

PRINCIPLES OF CHOICE DIAGNOSTIC METHODS AND ERADICATION *HELICOBACTER PYLORI* INFECTION

Tiupka T.I.¹, Zalyubovska O.I.¹, Zlenko V.V.¹, Minaieva A.O.²

¹ Kharkiv National Medical University, Kharkiv, Ukraine

² National University of Pharmacy, Kharkiv, Ukraine

Introduction. At this time, it proved the role of gram-negative bacteria *Helicobacter pylori* (*H. pylori*) in the development of many diseases of the gastrointestinal tract. Confirmed etiologic role of *H. pylori* in the development of chronic atrophic gastritis (90-100%), gastric ulcer (70-80%) and duodenal ulcer (90-100%), adenocarcinoma (80%) and MALT lymphoma (40-75%). The prevalence of *H. pylori* associated diseases among the population in different countries reaches 50-80%, so this is an urgent problem of medicine.

Aim. Optimization of diagnostic studies and increase the effectiveness of drug therapy of *H. pylori* infection.

Materials and methods. Basic principles of choosing of diagnostic methods and treatment of *H. pylori* infection are formulated according to the analysis of clinical studies described in the current national and foreign scientific studies and the results of their clinical trials.

Results. The choice of the specific method for diagnosis of *H. pylori* infection in most cases determined by the individual patient, the clinical features and the availability of various tests. The starting *H. pylori* therapy can be administered at a positive result of any of these. Preference should be given rapid urease test, histological examination of the gastric mucosa biopsies for the presence of *H. pylori*, the polymerase chain reaction in the biopsy. Primary diagnosis of helicobacteriosis using these test may give false negative results when low density seeding mucosal bacterium, often occurs in patients receiving proton pump inhibitors, antibiotics and bismuth preparations and in severe atrophic gastritis. In such cases, the mandatory combination with invasive determination of antibodies to *H. pylori* in serum. Regardless of applied tests, the control of eradication must be carried out not earlier than 4-6 weeks after completion of eradication therapy. Preference should be given urea breath test and determination of *H. pylori* antigen in stool by enzyme immunoassay. With the unavailability of non-invasive methods must be repeated histological examination and rapid urease test. Treatment of chronic *H. pylori* gastritis provides for eradication therapy, where the goal is the complete destruction of *H. pylori* in the stomach and duodenum. Pharmacotherapy of Helicobacteriosis today is one of the branches of medicine, developing dynamically, as specified pathogen, as demonstrated in numerous scientific studies relatively quickly develops resistance to the drugs, which are used in clinical practice with the aim of eradication. In practice, the need to constantly take this into account, developing a fundamentally new antibacterial agents, as well as introducing new schemes of

eradication of *H. pylori*. It is proved that the effectiveness of eradication rate is reduced if the gastroduodenal mucosa colonized metronidazole-resistant strains of *H. pylori*, or if using antisecretory drugs do not reach the intragastric pH in the range of 6-7 units. Or because of side effects or other reasons not fully accepted drugs included in the recommended eradication scheme. As a result, naturally decreases the frequency of eradication *H. pylori*. In assessing the results of eradication therapy in adult patients, highly specific and informative methods (multiple biopsies from antrum and corpus, histological examination, tissue urease test) after the treatment *H. pylori* was not detected in nearly 100% of cases, a month later, the figure was 80-90 %, after 6 months – 50%, and a year later – 35-50%. The authors conclude that gastroduodenal mucosal infection may eventually grow and this is probably due to reinfection basically the same strains of *H. pylori*. Modern eradication scheme is the result of years of discussion of the problem leading scientists in the world. The main requirements that apply currently to Helicobacter therapy are: high efficiency rate of treatment of at least 80%; well tolerated with frequency of side effects is less than 5%; short duration of treatment (2 weeks); the minimum probability of primary and secondary resistance; low cost drugs.

Conclusions. The development of new antibiotics and their practical application is the only way to improve the effectiveness of therapy and solving the problem *H. pylori* resistance to drugs that will upgrade existing therapeutic treatment regimens of *H. pylori* infection.