

FEATURES OF THE COURSE OF DISEASES ASSOCIATED WITH HELICOBACTER PYLORI INFECTION IN CHILDREN

Khudaiberganova N. H.

Tukhtaeva N. H.

Solikhov M. U.

Narziev N. M.

Tashkent Medical Academy

Abstract

The article is devoted to the features of the course of diseases associated with Helicobacter Pylori (HP) infection in children. The data of epidemiological studies are presented, showing the prevalence of the prevalence of chelicobacteriosis in children. In accordance with international standards, the main treatment regimens used for eradication therapy are given.

Keywords: Helicobacteriosis, children, eradication, resistance, prevalence.

Introduction

Helicobacter pylori, being a source of the infectious process, or a natural reservoir, a helicobacteriosis is an infected person. This was proved back in 1985 by B. Marshall [1], which developed acute gastritis after he drank a solution with the HP culture obtained from 65-year-old patient with chronic gastritis and contained by bacteria. In the first 6-8 days after the infection (“incubation period”) no clinical manifestations of the disease were found; on the 7th day, dyspeptic phenomena and pain appeared. Эндоскопические признаки гастрита определялись уже на 10-й день после заражения. The fact of infection when taking HP culture was confirmed during subsequent studies in both people and in a number of laboratory animals [2, 3]. However, the settlement of the mucous membrane of the stomach HR does not always cause a detailed picture of chronic gastritis. Sometimes the disease is greased (latent) in nature or takes on the nature of carriage. The carriage of practically healthy people may be associated with the settlement of their mucous membrane with weak -willed strains or a decrease in the number of receptors on the surface of the stomach that contribute to adhesion of microorganism [6, 7].

HP infection is widespread throughout the world, about 60% of the population of the globe are infected with this microorganism [8]. D. Y. Graham called HP the most common infection along with Streptococcus Mutans causing caries [9]. It is the main cause of chronic gastritis. HP is determined in 95% of patients with duodenal ulcer, in 70-80%-with stomach peptic ulcer, in 50% of patients with non-inherent dyspepsia. HR infection four times increases the risk of ulcerative disease [10]. Retrospective studies have shown the relationship of infections of HP and stomach cancer, including including stomach lymphoma [11]. The risk of developing stomach cancer associated with HP reaches 70% in industrial areas and 80% in rural areas [12]. Recently, studies



have been conducting a relationship between HR infection and lesions of other organs and systems, in particular, the influence of this microorganism on the development of coronary heart disease is discussed [13].

According to our data, there is no pronounced dependence of the level of observance depending on the social or financial situation of patients.

However, in families with a large number of children living in densely populated apartments or houses without sufficient domestic amenities (sewage, heating, hot water supply), HP infection is 30-40% higher.

The infection frequency over the years is progressively increasing.

However, this does not always explain the prevalence of HP.

Infection of HP in the vast majority of cases occurs in childhood [19, 20].

Epidemiological studies showed approximately equal infection of HP in children. A high degree of HP contamination in children can be explained by the fact that studies for the presence of this microorganism were carried out mainly in children with various gastroenterological complaints. When examining children, regardless of the presence of dyspepsia or abdominal pain, the number of HP-positive ones is determined much less often [4, 5].

We determined among 7-year-old children the infection of Helicobacteria amounted to 40-45%, and by the age of 14-15, infection already reaches an adult level and remains within 65-70%. This is also mentioned by other authors, who noted a significant increase in the level of infection and the appearance of more strains resistant to conducted treatment in patients older than 17 years [17]. The HR transmission paths are the most studied and definite is the contact path of transmitting infection from person to person. Most often, the infection of Helicobacteria occurs between the family members with an oral-oral way or through personal hygiene items. This is confirmed by the fact that HP was allocated from a dental plaque [16, 29]. The spouses are more likely to infect each other [21], confirming the assumption B.Marshall about the transfer of infection through kisses. Parents transfer HP to children with kisses or when using some cutlery, "licking" a nipple of infants, etc. As a rule, all family members are struck by the same HP strain [27]. However, there are reports that in one family they can simultaneously persist up to two strains of microorganisms in different spouses. At the same time, the transfer of microorganism is more often from parents to children than the exchange between brothers and sisters [22]. In families with two or more children, the prevalence and degree of invasion of HP Above, and persistent eradication occurs only in the case of treatment of all family members from HP [15].

Gastroenterologists, endoscopists, dentists who have a job with infected people are more often infected with HP-infection [18, 23]. Based on our studies, the transmission of Helicobacteriosis can also be carried out through endoscopic equipment and probes, with which various invasive studies of the digestive system are carried out, with their insufficient processing. When taking washing off from the working surface of the devices after their insufficiently thorough processing, according to our data, the intensive growth of Helicobacter Pylori was determined. Many authors indicate HR infection as professional harmfulness with the risk of developing cancer in medical workers who are most closely in contact with this microorganism (endoscopists, microbiologists) [24, 25].



