

**COMPARATIVE EVALUATION OF H.PYLORI ERADICATION EFFICACY  
IN PATIENTS WITH ORGANIC AND FUNCTIONAL DYSPEPSIA**

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**Abstract:** *This article presents the results of evaluating the efficacy of eradication of Helicobacter infection in patients with chronic inflammatory diseases of the upper gastrointestinal tract. The association with H.rulori was confirmed by serbolgic examination of blood Helicobacter antigen and immunochromatographic examination of fecal specimens. According to the results of the serbologic examination of the HP antigen in the blood and the immunochromatographic examination of fecal specimens, eradication was achieved in 83% of the patients, which proves the effectiveness of the treatment.*

**Key words:** *Helicobacter pylori, diagnosis, H. Pylori-antigen in fecal specimens, eradication, clarithromycin, omeprazole, amoxicillin*

Helicobacter pylori (H. pylori) is currently one of the most common infections of mankind. The etiological role of H. pylori in the development of chronic inflammatory-destructive processes of the gastroduodenal zone has been proved by many scientific studies [2].

H. pylori is a bacterium that affects different parts of the stomach and duodenum, causing changes in the mucosa, leading to the development of gastritis, ulceration, cancer. It has been established that 89% of noncardiac gastric cancer cases are caused by a long-term course of H. pylori infection. In addition, the development of MALT gastric lymphoma, dyspepsia, idiopathic thrombocytopenic purpura, unexplained iron deficiency anemia, and vitamin B12 deficiency are associated with this infection.

The International Agency for Research on Cancer has classified *H. pylori* as a Class I carcinogen for gastric cancer [1].

*H. pylori* is not the only etiologic factor in gastric cancer, but plays a causal role in the chain of events leading to its development.

In patients with atrophy and intestinal metaplasia, eradication of *H. pylori* infection reduces severity of gastritis symptoms, however, it does not fully stop the progression of precancerous changes of the gastric mucosa to adenocarcinoma, therefore it is reasonable to treat *H. pylori* infection before development of atrophic gastritis and intestinal metaplasia.

According to the international consensus Maastricht V (2015), Kyoto Consensus (2015), recommendations of the Russian Gastroenterological Association on the diagnosis and treatment of *H. pylori* in adults [4].

In recent years, a new method of determining *H. pylori* antigens in feces has been developed [5]. This method is reliable not only for primary diagnosis of *H. pylori*, but also for treatment monitoring and therefore is recommended by international consensus Maastricht V (2015) to evaluate the effectiveness of eradication therapy.

**The aim of the study** - was to investigate the efficacy of three-component therapy in patients with chronic HP-associated diseases according to the results of *H. pylori* antigen determination in feces.

**Material and methods.** 48 *H. pylori* positive patients with organic and functional dyspepsia were investigated. General clinical, laboratory (clinical and biochemical blood tests, general urinalysis), instrumental methods (esophagogastroduodenoscopy, ultrasound of abdominal cavity organs), definition of *H.pylori* antigen in stool samples by immunochromatography.

**Result.** Exclusion criteria: intake of antibiotics, drugs that suppress secretion (proton pump inhibitors, antacids, bismuth preparations) 4 weeks before the study, allergy to one of the used drugs, severe liver and kidney diseases, diarrhea.

Determination of H. pylori antigen in fecal samples was performed using immunochromatographic analysis (ICA).

The study included 48 patients with confirmed HP infection, i.e. H.pylori-antigen in blood and feces was detected in all the examinees as a result of serological study. By the results of endoscopic research of upper sections of gastro-intestinal tract in 10 (21%) patients no pathological changes in the mucous coat of stomach were revealed, in 5 (10%) patients chronic gastritis was diagnosed, in 19 (40%) - duodenal ulcer, in 5 (10%) - gastric ulcer.

The duration of the disease in all patients exceeded 1 year. Patients received a 10-day regimen of eradication therapy including: omeprazole, clarithromycin, amoxicillin. The drugs were taken twice a day. The choice of the therapy regimen was justified in accordance with the Maastricht V recommendations for the diagnosis and treatment of H.pylori infection. Informed consent was obtained from the patients.

Immunochromatographic test was also used to evaluate the effectiveness of H. pylori eradication in these patients. Stool samples were collected 3 days after endoscopy before the start of therapy and 4 weeks after the end of treatment.

Statistical processing of the obtained data included determining the reliability of differences in the mean values of quantitative data using Student's test.

Positive dynamics of the main clinical symptoms was observed against the background of the therapy.

In 4 weeks after the end of treatment we repeatedly tested for Helicobacter antigen in blood and feces. Eradication was successful in 40 of 48 patients and was 83% according to fecal ICA results and in 47 (98%) of 48 patients according to blood serology tests, i.e. the antigen was still present after treatment despite the complete disappearance of the disease symptoms.

This implies that fecal antigen testing is reliable, since *Helicobacter* antigen in blood persists despite eradication of the infection, while it is not detected in the feces after eradication.

Due to the simplicity of the IHA test with its high sensitivity, it has undoubted advantages over other tests.

Using a simple non-invasive method allows not only to diagnose *Helicobacter* infection in a short time, but also to control eradication to determine the effectiveness of the treatment regimen used. High sensitivity and specificity of immunochromatographic test for detection of HP antigen in fecal samples allow to recommend it as a noninvasive method of diagnostics of *Helicobacter* infection and evaluation of therapy efficiency.

**Conclusions.** Thus, the scheme on the basis of clarithromycin in combination with proton pump inhibitor and amoxicillin is effective and safe for eradication of *H. pylori* infection.

Non-invasive immunochromatographic rapid test for HP antigen determination in fecal samples may be used for diagnosis of *H. pylori* infection and evaluation of therapy efficacy.

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