



ORAL PRESENTATION

Open Access

Sensitization to Cor a 9 and Cor a 14 is highly specific for a severe hazelnut allergy in Dutch children and adults

L Masthoff^{1*}, L Mattsson², L Zuidmeer-Jongejan³, J Lidholm², K Andersson², JH Akkerdaas³, SA Versteeg³, C Garino⁴, Y Meijer⁵, P Kentie⁵, A Versluis¹, CF den Hartog Jager¹, CA Buijnzeel-Koomen¹, AC Knulst¹, R van Ree³, E van Hoffen¹, SG Pasmans¹

From Food Allergy and Anaphylaxis Meeting (FAAM 2013)
Nice, France. 7-9 February 2013

Background

Component-resolved diagnosis has been shown to improve diagnosis of food allergy. The aim of this study was to evaluate whether component-resolved diagnosis may help to identify patients at risk of severe allergic reactions to hazelnut.

Methods

A total of 161 hazelnut-sensitized patients were included: 40 children and 15 adults with objective symptoms in DBPCFC and 24 adults with a convincing severe history were compared to 41 children and 41 adults with no or subjective symptoms in DBPCFC (grouped together). IgE levels to hazelnut extract and single components were analyzed with ImmunoCAP.

Results

IgE to hazelnut extract was significantly higher in children with severe than with no or mild symptoms. Sensitization to rCor a 1.04 was common among both children and adults, while sensitization to rCor a 8 was rare. In 13% of children and 49% of adults with a severe hazelnut allergy, only sensitization to rCor a 1.04 was observed and not to other water-soluble allergens. Sensitization to nCor a 9 and/or rCor a 14 was strongly associated with a severe hazelnut allergy. Using adapted cut-off levels, a diagnostic discrimination between severity groups was obtained. IgE to either nCor a 9 ≥ 1 kU_A/L or rCor a 14 ≥ 5 kU_A/L (children) and IgE to either

nCor a 9 ≥ 1 kU_A/L or rCor a 14 ≥ 1 kU_A/L (adults) had a specificity of >90% and accounted for 83% of children and 44% of adults with a severe hazelnut allergy.

Conclusion

Sensitization to Cor a 9 and Cor a 14 is highly specific for patients with objective symptoms in DBPCFC as marker for a more severe hazelnut allergic phenotype.

Disclosure of interest

None declared.

Author details

¹Dermatology/Allergology, University Medical Center Utrecht, Utrecht, the Netherlands. ²Thermo Fisher Scientific, Uppsala, Sweden. ³Experimental Immunology, Academic Medical Center, Amsterdam, the Netherlands. ⁴Pharmaceutical Sciences, Drug & Food Biotechnology Center, University of Piemonte Orientale "A. Avogadro", Novara, Italy. ⁵Pediatric Pulmonology/Allergology, University Medical Center Utrecht, Utrecht, the Netherlands.

Published: 25 July 2013

doi:10.1186/2045-7022-3-S3-O14

Cite this article as: Masthoff et al.: Sensitization to Cor a 9 and Cor a 14 is highly specific for a severe hazelnut allergy in Dutch children and adults. *Clinical and Translational Allergy* 2013 **3**(Suppl 3):O14.

¹Dermatology/Allergology, University Medical Center Utrecht, Utrecht, the Netherlands

Full list of author information is available at the end of the article