



## Measurement of IgE and IgG4 antibodies against purified grass pollen allergens (Phl p 1, Phl p 2, Phl p 5 and Bet v 2) and natural extracts after short-term grass immunotherapy

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We wanted to define allergen-specific antibodies that change due to specific immunotherapy. We conducted a study with grass pollen-allergic patients and compared allergen-specific IgE and IgG4 before and 5 months after the onset of immunotherapy. Twenty-seven patients were treated with a mixture of two grass species: Phleum pratense and Dactylis glomerata. Sera of patients were tested for IgE and IgG4 against four recombinant allergens (RA): rPhl p 1, 2, 5 and rBet v 2. Specific IgE and IgG4 to timothy and olive pollen were also evaluated. No change in total and specific IgE levels to RA was seen, except to rPhl p 5. We found a decrease in specific IgE levels to olive after immunotherapy. Ten of 10 patients with specific IgE against a single recombinant allergen or two RA showed the same pattern of sensitization before and after 5 months of immunotherapy and the administration of 4000 U/mL allergen extract. Interestingly, we found a significant increase in specific IgG4 to rBet v 2 and olive after grass immunotherapy. These results indicate that application of two grass species in immunotherapy may be sufficient to induce an IgE and IgG4 response to RA, grass and olive extracts. The observations in the present study indicate that monitoring of antibodies against RA is necessary to evaluate patients' pattern of sensitization and emphasize the need of component-resolved immunotherapy.

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