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Prevalence of Helicobacter Pylori Isolated from Patients with Irritable Bowel Syndrome

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Abstract--- *One hundred seventy-two stool samples of suspected patients with irritable bowel syndrome were examined by H. pylori Ag Strip to detect the positive cases by using bioNexia Ag kit (USA). Sixty-one patients were infected with H. pylori, while one hundred and eleven of them were negative patients for H. pylori and had irritable bowel syndrome were taken as a control group. This study lasted from period 1st January 2017 to 1st may 2017 at Thatching hospital/ medicine city. The result showed that there non-significant difference between the positive age cases (35.68 ±37.04) and the negative control (P>0.05). While the results showed that a highly significant difference among age group < 10 years 4(5.7%) and the negative control group 13(11.7%), 10-30 years 24 (38.5) % compared with the control group 23(20.7%), 31-50 years 21(36.1%) compared with the control 52(46.8%) and 51-70 years 12(19.7%) in comparison with control 23(20.7%), respectively (P<0.01). The results also showed that no significant difference between the male gender 30(48.4%) compared to the control group 45(40.1%) and between female gender 31(51.6%) in comparison with the control group 57(59.9%), (P>0.05). In regarding to the clinical symptoms of the situated groups, 61(100%) compared to the control group 46(42.4%). The current study indicated a highly significant difference between the patients with abdominal pain 36(59.0%) and the control group 42(38.3%) and between irritable bowel syndrome 61(100%) to the control group 46(42.4%), (P<0.01). While there was non-significant difference among between patients with diarrhea 17(30.3%) compared to the control group 28(25.7%), and between patients with Vomiting 36(59.0%) in comparison with control group 42 (38.3%), and between patients with Weight loss 11(18.0%) compared with the control 16(14.0%), (P>0.05).*

Keywords--- *Helicobacter Pylori, H. Pylori Ag, Irritable Bowel Syndrome.*

I. INTRODUCTION

Helicobacter pylori infection causes gastritis and peptic ulcer disease and is a cofactor in the development of gastric cancer [1]. The prevalence of *H. pylori* infection is decreasing in developed countries but remains high in many developing countries [2]. *H. pylori* infection in Vietnam are scarce, but peptic ulcer disease and gastric cancer represent major health problems [3]. Gastric cancer is the second-most-common cancer form in men and the third most common in women [4]. Enzyme-linked immunosorbent assay (ELISA) IgG detection can be based either on whole-cell sonicate antigen or on one or several purified components of the bacterium as the antigen. A majority of serological studies are now conducted with commercial kits that have been evaluated in developed countries. These commercial kits are often too expensive for developing countries, and use of a validated in-house ELISA assay based on sonicate antigens would seem preferable [5]. ELISA based on sonicated *H. pylori* antigen, supplemented

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with an absorption step with sonicated *Campylobacter jejuni*antigen to remove cross-reacting antibodies [6]. *H. pylori* virulence factors act in concert to determine which individuals are at the highest risk of disease. These include bacterial cytotoxins and polymorphisms in host genes responsible for directing the immune response. This review discusses the latest advances in *H. pylori* pathogenesis [7].

II. MATERIALS AND METHODS

One hundred seventy-two stool samples were collected from patients with irritable bowel syndrome, each sample was stored in a sterile container sealed with plastic cover, treated with stimulants and incubated at room temperature to conduct the necessary analysis. 172 samples were examined with *H. pylori* Antigen Strip to detection *H. pylori* positive cases using the bioNexia *H. pylori* Ag Company (USA). The age of the participants was ranging between < 10 and 70 years. All these cases suffered from irritable bowel syndrome and abdominal pain and some of them suffered from vomiting and diarrhea.

III. STATISTICAL ANALYSIS

SPSS Microsoft Office Excel program was used for statistical analysis of data by Chi-Square test.

IV. RESULTS

Table 1: Prevalence of H. Pylori bacteria from clinical samples

H. Pylori	**N**	**Mean (Age/Year)**	**Std. Deviation**	**Std. Error**	**t-test (P-value)**
Positive	**61**	**35.68**	**16.208**	**1.467**	**NS. (P>0.05)**
Negative	**111**	**37.04**	**17.732**	**1.190**	
Total	**172**				

Table 1 showed that non-significant difference was found between the positive age cases (35.68 ±37.04) compared to the negative control (P>0.05).

