

The association of *Helicobacter pylori* mucosal density with low Serum Ferritin

Nidhal Raoof Mahdi¹ PhD, Nidhal Abdul Mohaymen² PhD.

Abstract

Background: Although there are several methods to detect *Helicobacter pylori* infection, there is no simple validated test to quantify the density of infection, which is believed to play a major role in the pathogenesis of *H. pylori*-associated Gastritis and serum Ferritin level.

Objective: The aim of this study was to assess the association of low serum Ferritin level with the intensity of *H. pylori* infection.

Patients and Methods: Sixty four patients mean age of 34 years (14-66 years) who underwent upper gastrointestinal endoscopy because of gastrointestinal complaints, were studied. Patients were grouped as *H. pylori* positive group, $n=47$ and *H. pylori* negative group, $n=17$.

A number of both invasive and non-invasive diagnostic tests were used for the diagnosis of *H. pylori* infection (Ultra Rapid Urease Test (URUT), slide impression smear test and *H. pylori* IgG ELISA Test).

Fasting serum Ferritin were determined using VIDAS Ferritin (Enzyme Linked Fluorescent Assay).

Results: Forty seven of the 64(73%) patients were *H. pylori* positive group. Patients were classified according to the age group and gender. The rates of the *H. pylori* infection were higher in

female age group 21-30 years. A total 16 of the 47 (34%) infected patients showed low serum Ferritin values with high rate in female with age group 21-30 years. Twenty eight of the 47(60%) patient biopsies showed positive microscopic examination with slide impression smear test. Twenty seven of the 47(57%) infected patients showed seropositive results to anti-*H. pylori* IgG antibody and also positive with URUT, 10 individuals of this group showed low serum Ferritin values. While ten of the 47 (21%) infected patients showed seronegative results to anti-*H. pylori* IgG antibody but positive with URUT, 5 individuals of this group showed low serum Ferritin values.

Conclusion: The possible relationship between mucosal *H. pylori* loads with low serum Ferritin level.

Keywords: *Helicobacter pylori* infection, serum Ferritin, anti-*H. pylori* IgG antibody ELISA test, Ultra Rapid Urease, Enzyme Linked Fluorescent Assay.

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Introduction

Helicobacter pylori is a gram negative, curved, microaerophilic and motile organism with multiple polar flagella. It resides in the stomach of man and other primates, lining up the gastric mucus secreting cells. It is estimated that about 50% of all humans carry *H. pylori* in their stomach^(1,2).

The prevalence of *Helicobacter pylori* infection in developing countries is about 70 to 90% and it is only 20–50% in developed countries⁽³⁾. The persistent infection induces a state of chronic gastric inflammation that frequently remains asymptomatic. In some patients, however, the infection causes disease, such as peptic or gastric ulceration, the development of a mucosa-associated lymphoid tissue lymphoma, or even gastric cancer⁽⁴⁾. It is not yet clear why only some people develop more severe forms of disease despite the high prevalence of *H. pylori*.

¹Dept. Medical Microbiology. College of Veterinary Medicine, Baghdad University,

²Dept. Medical Microbiology. College of Medicine, Al-Nahrain University,

Address Correspondence to: Dr. Nidhal R. Mahdi. E-mail: nidhal_rauf@yahoo.com

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