A MODERN PERSPECTIVE ON THE TREATMENT OF GIARDIASIS

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Abstract: *The relevance of the giardiasis problem in recent years is associated with the increasing data on resistance to existing antiprotozoal drugs (such as Metronidazole, Furazolidone, etc.). The aim of the study is to evaluate the therapeutic effect of the drug Nimozole in the treatment of various clinical forms of giardiasis in children. The study material consists of outpatient patients who sought help at the Samarkand Regional Clinical Infectious Diseases Hospital in 2019, along with their outpatient records. The research methods include anamnesis, epidemiological, clinical, and laboratory studies. A total of 80 patients aged 5 to 14 years were observed, with 45.5% being boys and 54.5% girls.*

Keywords: *Giardia, giardiasis, children, treatment, effect.*

Results and Discussion: The drug was administered to 80 children diagnosed with "Intestinal Giardiasis." After 5-7 days of treatment, a very good result was achieved in 91.8% of cases, with no side effects reported. Nimozole demonstrated a good and rapid effect. The clinical forms of giardiasis were distributed as follows: asymptomatic (latent) course – 26.6%, with gastroenterocolitic syndrome – 25.3%, with cholecystopancreatic syndrome – 11.7%, with asthenic syndrome – 15.5%, and mixed form of giardiasis – 20.9%. In all patients before treatment, multiple vegetative forms of Giardia or their cysts were detected in the stool. The drug was prescribed at a dose of 15 mg per kg of body weight per day, divided into two doses. The treatment duration was 5-7 days. A favorable effect of Nimozole was noted in 91.8% of treated patients. The effectiveness of the drug was monitored based on clinical parameters and laboratory data.

Relevance: According to WHO, Giardia is the most common intestinal protozoan worldwide. Approximately 20-25% of children globally suffer from giardiasis [2-5]. Giardia ranks third in prevalence after enterobiasis and ascariasis (WHO, 2006). It was previously believed that giardiasis occurred in endemic areas of Asia, Africa, and Latin America with poorly developed infrastructure [12-17]. With the development of tourism in developing countries, giardiasis is now found everywhere, often alongside pathogens causing intestinal infections and helminthiases, such as Hymenolepis nana, Strongyloides stercoralis, Taenia spp., etc. From 2004 to 2010, there were 70 outbreaks of giardiasis linked to waterborne transmission worldwide. In 2010, Europe recorded 17,130 cases of giardiasis, which amounted to 5.68 per 100,000 population. The incidence of giardiasis depends on the socio-economic level of countries [11, 19]. In developed countries, it occurs at a rate of 2-7%, while in developing countries it can reach up to 40% [2, 8, 20]. In children from Africa, Asia, and South America, Giardia causes chronic diarrhea, slowly leading to severe malnutrition, reduced immunity, and functional disorders of the nervous system. Currently, international

genomic studies are being conducted to investigate the pathogenetic mechanisms of giardiasis development, modern tests are being developed for rapid detection of Giardia in the stool of infected individuals, active searches for vaccine development opportunities are underway, and new and old treatment regimens for giardiasis are being assessed.

The necessity of treating giardiasis carriers remains a topic of debate. However, recent studies on the complications of giardiasis in both adults and children following major outbreaks of this disease in Europe and developing countries have highlighted the importance of continuous monitoring of this infection. Currently, six species of Giardia are morphologically differentiated: Giardia intestinalis, Giardia muris, Giardia agilis, Giardia microti, Giardia ardeae, and Giardia psittaci.

Giardia intestinalis (G. duodenalis, L. intestinalis) can cause infections in humans and various species of mammals. The introduction of molecular genetic research into practice has allowed for the identification of 8 main genetic subtypes within the species complex of L. intestinalis. Giardia that infect humans can also infect a large number of other mammalian species, both in the wild and in domestic animals. Therefore, giardiasis is considered a zoonotic disease, with potential transmission occurring both from humans to animals and from animals to humans. The goal of treating giardiasis is not only the eradication of the parasite but also the elimination of clinical manifestations such as abdominal syndrome, endogenous intoxication, allergic reactions, and vegetative disorders. The use of etiological treatment leads to massive destruction of parasites and absorption of their decay products into the bloodstream, which may cause an increase in intoxication and sensitization of the body. Clinically, this manifests on the 2nd to 3rd day of treatment as a deterioration in the patient's condition, with symptoms such as nausea, vomiting, loss of appetite, increased itching, and skin rashes. These phenomena spontaneously resolve within 2 to 3 days and do not require discontinuation of therapy. Etiological treatment for giardiasis is prescribed upon detection of the pathogen and the presence of clinical manifestations of the disease. When selecting a drug for treating giardiasis in children, the main requirement is safety, as well as the absence of disease recurrence. The relevance of the giardiasis problem in recent years is associated with increasing data on resistance to existing antiprotozoal drugs (such as Metronidazole, Furazolidone, etc.). Currently, four groups of anti-giardial drugs are used for treatment: nitroimidazole group (Metronidazole, Tinidazole, Albendazole, Ornidazole, and Nimozole), nitrofurans (Furazolidone), benzimidazole derivatives (Albendazole), and acridine-containing drugs (Mepacrine and Quinacrine), which are used only in adults due to their potential high toxicity. Therefore, there is a justified need to search for new, more effective drugs for treating giardiasis.

Study Objective: To evaluate the therapeutic effect of Nimozole in the treatment of various clinical forms of giardiasis in children.

Materials and Methods: The study material consisted of outpatient patients and their medical records from the Samarkand Regional Clinical Infectious Diseases Hospital for the year 2024. Research methods included anamnesis, epidemiological, clinical, and laboratory studies. A total of 80 patients aged 5 to 14 years were observed, with 45.5% being boys and 54.5% girls.

Results and Discussion: The clinical forms of giardiasis were distributed as follows: asymptomatic (latent) course – 26.6%, with gastroenterocolitic syndrome – 25.3%, with cholecystopancreatic syndrome – 11.7%, with asthenic syndrome – 15.5%, and mixed form of giardiasis – 20.9%. In all patients before treatment, multiple vegetative forms of Giardia or their cysts were detected in the stool. The drug was administered to children at a dose of 15 mg per kg of body weight per day, divided into two doses. The treatment duration was 5-7 days. A favorable effect of Nimozole was noted in 91.8% of treated patients. The effectiveness of the drug was monitored based on clinical parameters and laboratory data.

In cases of gastroenterocolitic syndrome due to giardiasis, recovery was observed in 67.7% of patients (symptoms such as nausea, pain in the epigastric area and around the navel disappeared, appetite normalized, weakness resolved, bowel movements returned to normal, and coprological analyses yielded negative results) with improvement noted in 22.9% of patients.

The tolerability of the drug was also found to be good. In our study, none of the treated patients experienced any side effects. The high activity of the drug and the absence of complications during its use make Nimozole a very valuable treatment option for giardiasis in children.

Furthermore, an important advantage of Nimozole is its compatibility with other medications used in the treatment of gastrointestinal disorders.

Conclusions: 1. Based on our experience, we can say that Nimozole meets the criteria for an effective and well-tolerated medication indicated for the treatment of giardiasis in children and has certain advantages compared to other drugs of this type.

2. A good therapeutic effect of the drug was noted when relatively small doses (15 mg per kg of body weight) and a short course of treatment (5-7 days) were used. No side effects of the drug were reported during this period.

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