ATOPY AS A BASIS FOR RECURRENT RESPIRATORY INFECTIONS IN CHILDREN

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Introduction. Recurrent respiratory infections (RRIs) are a common clinical condition in children, with about 25% of children under 1 year of age and 6% of children during the first 6 years of life having recurrent RRIs. In most cases, infections occur with mild clinical manifestations, and the frequency of episodes tends to decrease with time, with complete resolution by 12 years. [1] RRIs significantly reduce the quality of life of children and families and lead to significant medical and social costs. Reducing risk factors (eg, passive smoking, pacifier use, attending a day hospital) is the first strategy against respiratory relapses, but this does not always work. [2] Most infectious episodes occurring in children with recurrent respiratory infections are viral in origin, so bacterial vaccines and antibiotics do not play a prophylactic role. Allergy can contribute to the recurrent course of ARI because allergic inflammation causes overexpression of adhesion molecules, which makes allergic patients more susceptible to viral infections, impairs interferon production, and promotes microbial overgrowth. [3,4]

Purpose: to determine whether there is a connection between atopy and recurrent acute respiratory syndrome in children 5-7 years old, to evaluate the cytological portrait of their mucous upper respiratory tract.

Materials and methods. Examination of children included: general clinical examination, microscopic examination of a smear-imprint from the nasal mucosa. The main group is children aged 5-7 years with recurrent upper respiratory tract infections (n=30). The control group is children 5-7 years old who suffer from GRI episodically (n=10). Inclusion criteria: main group - 8 or more episodes of GRI per year, one or more episodes of upper respiratory tract infection per month from September to April, state of somatic well-being at the time of examination. Control group (children who do not fall under the criteria of recurrent acute coronary syndrome).

The results. Anamnesis data related to atopy are presented in Table 1.

Table 1. Anamnesis data on manifestations of atopy in children and their parents

	Main group n=30	Control group n=10
Allergy to plant pollen in a child	2 (6%)*	0
Allergy to medicines in a child	1 (3%)	0
Food allergy in a child	9 (30%)*	0
Atopic dermatitis in a child	6 (20%)*	0
Manifestations of atopy in a child	14 (46%)*	0
Atopic anamnesis from the father's side	9 (30%)*	1 (10%)
Atopic anamnesis from the mother's side	4 (13%)*	0

***** statistically significant difference

The next stage was the assessment of the data of the smear-imprint from the nasal mucosa (Tab. 2)

Table 2. Comparison of the participants of the main and control groups regarding the data of a smear-imprint from the nasal mucosa

	Main group n=30	Control group n=10
Increase in the number of eosinophils (more than 5 in p/z)	9 (30%)*	0
An increase in the number of leukocytes (more than 10 in p/z)	22 (73%)*	2 (20%)
Increase in the number of neutrophils (more than 75%)	6 (20%)*	1 (10%)
Flora (temperate cocoa)	5 (16%)	1 (10%)
Slime (moderate)	7 (23%)	2 (20%)

* statistically significant difference

Correlation analysis revealed the following relationships: the number of eosinophils in a smear-imprint from the nasal mucosa and food allergy (p=0.009), atopic history from the father's side (p=0.02), manifestations of atopy in the child (p=0.012); the number of leukocytes in a smear-imprint from the nasal mucosa and atopic anamnesis from the father's side (p=0.037), manifestations of atopy in the child (p=0.02). This may indicate a close connection between the burdened history and manifestations of atopy on the one hand and the local inflammatory process in the nasal cavity, which becomes the basis for recurrent respiratory infections on the other.

Conclusions. Children of primary school age with RRI more often than episodically ill peers have an atopic anamnesis and manifestations of atopy, which should be paid attention to by doctors. Microscopic examination of a smear-print from the nasal mucosa can be a useful addition to the examination algorithm. Allergic inflammation in the mucous membrane of the nose can be the basis for frequent cases of RRI. Manifestations of atopy are a widespread risk factor for the formation of a RRI in children.

References:

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