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Seroprevelance of H.Pylori in Patients with Gastric Upset in Baquba City

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Abstract: ***Background:*** ***H.pylori is recognized as one of the most common chronic bacterial infections and considered a significant agent in the development of various gastric diseases. It infects the upper gastrointestinal tract of more than (50%) of people in the world, most of infected people are asymptomatic .It is the causal factor for several clinically important diseases in gastric and duodenal ulcer. Half of the infected patients develop peptic ulcer diseases and gastric cancer. Infection initially affects mucosa causing superficial gastritis and can develop if not treatment.*** ***Patients and Methods:*** ***A study was conducted in Baquba Teaching Hospital between July 2016 and February 2017. A total number of (124) patient was included in this study. They were (84) males and (40) females, their ages ranged from (15-70) years. They were suffering from chronic gastric upset, and attending to endoscopic unit of department of surgery for the diagnosis of cause of the gastric upset. Questionnaire including sex,age, smoking, presence of ulcer. Serum from patients were taken for serological study to detect the presence of IgG antibody against H.pylori, and those with positive IgG antibody were tested for detection of H.pylori – antigen in the stool, for diagnosing active infection and confirming cure.*** ***Results:*** ***In this study (124) patients were included. They complained from chronic gastric upset, they were 84 (67.74%) males and 40 (32.25%) female. Out of (124) patients 76 (61.29%) had positive IgG antibody against H.pylori, they were 52 (68.42%) males and 24 (31.57%) females, 48 (63.15%) patients were smoker. According to the age group (15-24) years had the highest percentage of positive IgG antibody 30(39.47%), out of those patients with positive IgG 76 (61.29%), 50 (65.78%) had positive H.pylori antigen in the stool and 26(34.21%) showed negative results, from positive patients for H.pylori antigen in stool were 38 (76%) males and 12 (24%) females. prevalence of H.pylori differs significantly both between and within countries, with high rates of infection associated with poor socioeconomic conditions that regarded as risk factors it is transmitted mainly through fecal-oral route and gastro-oral route .Transmission of close contact infection depends on the degree of mixing and age distribution between susceptible and infected individuals.***

Keywords: Gastritis, *H .pylori*, gastric ulcer, gastric cancer, duodenal ulcer,peptic ulcer, Serological test for *H.pylori*.

1. Introduction

H.pylori is recognized as one of the most common chronic bacterial infections and considered a significant agent in the development of various gastric diseases (1). It infects the upper gastrointestinal tract of more than (50%) of people in the world, most of infected people (>70%) are asymptomatic, whereas (<30%) are symptomatic (2). Half of the symptomatic patients develop peptic ulcer diseases, lymph proliferative disorders or gastric cancer (3). It is the causal factor for several clinically important diseases in gastric and duodenal mucosa (4).Infection initially affects mucosa causing superficial gastritis and if not eradicated the infection remains chronic (5). It is the causative agent of up to (80%) of gastric ulcer and (70%) of duodenal ulcer (6). The prevalence of infection associated with low-socioeconomic status and high densities of living (7). There is evident difference in the prevalence of the disease between developing and developed nation (8,9). Approximately high rate of adult individual in developing countries are infected (10). The risk factors described for acquiring infection include residence in developing country, poor- socioeconomic conditions, over-crowding, an ethnic and genetic predisposing (9). In developed countries, although overall prevalence of infection in young children is (<10%), up to (50%) of children living in poor-socioeconomic conditions are infected (10), up to (80%) of children under of age 10 years are infected (11). In India is 22%, 56% and 87% in 0-4 , 5-9, and 10- 19 years age group respectively infected (12). Ethiopian demonstrated that by age 4 years, (60%) of them already had been exposed to these bacteria (13). Infection is transmitted mainly through fecal-oral route in developing countries and gastro-oral route in developed countries (14,15).Host and bacterial factors contribute to difference in *H.pylori*pathogenicity (4),the most important virulence factors of *H.pylori* are mucinase activity, urease production, adherence factors and , and cytotxin - associated gene A (Cag A) (16,17,18). Cag Ais highly immunogenic proteins that may be associated with more sever clinical syndromes, such as gastric ulcer, duodenal ulcer and gastricadeno carcinoma (19).

2. Patients and Methods

A study was conducted in Baquba Teaching Hospital between July 2016 and February 2017. A total number of (124) patients was included in this study. They were (84) males and (40) females, their ages ranged from (15-70) years. They were suffering from chronic gastric upset, and attending to endoscopic unit of department of surgery for the diagnosis of cause of the gastric upset. Questionnaire including sex, age, smoking, presence of ulcer. Serum from patients were taken for serological study to detect the presence of IgG antibody against *H.pylori*, and those with positive IgG antibody were tested for detection of *H.pylori* – antigen in the stool, for diagnosing active infection and confirming cure. **The statistical analysis** it was done by using computer and the data was analyzed by percentage and proportion by using Chi-Square test.(P-value of less than 0.05 was considered significant).

