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CLINICAL AND LABORATORY FEATURES IN HIV-INFECTED CHILDREN WITH DERMATOGIC MANIFESTATION

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Abstract: The article describes the data of the study of concomitant skin pathology and clinical and laboratory features of HIV infection in children. 108 children aged 4 months to 18 years were examined. The structure of dermatological pathology in children with HIV infection was dominated by viral diseases, which were registered in 38% of cases represented by herpes zoster and in 8 (11.2%) - herpes simplex virus, molluscum contagiosum and viral warts in 2 (2.8%) and in 1 (1.4%) children, respectively. Also, the examined patients had fungal diseases, which manifested themselves in the form of candidiasis of the skin and mucous membranes, which accounted for 25.3% of cases.

Evaluation of lymphocytes and immunity (CD4) indicators showed a correlation of immune reactivity with comorbid dermatological manifestations.

Keywords: HIV infection, skin lesions, children, herpes, lichen, candidiasis, dermatitis

Relevance. Currently, HIV infection in children is one of the most pressing problems worldwide. According to the World Health Organization (WHO), since 2000, there has been a tendency to reduce the detection of HIV infection among children aged 0-14 years by 58%, which is associated with measures to prevent mother-to-child transmission of HIV, while the incidence among adolescents aged 15-19 years, retains its position [2].

According to VN Rasskazova et al. 90% of HIV-infected women are of childbearing age, which is a risk factor for the spread of HIV infection from mother to child during pregnancy, childbirth and breastfeeding [6]. Hundreds of thousands of children are infected this way each year, most of them in developing countries.

In Uzbekistan, according to official statistics, as of December 2022, about 45,000 people with HIV live today, of which 55% are men and 45% are women. In the country, HIV infection is spread mainly among people at risk - 29%, as well as among labor migrants - 28%. The main age of those infected is 30-49 years - more than 51%. More than 70% of all those infected are on antiretroviral therapy. However, thanks to the full-fledged preventive work carried out in the country, the number of cases of infection of children from the mother is decreasing. If in 2013 the level of transmission of HIV infection from mother to child was 2.3%, then in 2021 it will be only 0.7%. Also, from 2011 to 2021, the incidence among children under 18 years of age has decreased by more than three times [3].

The clinical course of HIV infection in children also differs from that in adults. In addition, there are differences in clinical manifestations depending on the age of patients [7]. Taking into account the fact that the clinical course of HIV infection leads to a decrease in the immune reactivity of the body by reducing the number of CD-4 cells and their life span, there have been cases of the development of concomitant diseases, including some dermatoses in HIV-infected children. Also, a

decrease in immunity can lead to the development of clinical manifestations of skin diseases caused by opportunistic infections. The development and course of concomitant skin diseases determine the clinical picture and severity of the disease [1, 4, 5].

The study of the clinical course of HIV infection in children, taking into account concomitant skin diseases and clinical and laboratory parameters of patients, will make it possible to purposefully carry out differentiated preventive and therapeutic measures in this group of patients. In this connection, the relevance of the study is substantiated.

Purpose of the study. The study of concomitant skin pathology and clinical and laboratory features of HIV infection in children.

Materials and research methods. The study included 108 children aged 4 months to 18 years who are registered with the Tashkent City AIDS Center.

All children were examined in accordance with the National Clinical Protocol "Peculiarities of the clinical course of dermatological diseases and STIs in HIV-infected patients, the tactics of their management", in accordance with Appendix No. 11 of the order of the Minister of Health of the Republic of Uzbekistan No. 277 dated April 30, 2018 and the relevant regulatory documents of the Ministry of Health.

At the time of the examination, the distribution of patients by age was as follows: up to 3 years — only 5 (4.62%) children, from 4 to 7 years — 7 (6.48%), from 8 to 11 years — 7 (6.48%) and from 12 to 18 years old - 89 (82.40%) children. When distributing patients by gender and age, it was found that among the studied 65 (60.2%) were boys, 43 (39.8%) were girls, the average age of which was 8.59 ± 0.4 .

According to the 2006 WHO classification, 3 children were diagnosed with the 1st clinical stage, 21 children were assigned to the group with the 2nd clinical stage, 59 children were diagnosed with the 3rd clinical stage, and 25 with the 4th clinical stage diseases.

At the same time, the number of HIV-infected children with concomitant skin pathology was more than 65% (n=71) of the total number of those studied. Of these, 1 (1.4%) child was under the age of 3 years, 5 (7.0%) were aged 4 to 7 years, 3 (4.2%) were aged 8 to 11 years and 62 (87.3%) - at the age of 12 to 18 years. The duration of HIV infection ranged from several months to 7 years, the time of appearance of rashes on the skin from 6 months to 4 years.

Viral load of more than 80 thousand copies of RNA in 1 ml was in 64.8% (n = 70) of the examined. All children received antiretroviral therapy.

Statistical processing of the obtained data was performed using the Statistica 6.0 statistical data analysis package (StatSoft, USA). In this case, the arithmetic mean was determined, its standard error ($M \pm m$).

