

Epidemiology of hypersensitivity in patients with atopic dermatitis and its clinical relevance

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Background: Atopic dermatitis (AD) is a chronic inflammatory skin disease which is often accompanied by hypersensitivity to various allergens. While food allergens have been considered to play a major role in AD pathogenesis, there is also increasing evidence that aeroallergens are involved. The clinical relevance of detected hypersensitivity was also intensively investigated in last decades.

Aims of the study: Our aim was to find out the frequency of hypersensitivity to airborne allergens in AD patients and its clinical relevance using various evaluation standards.

Methods: We tested 71 patients (median age 5 years) with AD for hypersensitivity to grass and birch pollen, *Dermatophagoides pteronyssinus* and *Dermatophagoides farinae* using atopy patch test (APT), skin prick test (SPT) and specific IgE measurement. The sensitivity (SE) and specificity (SP) of the tests were calculated on the basis of personal history of AD exacerbation, SCORAD changes and the number of days with need for topical anti-inflammatory treatment (AITD) in relation to exposure to the allergens being tested.

Results: APT was positive in 45 patients, mostly to *Der. farinae* ($n = 37$). SPT and/or specific IgE were positive in 42 subjects, in most cases to grass and birch pollen ($n = 29$). Sensitivity of APT reached 33-56% for history, 33% for SCORAD and 0-60% for AITD; specificity of APT was comparable for all three assessment standards (history, SCORAD, AITD) (48-67%). Sensitivity of SPT/specif.IgE was higher for history (26-63%) than for the other two standards of assessment (0-67%); specificity of SPT/specif.IgE was also highest for history (69-91%), and lower for SCORAD (59-87%) and AITD (65-80%).

Conclusions: AD is often associated with hypersensitivity to airborne allergens; its influence on AD, however, is clinically significant only in a minor group of patients. While personal history and SCORAD changes present themselves as possible standards in the evaluation of clinically relevant hypersensitivity in AD patients, the need for topical anti-inflammatory treatment (AITD) seems to be unsuitable for this purpose.