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CLINICAL AND ANAMNESTIC FEATURES OF THE COURSE OF ALLERGIC DISEASES IN ADOLESCENCE AND YOUNG ADULTHOOD

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Abstract
In school-age children, the presence of concomitant diseases made it difficult to diagnose AD in a timely manner: we found that children with perinatal damage to the central nervous system and intestinal dysbiosis were diagnosed more recently.
Frequent exacerbations of the disease contributed to the earlier and timely diagnosis of AD.

Keywords: Bronchial asthma, age, children, peculiarity.

Introduction

Topicality. Allergic diseases are widespread and pose a serious problem.
Currently, according to the recommendations of the World Health Organization, allergy is a hypersensitivity reaction initiated by immunological mechanisms [1].
Atopy is an individual and/or heritable tendency to sensitize and produce IgE antibodies in response to normal exposure to allergens, usually proteins.
Allergic diseases in the last decade have attracted more and more attention from doctors of various specialties.
The number of patients with bronchial asthma, hay fever, allergic rhinoconjunctivitis, urticaria and angioedema, atopic dermatitis, food allergies and other allergic diseases is steadily growing in the world [3].
In Uzbekistan, according to official statistics, from 10 to 15% of the population (depending on the region) are affected by this disease, in Tashkent and the Tashkent region the number of patients reaches 16-17% [2].
The results of the study of the incidence and prevalence of allergic diseases in different countries indicate that at present these diseases affect up to 20-40% of the population [4].
Heredity plays an important role in the development of allergic diseases.
As they grow older, allergic diseases can replace each other.
In typical cases, for the first years of life, gastrointestinal and skin symptoms predominate as manifestations of food allergies. Bronchial asthma and allergic rhinitis develop later in response to exposure to inhaled allergens.
Moreover, the vast majority of patients first develop allergic rhinitis, and only then, after a few years, asthma joins it.

In our country, a lot of work is being done to provide high-quality medical care to the population, recommendations are provided for the most effective methods of treatment based on the study of the formation and development of allergic diseases, including respiratory allergies in the
children, which lead to a decrease in the tendency to allergic diseases, is provided by medical safety in order to prevent such situations [6].

Objective

To analyze the features of the clinical course of allergic diseases depending on age.

Materials and Methods

Studies were carried out among patients with AD aged 7 to 17 years, the mean age was 14.2±3.1 years, the mean age of onset of the disease was 5.3±2.9 years (n=35).
To achieve the goal of the study and solve the tasks, the following methods were used: clinical, allergological, immunological, and statistical research methods.

Results of the study and their discussions

In the majority (61%) of children, the first symptoms of the disease appeared in the first 6 years of life.
In every third child (29%), the onset of the disease took place over the age of 6 years.
In almost all children, the period between the first symptoms and the establishment of the clinical diagnosis of AD did not exceed 2 years.
In school-age children, the presence of concomitant diseases made it difficult to diagnose AD in a timely manner: we found that children with perinatal damage to the central nervous system and intestinal dysbiosis were diagnosed more recently.
Frequent exacerbations of the disease contributed to the earlier and timely diagnosis of AD.
Boys prevailed in the groups of patients with onset of the disease at the age of less than 2 years (n=12) and in the group with onset of AD at the age of 3–5 years - 58% (n=7). In the group of patients with the onset of the disease at the age of 6 years and older, girls prevailed 62.5% (n=5).
When distributing children by place of residence, sex and age, it turned out that in comparison with urban children, sick children living in rural areas are 1.7 times more often hospitalized (62.8%).
A detailed analysis revealed that children with AD were significantly more likely to be born from pregnancies complicated by gestosis, polyhydramnios, and chronic intrauterine hypoxia of the fetus.
Polyhydramnios was noted in younger mothers, and gestosis, on the contrary, directly depended on the age of a pregnant woman over 30 years old.
Children with AD were significantly more likely than healthy children to have a low birth weight of less than 2500 g (72%) or a body weight of more than 4000 g (15.9%).
Children of the main and control groups were equally affected by childhood infectious diseases.

The exception was the incidence of chickenpox. Significantly fewer children with AD had it than healthy children (35% and 50%, respectively; p=0.043).

In the children of the control group, helminthiases in anamnesis were noted slightly more often (7%) than in the children of the study group (5.7%), but the differences turned out to be statistically insignificant.

There were also more tube-infected children in the control group (15% and 11.5%, respectively), but the differences also did not reach a statistically significant level.

The clinical picture of bronchial asthma depended on the periods of the development of the disease.

In the pre-attack period, patients had nasal discharge, sneezing, itching in the eyes, nose, cough, general anxiety, irritability, poor sleep.

In the seizure period, patients complained of typical attacks of suffocation, expiratory dyspnea, and noisy wheezing, especially at night.

In our study, food allergens were significant in the cause of food allergy - 82.8% (n=29).

Anamnestically intolerance to cow's milk was observed in 25% of the examined (n=9), egg white - 17% (n=6).

