



ORAL PRESENTATION

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Analysis of the IgE- and IgG-reactivity profiles of asthmatic and non-asthmatic HDM-allergic patients using the ISAC microarray system

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Background

House dust mites (HDM) represent one of the most important inducers for respiratory allergies worldwide. The aim of this study was to investigate the IgE- and IgG-reactivity profiles of HDM-allergic individuals suffering only from allergic rhinitis or from allergic asthma.

Methods

This study included sera from clinically well characterized asthmatic (n=105) and non-asthmatic (n=53) HDM-allergic patients. IgE- and IgG-reactivity to seven HDM-allergens (nDer p 1, rDer p 2, rDer p 5, rDer p 7, rDer p 10, rDer p 21 and rDer p 23) were measured using a customized allergen microarray (i.e., ISAC chip, Thermofisher, Vienna, Austria).

Results

HDM-allergic individuals suffering from asthma showed striking differences regarding their IgE reactivity profiles compared to the non-asthmatic group. First, the frequency of IgE reactivity to the tested HDM allergens was up to 3-fold higher in the asthmatic than in the non-asthmatic group. Seventy percent of the asthmatics reacted with 3 to 6 of the tested allergens compared to only 45% in the non-asthmatic group. Furthermore, IgE-levels to nDer p 1, rDer p 2, rDer p 5 and rDer p 23 were significantly higher in the asthmatic group. In contrast, HDM-allergic asthma patients showed a lower IgG-binding frequency to the seven HDM allergens than HDM-allergic patients without asthma.

Conclusion

The IgE and IgG reactivity profiles to HDM allergens differ considerably in patients with mild (i.e., rhinitis) and severe (i.e., asthma) respiratory symptoms due to HDM allergy.

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