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**PATHOGENETIC APPROACH TO THE TREATMENT OF
INFECTIOUS DIARRHEA IN CHILDREN
S U M M A R Y**

This article describes a pathogenetic approach to treating infectious diarrhea in children. A total of 152 sick children were investigated. For treatment, children were divided into 2 groups. 1st control group (n=60) of children receiving basic treatment, and 2nd treatment group (n=92) of complex treatment. The complex therapy group was divided into 2 subgroups: 54 patients with secretory diarrhea in group 2A were given *Saccharomyces boulardii*+ $\alpha 2\beta$ interferon (viferone) in treatment according to the instruction. Group 2B included 38 children with invasive diarrhea, whose complex treatment was designated *Saccharomyces boulardii*+Nifuroxazide. The pathogenetic approach led to a rapid recovery and reduced hospital stay.

Keywords: diarrhea, invasive, secretory, complex therapy *Saccharomyces boulardii*, Nifurocsazid.

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**ПАТОГЕНЕТИЧЕСКИЙ ПОДХОД К ЛЕЧЕНИЮ
ИНФЕКЦИОННЫХ ДИАРЕЙ У ДЕТЕЙ
Р Е З Ю М Е**

На этом статье описано патогенетический подход к лечению инфекционных диарей у детей. Всего было исследовано 152 больных детей. Для лечения были разделены на 2 группы: 1-я контрольная группа (n=60) детей, получавших базовое лечение, и 2-я лечебная группа (n=92) при комплексном лечении. Группа комплексной терапии была разделена на 2 подгруппы: 54 пациентам с секреторной диареей в группе 2а детям назначали *Saccharomyces boulardii*+ $\alpha 2\beta$ интерферон (виферон) в лечении

согласно инструкции. В группу 2В вошли 38 детей с инвазивной диареей, в комплексном лечении которых был назначен *Saccharomyces boulardii*+Нифуроксазид. Патогенетический подход привело к быстрому выздоровлению и сокращению пребывания в стационар.

Ключевые слова: Диарея, инвазивная, секреторная, комплексная терапия *Saccharomyces boulardii*, Нифуроксазид.

Introduction: Gastroenteritis of various etiologies that cause infectious diseases is often the cause of acute infectious diarrhea. This is not noticed by many. Also, acute diarrhea is one of the main causes of morbidity and mortality among children under 5 years of age[2,3]. In order to achieve the effectiveness of the clinical and immunological course and treatment of acute infectious diarrhea in children of early age in the world, a number of research studies are being carried out. A comparative study of the etiological composition and pathogenetic types of acute infectious diarrhea in this regard, including: a study of the clinical and immunological characteristics of various pathogenetic variants of acute infectious diarrhea; prevention of complications of acute infectious diarrhea; diagnosis of various pathogenetic variants of diarrhea and improvement of measures for their treatment are of great importance.

According to WHO, the most common infectious diseases in recent years are bacterial and viral diarrhea. The problem of acute intestinal infections is the most relevant in health care. On the one hand, the incidence rate remains quite high, on the other hand, the appearance of new serovars is noted, causing a severe course of the disease[4].

In recent years, among infectious diseases, according to WHO, the most common are bacterial and viral diarrhea. The problem of acute intestinal infections is the most relevant in health care. On the one hand, the incidence rate remains quite high, on the other-the appearance of serovars is noted, causing a severe course of the disease. There is no significant decrease in morbidity [1].

The purpose of the study is a pathogenetic approach to the treatment of children's infectious diarrhea.

Object and subject of research. 152 children under 3 years of age with invasive and secretory types of acute diarrhea were taken, who were admitted to the Andijan regional infectious diseases hospital and the Asaka infectious diseases department. For treatment, they were divided into 2 groups: Group 1 control group (n=60) of children in base treatment, and Group 2 treatment group (n=92) in complex treatment. The main therapy of acute intestinal infections includes diet therapy, rehydration (oral or parenteral, depending on the patient's condition), appointment, zinc and sorbent drugs. The complex therapy group was divided into 2 subgroups: 54 patients with secretory diarrhea in Group 2a children, Saccharomyces boulardii+ α 2 β interferon (viferon) in the treatment were prescribed according to the instructions. The 2B group included 38 children with invasive diarrhea, in the complex treatment of which Saccharomyces boulardii+Nifuroxazide was prescribed. Group B patients were given the drug Saccharomyces boulardii and nifuroxazide. Nifuroxazide is 2.5 ml – 2 times for children under 6 months of age, 5 ml for children from 6 months to 6 years of age. 3 times (per os) was given for 5 days to drink. Control group patients were given regidron 1 teaspoon every 5 minutes to children under 1 year of age, children over 1 year of age, as much as they wanted. The zinc drug, on the other hand, was given 1 tablet (20 mg) 1 time (or 1 teaspoon 1 time in the case of syrup). Those in the main group were placed in Group A Saccharomyces boulardii - 2 times of 1 sachet in 100 ml of water and viferon 150,000 IU suppositories per rectum 2 times for 5-6 days. The drug was prescribed from 1 sachet 2 times a day for 10 minutes before meals, dissolved in 100 ml of boiled water. After the use of Saccharomyces boulardii in for therapeutic purposes, bad adverse reactions were observed.

