DETERMINATION OF *HELICOBACTER PYLORI* IN SERUM PATIENT WITH GASTRIC ULCER DISEASE

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ABSTRACT
Helicobacter pylori is a spiral shaped Gram negative bacterium, implicated frequently as main human gastric pathogen, responsible for gastritis, and peptic ulcer disease. It has been considered as a primary risk factor for gastric cancer. Attempts were conducted for the prediction of optimized methods applicable to the diagnosis of *H. pylori* infection were continued worldwide. To achieve the intended aim, samples (serum) were collected from 70 patients (35 male and 35 female) from AL-Hussein Teaching Hospital in Dhi-Qar provinces with upper gastrointestinal tract diseases were recruited. The samples of serum patients undergo to analysis by ELISA equipment by using Ig kit. The results showed a significant increasing ($p \leq 0.05$) in *H. pylori* in the males (71.43 %) when compare with the females patient (24.59%) as well as the negative result in the males patient was (28.57%) while the negative result in the females patient was (45.71%).

KEYWORDS: *Helicobacter pylori,* main human gastric pathogen.

INTRODUCTION

Helicobacter pylori infection is a high prevalence infection worldwide and it is more common in developing countries than developed ones Magalhães and Luzza (2006). It is a major risk factor for chronic gastritis, peptic ulcer and gastric cancer Fock and Ang (2010). Helicobacter pylori is a bacterial pathogen related to a number of intestinal disorders, range from non ulcer dyspepsia and peptic ulcer to gastric tumor Kany G et al., (1995), Aebisher T et al., (2010). Helicobacter pylori causes more than half of peptic ulcers worldwide by damaging the mucous coating allows powerful stomach acid to get through to the sensitive lining beneath. Together the stomach acid and Helicobacter pylori irritate the lining of the stomach or duodenum and cause an ulcer www.cdc.gov (2009). The host immune reaction to Helicobacter pylori may be an important cause of mucous incompetence because large number of neutrophils and lymphocytes are attracted to the bacterium. The attraction is related to the presence of chemotactic protein that is liberated by Helicobacter pylori Bornschein J et al., (2010). Chronic gastritis is characterized by an increase in mucosal plasma cell density and increased epithelial expression of serology component Rathbon B.J, et al., (1985). Early studies, following the identification of Helicobacter pylori as an etiological agent of chronic gastritis, demonstrated that infection was associated with a specific gastric immunoglobulin G (IgG) and immunoglobulin A (IgA) response to the bacterium Rathbon B.J et al., (1985). A specific IgA and IgG response to Helicobacter pylori also occurs in duodenal bulb mucosa of patients with duodenitis Northfield T.C et al., (1993) IgA response at mucosal site are thought to be functional in decreasing bacterial motility, inhibiting adherence, neutralizing biologically active bacterial products and preventing antigen uptake Crabtree J.E et al., (1993). Almost all infected patients have IgG antibodies in the serum and a systemic IgA response may be found in some people, but measuring these antibodies is not reliable method of diagnosis Crabtree J.E (1996).

METHODS

This study was conducted during three months of 2015, samples (serum) were collected from 70 patients (35 male and 35 female) from AL-Hussein Teaching Hospital in Thi-Qar provinces with upper gastrointestinal tract diseases were recruited. Serum was stored at -20^0C. These blood samples were subjected to enzyme linked immunosorbant assay for IgG antibody to Helicobacter pylori. Five ml venous blood was taken from 70 patients collected in dry tube, after clotting the sera were obtained by centrifugation for (10 minutes at 3000rpm) and stored at (-20) until used. The principle of ELISA test is using horseradish peroxidase conjugate for the indication reaction as described by Frei et al., in (1995).

Statistics Analysis
Statistical analysis was performed by using SPSS computing program version 16.0. Associations between categoric variable were tested by the chi-square test P-value < 0.05   for the analysis of the results.

RESULT AND DISCUSSION
Randomly recruited patients (70) were found to be (35) males and (35) females Hussein Teaching Hospital in Dhi-Qar province, The results showed there is a significant differences (P<0.05) in male (71.43) when compare with female (54.29) as show in Table bellow.

