RESULTS

This study has been conducted on 25 patients complaining of dyspeptic symptoms, endoscopically proven gastroduodenal disorders (gastritis, gastric ulcer, gastric cancer, duodenitis, and duodenal ulcer) (group I) and 10 patients complaining of the same symptoms but without endoscopic pathological findings served as a control group (group II).

Two (gastric - antral) biopsies were taken from each patient for detection of the presence of *H. pylori*, isolation and determination of its chemotactic activity against human neutrophils.

This study was done from March 1997 to May 1998.

I. Results of history data:

Regarding to age

(Table1) showed that, the age of the patients (group I) ranged from 18 to 66 years, with median age of 44.8 years while the controls (group II) age ranged from 19 to 58 years, with median age of 42.5 years.

Regarding to sex

(Table 2) showed that, 19 (76%) out of 25 patients were males and 6 (24%) were females while 7(70%) out of 10 controls were males and 3 (30%) were females.

Regarding to residence

(Table 2) showed that, 17 (68%) out of 25 patients (group I) were from rural area and 8 (32%) patients were from urban area, while 7 (70%)

out of 10 controls (group II) were from rural area and 3 (30%) were from urban area.

Regarding to socioeconomic state (**Table 2**) showed that, 16 (64%) out of 25 patients (group I) had low socioeconomic status and 9 (36%) had high socioeconomic status while 6 (60%) out of 10 controls (group II) had low socioeconomic status and 4 (40%) had low socioeconomic status.

Regarding to past history of previous treatment in both groups, (**Table 2**) showed that, 16 (64%) out of 25 patients (group I) had history of previous treatment and 9 (36%) patients had no previous treatment while 3 (30%) out of 10 controls had history of previous treatment and 7 (70%) had no such history.

Regarding to family history of similar symptoms and/or signs (**Table 2**) showed that, 3 (12%) out of 25 patients (group I) had family history and 22 (88%) patients had no any family history while all the controls (100%) had no family history of such symptoms and signs.

Table (1) Descriptive statistics of age in studied groups.

Age (years)	Group I	Group II
Range	18 - 66	19 - 58
Mean	44.8	42.5
S.D.	13.42	10.0

Table (2) Frequency of history data in studied groups.

	Group I (n=25)	Group II (n=10)
Sex		
Males	19 (76%)	7 (70%)
Female	6 (24%)	3 (30%)
Residence		
Rural	17 (68%)	7 (70%)
Urban	8 (32%)	3 (30%)
Socioeconomic state		
Low	16 (64%)	6 (60%)
High	9 (36%)	4 (40%)
P.H. of previous treatment		
No	9 (36%)	7 (70%)
Yes	16 (64%)	3 (30%)
F.H.		
No	22 (88%)	10 (100%)
Yes	3 (12%)	0 (0%)

P.H. : Past history

F.H. : Family history

Group I: Patients suffering from dyspeptic symptoms with positive endoscopic findings.

Group I: Patients suffering from dyspeptic symptoms without any endoscopic findings (as control group) .

II. Results of bacteriological study:

(Table 3) and (Fig. 2) showed that:

1- Rapid urease test:

21 (84%) out of 25 patients (group I) were positive while 4 (16%) were negative. Rapid urease test was negative in all controls.

2- Culture:

17 (68%) out of 25 patients, (group I) were positive while 8 (32%) were negative. All controls culture were negative.

The culture for *H. pylori* had the following characters:

Colonies from the media were: Small size, circular, translucent and motility test positive.

Gram stain colonies: gram negative curved bacilli with characteristic wavy appearance.

Catalase positive.

Oxidase positive.

Regarding to the laboratory results in patients group I (Table 3) and (Fig. 2) showed rapid urease test exhibit the highest positivity (84%) among patients, culture method was positive in 17 patients (68%), and DFA was positive in 16 patients (64%). The laboratory tests were negative in all controls.

There is no significant difference in results of tests regarding to

patients (P = 0.174).

As regards to culture results of the patients (Group 1):

(**Table 4**) showed that: 3 patients out of 25 (12%) were aged from 18 to 28 years, 2 patients (8%) were from 29 to 39 years, 6patients (24%) were from 40 to 50 years and 14 patients (56%) were from 51 to 66 years.

Out of 3 patients aged from 18 to 28 years, 1 (33.3%) was positive for *H. pylori* while out of 2 patients aged from 29 to 39 years, 1 (50%) was positive. Out of 6 patients aged from 40 to 50 years, 4 (66.7%) were positive and out of 14 patients aged from 51 to 66 years, 11 (78.6%) were positive. The highest incidence of *H. pylori* infection was in age group ranged from 51 to 66years (78.6).

There is no significant difference between results of culture in different age groups, but (**Table 4**) showed that older patients (51 to 66years) had relatively higher incidence of *H. pylori* infection than young patients. (x^2 = 2.679 , p = 0.444). Culture was negative in all controls ages.