Research results. Chronic and recurrent infections of the skin and mucous membranes are a common manifestation of HIV infection in children. So, in the structure of dermatological pathology in children with HIV infection, viral diseases prevailed, which were registered in 38% of cases. Concomitant viral skin pathology in 16 (22.5%) patients was represented by herpes zoster and in 8 (11.2%) - herpes

simplex virus, which were characterized by ulcerative defects on the skin and lasted for several months.

The clinical picture of herpes zoster in the studied patients often had a localized form. Also, in addition to the main focus, there were cases of the formation of child rashes along the course of the cranial nerves and in the region of the sacrum, which were also accompanied by pain. The foci were extensive and ulcerative-necrotic in nature. At the same time, the disease was of a severe, protracted nature, tending to be complicated by secondary bacterial infections and a tendency to relapse.

Analysis of the characteristics of herpes simplex in 7 patients diagnosed with orofacial herpes and 1 patient with genital herpes showed that as immunodeficiency progresses, acute forms are less common, giving way to chronic ones. Thus, chronic ulcerative herpes was recorded in HIV-infected children, which persisted for a long time (months and years). Ulcers reached a size of 20-50 cm in diameter and are very painful, do not heal even with prolonged therapy. Herpetic infection was characterized by the presence of rashes in the form of vesicles and pustules, often with a hemorrhagic component, without a characteristic herpetiform arrangement of elements. At the same time, the elements of the rash had a tendency to spread rapidly and form erosive foci.

Viral infections in the form of molluscum contagiosum and viral warts were found in 2 (2.8%) and 1 (1.4%) children, respectively, and were characterized by repeated relapses after their removal.

Molluscum contagiosum was characterized by multiple elements in the form of papules, nodes, single elements on the skin of the face, neck and skin folds up to 2.0 cm in diameter. In this case, the disease was often accompanied by relapses.

Papillomavirus lesions - warts were characterized by profuse rashes, often with damage to the face, hands, feet. For such patients, the development of multiple, rapidly growing and difficult-to-treat nodules was characteristic. It was also noted the defeat of the inguinal regions, the skin of the scrotum.

Also, the examined patients had fungal diseases, which manifested themselves in the form of the most common form of candidiasis of the skin and mucous membranes in HIV-infected children - candidal lesions of the oral mucosa and accounted for 25.3% of cases.

In children with HIV infection, "stubborn" candidiasis was observed, especially the oral mucosa and skin of the perianal region. At the same time, there was a tendency to form extensive foci, accompanied by soreness, a tendency to erosion and ulceration. Candidiasis of large skin folds was also observed, which was characterized by the onset of small, superficial conflicts with serous-purulent contents, after opening of which erosions formed, which, due to peripheral growth, merged and caused the development of extensive erosions with polycyclic edges, sharply limited, bordered by a swollen collar. stratum corneum. The color is cherry-brown, the surface is moist, in the depth there are cracks and accumulation of a white mushy mass. Small vesicles and pustules were observed around the main focus.

Of chronic dermatoses, in 11 (15.5%) cases, allergic dermatitis was diagnosed, in 7 (9.8%) cases itching dermatosis and in 1 (1.4%) case of atopic dermatitis, while

in patients with HIV infection they proceeded often recurring, in the form of an exudative form, with atypical localization, severe itching and weeping of foci of rashes, and also responded poorly to traditional therapy.

In 4 (5.6%) cases, there was an angular cheilitis, in 2 (2.8%) cases - streptoderma and in 1 (1.4%) case - seborrheic dermatitis, which was characterized by generalization of rashes, infiltrated spots, places with weeping areas.

In addition, an assessment was made of indicators of lymphocytes and indicators of immunity (CD 4) in the peripheral blood of the subjects. So, in HIV-infected children, lower levels of lymphocytes were recorded. At the same time, in HIV-infected children with combined skin pathology, the level of lymphocytes was 1.3 times lower compared to those in children with HIV infection without a comorbid dermatological background.

Assessment of the immune status in terms of CD4 cells revealed suppression of T-lymphocytes in HIV infection in children (17.06%), more pronounced in patients with HIV infection in combination with secondary reflection of the skin and mucous membranes (14.5%), compared with HIV-infected children without concomitant skin pathology (22.02%).

The results of the laboratory parameters of the subjects (the number of lymphocytes and (CD4) are shown in Table 1.

Table 1

Indicators of laboratory blood tests in HIV-infected children

Laboratory indicators	HIV-infected, %	HIV-infected with skin lesions, M±m	HIV-infected without skin lesions, M±m
CD4, %	17.06%	14.5%	22.02%
CD4, abs.	410.02	307.2	604.5
Lymphocytes, 10 ⁹ /l	2.1	1.9	2.6

Conclusions. Skin manifestations of HIV infection in children are characterized by the occurrence of atypical manifestations of various dermatoses, have a severe course, are difficult to treat, are poor prognostic symptoms and indicate the development of clinical manifestations of AIDS and a sharp decrease in the immune response.

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