



Course of specific IgG4 serum levels in patients under insect venom immunotherapy

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Introduction

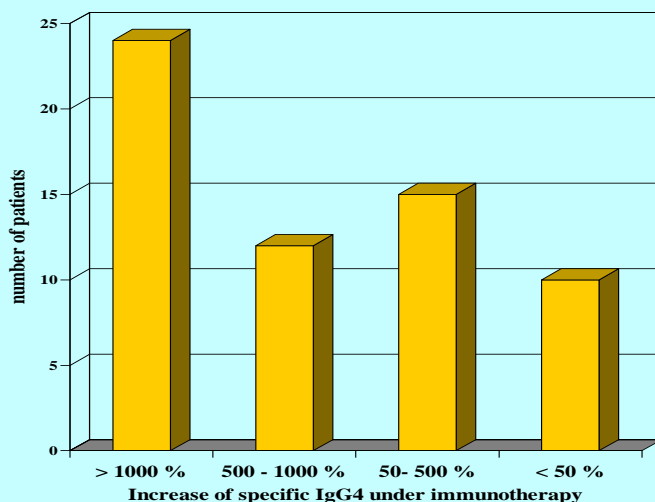
The course of IgE and IgG4 expression during immunotherapies in allergies is controversially discussed. Bee and wasp venom immunotherapy induces very fast improvement of symptoms and a switch of immunological cascades. Therefore, we have chosen patients with insect venom allergy for a follow-up study to analyze the behavior of specific IgG4 and IgG as well as specific and total IgE.

Methods

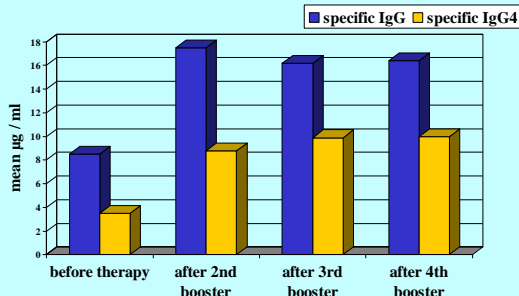
61 patients were treated with ultra-rush immunotherapy against insect venom allergy. 6 patients had elevated IgE levels against bee venom, 35 against wasp venom, 15 against both and 5 had no elevated specific IgE. Blood was taken immediately before starting therapy, at the end of the ultra-rush application and 1 and 2 months thereafter. At all time points and from all patients anti-bee and anti-wasp venom specific IgG4 and IgG as well as specific and total IgE were measured.

Results

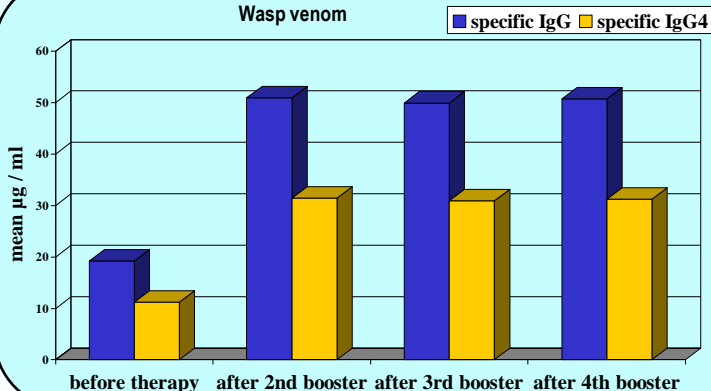
After immunotherapy, 24 patients (39.3 %) developed an IgG4 increase higher than 10fold, 12 patients (19.7 %) between 5 and 10fold and 15 patients (24.6 %) between 50% and 5fold. In 10 patients (16.4 %) the increase was lower than 50%. Results were similar for the bee and wasp allergy groups. Specific IgE varied very slightly in all samples. Only in three patients an increase of more than 3fold occurred.



Bee venom



Wasp venom



Conclusion

Specific IgG4 increases after ultra-rush immunotherapy against insect venom allergies. The variability of this increase is enormous, but only a small group of 16% of patients did not develop any remarkable elevation. It can be concluded that expression of specific IgG4 is induced through the immunotherapy while IgE levels remain stable. These results can lead to improved follow-up of immunological efficacy of immunotherapies in allergy.