Along with this, the exacerbation of the disease was also associated with other foods: lamb meat, fish, lemon, vegetables, fruits.

In a significant proportion of patients (17%), the causes of allergic reactions remained unclear.

In the etiology of insect allergy, the venom of stinging insects: wasps, bees, bumblebees and mosquitoes were of decisive importance (89.7%). The cause could not be found out in 10.3% of patients.

It should be noted that with insect allergies, wasp and bee stings were more often the cause of allergies.

The frequency of polysensitization significantly exceeded the frequency of monosensitization in all clinical forms of allergy, which manifested itself as a combined form of allergy (44.3%), for example, BA+ food allergy; food + drug + respiratory allergies; insect + food allergy; insect + drug allergy, etc.

We noted that exacerbation of bronchial obstructive syndrome was more often noted twice a year, approximately the same percentage of exacerbations were observed once (22.8%) and 3 times a year (25.7%).

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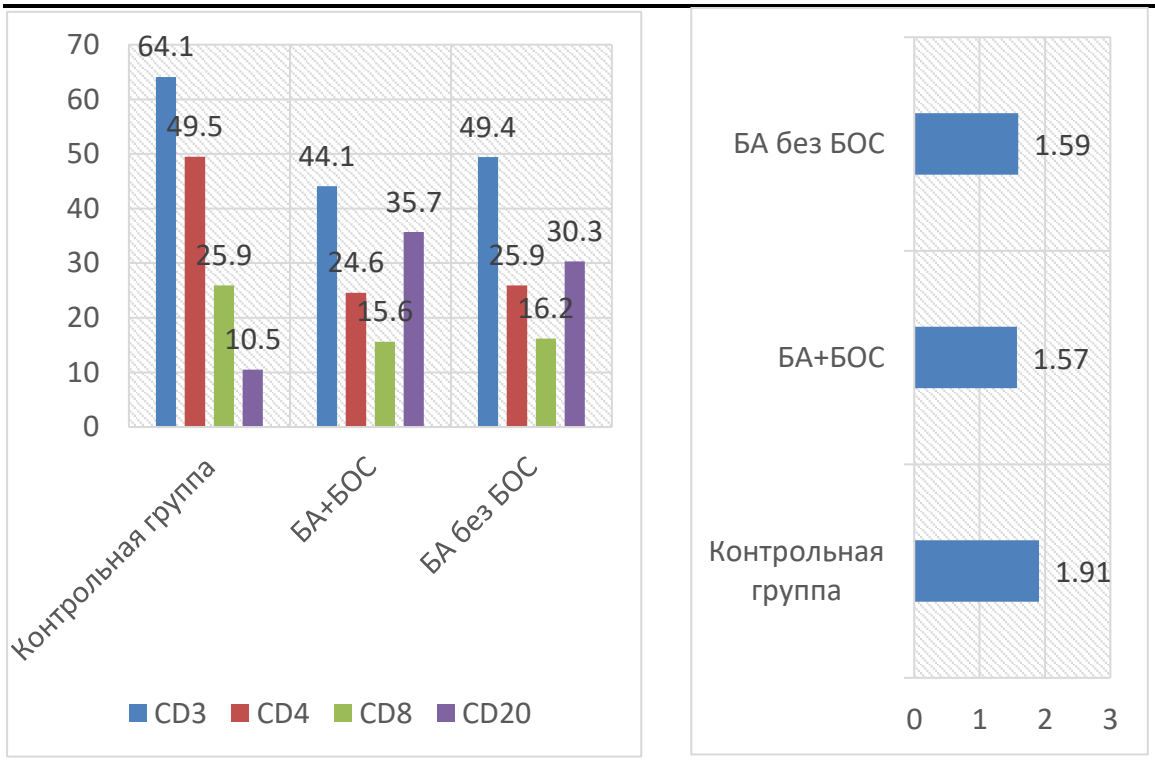

Figure 1. Parameters of immune response in adolescent children with bronchial asthma (M±m). Immunoregulation Index

Note *- values are valid with the group of somatically healthy children, p<0.05-0.001, ^- values are valid with the group of children during the period of exacerbation, p<0.05

Studies to study the level of CD4+ lymphocytes in children with bronchial asthma showed a decrease in all groups, but a deeper deficit of relative value was observed in AD during the period of biofeedback – 24.6□1.07% (p<0.01).

In the analysis of absolute values, the deepest deficiency was also observed during the period of exacerbation of BA-0.4±0.02 10*⁹/l.

The level of another immunoregulatory suppressor/cytotoxic lymphocyte superpopulation revealed a significantly reduced content of both relative and absolute numbers in AD both during exacerbation and remission: 15.6 □ 0.5%, 0.24±0.015 10*⁹/L (p<0.01) and 16.2□0.9% (p<0.01), 0.37±0.03 10*⁹/L.

