

IMPACT OF NON-INVASIVE METHODS FOR DETECTION OF *H. PYLORI* INFECTION IN PATIENTS WITH UPPER GIT SYMPTOMS IN SOUTHERN RIYADH, SAUDI ARABIA

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ABSTRACT

H. pylori is a ubiquitous organism. At least 50% of all people are infected, but an exact determination is not available, mostly because exact data are not available from developing countries. *H. pylori* may be detected in approximately 90% of individuals with peptic ulcer disease; however, less than 15% of infected persons may have this disease. An association between *H. pylori* and gastric cancer is confirmed. In developing countries *H. pylori* infection may be acquired at any age as gastric cancer rates are very high. According to some epidemiologic studies, this infection is acquired most frequently during childhood. Children and females have a higher incidence of reinfection (5-8%) than adult males. As well as no sex predilection is known; however, females have a higher incidence of reinfection (5-8%) than males. Diagnosis of *Helicobacter pylori* is achieved by non-invasive methods such as *H. pylori* ELISA and or fecal antigen detection through ELISA techniques. The aim of the current study is to specify the impact of non-invasive methods for detection of *H. pylori* infection in patients with upper GIT symptoms in southern of Riyadh, as diagnostic methods in the Kingdom of Saudi Arabia.

Design & Methods

Patients presented to our GIT clinic at Salman University hospital with any of GIT symptoms such as (Heart burn, eructation, dyspepsia, and symptoms of Gastroesophageal reflux disease (GER) like, epigastric pain belching, bloating, nausea and sometimes vomiting) were enrolled from the Salman Bin Abdel Aziz University Hospital, Al Kharj, Saudi Arabia at that period between 2012-2013. Patients responded to a questionnaire to investigate possible GIT symptoms and then underwent. The stool ELISA test and *H. pylori* ELISA serology were applied.

Results

The diagnostic performance of the HP stool antigen assay was as follows (Table 2): sensitivity of 94.5%, specificity, 96.2%; positive-predictive value, 93%; negative- predictive value, 94%; and concordance of 90.4%. The diagnostic performance of the *H. pylori* ELISA assay was also high, with a sensitivity of 90.5% and specificity of 92%. Combining the HP stool antigen with the ELISA assay raised the sensitivity to 98%, the specificity to 97%, PPV to 96% and NPV to 95%.

Conclusion

The ROC curve showed a good correlation between the compared methods. The standardization of the ELISA test for the detection of *H. pylori* in stool specimens constitutes a non-invasive diagnostic alternative.

KEYWORDS: Helicobacter Pylori, Serology ELISA, Fecal Antigen Test