



## Allergy In Children With Atopic Dermatitis

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### ABSTRACT

Taking into account the fact that these products are daily foods, in most cases it is not possible to establish a clear connection of exacerbations with their intake (according to the anamnesis). That is why in each case food allergy was confirmed by elimination and provocation tests. 65% of the examined children were found to have food allergy, and depending on the clinical manifestations the allergy was registered with different frequency. The results of studies by many authors suggest that children with atopic dermatitis have a hereditary burden with respect to allergic diseases.

### KEYWORDS

Atopic dermatitis, allergy, features of manifestation, types of allergic reactions.

### INTRODUCTION

The history of allergic diseases (food allergy, pollen allergy, bronchial asthma, recurrent allergic reactions in parents) in about 80% of children suffering from atopic dermatitis (AD) is aggravated.

The aim of the work was to define the frequency, risk factors of food allergy development, and peculiarities of its etiological structure and immunological manifestations in children with AD.

## MATERIALS AND METHODS OF RESEARCH

The study enrolled 74 children with AD between 2 and 14 years of age (16% - preschool children, 84% - children aged over 8 years), suffering a persistent course of various chronic pathologies. Of these, 25% were patients who went directly to an allergist for typical manifestations of allergies (dermatitis, bronchial asthma). The majority (75%) were patients who were treated in somatic departments for the underlying disease or were registered by a pediatrician or narrow specialty physicians (neurologist, rheumatologist, otolaryngologist). All children regularly (2-3 times a year) received planned therapy for the underlying disease. The criteria for inclusion of patients in the study were duration of the disease at least 6 months; continuous relapsing course of the disease; frequency of exacerbations at least once a month; short-term effect of classical therapy.

## RESULTS AND DISCUSSION

The analysis of the most common clinical manifestations of chronic pathology in children showed that the structure of cephalgia included chronic headache - 42%, cerebral angiodystonia headache - 20%, vegetovascular dystonia - 18%, migraine - 13%, residual-organic CNS lesion - 6%; in the structure of arthralgia arthralgia of unspecified etiology - 58%, arthralgia in reactive arthritis - 42%; in the structure of gastrointestinal manifestations, chronic gastritis with normal acidity - 63%, chronic gastroduodenitis with normal acidity - 31%, erosive gastroduodenitis - 6%.

Sensitization of the body is necessary, in addition to hereditary factors, for the development of food allergies. In this connection the results of skin testing are of

considerable interest. In 84% of cases hypersensitivity to food allergens was revealed. The structure of etiological factors of food sensitization includes chicken eggs (80%), food grains (73%), meat (67%), cow's milk (55%), citrus fruits (42%) and fish (45%). Analyzing the structure of etiological factors of food sensitization we found out that at all the forms of diseases sensitization to egg was determined with almost equal frequency (from 78% to 86%). Sensitization to other food allergens occurred with different frequency. Most often sensitization was found among patients with cephalgia: cereals (91%), egg (75%), milk (63%), meat (56%); among arthralgia patients: egg (85%), cereals (70%), fish and meat (58%), milk (51%); among nasal bleeding patients: meat (93%), citrus fruits, egg (75%), grains (69%); in bedwetting patients: egg (82%), meat (64%), milk and grains (55%); in gastritis patients: grains, egg (78%), meat (69%).

Food allergies occurred most frequently in patients with cephalgia (82%) and gastritis/gastroduodenitis (75%), and a little less frequently in patients with arthralgia (63%), nasal bleeding (53%) and enuresis (40%). The most frequent foods that caused food allergies in this group of children were eggs (40%), food grains (39%), milk (22%) and food additives (preservatives, dyes, etc.) (22%). Foods such as meat, fish, citrus fruits and nuts were rarely the cause of the complaints (1.5% to 3% of cases). Moreover, etiological structure of food allergens causing allergic reactions varies depending on clinical manifestations of the disease. The most frequent causal allergens in cephalgic patients are milk (36%), cereals (36%), egg (29%); in patients with arthralgia - cereals (67%), in patients with enuresis - egg (75%), in patients with nasal bleeding - egg (62%) and

food additives (38%); in patients with gastritis - cereals (42%), food additives (33%).

#### Types of allergic reactions were confirmed:

Type I: positive skin test results within 20 minutes, early (within the first 2 hours) or delayed (2 to 6 hours) positive reactions during provocation tests.

Type II: elevated blood levels of total IgE and/or specific IgE/IgG antibodies.

Type III: delayed (from 6 to 12 hours) positive reactions in provocation tests, increased CIC and immunoglobulin M,G levels in blood serum.

Type IV: positive results of skin tests in 24, 48, 72 hours, delayed (in 24, 48, 72 and more hours) positive reactions at carrying out of provocation tests, increased level of immunoglobulins M, G in blood serum.

So, type I allergic reactions were registered statistically more often ( $p < 0,001$ ) in patients with gastritis and enuresis ( $p < 0,01$ ) and in patients with gastritis, gastroduodenitis ( $p < 0,001$ ) in comparison with patients in other groups. In patients with nasal bleeding and cephalgia there are no statistically significant differences in the predominance of one or another type of immune response, because types I, III and IV are found in them with almost the same frequency.

#### CONCLUSIONS

1. The high frequency of food allergies (65%) among children with a persistent course of various chronic pathologies is evidence of the diversity of their clinical manifestations. The etiological structure of food allergy depending on the nosology of the disease has its own peculiarities.

2. The revealed changes in immunity indices testify to the fact that different types of allergic reactions are involved in the development of food allergy, and in most cases a combination of pathogenetic mechanisms is observed.
3. The results obtained allow us to recommend specific allergological diagnostics to exclude food allergy in children with continuous recurrent various chronic diseases.

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