Distribution of males and females patient			
	Positive	**Negative**	**Total**
males	25(71.43)	10(28.57%)	35(100%)
female	19(54.29)	16(45.71%)	35(100%)
X^2	6.43	0.49	
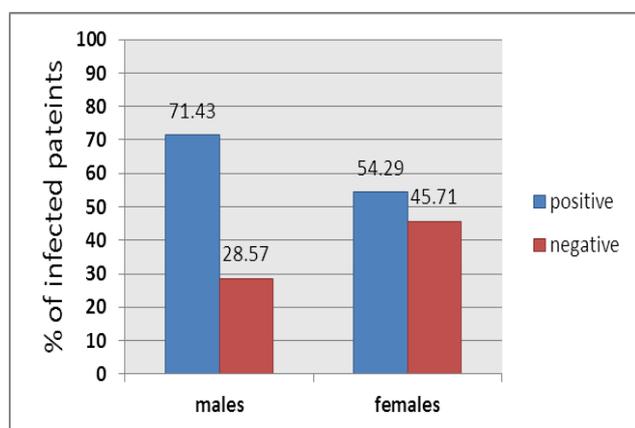
Figure 1: show Distribution of males and females patients.

The comparison of the present distribution of patients with others mentioned in the literature highlights different observations. Hussain (2008) have stated 30% of patients with DU and 20% of patients with chronic gastritis. Al-Thaher (2001), Al- Hadi (2001), Mohammad (2004) and Al-Segar (2007) have reported that chronic gastritis have the highest percent among other pathological problems, i. e. 41.5%, 38%, 33.8% and 35% respectively in the investigated patients. Busolo *et al*., (1998) have indicated 66% patients with non-ulcer dyspepsia, 11.46% gastric ulcer, 20.83% duodenal ulcer and 1.04% had both gastric and duodenal ulcer. It seems that the distribution of patients was varied, and depends on the selection of patients and/ or the host**.**

Serological examination of patients revealed significant increase in male of Gender related distribution of serological diagnosed patients was investigated in previous reports. Some of them have mentioned gender differences, while others did not mention such differences. Busolo *et al.,* (1998) have illustrated increased prevalence in males (65.95%) than those of females (34.05%). The prevalence was found to be slightly higher in male than female (Woodward *et. al.*,

2000). Atto *et al.,* (2000) have concluded that males are at risk for various pathological problems of stomach and duodenum relative to those of females. Abasiyanik *et al.,* (2004) have pointed out increased prevalence in males (61%) with respect to those of females (39%) in asymptomatic patients. Rajab (2007) has found that males (52.94%) with gastric problems were higher than of females (47.06%), the rise is also obtained in patients with duodenal problems (63.79% and 36.21%, respectively).

Several studies have highlighted a decreased prevalence in male patients relative to those of females. Anwar (1999) have described a low prevalence in males (44%) in respect to those of females (56%). Allaker *et al*., (2002) have found that the percent of gastric biopsy positive was twice in female than male children (68% compared with 34%). Yücel *et al.* (2008) have found a low prevalence in males (72.2%) when compared with those of females (23.8%).

When the present results were compared with the currently mentioned in the literatures, a consistence could be observed with those of dominant pattern, i.e. those that indicated high prevalence of serological diagnosed problems in male patients this may be due to the smoking effect.

Smoking was illustrated to increase the prevalence of gastro- duodenal problems in the investigated patients. This result is traditionally expected, since cigarettes depress the immunity, it will contribute to increase the ability of the infection (Laurence and Bennett, 1990). Hence, it seems that smoking of cigarettes is a risk factor involved in the increased prevalence of *H. pylori* infection. Such results may be supported by previous observations in which peptic ulcer and death from the disease were found to be twice more common among smokers than non-smokers. Furthermore, smoking delay the healing of ulcer and increase the rate of relapse (Laurence and Bennett, 1990). Rajab 2007 also shows that the percent of gastric ulcer and duodenal ulcer infections in smokers were 41.5% and 32.8%, respectively.

A mysterious observation was reported by Malaty *et al.,* (1994) concerning the involvement of smoking in directing *H. pylori* infection. They have stated no association between smoking and such prevalence. They did not clarify such observation. It was incompatible with the present observation.

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