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Clinical and Laboratory Characteristics of the Combination of Blastocystosis and Hiv Infection

Achilova M.M., Ergasheva M.Y.
Samarkand State Medical University

Annotation: Clinical and laboratory symptoms of blastocystosis in patients with HIV infection were studied in this article. The study was conducted on 30 patients treated in the Samarkand Regional Infectious Diseases Hospital in 2021-2023 . General clinical, parasitological, biochemical, serological, molecular-genetic, instrumental methods were used in the research work. From the gastrointestinal tract in patients: nausea, loose stools or constipation, pain in the epigastric area, around the navel and in the left flank area were found more in the main group than in the control group. One of the clinical manifestations of blastocystosis is allergic symptoms. In the studied patients, urticaria was observed in 1 (7.14%) patient, dermatosis in 2 (14.2%) patients, skin itching in 4 (28.5%) patients, and allergic rhinitis in 1 (7.14%) patient.

The number of eosinophil indicators in 12 (85.7%) cases in laboratory tests was 5-8%. In addition, in order to evaluate the immunological status of patients, when the IgE level was determined by the IFT method, it was found that this indicator increased when HIV infection was mixed with blastocystosis.

Relevance of the topic. HIV infection is a chronic infectious disease of a viral nature, which mainly damages the immune system, causes the development of opportunistic diseases and tumors, and ends with death if antiretroviral therapy is not carried out [Raimondo M. et al., 2017; Guaraldi G., 2019]. HIV infection remains one of the major health problems in the world today. People aged 14-50 are mostly affected by this disease. At the same time, HIV infection is causing great damage to the entire world economy. In HIV infection, along with a decrease in the activity of the immune system, the central nervous system, respiratory and digestive tracts are often damaged [Pokrovsky V.V., 2013]. Of the intestinal parasites, Blastocystis is mainly found in cats. In addition, this parasite has also been identified in insects and leeches. Blastocystis enters the human body through non-compliance with hygiene rules [Prodeus T.V., 2014]. Today, due to the increase in the number of people with immunodeficiency, the frequency of meeting Blastocystis spp, Cryptosporidium spp and Cyclospora spp along with pathogenic intestinal protozoa Lamblia intestinalis and Entamaeba hystolitica has also increased [Bartlett D., 2012; Taylor TH, 2016].

In recent years, among intestinal parasitoses, there has been an increased interest in studying the specific characteristics of the parasite Blastocystis hominis in the human body. Today, by applying molecular genetic methods in the detection of parasitosis, 9 out of 17 subtypes of blastocysts (1-9) are found in humans, 1-3 ST in humans and animals, and the rest are found mainly in animals [Bouguero N.V. i dr., 2011, 2012; Rule KN, 2017]. According to the literature, Blastocystis spp is distributed among 1 billion people (10% of developed countries, 80% of developing countries) all over the world [Abdiev T.A., 2013, 2018]. According to data, blastocystosis in people with immune deficiency is often manifested by intestinal disorders and

allergic manifestations, in rare cases it is found that it passes without clinical symptoms [Balint A., 2014; Tamalee R., 2014; Gavrilyuk T.V., 2015].

In the current literature, there is insufficient information on the specific characteristics of HIV infection with intestinal parasites. Currently, the high occurrence of intestinal parasitosis among people is due to the wide distribution of this disease in nature, and the lack of laboratory detection capabilities remains a special problem. Studying the clinical and laboratory features of HIV infection with intestinal parasitosis is important in optimizing the treatment of this pathology. The above shows the relevance of this study.

The purpose of the study: clinical and laboratory specific features when HIV infection coexists with blastocystosis learning