3. Results

One hundred and twenty four patients complained of chronic gastric upset, they were 84 (67.74%) males and 40 (32.25%) female. Out of (124) patients 76 (61.29%) had

positive IgG antibody against *H.pylori*, they were 52 (68.42%) males and 24 (31.57%) females, 48 (63.15%) patients were smoker, table (1). According to the age group (15-24) years had the highest percentage of positive IgG antibody 30(39.47%), figure (1).Out of those patients with positive IgG 76 (61.28%), 50 (65.78%) had positive *H.pylori* antigen in the stool and 26(34.21%) showed negative results, from positive patients for *H.pylori* antigen in stool were38 (76%) males and 12 (24%) females, table (2). 42 (33.87%) patients were suffering from gastric ulcer.

Table 1: Distribution of patients with positive IgG serum according to gender

Gender	Positive	%	Negative	%	Total	%
Male	52	68.42	32	66.66	84	67.74
Female	24	31.57	16	33.33	40	32.25
Total	76	61.29	48	38.70	124	

df=1 cal χ^2= 0.0133 tablets χ^2=3.841
No significant to gender

Table 2: Distribution of patients with positive *H.pylori* antigen in the stool according to gender

Gender	Positive	%	Negative	%	Total	%
Male	38	76	16	61.36	54	71.05
Female	12	24	10	38.46	22	28.94
Total	50	65.78	26	34.21	76	

cal χ^2 = 2.402 tablets χ^2 =3.841 df=1
No significant to gender

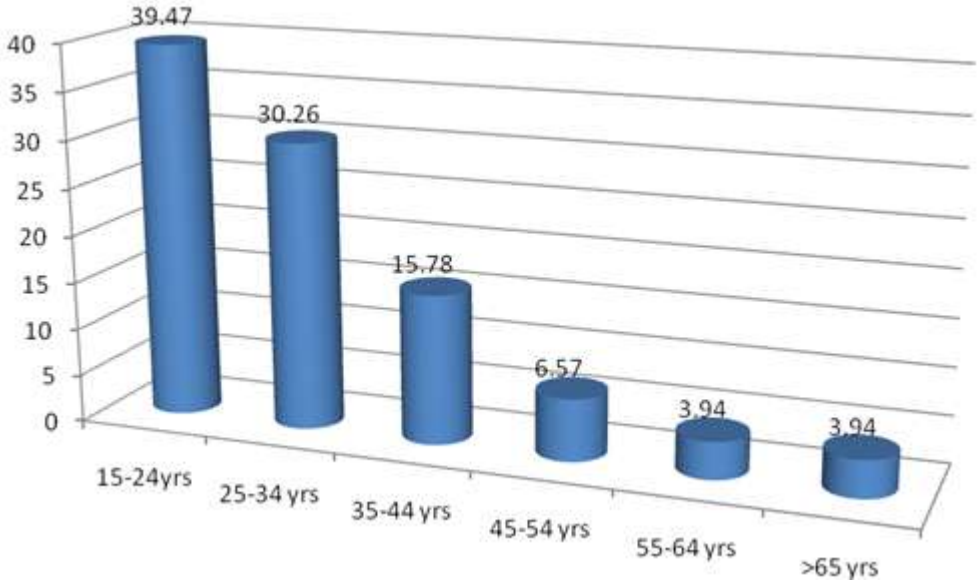

Figure 1: Distribution of patients with positive IgG antibody according to the age group

4. Discussion

The study revealed that out of (124) patients suffering from chronic gastric upset involved in the study 76(61.29%) patients had positive IgG antibody test, which means they exposed to *H.pylori* during their life and developing positive IgG antibody. From those with positive IgG antibody, 50(65.78%) patients had positive test for *H.pylori* antigen in stool, which means they still had active infection with *H.pylori*, and 26(34.21%) patients of those with positive IgG antibody test had negative stool test for *H.pylori* antigen, which means they exposed to *H.pylori* during their life either they recovered from infection or only developed positive IgG test without clinical manifestation of the disease i.e.Latent infection. This study was in concordant with the study done in Brazil and Jordan (20, 21), and concordant with studies done in Kazakhstan (22) It was observed between patients infected by *H.pylori* according to gender in comparison with other studies (20, 21, 23, 24, 25) the higher percentage of patients with was between 15 and 24 years, in contrast with studies done in Brazil and north Jordan (20, 21). The prevalence of *H.pylori* differs significantly both between and within countries, with high rates of infection associated with poor socioeconomic conditions that regarded as risk factors it is transmitted mainly through fecal-oral route and gastro-oral route .Transmission of close contact infection depends on the degree of mixing and age distribution between susceptible and infected individuals .Host and bacterial factors with interaction of environment contribute pathogenicity.

References

[1] Hocker M, Hohenberger p. *Helicobacter pylori* virulence factors. One part of abig picture. Lancet. 2003; 362: 1231 – 2.
[2] Logan RPH, walker MM. Epidemiology and diagnosis of *Helicobacter pylori* infection. BMJ. 2001; 323: 920 – 2.
[3] Goodman KJ.And Cockburn M. The role of epidemiology in understanding the health effects of *Helicobacter pylori*. Epidemiology. 2001; 12(2) : 266 – 71.
[4] Peek RM. And Crabtree JE. Helicobacter pylori and gastric neoplastic. pathol. 2006; 208(2) : 233 – 8.