Another possible way of infection with helicobacteriosis can be fecal-oral. There is information about the existence of hp -shaped mock forms, into which microorganism passes when exposed to various adverse conditions. There are instructions of a number of authors that HR can be transferred to some pets of dogs or cats, in the body of which microorganisms were found that are very similar in structure with HP [26], however, information that can be considered a helicobacteriosis with a zoone infection is not enough.

Diseases of helicobacteriosis are not a pronounced seasonal nature, although there is an increase in the treatment of school-age children with complaints of abdominal pain associated with the HP-infection in the autumn-spring period. This can be explained by the settlement of the gastric mucosa with new HP pathogenic strains at the beginning of the school year with close communication between schoolchildren in closed groups (within the same class, group), especially in children permanently residing in closed groups (orphanages) [28]. The study of the prevalence of helicobacteriosis among various groups of the population, the ways of its transmission allows us to consider helicobacteriosis as an infectious disease that is of the nature of the epidemic.

During the history of the study of HR infection by scientists and researchers of many countries, various approaches to the therapy of inflammatory diseases of the upper digestive tract associated with this microorganism were practiced. The effectiveness of the use of both the component treatment regimen with antibiotics and a combination of drugs of different groups were studied. As a result of these studies, it was shown that some antibacterial drugs are not capable of exerting their effects under the habitat of HR - in the acidic environment of the stomach, for the effective use of others, patients had to take very large doses of the drug, and with the use of others, the resistance of microorganism quickly developed to the used drugs used Means. Nevertheless, to date, such treatment regimens have been developed that are able to effectively fight HP, achieving its complete eradication (destruction) in a short time and achieve a long remission of the disease. For the effective treatment of gastroenterological diseases associated with a helicobacter infection, the use of specific antibacterial drugs is necessary. Given the ecological niche that these microorganisms occupy, the antibacterial therapy should meet some requirements: 1. The drugs used should effectively affect HP; 2. Antibiotics should be resistant to the action of an aggressive acidic environment of the stomach; 3. They must have the ability to penetrate under a layer of gastric mucus; 4. Their effect in the mucous membrane should be local; 5. They must be quickly excreted from the body, without accumulating in other tissues and organs.

Helicobacteria, being microaerophils, can function normally only in the usual habitat - on the surface of the mucous membrane under a layer of mucus. Outside the body, they are extremely sensitive to almost any aggressive effects (alcohol, atmospheric air, antibacterial drugs acting on gram -negative flora). However, gastric mucus, changes in the pH of the medium in the lumen of the stomach and the immediate vicinity of HP largely change the effect of drugs.

These conditions significantly narrow the circle of drugs used to treat helicobacteriosis. The problem of treatment of helicobacteriosis in adults, according to some authors, is solved by the appointment of a short course (3-4 days) of a combination of antibiotics within the maximum permitted doses [1, 5], which, however, is unacceptable in pediatrics.

At the same time, in children with gastroduodenal pathology due to the presence of Helicobacteria, changes in the biocenosis of the gastrointestinal tract appear. So, a significant deficiency of



lactobacilli and bifidoflora was revealed near the authors with the simultaneous increase in the level of conditionally pathogenic microorganisms against the background of chronic gastroduodenal diseases, the severity of disorders increased during antibacterial therapy [3, 6].

A number of studies were conducted using new effective antibacterial drugs that allow you to achieve good results in HR eradication therapy. As a result of these studies, a number of provisions were formulated at the meeting of the Helicobacter Pylori working group of the European Society of Pediatricians, Hepatologists and Dietatologists (HR Working of the European Society for Pediatric Gastroenterology, Hepatology And Nutrition (ESPGHAN)) in October 2000. In particular, these recommendations noted the preference of the use of eradication three-component schemes that combine proton pump inhibitors and two antibiotics, one of which is clarithromycin. Drugs recommended for use in children from the age of five, in eradication therapy, include the following: 1. Colloidal Bismuth subcitrate - 4 mg/kg; 2. Amoxicillin 25 mg / kg (Max 1 g / day), clarithromycin 7.5 mg / kg (Max 500 mg / day); 3. Nifurator 15 mg/kg, furazolidone 20 mg/kg, metronidazole 40 mg/kg; 4. Omeprazole 0.5 mg / kg*, Ranitidine 300 mg / day.

Currently, a fairly large number of studies have been conducted on the use of eradication schemes with a nifurator as a second antibiotic [9]. Currently, the nifurator is included in the recommendation of the Association of Pediatricians for the Diagnostics and Treatment of Diseases associated with Helicobacteriosis in Children. That is why recently in the schemes of eradication therapy in children, especially in the presence of strains resistant to metronidazole, nifuroxaside (suspension) is increasingly used - a representative of the nitrofurazone series, allowed for children from monthly age in eradication therapy.

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