Background of the study: Atopy patch tests (APT) represent a useful tool for detection of delayed-type hypersensitivity reactions mediated by allergen-specific T cells which take part in pathogenesis of atopic eczema.

Methods: We examined hypersensitivity to common aero-allergens (birch pollen, grass pollen, cat dander, house-dust mites) using APT, skin prick-tests (SPT) and specific IgE in 20 children suffering from atopic eczema. Results of all methods were then compared.

Results: Delayed-type hypersensitivity was found out (using APT) in 11 patients (55%), immediate type of hypersensitivity was found out (using SPT and/or specific IgE) in 13 patients (65%). Immediate type of hypersensitivity to more than one of examined allergens was proved in 8 patients (40%), delayed-type hypersensitivity in 4 patients (20%). Both types of hypersensitivity occurred concomitantly in 6 patients (30%) and in 4 cases to the same allergen. In 32 cases the type of hypersensitivity differed in the same allergen. A significant (p < 0.0005) positive correlation was found between SPT and specific IgE.

Conclusions: Various aero-allergens can influence substantially the course of atopic eczema not only via specific IgE, but as well by specific T cell-mediated reactions. Therefore testing for hypersensitivity to aero-allergens both using SPT and/or specific IgE, and atopy patch tests could be useful.