

Pediatrician Tactics In The Treatment Of Acute Gastroenteritis In Children

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Abstract. The high frequency of acute intestinal infections in children, most of which occur in young patients, determines the need to develop modern recommendations for their diagnosis and treatment. This article provides data on the etiology of intestinal infections, as well as the results of research by domestic and European scientists regarding the effectiveness of treatment of acute gastroenteritis, including information on the use of sorbents, probiotics, antiemetic and antibacterial drugs.

Keywords: children, oral rehydration, acute intestinal infections, dioctahedral smectite.

INTRODUCTION

Acute intestinal infections (AII) occupy a leading place in the structure of infectious pathology in childhood, second only to acute respiratory diseases and influenza in terms of frequency, economic and social damage [1]. According to experts from the World Health Organization (WHO), every year about 2 billion people in the world suffer from acute intestinal infections [2], and up to 5 million children in the world die annually from their complications [3, 4].

MATERIALS AND METHODS

Most of them occur in young patients. About 60–65% of cases of AII are diagnosed in children, with a particularly high incidence in children in the first years of life (up to 70%) [5]. Among the causes of mortality associated with infectious pathology, AII ranks 2nd–3rd after acute diseases of the upper respiratory tract and HIV infection [2].

RESULTS AND DISCUSSION

According to European epidemiological studies, the majority of cases of acute gastroenteritis in children have a viral etiology, with the largest share of Rota- and Norovirus, and Salmonella and Campylobacter are the main bacterial agents in the etiology of AII (Table 1) [2].

Table 1. Etiological structure of intestinal infections in children of the first 5 years of life in Europe [2]

Pathogen	Release frequency, %
Rotavirus	10–35
Norovirus	2–20
Campylobacter	4–13
Adenovirus	2–10
Salmonella	5–8
EPEC	1–4,5
Yersinia	0,4–3
Giardia	0,9–3
Cryptosporidium	0–3
Shigella	0,3–1,4

Diagnosis of AII remains the subject of debate to this day. In the practice of domestic pediatricians, the leading place in the diagnosis of acute gastroenteritis continues to be occupied by bacteriological examination of feces. This approach differs from the recommendations of the European Society of Pediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) [6], according to which microbiological tests are usually not required because:

- infectious agents can rarely be identified;
- study results become available no earlier than the 3rd day, and therapeutic measures should usually begin immediately, regardless of the etiological factor AII;
- research costs in Europe reach 680–1100 per 1 positive result;
- identification of healthy carriers complicates the interpretation of the results obtained.

The exception is cases of persistent diarrhea that require specific antibacterial therapy (cases of acute gastroenteritis in immunocompromised patients or suspected dysentery), differential diagnosis between infectious pathology and, for example, inflammatory bowel diseases, as well as in the case of epidemic mic flares.

The clinical picture of the disease can be quite variable, and it is difficult to identify individual symptoms that could indicate a specific etiological factor of acute gastroenteritis. According to European and Russian researchers, such signs as fever over 40°C, the presence of blood in the stool, severe abdominal syndrome and neurological symptoms are more likely to indicate a bacterial etiology of the disease, while vomiting and a combination of intestinal and respiratory manifestations are more typical of viral AII [3].

The main factor determining the severity of a child’s condition with AII is the degree of dehydration of the body. Of course, the best measure of the degree of dehydration is the percentage of weight loss compared to baseline. In accordance with the recommendations of WHO experts [4], depending on the degree of dehydration, patients can be divided into 3 groups:

- minimal or no dehydration (loss of <3% of initial body weight);
- mild to moderate dehydration (loss of 3–9% of initial body weight);
- severe dehydration (loss > 9% of initial body weight).

Unfortunately, information about the child’s body weight before the onset of the disease is not always available to the pediatrician, therefore, in order to assess the severity of the patient’s condition in practice, one often has to rely on a number of other clinical symptoms (Table 2).

Table 2. Criteria for assessing the degree of dehydration in a child

Degree of dehydration/symptoms	I degree (loss < 3% of initial weight)	II degree (loss of 3–9% of the initial mass)	Grade III (loss > 9% of initial weight)
Consciousness	Norm	Marked excitement	Lethargy/precoma
Thirst	Moderately expressed	Sharply expressed	May be missing
Voice	Norm	Weakened	Weakened to aphonia
Temperature	Normal or increased	Sharply increased	Demoted
Soft tissue turgor	Saved	Reduced (slow straightening of the skin fold)	Sharply reduced (skin fold “stands”)
Skin condition	Normal/moderate pallor	Pallor, marbling	Severe pallor, acrocyanosis
Symptoms of exicosis	Dry skin	Dry skin and mucous membranes Retraction of the large fontanelle	Severe dryness of mucous membranes No tears Retraction of the large fontanelle. Pointed facial features.
Breath	Norm	Tachypnea	Severe tachypnea/pathological breathing

According to ESPGHAN experts, hospitalization is indicated only for those children who require treatment carried out only in a hospital setting, for example, intravenous rehydration.

Children are subject to hospitalization:

- with severe dehydration (> 9% body weight), shock;
- the presence of pathological neurological symptoms (lethargy, convulsions);
- persistent vomiting of bile;
- suspicion of the presence of surgical pathology;
- ineffectiveness of oral rehydration and deterioration of the condition, despite the therapy, as well as if the child's parents cannot provide adequate care for the patient at home.

The second possible indication for prescribing antibacterial therapy may be campylobacteriosis. According to a meta-analysis that included 11 RCTs, the use of antibacterial drugs for this infection reduced the duration of diarrhea by an average of 1.3 days [4]. A number of studies have also demonstrated that antibacterial therapy for campylobacteriosis reduces the duration of fecal excretion of the pathogen and thereby reduces the risk of spread of infection and the development of epidemic outbreaks [5].

CONCLUSION

Thus, according to the recommendations of leading experts in the world, oral rehydration is one of the important components of treatment that reduces child mortality. However, due to the lack of effect of oral rehydration on intestinal motility, the duration of diarrhea, as well as accompanying symptoms (abdominal pain, bloating), additional therapy is necessary, for which it is advisable to use a combination of enterosorbents and probiotics. The prescription of drugs must necessarily be based on their evidence base obtained in pediatric practice.

REFERENCES

1. Gorelov A.V., Milyutina L.N., Usenko D.V. Clinical recommendations for the diagnosis and treatment of AII in children. M. 2015. 106 p.
2. Tolia V. Acute infections diarrhea in children. *Curr. Treat Options Infect. Dis.* 2012; 4: 183–194.
3. Vorotontseva N.V. Therapy of acute intestinal infections in children. *Pediatrics.* 2015; 4: 76–78.
4. Pokrovsky V.I., Onishchenko G.G., Cherkassky B.A. Infectious diseases at the end of the 20th century and the sanitary-epidemiological state in the 21st century. *Journal microbiol.* 2012; 3:16–23.
5. Vasiliev B. Ya., SirAIIn A. K., Sukhinin V. P. Application of TEM in the diagnosis of non-bacterial gastroenteritis. *Acute intestinal infections: Sat. scientific works L.* 2016. pp. 40–42.