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METHODS OF DIAGNOSTIC, TREATMENT AND PROPHYLAXIS OF CLINICAL DIARRHEA: A LITERATURE REVIEW

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Annotation. Acute diarrhea, that is, diarrhea, is common in young children and can be dangerous to their health. Predisposition to the disease is more often observed in boys and girls, especially with anemia, rickets, and iodine deficiency.

The disease can occur in mild, moderate, or severe, sometimes atypical forms, depending on the patient's condition and the nature of the microbe or virus that has entered the body.

The disease is more common in children and is more severe than in the elderly. The disease is most often found in cases of non-compliance with sanitary requirements. Epidemiologically dangerous is the registration of the disease in public catering centers and kindergartens.

People with acute diarrhea are more likely to get sick in the summer and autumn seasons. Hence the seasonality. Most of the morbidity is due to the fact that the air is favorable for high temperatures and the reproduction of microorganisms, consumed by people without washing fruits and vegetables, as well as with an increased need for water.

Keywords: acute diarrhea, sanitation, hygiene, epidemiology, prevention, rehydration, dehydration, spasm, shigella, salmonella, rotavirus

The entrance. Acute diarrhea is a condition characterized by loose, frequent stools, usually lasting less than 14 days. In most cases , it is associated with infections , including viruses, bacteria, and parasites. It is a common disease in adults and children worldwide, and is a major health concern, especially in developing countries [1,3].

Acute diarrheal disease is a leading cause of death among children and adults. In developing countries, the incidence and mortality of acute diarrheal disease are highest in children . For example, in Latin America, the incidence of diarrhea in children during the first 2 years of life is approximately 2.7 per year [1] .

are of high socioeconomic importance and are a major public health problem worldwide due to high morbidity, mortality, and objective diagnostic difficulties. These infections can be caused by bacteria, viruses , and protozoa and are characterized by the development of acute diarrhea with more than 30 clinical forms [9].

Traveler's diarrhea is one of the most common acute illnesses . Hundreds of thousands of people, primarily tourists, suffer from traveler's diarrhea when moving from one region to another. According to statistics, almost 20% of those infected with this diarrhea spend at least one day in bed, miss excursions, vacations, and other activities, about 40% of tourists are forced to adjust their plans due to illness, and only 1% of tourists are hospitalized [10].

According to the World Health Organization (WHO) and UNICEF, there are an estimated two billion cases of diarrheal disease worldwide each year. Diarrhea kills 1.9 million children under the age of five every year , mostly in developing countries. This represents 18% of all deaths in children under the age of five, or more than 5,000 children die every day from diarrheal diseases. 78% of child deaths from diarrhea occur in Africa and South-East Asia .

In industrialized countries, relatively few patients die from diarrhea, but it remains a significant cause of morbidity and associated with significant health care costs. In these countries, mortality rates from diarrheal diseases have remained relatively stable over the past two decades [11].

In developed countries, viral agents predominate in the etiology of diarrhea, while in developing countries, bacterial agents predominate. In most cases , infection occurs through contaminated water or food [9].

Etiology and pathogenesis of the disease.

Etiology. Etiological agents that cause acute diarrhea include:

• Viruses: Viruses such as rotavirus, norovirus, adenovirus , and astrovirus are some of the common causes of diarrhea.

• Bacteria: Pathogens such as Escherichia coli (enterotoxigenic, enterohaemorrhagic, enteroinvasive) Salmonella spp., Shigella spp., Campylobacter spp., and Vibrio spp. can also cause diarrhea.

• Parasites: Protozoa such as Giardia lamblia, Entamoeba histolytica , and Cryptosporidium also play a role in acute diarrhea, especially in immunocompromised individuals [1, 5].

Pathogenesis. In infectious diarrhea, fluid and electrolytes are not absorbed from the intestinal wall at the normal level or excessive secretion occurs. The following mechanisms are often involved:

• Secretory mechanism: some bacteria or toxins (e.g., Vibrio cholerae toxin) activate intestinal secretion of fluids and electrolytes and slow down their absorption.

• Osmotic mechanism: substances that are not well absorbed in the intestinal lumen (for example, sugars, a factor that prevents or disrupts the normal absorption of nutrients from the intestine) increase osmotic pressure, drawing water into the intestine and causing diarrhea.

• Irritant or invasive mechanism: Bacteria such as Shigella and Salmonella damage the intestinal mucosa, triggering a protective process that occurs by the immune system in response to tissue damage or infection , resulting in increased fluid loss.

• Mucosal disruption and transport dysfunction: pathogens damage the intestinal mucosal wall and alter electro-ionic transport mechanisms, resulting in impaired transport of water, sodium, and chloride ions [6, 7].

Clinical appearance .

Diarrhea is a common symptom in pediatric practice. Normally, a child over 1 year of age should have 1-2 bowel movements per day ; the stool should be formed (formed), brown in color, and moderately hard. It should not contain blood, green matter, mucus, or other abnormal substances. In the case of diarrhea, the stool frequency increases, it becomes loose and even liquid, and may contain various impurities. Diarrhea is characterized by an increase in stool frequency and a complex change in the character of the stool [10].

The main clinical signs of acute diarrhea are:

1. Frequent and loose stools: 3 or more loose stools per day.
2. Fever: Fever may be observed in diarrhea associated with acute infections .
3. Abdominal pain and spasms: As a result of increased intestinal peristalsis, abdominal pain and spasms may occur.
4. Symptoms: dry mouth , eye strain, decreased urine output, and dizziness are signs of a significant decrease in the amount of water and electrolytes in the body [1, 5].

