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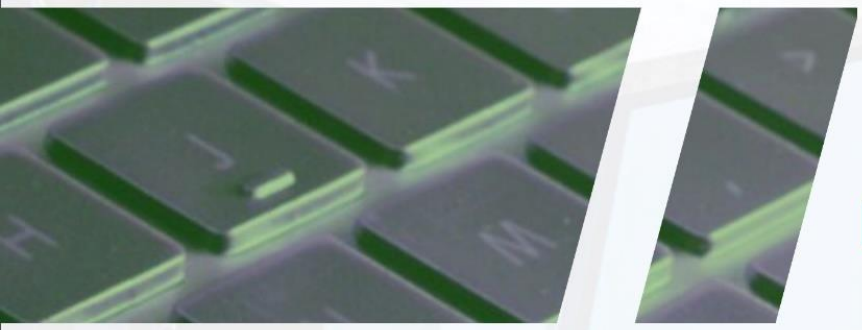

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HELMINTHIASES IN CHILDREN

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Abstract: *Helminths (parasitic worms) that cause helminthiasis are one of the most ancient and numerous forms of life on our planet. In humans, over 350 species of helminths have been registered as parasitism, which belong mainly to two types of worms; roundworms (class Nematoda) and flatworms (class tapeworms Cestoidea and flukes Trematoda). Helminthiases are helminthic diseases caused by helminths (lower worms). Helminthiasis is characterized by a long course of painful conditions and a variety of symptoms. Helminthiasis in children is a pathological condition that develops as a result of infection of the child's body with parasitic worms.*

Purpose of the study*: To identify the causes of helminth diseases in children and carry out treatment and preventive measures.*

Materials and research methods: Helminths use the human body as a source of nutrition, habitat and reproduction, and also cause systemic toxic damage to organs and systems of the human body. Most of them are hermaphrodites. Research methods are based on clinical, epidemiological and clinical laboratory data. Moreover, an immunological blood test allows you to determine the presence of antigens and antibodies to helminths. The enzyme immunoassay has a high sensitivity and specificity, which is 93%, and makes it possible to determine the type of helminths, their quantity, and track the dynamics of the development of the process, which is indicated by the level of antibodies. The disadvantage of the method is that it can detect a limited range of parasites - Giardia, Opisthorchis, Trichinella, Roundworm, Toxocara, Toxoplasma. A serological study determines the presence of antibodies to helminths (reliability is about 60%). The antigenic composition of the helminth depends on the species and stage of development; While going through a complex development cycle from egg to adult, helminths change their antigenic composition. In addition, somatic antibodies are used in immunodiagnosis, and in the host's body antibodies are produced mainly in the excreta and secretions of the helminth. The method for determining helminths using polymerase chain reaction is highly specific and highly sensitive, but due to its high cost and complexity it cannot be used for screening when, for example, it is necessary to examine a group of children from a children's institution. The immune system does not always react appropriately (recognize and destroy) to the presence of helminths in the human body. This is explained by the fact that some helminths have a very strong and chemically resistant capsule, which is not recognized by the human immune system. Ultrasound, X-ray examination of the abdominal organs, and computed tomography can reveal indirect signs of helminthiases:

hepatosplenomegaly, unevenness of the liver and spleen parenchyma due to small hyperechoic signals, enlarged lymph nodes in the hilum of the spleen and the helminths themselves (echinococci, balls of intestinal helminths).

Results of the study: Among all infected children, 92.3% of cases of enterobiasis, 71.1% of ascariasis, 61.5% of trichuriasis and 66.2% of toxocariasis occur. At the same time, preschoolers and primary schoolchildren are more often affected by helminthiases. There is also the problem of polyinfestations, when a child is infected with 2 or more types of helminths. In childhood, the most common combinations are enterobiasis + giardiasis, enterobiasis + ascariasis, ascariasis + trichuriasis; enterobiasis + giardiasis + toxocaryosis. In 75.3% of cases, parasitosis is accompanied by various lesions of the gastrointestinal tract. Intestinal helminthiasis can cause abdominal pain, dyspeptic symptoms and digestive disorders. On the one hand, this is explained by the presence of a sluggish inflammatory process of the gastrointestinal mucosa and the development of visceral hypersensitivity, and on the other hand, by changes in the secretion of biological peptides that regulate motility and secretion of the digestive system, modulating neuro-reflex influences. With enterobiasis, the processes of absorption and digestion of food products are disrupted; in 30–40% of infected people, the acidity of gastric juice decreases and the pepsin-forming function is inhibited. Roundworms secrete inhibitors of trypsin and chymotrypsin, as a result of which the processes of absorption of nutrients, proteins, fats deteriorate, and lactose tolerance is impaired.

