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IMMUNE STATUS OF ADULTS AND CHILDREN WITH AN ALLERGIC BACKGROUND DIAGNOSED WITH ENTEROBIOSIS

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Annotation: *The study of the concentration of immunoglobulins in the blood serum of adults and children with enterobiosis showed that there were no differences in IgA and IgM in both age groups, no convincing changes were detected. Significant differences from the control group were observed mainly in IgG and IgE, in adults the difference with the control group was 1.73 and 4.53 times, respectively, and in children these indicators were higher than the control indicators up to 1.65 and 3.45 times.*

Keywords: *Enterobiosis, immune status, helminths, allergic background, children.*

INTRODUCTION

The prevalence of helminths varies by regions of Uzbekistan. Enterobiosis and enterobiosis are widespread everywhere, both in urban and rural areas. Foci of ascariasis are recorded in the mountainous foothill zones of the Fergana, Namangan and Surkhandarya regions. The intensive focus of teniarinkhoz is the Khorezm region. Uzbekistan belongs to the regions endemic to echinococcosis, and in recent years there has been a tendency to increase the incidence of the population. In some preschool institutions and secondary schools, the invasiveness of children with Enterobius vermicularis, Hymenolepis nana, Lamblia intestinalis is 30-35%. Analyzing the current situation on the prevalence and clinical manifestations of parasitosis, we can note a certain role of helminthiasis and parasitosis in the formation of background conditions in children.

Helminths parasitize the respiratory organs, digestive system, muscles, liver, gallbladder, spleen, amygdala, brain, eyes and other organs of the human body. One of the determinants of public health are diseases related to social aspects, including protozoonoses and helminthiasis, which account for 99% of parasitic diseases. Migrating helminth larvae can damage organs and tissues on their way: visceral membranes, brain, eyes, lungs, nervous system. 5-7% of larval migrants enter the brain, larvae of more than 30 species of parasites infect the lung tissue. The pathological effect of all parasites is due to the modulating effect on the human immune system. Parasites and their waste products are allergens, cause inflammatory changes, have a sensitizing effect, which initiates the development of chronic allergic diseases.

The purpose of the study: To determine and evaluate the immune status in children and adults diagnosed with enterobiosis.

Materials and methods. The immune status of 79 adults and children with a diagnosis of parasitic diseases living in the Bukhara and Khorezm regions was studied. Enzyme immunoassay (ELISA) was used to achieve the goal. The principle of ELISA is based on the specific action of antibodies with preliminary immobilization (fixation) of the antigen on a solid-phase carrier when detecting the resulting antigen-antibody complex. in the pores of polystyrene tablets. The identification of the resulting complex was carried out by measuring the light-optical density of the substrate mixture, which is an indicator that changes color under the influence of the products of the enzymatic-substrate reaction. A complex of reagents "BEST" was used for ELISA.

Results and discussion. A comparative analysis of the main indicators of the immune status of adults with an allergic background and a diagnosis of hymenolepi- dose showed that IgA in adults (comparison group) did not significantly differ from the indicators of the control group (Table 1).

Table 1

The results of a comparative analysis of the main indicators of the immune status of the body in adults on an allergic background with a diagnosis of enterobiosis, M ± m

Indicators	Control group, n=15	Older age, n=32
IgA, g/l	1,65±0,07	1,57±0,12 ↔
IgM, g/l	0,85±0,04	1,34±0,18* ↑
IgG, g/l	9,11±0,37	15,72±0,74* ↑
IgE, mg/ml	35,00±1,40	158,71±0,89* ↑
C3, mg/ml	34,60±1,20	33,51±1,00 ↔

*Note: * - sign of significant differences compared to the control group; ↑ - direction of changes; ↔ - there is no significant difference.*

This indicator was 1.57±0.12 g/l in adults, while in the control group it was 1.65±0.07 g/l (P0.05), but the concentration of IgM in their blood serum was higher than in the control group. 1.34± 0.18 g/l and 0.85±0.04 g/l, respectively (the difference is on average 1.58 times, P0.05). The same trend continued for IgG, that is, the indicator was 1.73 times higher than in the control group - 15.72±0.74 g/l and 9.11±0.37 g/l, respectively (P0,001).

