

# POSTER DISPLAY - IMMUNOTHERAPY, IMMUNOMODULATION

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## MODULATION OF IMMUNOLOGICAL PROPERTIES OF ALLERGEN BY CHEMICAL MODIFICATION OF ITS EPITOPES

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The immunization of (CBAx57BL/6)F1 mice with model allergen ovalbumine (OA) modified with succinylation (sOA) 3 times at 3 weeks intervals using doses 10 and 100 mcg/mouse failed to induce anti-OA IgE-response but induced anti-OA IgG-response comparable to that of nonmodified OA. Anti-OA IgE and anti-OA IgG antibodies were detected by passive cutaneous anaphylaxis (PCA) and ELISA respectively. sOA lost its ability to induce standard PCA in rats. IgE-binding activity of sOA was significantly reduced as it was shown by RAST inhibition technique. At the same time sOA stimulated OA-specific T-cell hybrid 3DO-548.ACP:LK35 to produce cytokine release at the same level as in the case of nonmodified OA. It is concluded that succinylation of OA leads to selective blockade of B-cell and preservation of T-cell epitopes of the allergen suggesting a new approach for allergen-specific immunotherapy.

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## SPECIFIC IMMUNOTHERAPY BY MODIFIED RAGWEED TYROSINE ADSORBATE (RTA) IN PATIENTS WITH ALLERGIC RHINITIS

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Specific immunotherapy (IT) has been documented as useful in the treatment of patients with IgE-mediated diseases, such as allergic rhinitis and bronchial asthma. The aim of the present study was to evaluate the beneficial effects of RTA-IT and compare them to those obtained by the other ways of treatment. RTA was administered in 45 patients with ragweed-induced allergic rhinitis, while two control groups consisted of patients receiving conventional IT (n=15) and antihistamines and topical corticosteroids (n=15), respectively. All subjects had a history of typical seasonal rhinitis, positive skin prick test to ragweed, and specific IgE against the same allergen (RAST classes 3. and 4.). RTA-IT consisted of 4 s.c. injections of increasing concentrations of RTA, administered weekly during June and July. Symptom score and medication need were recorded in all subjects. Blood samples for measurement of total IgE, specific IgE, and IgG<sub>4</sub> were taken before, during and after the season of ragweed pollination. Beside the local erythema observed in a few subjects, RTA-IT did not have any side-effects. According to symptom score and medication need, the course of allergic rhinitis was in patients undergoing IT (conventional or RTA-IT) similarly and significantly improved in comparison to patients receiving antihistamines and topical corticosteroids. In RTA-IT group, the level of total and specific IgE significantly increased during the pollination season, and then gradually decreased, while specific IgG<sub>4</sub> was initially low but increased during and after the season. We believe that slight changes in IgE and

IgG<sub>4</sub> can not explain mechanisms of beneficial effect of RTA-IT. We conclude that RTA-IT is efficacious and safe therapeutic procedure in patients with ragweed-induced allergic rhinitis.

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## SUBLINGUAL SPECIFIC IMMUNOTHERAPY TO DUST-MITES PROSPECTIVE STUDY OVER A PERIOD OF 12 MONTHS

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Sublingual specific immunotherapy (S.S.I) has proved to be effective in the treatment of respiratory allergies, in order to make it less aggressive, less constraining and more insuring, alternative ways of the parenteral administration of allergens especially the sublingual way, were attempted. The aim of this prospective work is to evaluate the results of the S.S.I through the sublingual way in 31 patients with isolated allergy to dust mites. The age average of our patients (16 males, 15 females) is 16.87 years. Asthma is present in 29 cases, isolated in 2 cases, associated to rhinitis in 7 cases, associated to rhinitis and conjunctivitis in 20 cases. Two patients have isolated rhinitis and isolated conjunctivitis. All these patients have benefited from S.S.I with aqueous extracts of dust mites commercialised, by stallergenes laboratories and administered thro the sublingual way. After 12 months, an improvement (or amelioration) of the clinical and medicinal scores was significantly marked: 37.5 % of our patients don't have any respiratory symptoms; 39.2 % don't have rhinitis; 37.5 don't have conjunctivitis. S.S.I is a simple way of administration, effective and more insuring.

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## ALLERGEN-SPECIFIC IgE IN CIRCULATING IMMUNE COMPLEXES IN HOUSE DUST MITE SENSITIVE PATIENTS DURING SPECIFIC IMMUNOTHERAPY

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The problem of the presence of allergen-specific IgE in IgE-containing immune-complexes (CICs) estimated in serum of patients with inhalant allergy has been mentioned in literature. However, there are no data concerning specific immunotherapy (sIT).

**Material:** 27 patients (age range 19-42 yrs, mean 27) sensitive to *Dermatophagoides pteronyssinus* undergoing 3 yrs lasting sIT and 28 pharmacologically treated only, without sIT.

**Methods:** allergen-specific IgE against *Dermatophagoides pteronyssinus* (asIgE-D) in serum as well as in CICs isolated from serum by precipitation with 3% polyethylene glycol were assayed using Allergen Specific IgE FAST (3M Diagnostic Systems). The estimated parameters were evaluated several times during the treatment period.

**Results:** The statistically significant decrease of as-IgE-D in serum was observed after one year of sIT (5.5+4.6 IU/ml: 4.1+5.0 IU/ml, p<0.05, Wilcoxon rank sum test). Absolute contents of as-IgE in