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Received: 26 April 2016

Revised: 14 July 2016

Accepted: 31 July 2016

Comparison of levofloxacin versus clarithromycin efficacy in the eradication of *Helicobacter pylori* infection

Abstract

Background: *Helicobacter pylori* (*H.pylori*) infection causes multiple upper gastrointestinal diseases but optimal therapeutic regimen which can eradicate infection in all the cases has not yet been defined. This study was designed to evaluate the efficacy of triple levofloxacin-based versus clarithromycin-based therapy.

Methods: In this open-label randomized clinical trial study 120 patients who had esophagogastroduodenoscopy (EGD) with positive rapid urease test (RUT) were enrolled and divided into 2 groups. Case group was treated with levofloxacin (500 mg daily) plus amoxicillin (1 gr twice a day) plus omeprazole (20 mg daily) for 2 weeks. Control group was treated with clarithromycin (500 mg twice a day) plus omeprazole (20 mg daily) for 2 weeks. After the main course of treatment, they received maintenance treatment with omeprazole for 4 weeks. Stool antigen test was performed on them after two weeks of not having any medicine.

Results: *H.pylori* eradication (intention to treat analysis) was successful in 75% of case group and 51.7% of control group showing a significant difference ($P=0.008$). *H.p* infection eradication (per-protocol analysis) was successful in 80.4% in case group and 57.4% in control group showing significant difference ($P=0.009$). Drugs adverse effects causing discontinuation treatment were seen in 5% of case group and 3.3% of control group which have not shown a significant difference between the two groups ($P=0.648$).

Conclusion: Triple therapy with levofloxacin-based regimen has better efficacy than clarithromycin-based regimen and as safe as it is.

Keywords: *Helicobacter pylori*, Dyspepsia, Peptic ulcer, Rapid urease test, Stool antigen.

Citation:

Haji Aghamohammadi AA, Bastani A, Miroliaee A, et al. Comparison of levofloxacin versus clarithromycin efficacy in eradication of *Helicobacter pylori* infection. *Caspian J Intern Med* 2016; 7(4): 267-271.

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The presence of organisms was first observed more than 100 years ago and their association with gastritis has been recognized since the 1970s (1). The true implication of these microbes was not fully realized, however, until 1982 when Marshall and Warren identified. *Campylobacter pyloridis* on culture, which was reclassified later it as *H.pylori* (2). *H.pylori* is the most common chronic bacterial infection in humans (3, 4). It has been demonstrated worldwide and in individuals of all ages. Conservative estimates suggest that 50 percent of the world population is affected. Infection is more frequent and acquired at an earlier age in the developing countries compared with industrialized nations (4). This organism is now known to cause chronic gastritis, dyspepsia, most peptic ulcers, gastric cancers and lymphoma. Hence, eradication of *H.pylori* can control or cure such diseases (5). Multiple regimens have been evaluated for *H.pylori* infection therapy in randomized controlled trials (6-10). Despite the numerous studies, the optimal therapeutic regimen has not yet been defined.