Blood and feces were taken from patients as the subject of the study.

The results obtained. Compliance with the rules of the external environment and personal hygiene in the spread of diarrhea in children serves as

the main criterion. The course of moderate to severe dehydration in patients with acute diarrhea was characteristic of patients with secretory diarrhea. In invasive diarrhea, the average degree of dehydration was 31.2%, and in secretory diarrhea-54.8%. This gave a 1.7 times higher potency than invasive diarrhea. The severe rate of dehydration was 28.8% in secretory diarrhea and 12.5% in invasive diarrhea. This has been shown to be 2.3 times higher than invasive diarrhea. Of the symptoms most common in invasive diarrhea at the height of the disease, an increase in fever was considered 89.5%, and in patients with secretory diarrhea-24.0% ($p < 0.05$). The body temperature rose rapidly to high levels to 39.0 and 39.50 C. The duration of this condition did not exceed 3 days. There were also patients who did not have a fever at the height of the disease. These were found in invasive diarrhea-10.4% of sick children, and 76.0% -sick children with secretory diarrhea. Symptoms of gastroenteritis and enteritis in the course of the disease were observed in sick children with secretory diarrhea, full manifestations of symptoms of gastroenterocolitis and enterocolitis in sick children with invasive diarrhea. Symptoms of hemodynamic disorders were arterial hypotension, tachycardia, hissing, cyanosis. Most often, symptoms of kidney damage in the form of albuminuria, microhematuria were observed in patients with severe course. The results of the studies carried out showed that against the background of complex therapy received by Group A, the clinical symptoms of the disease decreased significantly compared to patients in the control group, not only diarrhea, but also intoxication syndromes. In a small group of 2A, the majority of children after complex therapy (more than 70% of patients) showed indicators of Indigenous microflora almost approaching the norm ($p < 0.001$). A positive change was also observed in the 2B group, but not as pronounced as in the 2A group and unreliable in relation to the base therapy group ($p > 0.05$).

The IL-10 indicator was manifested in children of the 2A group in a normal state, and in the comparison group, the indicators were manifested to a lesser extent. Thus, the period of recovery in children from comparable groups acquired

an elongated character. The indicator Ono- α normalized after treatment in Group 2A, but did not reach the normal indicator in the compared groups.

In children who received complex treatment, the brain and liver tag indicators of antigen binding lymphocytes decreased at the end of the course of treatment and reached almost normal indicators, while in the base therapy group they remained in a slightly elevated position.

Complex treatment also showed a positive effect of antigen-binding lymphocytes for both the small and large intestine tag. In the group of children who received some therapy, there was also a tendency to decline, but not so significant. A positive therapeutic effect was achieved in 93.3% of patients with acute intestinal diseases against the background of complex treatment. The decrease in the symptoms of intoxication was manifested from the 1st day as a result of complex therapy in the main and control groups. In the 2B treatment group, we studied the effects of nifuroxazide with *Saccharomyces boulardii* on the duration of clinical symptoms. In this group, a very small difference was found when the symptoms of intoxication were compared with the control group.

In patients with invasive diarrhea, there was a decrease in the symptoms of intoxication from the 2nd-3rd days of the disease with the help of the drug nifuroxazide and *Saccharomyces boulardii*. By the 5th-6th days, however, it approached normal. The positive effect of the use of the drug *Saccharomyces boulardii* with viferon in complex treatment the effect of nifuroxazide with secretory diarrhea and *Saccharomyces boulardii* is noted in patients with invasive diarrhea. Against the background of the ongoing complex treatment with the mentioned probiotic, the duration of clinical manifestations characteristic of intoxication syndrome decreases. This phenomenon may be associated with an improvement in intestinal microbiocenosis in patients treated with a new generation of probiotic - *Saccharomyces boulardii*. Since the intestinal microflora and the human immune system are interconnected, a qualitative improvement in

intestinal microbiocenosis should undoubtedly be accompanied by a positive change in immune status.

Conclusion. The results of the studies in patients treated with *Saccharomyces boulardii*+viferon allowed us to draw the following conclusion. The use of the new probiotic *Saccharomyces boulardii* in the complex treatment of patients with diarrhea has a positive effect on the clinical course of the disease, reduces the manifestations of intoxication syndrome. This, in turn, opens up new perspectives in the treatment of this nosological unit.

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