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PROGNOSTIC IMPORTANCE OF DETERMINING sIgG4 AS THE MARKER OF TOLERANCE FORMATION IN CHILDREN WITH FOOD ALLERGY

Objective: To determine the laboratory predictors of tolerance formation in food allergy (FA) in children.

Patients and methods. The study included 77 children aged 1 to 16 months with clinical manifestations of FA in the form of atopic dermatitis: 34 (44.2%) boys, 43 (55.8%) girls; the comparison group consisted of 64 healthy children aged from 2 to 37 months without FA and allergic history: 30 (46.9%) boys, 34 (53.1%) girls. A group of children with FA was tested clinically and laboratory twice (before and after the elimination diet lasting 6 - 12 months). Tests included the definition of sIgE in serum (ImmunoCAP) to the protein (and its fractions) of cow and goat's milk, soy, oat, wheat gluten, and sIgG4 serum to the same allergens (ELISA-Lakttest). In the comparison group, sIgG to the same allergens was determined once.

Results. 71 (92.2%) patients were allergic to cow's milk, 22 (28.6%) - to chicken eggs, 24 (31.1%) had multiple reactions to food. In 49 (63.6%), skin allergy was combined with gastrointestinal disorders such as regurgitation, vomiting, cramps and / or diarrhea. IgE-mediated FA was diagnosed in 48 children (62.3%), non-IgE-mediated – in 29 (37.7%). sIgG4 titers to one or more allergens before the elimination diet were found in 21 children (43.8%) with IgE-mediated FA, and in 18 (62.1%) - with non-IgE-mediated FA. High levels of sIgG4 (2+, 3+) to one or more allergens were detected in 58 (90.6%) children in the comparison group, which is significantly greater than that of children with PA ($p < 0,05$). In 18 (23.4%) patients tolerance to the causative allergens had formed after the elimination diet. This was associated with either an initially high sIgG 4 (2+, 3+) titers, or with their increase (to 2+ to 3+) in the dynamics. High sIgG 4 levels or their increase in dynamics (2+, 3+) were found only in 12 ($p < 0,05$) of children who had not formed tolerance.

Conclusion. High sIgG4 titers can be considered a predictive sign of tolerance formation in children with food allergy.