Helminthiasis also has symptoms that are observed in acute diseases. The epidemiological and epizootological situation in parasitic diseases is complicated in some countries of the world. The diseases are mainly found in preschool and primary school children. The symptoms of the disease are diverse, typical symptoms are white spots on the skin, weight loss, itching around the anus at night. In severe cases, children may lag behind in physical development, anemia, hair loss, susceptibility to dental caries, memory loss, and seizures due to impaired mineral metabolism. Early detection of helminthiasis among children is very important in preventing the above-mentioned pathological symptoms and raising a healthy generation. [12].

Secretory diarrhea caused by bacterial exotoxins is characterized by hypersecretion of electrolytes (chlorine, potassium, sodium) and fluid from the intestinal wall by enterocytes, as well as impaired absorption. Typical pathogens causing this type of diarrhea are Vibrio cholerae and enterotoxigenic Escherichia coli (E. coli) [1 3].

be caused not only by intestinal infections affecting the gastrointestinal tract , but also by other infections, such as respiratory tract infections. In this case, diarrhea is a manifestation of the body's general reaction to the virus and its toxin [1 0].

disease characterized by frequent and loose stools, often of infectious origin , and poses a significant health risk to adults and children worldwide. Its etiological agents include viruses (rotavirus, norovirus, adenovirus), bacteria (*Escherichia coli, Shigella, Salmonella, Campylobacter, Vibrio spp* .) and protozoa (*Giardia lamblia, Entamoeba histolytica, Cryptosporidium*). These pathogens damage the intestinal mucosa and disrupt the absorption of water and electrolytes, which leads to diarrhea and, as a result, dehydration. The main mechanisms of pathogenesis include secretory, osmotic and invasive processes that alter the intestinal electrolyte and water transport and cause a violation of the water balance in the body.

Diagnosis of the disease

The following are the specific features of acute viral enteritis :

absence of blood and inflammatory cells in the stool ;

b) lack of effect of antibacterial therapy ;

c) the ability to heal itself .

It is important to pay attention to the consistency, smell, volume of the stool, and whether it contains blood, pus, mucus, or fat . Laboratory examination of feces allows you to determine the following: fat droplets (steatorrhea), muscle fibers (creatorrhea) and starch lumps (amylorhea) . Helps to confirm the normal functioning of the intestinal digestive system, the course of the absorption processes of digestive substances , and the absence of infection with worm eggs and amoebas [13, 1 4].

of acute diarrhea is made on the basis of clinical presentation . However , laboratory tests are recommended in the following cases :

If blood is detected in the stool during diarrhea: To identify pathogens such as *Shigella, Campylobacter* , or *Entamoeba histolytica* .

Immunocompromised patients: To detect parasites such as *Cryptosporidium* or *Cyclospora* .

Patients with a history of travel to countries where intestinal diseases are endemic: *Enterotoxigenic Escherichia* To detect pathogens such as *E. coli* **(ETEC) .**

Diarrhea that does not respond to treatment: In cases of diarrhea that does not respond to antibiotics or other appropriate treatments, further investigations should be performed [2 , 5 , 6].

Treatment and prevention

Current at the time sharp contagious the disease in treatment diarrhea antibiotics relatively less is applied , so despite, some in cases they necessary. Today is sharp. and chronic diarrhea based on smectite in treatment Adsorbents play a major role [10].

Oral rehydration therapy (ORT) is the use of oral solutions to prevent or replace dehydration in the setting of diarrhea. ORT is an effective treatment for acute gastroenteritis, reducing the need for hospitalization in both developed and developing countries [11].

Treatment options for acute diarrhea include:

Fluid and electrolyte replacement: This is the most important treatment. In severe cases of dehydration, intravenous fluids are used. In mild to moderate cases, oral rehydration solutions are recommended.

Antidiarrheal medications: Medications such as loperamide can be used for symptomatic treatment. However, they should be used with caution in infectious diarrhea. [9].

Antibiotics: Antibiotics are used to treat bacterial infections. For example, ciprofloxacin or azithromycin are recommended for Shigella infections. The following measures are recommended

to prevent acute diarrhea: Good hygiene, frequent hand washing, use of clean drinking water , and proper food storage. [2].

Vaccination: Vaccination against rotavirus reduces the risk of acute diarrhea in children.

Improving water and sanitation, including access to clean drinking water and sanitation, can help reduce diarrheal diseases [4, 5].

The most important element of treatment is - Restore lost fluids and electrolytes. In cases of severe dehydration, intravenous fluids are used, and in cases of mild to moderate dehydration, oral rehydration solutions are sufficient. Symptomatic treatment (loperamide, bismuth preparations) is also used, and antibiotics are used only when necessary, since not all cases of diarrhea require antibiotics. Probiotics help restore the intestinal microflora, but their effectiveness may vary .

Conclusion

Acute diarrhea is a common and often self-limiting condition, but in some cases it can have serious consequences. Correct diagnosis and effective treatment can help improve the patient's condition. Preventive measures play an important role in preventing diarrheal diseases.

include increased frequency and volume of diarrhea, abdominal pain and cramps, fever, vomiting, and in severe cases, signs of dehydration. Severe dehydration can lead to low blood pressure, decreased urine output, and life-threatening complications. Although diagnosis is often based on clinical signs, laboratory tests, stool culture , and PCR, if necessary, are used to identify the causative pathogen .

Preventive measures play an important role in preventing acute diarrhea. These include: using clean drinking water, practicing hand hygiene, proper food storage and processing, vaccination against rotavirus, and improving sanitation. However, additional precautions are necessary for children and immunocompromised patients.

In general, acute diarrhea is a common disease, but its complications can be avoided with proper diagnosis, effective treatment , and preventive measures. Timely fluid and electrolyte replacement, proper drug therapy, and sanitation are key factors in maintaining patient health and preventing the complications associated with acute diarrhea.

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