Table 2: Distribution of H. pylori among age groups

Parameters			***H. pylori***		**χ^2 test (P-value)**
			Positive (n= 61)	**Negative (n= 111)**	
Age groups / Year	**< 10**	**N**	**4**	**14**	**HS. (P<0.01)**
		%	**5.7%**	**11.7%**	
	10 - 30	**N**	**24**	**23**	
		%	**38.5%**	**20.7%**	
	31 - 50	**N**	**21**	**52**	
		%	**36.1%**	**46.8%**	
	51 - 70	**N**	**12**	**23**	
		%	**19.7%**	**20.7%**	
Gender	**Male**	**N**	**30**	**45**	**NS. (P>0.05)**
		%	**48.4%**	**40.1%**	
	Female	**N**	**31**	**67**	
		%	**51.6%**	**59.9%**	

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Table 2 showed that a highly significant difference between the age group the < 10 years 4(5.7%) in comparison with the negative control group 13(11.7%), 10-30 years 24(38.5)% compared with control group 23(20.7%), 31-50 years 21(36.1%) compared with control 52(46.8%) and 51-70 years 12(19.7%) in comparison with control group 23(20.7%) respectively (P<0.01).

Table 3: Clinical manifestation among H. pylori bacterial infections

Clinical signs & symptom		*H. pylori*		χ^2 test (P-value)
		Positive (n= 61)	Negative (n= 111)	
Diarrhea	N	17	28	NS.
	%	30.3%	25.7%	(P>0.05)
Abdominal Pain	N	36	12	HS.
	%	59.0%	38.3%	(P<0.01)
Vomiting	N	7	9	NS.
	%	12.3%	8.6%	(P>0.05)
Weight loss	N	11	16	NS.
	%	18.0%	14.0%	(P>0.05)
Irritable bowel Syndrome	N	61	46	HS.
	%	100.0%	42.4%	(P<0.01)

Table 3 indicated that there was a highly significant difference among the studied groups with clinical signs and symptoms where the abdominal Pain was 36(59.0%) compared to the control 42(38.3%) and irritable bowel syndrome was 61(100%) in comparison with the control group 46(42.4%), (P<0.01). While there was no significant difference between the studied groups in diarrhea which was 17(30.3%) compared to the control group 28(25.7%), vomiting 36(59.0%) compared to control 42(38.3%), and weight loss was 11(18.0%) compared to the control group 16(14.0%), (P>0.05).

V. DISCUSSION

H. pylori is one of the causative factors that stimulates the development of cancer in human being. In our current study, 172 suspected infected cases with these bacteria were taken. The results showed no significant difference between the positive age cases in comparison to the control group. This result agreed with Traci, L. T. and Morris. J. 2014 [9]. the current study showed a highly significant difference between age groups in comparison with control group about of infections among < 10 to 70 years old. While no significant difference between male and female was noticed according gender. This finding was in a harmony with Khedmat, H. *et al*, 2013 [10], who found 65 (23.6%) of the children were positive for *H. pylori* compared to old patients by serology or stool exam, and this positivity had a significantly increasing correlation with age [11]. Also the current study found a highly significant difference between studied groups in clinical signs and symptom of abdominal pain and irritable bowel syndrome and this findings also agreed with Khedmat, H. *et al*, 2013[10], who found that One hundred forty-one children with recurrent abdominal pain and 21 without it underwent diagnostic evaluations of *H. pylori* infection in Turkey [10]. These bacteria are known to cause stomach ulcers, but studies have shown that *H. pylori* has a big role in the irritable bowel syndrome [12], and this is proven in the current study since there are very significant differences in this phenomenon for those infected by *H. pylori*. In addition, recent studies have shown that the appearance of irritability because there is synergism between these bacteria and other parasites such as *Giardia Lamblia* [13], as

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this parasite collaborates with those bacteria to make them more effective in the development of intestinal ulcer [13]. These bacteria are very dangerous and must be treated and they cause pain, diarrhea, vomiting, discomfort as well as stomach ulcers and irritation of the colon [14] from the current study, it was concluded that the prevalence of these bacteria was significant among patients with colon irritation.

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