

Postersession - Insect Hypersensitivity

1211 - Diagnostic methods in hymenoptera venom allergy and changes in laboratory parameters after one year of honeybee venom immunotherapy

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Background The reason of searching for reliable methods of hymenoptera venom allergy diagnostics and for assessment of venom immunotherapy (VIT) efficacy is a risk of severe systemic reaction in the patients after re-exposure. The monitoring of basophil activation test (BAT), specific IgE and IgG4 antibodies and skin prick test together could lead to correct diagnosis and could be useful also in monitoring the effectiveness of VIT.

Methods We examined 46 patients who have experienced systemic allergic reaction to hymenoptera venom. The skin prick test was performed with standardized allergen (honeybee venom 100 µg/ml). The levels of specific IgE antibodies against honeybee venom were determined by means of the UniCAP system. We used flow cytometry (BD FastImmune) for the detection of activated basophils (CD63+) after honeybee venom exposure (in concentrations of 1.0 and 0,1 µg/ml in vitro) with all the patients. 9 patients with verified honeybee venom allergy treated by VIT were investigated repeatedly after 1 year intervals. Levels of specific IgG4 were also assessed before the beginning of treatment and one year after the start of VIT in this group.

Results We detected positivity in both BAT and specific IgE in 83% patients and skin prick test in 28% patients before the start of VIT. Specific IgE antibodies were positive in 84% and skin prick test in 32% patients in the group with BAT positivity. We have observed significant decreases in both the number of activated basophils ($p < 0.01$) and the levels of specific IgE ($p = 0.01$) and increase of specific IgG4 after one year of VIT. We have noted only local reactions during VIT in 5 patients, the difference in values of BAT between the group with side effects and without them was not significant. Two patients were stung by honeybees during VIT and systemic reactions did not occur.

Conclusions We suppose that monitoring of BAT together with specific antibodies could be useful for diagnostics of hymenoptera venom allergy and could be useful also in estimation of VIT efficacy in individual patients.