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#377 - Sensitivity of the Allergy Explorer version 1 and 2 for the diagnosis of the five most common seasonal inhalant allergens in Austria

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Background

Recently, a second version of the multiplex assay Allergy Explorer (ALEX², MacroArray Diagnostics, Vienna, Austria) was launched. ALEX² tests for 295 instead of 282 parameters, and the composition of extracts and molecular allergens has slightly changed. The second version relies only on testing with molecular allergens to diagnose Alternaria, birch, and grasses. For IgE detection to ash and ragweed, ALEX² still contains extracts and molecular allergens. This study aimed to compare the sensitivity of ALEX versions 1 and 2 to diagnose the five most common seasonal inhalant allergens in Eastern Austria namely Alternaria, ash, birch, grass pollen and ragweed.

Method

ALEX versions 1 and 2 were performed with 200 sera of monoallergic patients (40 sera per allergen). All 200 patients had positive skin prick tests and positive sIgE to extracts of the respective allergens detected with ImmunoCAP.

Results

Sensitivity of ALEX versions 1 and 2 were: Alternaria (Alt a 1) 100% and 100%, Ash (Fra e 1) 100% and 100%, Birch (Bet v 1) 100% and 100%, Grass (Phl p 1+5) 100% and 100%, and Ragweed (Amb a 1) 97.5% and 95%.

The omission of extracts in ALEX² did not decrease sensitivity to detect sIgE to Alternaria, birch and grass pollen, as 100% of the sera were positive with both versions. Molecular and extract-based testing with ash extract and Fra e 1 revealed 100% sensitivity, respectively.

Conclusion

ALEX versions one and two showed a high sensitivity for the five most common seasonal allergens in Eastern Austria: Alternaria, ash, birch, grasses and ragweed. As Fra e 1 was highly sensitive, the ash extract may be omitted in the next version.