[5] Holcomb C, Omotara BA, Eldridge J. and Jones DM. *H.pylori* the most common bacterial infection in Africa : a random serological study. AM. J. Gastroenterl. 1992; 87 : 28 – 30.
[6] Kuipers EJ, Uyterlinde AM, Pena AS, Roosendaal R, pals G, and Neils GF. Long – term squealer of *Helicobacter pylori* gastritis. Lancet. 1995; 345 : 1525 – 8.
[7] Israel DA, peek RM. Pathogenesis of *Helicobacter pylori* induced gastric inflammation. Aliment. Pharmacology. 2001; 15: 1271 – 90.
[8] Chan FKL, Leung WK. Peptic ulcer disease. Lancet. 2002; 360: 933 – 41.
[9] Hazel M. and Francis M. Epidemiology and diagnosis of *H.pylori* infection. Helicobacter. 2002; 7 : 8 – 16.
[10] Gold BD, Collette RB, A abbot M, Czinn SJ, Elirsur Y, Hassel E, *etal*. *Helicobacter pylori* infection in children : Recommendation for diagnosis and treatment. J. Pediatr. Gastroenterolo. Nutr. 2000; 31 : 490 – 7.
[11] Sultana S, Sarker SA, Satter S, Ahmed T, Fuchs GJ, Davidson L, *etal*. Serum ferritine in peri–urban community children in Bangladesh. Abstract of the 8 common wealth congress indiarrhea and malnutrition of cap, can on *H.pylori* infection in children. ICDDR, B Dhaka. 2006; 33 : 6 – 8.
[12] Gil HH, Majumdar P, Shan Karan K, Des HG. Age related prevalence of *H.pylori* antibodies in Indian subjects. Indian J. Gastro enterol. 1994; 13 : 92 – 4.
[13] Lindkvist PD, Astra I, Nilsson E, Tiega GL, Olsson B, wretlind and Giesecke J. Age at acquisition of *Helicobacter pylori* infection. Comparison of a high and Low prevalence country .Scand. J. Infect. Dis. 1996; 28 : 181 – 4.
[14] Blazer MJ. *Helicobacter pylori* and gastric diseases. BMJ. 1998; 316 : 1507 – 10.
[15] Das IC, Nazir MFH, *Helicobacter pylori* infection in children : Diagnosis and treatment. A review. Bangladesh J. Child. Health. 2005; 29(1) : 22 – 30.
[16] Megraud F. Impact of *Helicobacter pylori* virulence on the outcome of gastro duodenal diseases : Lesions from the microbiologist. Dig. Dis.2001; 19 : 99 – 10317-Chan FKL, Leung WK. Peptic ulcer disease. Lancet. 2002; 360 : 33 – 94.
[17] 17-Jagadish CD , Nibedita P. Epidemiology and path physiology of *Helicobacter pylori* infection in children. Indian Journal of Pediatrics.2007;74:287-90.
[18] Log AP, Godfroid E, Fauconnier A, Butler JP, Bohlen A, Glupezas, K. Diagnosis of *Helicobacter pylori* infection by PCR : comparison with other invasive techniques and detection of Cag A gene in gastric biopsy specimens. J. Cline. Microbial. 1995; 33 : 2752 – 6 .
[19] Tan don R. Second national workshop on *Helicobacter pylori*: Consensus statement treatment of *Helicobacter pylori* in peptic ulcer disease. Indian J.Gastroenterology .2000;19:37.
[20] Jos Luis PM, Gustavo OA, Andre Fernando DM, Marlyde decastro S, Jose Lois pimento M, Ricardo BO, Marcel OB. Correlation between *Helicobacter pylori* infection gastric diseases and Life habits among patients treated at a university hospital in Southeast Brazil. The Brazilian J. of Infectious Disease. 2007; 11(1) : 89 – 95.
[21] Abu – Ahmad NM, Odeh A, Sallal AKJ. Prevalence of *Helicobacter pylori* gastritis at the North of Jordan. Jordan of Biological science. 2001; 4(2) 71 – 6.
[22] Valery B, Broz B, Raushan K, Aleksandr L, Kenzhekhan A, Lea P, Kari S. Prevalence of *Helicobacter pylori* infection and atrophic gastritis among symptomatic and dyspeptic adults in Kazakhstan. A hospital – based screening study using a panel of serum biomarker. Anti-Cancer Research. 2013; 33 : 9595 – 602.
[23] Broute N, Sara squeta AM, Sakarovitch C, Canter F, Lethuaire D, Megraud F. *Helicobacter pylori* infection in patients consulting gastroenterologists France prevalence is Linked to gender and region of residence. Europe J. Gastroenterol. Hepatol. 2001; 13 : 677 – 84.
[24] Castro LP, Coho LG. *Helicobacter pylori* in South America. Can. J. Gastroenterol. 1998; 12 : 509 –12.
[25] Kim JH, Kim SW, Kim JG, Kim JJ *etal. Helicobacter pylori* infection : Sero epidemiology, diagnosis and treatment. J. Gastroenterol. Hepatol. 2001; 16 : 969 – 75