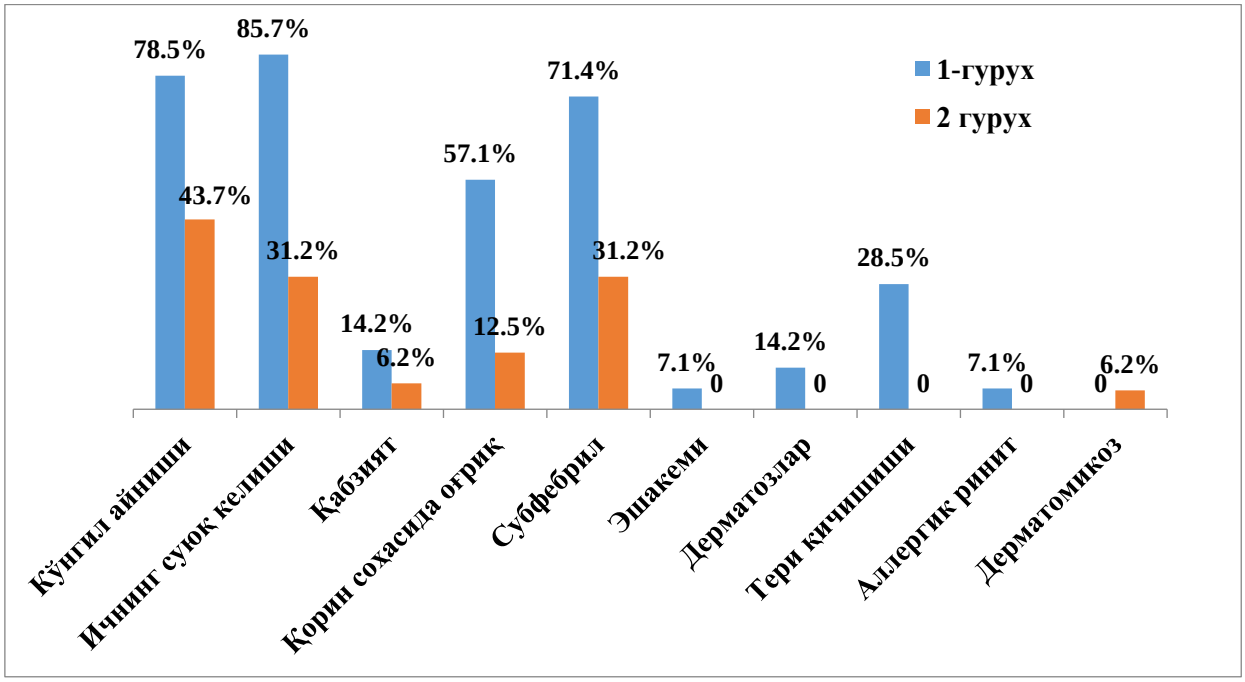
Research object and methods. A study was conducted on 30 HIV-infected patients treated in the Samarkand regional clinical hospital for infectious diseases in 2021-2023. Patients were divided into 2 groups: 14 patients with HIV infection and bastocystosis were included in group 1 (main group), and 16 patients with HIV infection were included in group 2 (control group).

The main part of the total number of patients taken for research was diagnosed in 28 (93.3%) patients in the 3rd stage of HIV infection, in 2 (6.67%) patients in the 4th stage of the disease (AIDS stage). 10 (33.3%) of the total patients were prescribed antiretroviral therapy (ART), 20 (66.7%) did not receive ART.

Patients were diagnosed with "HIV infection" on the basis of IFT and immunoblot examination at the Samarkand Regional AIDS Center in accordance with Order No. 277 of 2018 of the Ministry of Health of the Republic of Uzbekistan. The number of SD4 cells was determined in the blood. The number of HIV RNA in blood plasma was determined using the "Votex Rothergy Monitor Test" system. Invasion of parasites was determined by coproovoscopy (native/y o - on drop method of Kato and Miur) and fecal formalin ether sedimentation method. Coprological examination was carried out at the L.M. Isaev branch of the Republican Center for Specialized Epidemiology, Microbiology, Infectious and Parasitic Diseases. In addition to parasitological examination, the polymerase chain reaction (PCR) method was used to identify blastocysts. The amount of immunoglobulin E in blood serum was determined by IFT.

Research results: 12 (85.7%) patients with the mixed form of HIV infection in group 1 (meeting with blastocystosis) had complaints related to damage to the gastrointestinal tract , including nausea, liquid bowel movement or constipation, pain in the epigastric area, around the navel, and in the left flank area. Subfebrile temperature (fever) was observed in 10 patients of this group (71.4%). Patients in group 2 had 2 times less complaints from the gastrointestinal tract in the monoinfection form of the disease compared to group 1, and 2.2 times less cases of subfebrile fever (31.3%). Subfebrile fever occurred in patients with low immune status in both groups (SD4 $^{+\text{ cells}}$ in group 1 were 206-316 cells/µl, in group 2 patients, this indicator was 337-446 cells/µl.

According to the scientific literature, one of the clinical manifestations of blastocystosis is allergic symptoms. Group 1 patients had urticaria in 7.1%, dermatosis in 14.2%, skin itching in 28.5%, and allergic rhinitis in one patient. Dermatomycosis was detected in only one of the patients of group 2 (Fig. 1).



1 - picture. Meeting of clinical signs when HIV infection is followed by blastocystosis

In laboratory examinations, the number of eosinophils in 85.7% of patients of group 1 was in the range of 5-8%. In the control group, eosinophils were detected in 56.2% of cases in the range of 4-6%. In addition, the amount of IgE was determined by IF T method to evaluate the immunological status of patients . In comparison to the control group, it was found that this indicator increased in group 1 patients with mixed blastocystosis with HIV infection.

Summary. Patients with HIV infection with blastocystosis experience more gastrointestinal clinical symptoms. Allergic symptoms of blastocystosis are more evident in the mixed form of the disease. An increase in the amount of eosinophils and IgE in the blood of patients is one of the relative indicators of intestinal parasites.

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