A comparative characteristic of the content of circulating CD20+ cells showed that in bronchial asthma, the level of these cells significantly increased in AD by 3.5 times and in the period of bronchial obstructive syndrome, and in its absence remained 3 times higher than in healthy children.

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Table 1 Immunoglobulin levels in the examined children, (M±m).

Index	Counter. Gr (n=20)	BA + BFB(n=35)	AD after treatment (n=35)
IgG, g/l	8,5 ± 0,27	4,6 ± 0,5*	5,1 ± 0,3*
IgA, g/l	0,74 ± 0,02	1,7 ± 0,2*	1.3 ± 0.1*^
IgM, g/l	0,58 ± 0,03	0,44 ± 0,02*	0.56 ± 0.04^
IgE, ng/ml	38,6 ± 0,9	192,3 ± 4,1*	173,4 ± 3,9*

Note *- values are valid with the group of somatically healthy children, p<0.05-0.001, ^- values are valid with the group of children during the period of exacerbation, p<0.05

We revealed a pronounced increase in the level of total IgE (92.3 ± 4.1 ng/ml), which was 5 times higher than its level in the blood serum in healthy children (38.6 ± 0.9 ng/ml).
During the period of clinical remission in the group, the increased level of IgE (173.4 ± 3.9 ng/ml) persisted, which indicates the immunological ineffectiveness of standard therapy for this pathology and the likelihood of the next exacerbation.

Table 2. The level of local immunity and cytokines in the examined children, (M±m).

Index	Counter gr (n=20)	BA + BFB(n=35)	AD after treatment (n=35)
sIgA, mg/ml	588±24	291±18,5*	442±17
Lysozyme, ng/ml	2,8 ± 0,9	2,19 ± 0,15 *	2,5 ± 0,7
C3, ng/ml	7,5±0,2	6,3±0,15*	7,1±0,19
C5, ng/ml	1,2±0,01	1,09±0,09*	1,01±0,05*
IL-4, pL	2,18 ± 0,31	7,6 ± 0,5*	7,1 ± 0,7*
IL-8 vK	12,3 □ 0,7	28,5 ± 2,1*	25,8±1,9*
IL-13 pc/mL	10,7 □ 0,5	19,5 ± 1,2*	18,5 ± 1,4*
IFN-γ, Spc/mL	19,3 ± 0,8	11,4 ± 3,1*	12,5 ± 2,3*
IFN/IL-13	1,8 □ 0,05	0,58 ± 0,02*	0,67 ± 0,04*

Note * - values are valid with a group of somatically healthy children, p<0.05-0.001

After therapy, there is a 1.5-fold increase in sIgA secretion - from 291±18.5 mg/ml during the exacerbation period to 442±17 mg/ml during the period of subsiding of clinical symptoms, which indicates an improvement in the state of local immunity.

The level of C3 in healthy children was in the range of 7.5±0.2 ng/ml, in AD during exacerbation - 6.3±0.15 ng/ml (p<0.05), and after the process subsided - 7.1±0.19 ng/ml.
The same trend was observed in relation to the C5 component of the compliment, but significant changes were noted both during the period of exacerbation and during the period of subsiding of the process.
When studying the secretion of IL-8, it was revealed that in sick children, tension was revealed in the form of an increase in secretion by more than 2 times, regardless of the clinical manifestation of bronchial obstructive syndrome (p<0.05).
A similar pattern was observed in IL-13 secretion, but did not exceed the threshold 1.7 times during remission and 1.8 times during exacerbation (p<0.05). In children with serum IL-13

levels above 16 s/mL, "allergic march" occurred in 100% of cases; it was in these cases that the lowest IFNγ value was observed.
The number of AD cases in this group was 35.8% versus 19.5% among other patients.
It is noteworthy that in the group of children with severe AD, the INFγ level in 92% was below 11 pg/ml, while the IL-13 concentration was above 17 pg/ml in 63.6%.
Therefore, the results obtained by us indicate a violation of mucosan processes of regulation of the bronchial tree and pronounced immunological changes that contribute to the development of complications in immediate hypersensitivity, leading to a bronchial obstructive process.

Findings

A decrease in CD3+lymphocytes and an increase in IRI were found both during exacerbation and remission in children with AD and AR.
In AD against the background of a decrease in CD3+, a decrease in IRI was revealed.
In children with AD and AR, IgG levels are reduced, and IgA, IgM, and IgE levels are increased; in children with AD, IgG and IgM levels are reduced, and IgA and IgE levels are sharply increased.
A pronounced deficiency of lysozyme during exacerbation of BP, AR and AD, as well as suppression of C3 and increased C5 in BP were revealed.
An increase in the level of C3 and C5 in AR was revealed. In AD, there is a deficiency of C3 and C5.
BP and AD are characterized by an increase in the level of IL-4, IL-8, IL-13 and a decrease in the level of IFN- **C**, with AR level IFN- **C** Upgraded.
With an IFNγ/IL-13 ratio level of less than 1, the risk of developing AD in school-age children is increased.

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