(**Table 5**) showed that, out of the 19 male patients, 15 (78.9%) were *H. pylori* positive and out of the 6 female patients, 2 (33.3%) were positive. Prevalence of *H. pylori* infection is significantly higher in male than female patients according to results of culture (x^2 = 4.360 , p = 0.037).

(**Table 6**) showed that, out of 17 rural patients, 12 (70.6%) were *H. pylori* positive and out of 8 urban patients, 5 (62.5%) were positive.

There is no significant difference between rural and urban residence

as regard to prevalence of *H. pylori* infection, but the **Table 6** showed that, rural patients had relatively higher prevalence of *H. pylori* infection than that of urban patients. $(x^2 = 0.164$, $p = 0.686)$.

Out of the 16 low socioeconomic state patients, 13 (81.25%) were *H. pylori* positive while, out of the 9 high socioeconomic state, 4 (44.44%) were positive (**Table 7**). There is no significant difference between low and high socioeconomic state patients regarding prevalence of *H. pylori* infection, but the **Table 7** showed that, low socioeconomic state patients had relatively higher prevalence of *H. pylori* infection than high socioeconomic state patients. $(x^2 = 3.586$, $p = 0.058)$.

Regarding to past history of previous treatment, (**Table 7**) showed that out of the 16 patients of pervious treatment, 14 (87.5%) were *H. pylori* positive by culture while out of the 9 patients without treatment, 3 (33.33%) were *H. pylori* positive. The prevalence of *H. pylori* infection in patients with history of previous treatment was highly significant than that without previous treatment. $(x^2 = 7.767$, $p = 0.005)$.

(**Table 7**) showed that, 3 (12%) patients out of the 3 patients with positive family history, 2 (66.667%) were *H. pylori* positive by culture and out of the 22 patients with no family history, 15 (68.2%) were *H. pylori* positive.

There is no significant difference in the prevalence of *H. pylori* infection between those with family history of the same complaint and those without such history. $(x^2 = 0.003$, $p = 0.958)$.

Regarding to endoscopic diagnosis and the presence of *H. pylori* infection culture results of group I, (**Table 8**) and (**Fig. 3**) showed that, 8

(32%) out of 25 patients were diagnosed as chronic gastritis, 3 (12%) gastric ulcer, 2 (8%) gastric cancer, 1 (4%) duodenitis and 11 (44%) duodenal ulcer.

Out of the 8 patients with chronic gastritis, 5 (62.5%) were *H. pylori* positive, out of 3 patients with gastric ulcer, 2 (66.67%) were positive,
1 (50%) out of 2 gastric cancer patient was positive. The only patient diagnosed as duodenitis was negative while out of 11 patients diagnosed as duodenal ulcer, 9 (81.8%) were *H. pylori* positive. There is no significant difference in positive results of culture between different groups of endoscopic findings but the (**Table 8**) had shown that *H. pylori* was negative in the only case of duodenitis included, highly positive in duodenal ulcer (81.8%), (66.67%) gastric ulcer, (62.5%) in chronic gastritis, and in (50%) of gastric cancer patients. ($x^2 = 6.844$, p = 0.144).

(**Table 9**) showed the comparison between tissue culture (reference test) and rapid urease test (screening test) regarding the diagnosis of *H. pylori* infection: the sensitivity of rapid urease test was (88.2%), while its specificity was (25%), its positive predictive value (71.4%) and its negative predictive value (50%).

There was a weak non significant agreement between culture and direct urease test as they agreed in 17 case, 15 positive by both, 2 negative by both and disagreed in 8 cases, 2 were positive by culture not by direct urease and 6 were positive by direct urease not by culture. ($k_{a\,ppa} = 0.153$, p = 0.400).

3- Direct immunofluorescence (DFA):

16 (64%) out of 25 patients (group I) were positive while 9 (36%) were negative. All controls were negative DFA.

(**Table 10**) showed the comparison between tissue culture (reference test) and DFA (screening test) regarding the diagnosis of *H. pylori* infection: the sensitivity of DFA was (82.3%) while its specificity was (75%), its positive predictive value (87.5%) and its negative predictive value (66.67%). There is significant difference between the two tests. There was significant agreement as they agreed in 20 cases, 14 positive by both, 6 negative by both and disagreed in 5 cases, 3 were positive by culture not by DFA, and 2 were DFA positive not by culture. ($k_{a\,ppa}$ = 0.55, P = 0.005).

(**Table 11**) showed the relation between intensity of DFA brightness (+,++,+++,++++) and presence of gastric and/or duodenal ulcers. Intensity of DFA brightness varied in number from one patient to another. There is a significant increase in intensity of DFA brightness in patients with peptic ulcer than those without ulcer (p = 0.016).