} The reason for the high prevalence of ulcers in patients referred to this center can be a late referral as well as a small size of the statistical community; therefore, further studies are required.

One of the variables in the study was the relationship between the presence and absence of *H. pylori* infection and the type of dyspepsia. In the pathological study of gastric patients, 38 cases (38%) of *H. pylori* colonization were reported. Of them, thirty patients (78.9%) had pain type and 8 patients (21.1%) had postprandial distress which made a significant difference. In studies in China and Japan, it has been shown that there is high evidence of association between symptoms of pain and heartburn in patients with *cag A+* *H. pylori*, interleukin (IL)-1 β allele, and polymorphism of the RIIIL allele which confirms the findings of our study and suggests that there is a direct relationship between the presence of dyspeptic pain in patients with positive *H. pylori* infection.^{10,11}

Conclusion

In our experience, upper GI endoscopy is a diagnostic procedure in adults with GI disorders. A total of 54 patients (54%) had peptic ulcer disease. In general, performing endoscopy by an expert endoscopist and detecting gastric and duodenal ulcers is recommended. History and physical examination cannot be a useful method to recognize these two diseases, but it should be noted that, basically, three quarters of patients with indigestion have no findings in endoscopy.^{8,9}

In our study, because of having various endoscopic findings, the total number of positive findings is more than 100 percent. Gastritis and duodenal ulcer are common GI diseases. These must be included in the differential diagnosis of upper GI pathology in symptomatic patients.¹²

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Authors' Contribution

Study concept and design: Ali Jafari Heidarloo, Hamzeh Majidi

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Conflict of Interest

Authors have no conflict of interest.

Ethical Approval

This study was approved by the Medical Ethics Committee of Urmia University of Medical Sciences (REC.UMSU.IR.1396.253).

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