

CLINICAL AND IMMUNOLOGICAL CHARACTERISTICS OF ATOPIC DERMATITIS IN CHILDREN

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Annotation: *The article presents the results of the study of clinical manifestations and changes in immune system reactivity in 100 children with atopic dermatitis. It was found that exudative form of atopic dermatitis (AD) (58%; n=58), erythematous-squamous (22%; n=22) forms are common in young children. A decrease in cellular and humoral immunity was found in patients with AD compared to the control group, which is manifested by a decrease in the number of T-lymphocytes (CD3 - 39.4%), T-helpers (CD4 - 26.0%), proliferation.*

Key words: *atopic dermatitis, erythematous-squamous, lichenoid forms, cellular and humoral immunity*

The majority of sick children are children with allergies. According to the World Health Organization, allergic diseases are one of the leading diseases among children, and in the next 20-30 years they will come to the fore. Dermatoses account for 56-66.4% of all forms of allergic diseases, among which atopic dermatitis (AD) predominates.

Atopic dermatitis is a chronic relapsing disease of inflammatory-allergic origin, which is characterized by atopy, vegetative-vascular disorders, local systemic changes in immune reactivity and itching, dryness and lichenification of the skin.

The results of immunological examination of children with skin manifestations of allergy show that they have significant changes in the activity of various parts of the immune system. According to various authors, AD currently affects 5% to 25% of the population worldwide. The increase in the disease is associated with socio-economic crises, environmental and climate change, deterioration of living conditions and many other factors. Taking into account the steady increase in the incidence and frequency of AD in the population, as well as the development of severe forms of dermatosis, we believe that the clinical and immunological manifestations of the disease learning is of particular importance. Study of clinical and immunological characteristics of atopic dermatitis in children depending on the severity of the disease.

From 2020 to 2022, 100 children with atopic dermatitis were examined. According to their clinical manifestations, they are divided into exudative - 58 (58%) children, erythematous-squamous - 22 (22%), erythematous-squamous - with lichenification - 10 (10%), lichenoid - 5 (5%) types. According to the severity of the disease, all patients were divided into 3 groups. The first group included 38 (38%) patients with mild disease, the second - 51 (51%) of moderate severity, and the third - 11 (11%) severe.

All patients underwent clinical and laboratory examination, including: examination, collection of anamnesis data, general blood analysis, urine, feces, bacteriological examination of affected skin areas for sensitivity to antibiotics; immunological examination of blood (cellular and humoral immunity, immunoglobulin E); circulating immune

complexes; Ultrasound examination of internal organs; advice of dermatologists, immunologists, and allergists. As a control group, 20 practically healthy children aged 0 to 14 years, with no history of allergic diseases and no genetic predisposition, were examined, and they also underwent an immunological blood test.

All observed children had a genetic predisposition to AD: 39 of them (39%) had allergic diseases in both parents, 61 (61%) of one of the parents (mother - in 41% of cases, father in 20%) had the disease. The first manifestations of allergy are mostly detected at the age of 1-3 years. Clinical examination of children showed that patients with exudative form had clear signs of AD.

In 100% of cases, this group of patients has mild skin peeling, mild hyperemia, and mild exudation. Later, the rash spread to the skin of the outer surface of the wrists (13%), the surface of the legs (7%) and the buttock area (19%). In 43% of patients, one papule, blisters, mild itching that does not disturb the child's sleep, swollen lymph nodes (the size of a pea) were observed. Erythematous-squamous form in the folds of the neck, chest, limbs occurs.

The main clinical manifestations are light swelling of the skin (17%), lichenification (7%), tignalils (13%), hemogggic crusts (14%), sebaceous glands (8%); enlarged lymph nodes (the size of beans), itching, erythematous-squamous papular calculi with lichenification and swelling of the skin. Rashes occur mainly on the flexor surface of the limbs (8%), on the front surface of the neck (10%), and on the back surface of the hands and feet (7%). Lichenoid form is often observed in older children and adolescents and is characterized by swelling, swelling and infiltration. A child with this form will have large foci of thickening lichenification on the skin of the elbows, neck, arms, and legs. The lymph node enlarges. Constant itching is annoying. Strong itching disturbs the child's sleep. 38 (38%) of the children examined by us had a mild level of AD (1-2 times of exacerbation per year, duration of remission - 6-8 months). The average course of the disease (frequency of exacerbations 3-4 times a year, duration of remission 2-3 months) was observed in 52 (52%) children. A severe course of AD was found in 10 (10%) children, i.e. at least 5 mags with a short remission of 1-2 months or a constant course of the disease during the past year. Thus, it was found that the severe course of the disease was complicated by secondary bacterial infection in 1 male (st. augeus). Limited (n = 74), widespread (n = 21) and diffuse (n = 5) AD were distinguished based on the area of the tag lesion.

All patients underwent a complete blood count. In the period of exacerbation of the disease, hypochromic anemia, a slight increase in the total number of leukocytes, moderate lymphocytosis and severe eosinophilia were noted by peripheral blood indicators in children with AD. We studied the immune status of 50 children with atopic dermatitis: 20 children with mild severity, 20 children with moderate severity and 10 children with severe severity.

The distribution of children by age and gender was equal. All examined children had high levels of Ig E. A study of the immune status of children with AD revealed changes in various components of cellular and humoral immunity during the acute period of the disease and in the remission period, compared to the control group. According to the presented data, patients with mild AD have a tendency to decrease T-cells and their

subpopulations compared to the control group. Thus, in children with a mild course of the disease, minimal changes in the immunogram from similar indicators in the control group were detected, they were temporary in nature, and we detected deep statistically significant deviations.

In children with moderate AD, compared to healthy children and mild disease, T-lymphocytes with different immunological markers (CD3, CD4 P T-suppressors (CD8) and NK cells (CD16)) were significantly increased decreased, decreased phagocytosis (CD32) and consequently decreased number of phagocytic cells, leading to disease progression. A decrease in the relative and absolute indicators of mature B-lymphocytes (CD20), a low level of cells expressing the IL-2 (CD25) receptor. , proliferation receptors (CD71) and cell apoptosis (CD95) indicators were investigated.

Thus, in the acute period, indicators of the immune status in children with AD showed a decrease in the cellular component of immunity. All this indicates insufficient immunity, and this can be interpreted as secondary immunodeficiency. Thus, it was found that more than half of the examined children with AD were exposed to allergies at an early age, which may be related to the morphofunctional immaturity of the child's digestive and immune systems. Also, all examined patients had a hereditary predisposition to allergies, which was proven by an increase in the level of Ig E. In all studied patients, the layering of viral and bacterial infection worsened the course of the disease.

Clinical examination showed that the exudative form of AD in young children, followed by erythematous-squamous form, lichenified erythematous-squamous and least - lichenoid - was found in older children. In the pathogenesis of AD, a decrease in cellular and humoral immunity in the functioning of the immune system plays an important role.

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