The prevalence of positive reactions in the atopy patch test with aeroallergens and food allergens in subjects with atopic eczema: a European multicenter study.

BACKGROUND: The atopy patch test (APT) was proposed to evaluate IgE-mediated sensitizations in patients with atopic eczema (AE).

OBJECTIVE: The prevalence and agreement with clinical history and specific IgE (sIgE) of positive APT reactions was investigated in six European countries using a standardized method. METHODS: A total of 314 patients with AE in remission were tested in 12 study centers on clinically uninvolved, non-abraded back skin with 200 index of reactivity (IR)/g of house dust mite Dermatophagoides pteronyssinus, cat dander, grass, and birch pollen allergen extracts with defined major allergen contents in petrolatum. Extracts of egg white, celery and wheat flour with defined protein content were also patch tested. APT values were evaluated at 24, 48, and 72 h according to the European Task Force on Atopic Dermatitis (ETFAD) guidelines. In addition, skin-prick test (SPT) and sIgE and a detailed history on allergen-induced eczema flares were obtained. RESULTS: Previous
eczema flares, after contact with specific allergens, were reported in 1% (celery) to 34% (D. pteronyssinus) of patients. The frequency of clear-cut positive APT reactions ranged from 39% with D. pteronyssinus to 9% with celery. All ETFAD intensities occurred after 48 and 72 h. Positive SPT (16-57%) and elevated sIgE (19-59%) results were more frequent. Clear-cut positive APT with all SPT and sIgE testing negative was seen in 7% of the patients, whereas a positive APT without SPT or sIgE for the respective allergen was seen in 17% of the patients. APT, SPT and sIgE results showed significant agreement with history for grass pollen and egg white (two-sided Pr> |Z|< or = 0.01). In addition, SPT and sIgE showed significant agreement with history for the other aeroallergens. With regard to clinical history, the APT had a higher specificity (64-91% depending on the allergen) than SPT (50-85%) or sIgE (52-85%). Positive APT were associated with longer duration of eczema flares and showed regional differences. In 10 non-atopic controls, no positive APT reaction was seen.

CONCLUSION: Aeroallergens and food allergens are able to elicit eczematous skin reactions after epicutaneous application. As no gold standard for aeroallergen provocation in AE exists, the relevance of aeroallergens for AE flares may be evaluated by APT in addition to SPT and sIgE. The data may contribute to the international standardization of the APT.