Classification and forms of helminthiasis: Helminthiases are divided into 3 forms depending on the group of pathogen: 1) biohelminthiases develop against the background of those parasites that change carriers several times; 2) geohelminthiases are typical for parasites living in the soil; 3) contagious helminthiases are transmitted from person to person. All three forms of helminthiases occur almost equally often.

According to the type of pathogen that causes the disease:

1) damage by nematodes (ascariasis and enterobiasis).

2) damage by trematodes (clonorchiasis and opisthorchiasis).

3) cestodes (echinococcosis and alveococcosis).

There are mixed forms of infection, when helminthiasis is represented by several parasites.

Ascariasis and enterobiasis are the most common forms of helminthiases. Ascariasis. According to official WHO data, ascariasis affects about 1.2 billion people worldwide every year. Ascariasis is associated with lack of proper sanitation, poor personal hygiene and the practice of using human feces as fertilizer. Infection is caused by eating food or drinks contaminated with roundworm eggs. Worm eggs that enter the human intestine release parasite larvae. The development of the causative agent of ascariasis in the human body occurs with the migration of larvae emerging from eggs through the bloodstream through the lungs, then the larvae are swallowed with sputum

and develop into adults in the intestine. The lifespan of roundworm in the human body is several months. The tissue phase of ascariasis occurs during the migration of ascaris larvae to the liver and lungs. The metabolites released during this process cause immune disorders and inflammatory reactions. Roundworms secrete inhibitors of trypsin and chemotrypsin, as a result of which the absorption of nutrients, proteins, and fats worsens. With ascariasis, functional deficiency of pyridoxine develops, the level of retinol and ascorbic acid decreases.

Enterobiasis. The development of the enterobiasis pathogen in the human body occurs within the gastrointestinal tract. The larvae emerge from the eggs within 2 weeks and develop into adults, which parasitize the lower parts of the small and upper parts of the large intestine. The lifespan of pinworms can reach 100 days, and the state of infestation in children due to repeated infections can last much longer. Violation of personal hygiene rules plays a major role in infecting a person with pinworms. Therefore, enterobiasis most often affects young children attending preschool institutions. Routes of infection: oral, contact, household. A child infected with pinworms experiences severe itching during sleep and scratches his skin, while pinworm eggs get on his hands and under his nails, contaminating his underwear. Pinworm eggs then fall from the bed and hands onto objects and food. Inflammatory reactions during enterobiasis develop under the influence of larvae, which produce hyaluronidase, proteolytic enzymes, lectin-like substances that promote the activation of the complement system and the release of prostaglandins by the cells of the host tissues surrounding the helminth. With enterobiasis, the processes of absorption and digestion of food products are disrupted. Impaired absorption and digestion of nutrients in the intestines lead to weight loss and delay the growth and development of the child. A striking symptom of enterobiasis is peri-anal itching, which occurs when the female moves during oviposition. Severe itching usually occurs in the first hours of sleep at night. Complications resulting from itching include skin damage from scratching, eczema, and weeping dermatitis. Moreover, abdominal pain is a common symptom of enterobiasis. Sometimes acute abdominal pain may be the reason to seek surgical help.

Treatment: Targeted treatment of helminth infections in children is carried out with drugs that destroy helminths at different stages of their development. At the end of the course of therapy, a repeat cycle of tests is prescribed to confirm the effectiveness of treatment. The choice of antiparasitic drug is made taking into account the type of helminths, the phase of development of the pathology, and associated complications. Anthelmintic drugs that are effective against several types of pathogens are more often used. Thus, drugs from the benzimidazole group are prescribed for infection with roundworms, nematodes, trichinosis and trichocephalosis. Praziquantel is effective against fluke worms and tapeworms. During treatment, it is necessary to maintain a hygienic regime to prevent re-infection. To prevent allergies that occur due to

helminthiasis, antihistamine drugs are used. If there are obvious signs of intoxication, symptomatic therapy is prescribed. Complications from helminthiasis that are life-threatening to the child (arachnoiditis, inflammation of the vascular walls, inflammation of the myocardium) serve as the basis for the use of steroid hormonal drugs.

Conclusions: Using various research methods and materials, it was possible to identify the causes of the disease in children and carry out treatment and preventive measures.

References

1.Tokmalaev A.K. Human helminth infections: clinical and pathogenetic features, current state of diagnosis and treatment // Attending physician. 2009.- No. 7.

2. Kramarev S.A. Helminth infections in children // Child's Health - 2006. - No. 2. - P. 29-32.

3. Bondar V.I. Helminth infections and morbidity in children // Terra medica. 2007. No. 2. P. 8-10.

4.Clinical laboratory diagnostics: national guidelines. Volume I Author: Dolgov V.V. and others (ed.) Publisher: GEOTAR-Media, 2012. P. 828.

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