We will pay special attention to the IgE indicators, because we want to emphasize that the patients we study have not only the disease enterobiosis, but also an allergic background. This indicator is 158.71± 0.89 g/l in adults with enterobiosis, which is 4.53 times higher than in the control group (35.00± 1.40 g/l). This condition not only indicates the presence of a high level of allergic background in the body, but also indicates that it is one of the main causes of this allergic background. This situation must be taken into account in the diagnosis and course of the disease, and the concentration of this

immunoglobulin can be used as a prognostic immunological criterion in determining the outcome of the disease under study.

The amount of the C3 component of the complement, which is part of the nonspecific protection factors, did not significantly differ from each other in both compared groups (P0.05), which is the main sign that there is no activation of complement components in enterobiosis, the disease. The sizes studied above were also studied in children diagnosed with this disease, the figures are presented in Table 2.

Table 2

The results of a comparative analysis of the main indicators of the immune status of children with an allergic background diagnosed with enterobiosis, M ± m

Indicators	Control group, n=15	children, n=47
IgA, g/l	1,65±0,07	1,19±0,10* ↓
IgM, g/l	0,85±0,04	1,00±0,14 ↔
IgG, g/l	9,11±0,37	15,07±0,51* ↑
IgE, mg/ml	35,00±1,40	120,80±0,73* ↑
C3, mg/ml	34,60±1,20	35,27±0,90 ↔

*Note: * - sign of significant differences compared to the control group; ↑ - direction of changes; ↔ - there is no significant difference.*

The trend of changes in the concentration of immunoglobulins was similar to the indicators of adult patients, but we note that the direction of the changes was different compared to the indicators of the control group.

The IgM concentration did not significantly differ from the control group (0.85±0.04 g/l) against the background of a significant decrease in the amount of IgA (up to 1.19±0.10 g/l) (up to 1.00±0.14 g/l, P0.05). It is noteworthy that the compared figures in both cases do not differ significantly from each other. These indicators in the blood serum are almost the same in adults and children and are characterized by the fact that they are close to the limits of the norm, which indicates that enterobiosis occurs in the same condition in people of different ages, significant stress on the immune system, and it is almost impossible to diagnose IgM and IgA indicators. The low diagnostic and prognostic value of these 2 immunoglobulins in the diagnosis of enterobiosis and assessment of immune status is recognized. A different picture was observed for the other studied immunoglobulins - IgG and IgE, the concentration of which in the blood serum was significantly higher than in the control group (P0,001). If in sick children the amount of IgG increased by 1.65 times (15.07±0.51 g/l and 9.11±0.37 g/l, respectively, P0,001), then the concentration of IgE was even higher (120.80±0.73 g/l and 35.00 g/l). ±1.40 g/l, respectively, the difference in 3.45 times, P0,001). No significant differences were found with respect to the C3 component of the complement (P0,05). If we compare the indicators of children and adults, we can see that there is the same trend of changes, only

the intensity of changes is higher in adults. The changes in both age groups were the same, there were no age-related changes in the course of parasitic diseases, specific changes in the immune system, duration and strength of the immune response.

Conclusion. Thus, the study of the concentration of immunoglobulins in the blood serum of adults and children with enterobiosis showed that there were no differences in IgA and IgM in both age groups, we want to admit that there were no convincing changes. Convincing differences from the control group were observed mainly in IgG and IgE, in adults the difference with the control group was 1.73 and 4.53 times, respectively, and in children these indicators exceeded the control indicators up to 1.65 and 3.45 times, which can be seen that this trend of quantitative increase in immunoglobulins was the same in both age groups, only the severity the changes were higher in adults compared to children. This situation is associated with a stronger influence of the adult immune system on an external factor (the etiological agent of enterobiosis) and a relatively stronger immune response. The high concentration of IgG and IgE is explained by the high allergic background, strength and duration of antigenic stimulation. It is proved that the determination of these two immunoglobulins (IgG and IgE) is important in assessing the immune status in enterobiosis and in determining the allergic background.

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