

# **SAFETY PROBLEMS IN THE TREATMENT OF ISCHEMIC HEART DISEASE. ELABORATION OF NON-INVASIVE TESTS IN DIAGNOSTICS OF HELICOBACTER PYLORI INFECTION**

Rustamov M.N<sup>1</sup>., Abbasov M.K<sup>2</sup>

<sup>1</sup> *Belarusian State Medical University, Minsk, Belarus*

<sup>2</sup> *Neftechala Central City Hospital, Neftechala, Azerbaijan*

**Introduction and objective:** According to American Heart Association published information, about 15,4 million persons older than 20 years in the United States have ischemic heart disease (IHD). Despite the mortality rate from IHD has decreased in the last 4 decades in developed countries, it continues to cause approximately one third of all deaths in persons older than 35 years of age. It has been estimated that almost half of middle-aged men and one third of middle-aged women in the United States will have some symptoms of IHD. Usually patients with IHD take several medications including low dose of aspirin, coumarines, and new oral anticoagulants. According Maastricht V/Florence Consensus Report - Management of Helicobacter pylori (Hp) infection, the use of aspirin increases the risk of ulcer disease in Hp infected subjects. Anticoagulants: coumarines and new oral anticoagulants increase the risk of bleeding in patients with peptic ulcer. Testing for H. pylori should be performed in aspirin and NSAIDs users with a history of peptic ulcer. Thus testing for Hp in patients with IHD is actual. A breath test with C13 urea is recommended as one of the main methods for diagnosis of Hp infection. However, this method is not widely available for gastroenterological practice in general, in Belarus and Azerbaijan in particular. Therefore, it is actual and important to elaborate alternative cost-effective non-invasive methods for diagnosis of Hp infection. It is especially actual for patients, who cannot be tested by invasive methods for this reason. **OBJECTIVE.** To investigate sensitivity and specificity of non-invasive breath ammonium "HELIC-test" ("Association of medicine and analytics, Saint-Petersburg, Russia) in diagnosis of Hp.

**Material and methods.** Two independent studies in Belarus and Azerbaijan were performed. In Azerbaijan 129 with gastric dyspepsia and in Belarus 268 patients with chronic gastritis and duodenal ulcer were surveyed. Hp infection was confirmed by a histological examination of samples obtained from the antrum and corpus of stomach during endoscopy. For all patients non-invasive breath ammonium HELIC-test also was performed. Patients during at least four weeks before diagnostics did not take any medications (PPIs, antibiotics, antacids and bismuth), which could change the results of both invasive and non-invasive tests.

**Results.** Concordance of results of histological method and ammonium HELIC-test were high: in 88,5% and 88,3% of cases in Azerbaijan and in Belarus respectively. In Belarus sensitivity and specificity of test were 92,5%, and 93,6% respectively. In Azerbaijan sensitivity and specificity of test were 91,2%, and 92,3% respectively.

**Conclusions.** Breath ammonium HELIC-test is cost-effective non-invasive method for diagnosis of Hp infection. Sensitivity and specificity of this test are high enough. This method can be recommended as non-invasive test for diagnosis of Hp infection, especially in patients with IHD, which may have some contraindications for invasive tests.



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