

Clinical Findings and Prevalence of *Helicobacter Pylori* in Patients with Gastritis B in Al-Basrah Governorate

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Abstract

Objectives: To detect the prevalence of *H. pylori* in patients with gastritis B.

Methods: This study involved 58 patients (group A) with gastritis B attending the Al-Sadder teaching hospital from January to November 2008. 120 of family's patients (group B) and normal 20 people, 10 males 10 females (group C) were taken as controls for presence of *H. pylori* infection in general population. Endoscopy was carried for all patients to diagnose gastritis B. Urease, ELISA test, and culturing on Columbia agar used to detect the presence of *H. pylori* in these patients

Results: Fifty-eight patients; 30 males (51.7%) and 28 females (48.3%) were infected with gastritis B. The results showed that 81% of the patients gave positive results of serum IgG anti body.

Conclusion: The results showed that for screening and determining the clinical features of gastritis B, at least two methods for *H. pylori* are required to give positive result at the same time for the same patient, in order to identify an infected patient with from *H. pylori*.

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Introduction

Helicobacter pylori (*H. pylori*) is a Gram negative facultative anaerobic rods. Researchers believe that *H. pylori* is responsible for the majority of peptic ulcers.¹ *H. pylori* infection is common in the United States. About 20% of people under the age of 40 and half of those over the age 60 have *H. pylori*. Most infected people, however, do not develop ulcers. The most likely infection depends on the characteristics of the infected person.²

H. pylori weaken the protective mucous coating of the stomach and duodenum, which allows acid to get through to the sensitive lining beneath. Both the acid and the bacteria irritate the lining and cause a sore, or ulcer.³ *H. pylori* are able to survive in stomach acid because they secrete enzymes that neutralize the acid. This mechanism allows *H. pylori* to make its way to the "safe" area-the protective mucous lining.⁴

Enervating habits, the use of stimulants, excesses in eating and pleasurable enjoyments, using irritating substances like salt, pepper, vinegar, spices, hot sauces, alcohol, tobacco, cathartics, etc., lack of emotional poise, overwork or any natural or unnatural expenditure of nerve energy beyond the power of recuperation. Chronic gastritis is the culmination of a number of recurrences of acute gastritis with a continuous abuse of the stomach between crises.²

Gastritis can be caused by infection, irritation, autoimmune disorders (disorders caused by the body's immune response against its own tissues), or backflow of bile into the stomach (bile reflux). Gastritis can also be caused by a blood disorder called pernicious anemia.¹

There are several tests that may be performed for diagnosis. These can include endoscopy of the stomach. The laboratory tests needed may depend on the specific cause of gastritis. A stool test may be use to check for the presence of blood, or a biopsy may be taken of the stomach tissues to determine the cause of discomfort. A breath test may detect *H. pylori*, or samples from the esophagus or stomach may be taken to detect the organism.^{5,6}

Methods

A total of 58 patients attending to the surgery unit of Al-sadder teaching hospital in Al-Basrah governorate with different types of gastric complaints were enrolled in the present study. Patients in various age ranging from 18 to 65 years old (30 males and 28 females) were enrolled. A total of 120 family's patients were also introduced in this study to investigate the clinical relationship between patients and their families. The period of this cross sectional study was carried out from January to November 2008.

Blood samples were collected from patients with gastritis B after endoscopy (confirmation of patients infected with gastritis B). The blood specimens were allowed to clot and the sera separated. These sera were immediately examined by *H. pylori* ELISA kit (ACON Lab., Inc. USA) for the diagnosis of gastritis caused by *H. pylori*. Gastric aspirations were taken from patients and examined by rapid urease test and cultured on Columbia agar (Oxoid) with the addition of three antibiotics (polymyxine B, vancomycin, and trimethoprim).

All the participants were asked special questionnaire regarding the age, sex, occupation, residence, socioeconomic status, smoking, family history, alcohol history, the duration of disease and symptoms,

the treatment or any antimicrobial therapies have been received during the previous three months, any previous and / or present history of any complaints of gastritis and other clinical signs.

SPSS programmer ver. 15 and one way T- test were used to analyze data of the present study. The present study was carried out with approve and agreement of Ethical & Medical Committee in College of Medicine and Al-Sadder Teaching Hospital- Basrah

Results

From 58 patients with gastritis, 30 were males (51.7 %) and 28 were females (48.3 %). (Table 1)

Table 1: Patients with Gstritis B

Sex	Male	Female
	No (%)	No (%)
No. of patients(%)	30 (51.7)	28 (48.3)
Total	58	

The patients were screened for dyspeptic symptoms associated with gastritis and the results are illustrated in Table 2 which shows that the 51 patients (87.9%) had abdominal pain followed by other symptoms such as: vomiting 46 (79.3 %), heart burn 38 (65.5%), dysphagea 35 (60.3 %), and abdominal discomfort in relation to meals 32 (55.2 %), the difference was significant ($p < 0.05$).

Table 2: Dyspeptic Smptoms Associated with Gastritis B

Symptom	No of patient	%
Heart burn	38 [*]	65.5
Dysphage	35	60.3
Abdominal pain	51	87.9
Abdominal discomfort in relation to meal	32	55.2
Vomiting	46	79.3
Total	58	

* There are statistical differences between symptoms ($p < 0.05$).

