ORIGINAL ARTICLE

Comparison of Helicobacter Pylori Infection among Male and Female at LUMHS, Hyderabad, Sind

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ABSTRACT

Objective: To compare H. pylori infection in male & female at LUMHS Jamshoro Hyderabad Sind.
Study design: Comparative study.
Place & duration of study: LUMHS Jamshoro Hyderabad Sind from 15/10/2009 – 28/02/2011.
Methods: 100 patients with H. pylori infection of male and female were included in study with serum samples, stool specimens and gastric biopsies.
Results: Out of 100 gastric biopsy cases, 90 were positive for *H. pylori* bacilli with 52(52 %) male and 38(38%) female. Blood samples from 100 patients for analysis were performed and 68 were positive with 38(38%) male & 30(30%) female. Fresh stool samples were detected on immune chromatography method and were positive in 28(28%) male patients and 20(20%) female patients. The value of stool antigen sensitivity was 52.7% and specificity 90%. The study shows that *H. pylori* infection is more in male patients than in females.
Conclusion; H. pylori positivity is highly significant and shows *H. pylori* more in male patients than in females. It requires further study to find out the reason. Serological and stool antigen tests are recommended as best tools for the primary care physician, diagnosis and eradication therapy, those patients who are unwilling for the endoscopy, and mass screening purpose.
Key words: H. Pylori, sex, stool antigen

INTRODUCTION

At least half of the world's population is infected by *Helicobacter pylori, and* most of the infected people (>70%) are asymptomatic whereas only <30% are symptomatic[1]. The infection by H. pylori involves the development of gastric cancer and has a significant correlation with the prevalence of antibody to H.pylori[2]. H. pylori cause chronic gastritis, peptic ulcers, and gastric cancers[3]. There is six fold increased risk of gastric cancer in population with H. pylori infection as compared with population that have no gastric infection[4].Furthermore H. pylori is classified as a group I carcinogen by WHO, because of the evidence for its role in the pathogenesis of gut mucosa associated lymphoma and possibly in gastric carcinoma[5]. Duodenal and gastric ulcers and gastric adenocarcinomas and MALT lymphoma (mucosa associated lymphoid tissue) are associated with H. pylori infection[6]. The infection acquired in adulthood is less common and the estimated annual incidence is only 0.3-0.5% with a prevalence of H. pylori detected on 50 patients (40 males and 10 females)[7].

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The incidence of H. pylori infection is 73.5% below the age of 40 years and 55.3% above the age of 40 years[8]. It is the commonest bacterial infection throughout the world causing gastritis and gastric malignancies[9,10].

Several techniques, both invasive and non-invasive, are now available for diagnosing *H. pylori* infection. The invasive methods include culture, histological examination and urease testing of biopsy specimens. The non-invasive methods available include the urea breath testing requiring patient ingestion of carbon isotope derivates of urea[10] and serological detection of serum antibodies to *H. pylori*[11]. *H. pylori* elicit a specific serological response in the infected person & detection has a significant correlation with the prevalence of antibody to H. pylori of antibodies in the patient's serum as a reliable indicator of *H. pylori* infection with a useful tool for monitoring efficacy of antimicrobial treatement[12].

This study compares the sensitivity of three commonly used tests i.e., Endoscopic histopathology, HpSA, and Anti *H. pylori* IgG antibodies, and evaluate their usefulness in our patients in detecting *H. pylori* and formulate recommendations after consideration the cost effectiveness, time factor, sensitivity and specificity.

METHODOLOGY

Hundred patients i.e., male & female of H. pylori infection were included in this study for different techniques i.e., gastric endoscopic biopsy, ELISA method and rapid Immune chromatographic assay detection of H. pylori antigen from stool sample, which were collected from surgical, medical, and Research Lab. LUMHS, jamshoro/Hyderabad. Patients of all age groups and both sexes with the clinical suspicion of *H. pylori* were included in study. Patients having H/O NSAIDs, and gastric biopsies showing autolytic changes were excluded.

RESULTS

Detail of results are given in tables 1, 2 and 3.

Table 1: Results of gastric biopsies related to sex.

Gastric biopsies	Male	Female	Total
Positive	52(52 %)	38(38%)	90(90%)
Negative	04(04%)	06(06%)	10(10%)

Table 2: Serum *H. pylori* antibodies related to sex.

H. pylori stool antigen	Male	Female	Total
Positive	38(38%)	30(30%)	68(68%)
Negative	18(18%)	14(14%)	32(32%)

Stool antigen: Fresh stool samples were collected from 100 patients in sterilized bottle *H. pylori* antigen were detected on immune chromatography method and were found positive in 48(48%) cases, and *H. pylori* stool antigen positivity was seen in 28(58.3%) male patients and in 20(41.7%) female patients. The values of stool antigen sensitivity was 52.74% and specificity 90%.

Table 3: *H. pylori* stool antigen test related to sex.

H. pylori stool antigen	Male	Female	Total
Positive	28(28%)	20(20%)	48(48%)
Negative	28(28%)	24(24%)	52(52%)

DISCUSSION

Over the past 52 years, endoscopy has been extensively used in the diagnosis of the upper gastrointestinal ulcer. Ideally the culture & biopsy is considered as the gold standard method for the diagnosis of the *H. pylori* infection[13]. Out of 100 cases *H. pylori* organisms found in 90(90%) cases but 10(10%) cases were negative, and out of 90 positive cases for *H. pylori* 52(52%) were male and 38(38%) were female. In studies conducted by TZeng[14], 58(52.2%) were male and 53(47.7%) were female. In study of Qureshi[15], out of 72(90%) positive cases for *H. pylori* 48 (66.6%) were male and 24

(33.3%) were female. Study in a school based population, the prevalence of H. pylori was 70.3% in girls and 74.0% in boys[16]. All these studies including this study showed *H. pylori* more in male patients. However Malik[17] in his study showed out of 63 cases, 31 were male and 32 were female.

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