In case of gastrointestinal bleeding, 15.5 % of patients had heamatochesite and 36.2 % of patients had malena (Table 3).

40 patients (69 %) were treated with antiulcer drugs and antibiotics, while 11 patients (18.9 %), and 7 patients (12.1 %), treated with antiulcer alone and antibiotics alone respectively. ($p < 0.01$). (Table 4)

Table 3: History of GIT Bleeding in Patients with Gastritis B

Type	No of patients	%
Heamatochesite	9	15.5
Malena	21	36.2
No GIT bleeding signs	28	48.3
Total	58	

Table 4: History of Antiulcer and /or Antibiotic Treatment of Patients with Gastritis B

Type	No of patient	%
Antiulcer	11 **	18.9
Antibiotics	7	12.1
Antiulcer with antibiotic	40	69
Total	58	

** : There are highly statistical differences between types of treatment ($p < 0.01$)

Surgical history of gastritis are illustrated in Table 5 which shows that 25.9 % of patients had surgical history, while 74.1 % had no surgical history, ($p < 0.001$).

Table 6 demonstrates the diagnostic tests that used to detect *H. pylori* in gastritis patients, 55.2% of patients gave positive results of culturing on Columbia agar while 67.2 % of patients gave positive results to Urease test, and 81% of patients gave positive results to serum IgG anti- *H. pylori* antibodies. ($p < 0.001$).

Table 5: Surgical History of Patients with Gastritis B

Type	No of patient	%
Surgical	15 ***	25.9
No surgical	43	74.1
Total	58	

*** There are very highly significant differences between type of surgical history ($p < 0.001$).

Table 6: Diagnostic Tests to Detect *H. pylori* in Gastritis B Patients

Diagnostic test	Result	No of patient	%
Urease test	Positive	39 **	67.2
	Negative	19	32.8
Total		58	100 %
Serum IgG anti- <i>H.pylori</i> antibodies	Result	No of patient	%
	Positive	47	81
	Negative	11	19
Total		58	100 %
Culturing on Columbia agar	Result	No of patient	%
	Positive	32	55.2
	Negative	26	44.8
Total		58	100 %

** There are highly significant differences between diagnostic test to detect *H.pylori* ($p < 0.01$)

Discussion

Helicobacter pylori is now considered to be the most prevalent infectious disease known to occur in humans; about 50% of the human population is estimated to be infected.⁷ This bacteria can cause persistent gastritis and is directly linked to the development of peptic ulcer disease as well as gastric adenocarcinoma and mucosa-associated lymphoma of the stomach.⁸ Individuals living in countries with low socioeconomic conditions had high prevalence rates of *H. pylori* acquired at an early age.⁹

The current study found that gastritis caused by *H. pylori* was significantly higher in studied age group. This finding was in agreement with many other studies that showed a similar age incidence of *H.pylori*.¹⁰⁻¹² WHO found that the majority of infections occurred in young and middle age groups (25–50 years) more than in other age groups and the factors that predispose the higher colonization rates included poor socioeconomic status and less education in addition to genetic factors.

The explanations for the present study are in agreement with approved results of other studies which were mainly due to socioeconomic status and the sample size of the population studied, type of patients, location of the study as well as the mode of transmission whereby spread infection was acquired from person to person or by oral-oral or feco-oral routes.

This study found that there was no significant difference between both sexes regarding the incidence of gastritis with *H. pylori*, a result which is in agreement with many other studies.¹²⁻¹⁴

Also, this investigation found that the abdominal pain and vomiting had a majority of dyspeptic symptoms in percentages of

(87.9% and 79.3%) respectively followed by other symptoms. The malena was the main history of gastrointestinal bleeding in 36.2% of patients and also found in this present study that the main chemotherapy given from specialists was antiulcer with antibiotics to 69% of patients and about (74.1%) of patients had no surgical history of gastritis. The results described above are similar to the approved results from other modern studies.¹⁰⁻¹²

Conclusion

In this study, the presence of *H. pylori* in gastritis patients was determined by aspiration rapid urease test and serum IgG anti-*H. pylori* antibodies test and culturing on Columbia agar. 81% of patients were positive to serum IgG anti-*H. pylori* antibodies test, 67.2 % of patients were positive in rapid urease test and 52.2% of patients were positive on Columbia agar. Patients was considered to be infected with *H. pylori* if they positive in two of these three test.¹²

The use of multiple diagnostic methods was recommended to accurately diagnose *H. pylori* gastritis. These results agree with the results by Twajj, who found the prevalence of *H. pylori* was (65.7%) in Iraqi patients, in comparison with the results by Al-yas, and AL-Dhaher, who found the prevalence of *H.pylori* (81.5 %) and (74.78%) respectively in Iraqi patients.^{12,13,14,15} Also, the results were approved with the results of Shuker, who found the prevalence of *H. pylori* was (61%) in Iraqi patients.¹² The results from many researchers depend on one or two tests only for the diagnosis of *H. pylori* and any test that would give positive result for *H. pylori* was regarded positive for final diagnosis. But every

diagnostic method has a percentage of false positive or negative result; therefore, if at least two methods for *H. pylori* give positive result at the same time for the same patient, this indicates that the patient has really been infected in gastritis with *H.pylori*.^{14,15}

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