

- 589 CLINICAL IMPLICATIONS OF THE RESULTS OF FIELD RE-STINGS AFTER CESSATION OF VENOM IMMUNOTHERAPY (VIT). Robert E. Reisman, MD, Buffalo, N.Y.

Criteria for safely stopping VIT are evolving. This study reports the results of field re-stings in venom allergic patients (pt) who had sting anaphylaxis and subsequent positive venom skin tests (ST), maintenance VIT, and field re-stings after stopping VIT.

There were 217 re-stings in 113 pt with 15 systemic reactions in 10 pt (9%/sting, 7%/pt). Re-sting reactions occurred in 0 of 25 pt with initial mild (hives, edema only) reactions (0%), 3 of 41 pt with moderate (mild respiratory symptoms) reactions (7%) and 7 of 47 pt with initial severe (shock, hypotension, airway edema) symptoms (15%). Re-sting reactions occurred in 3 of 66 children and 7 of 47 adults. VIT was stopped by self choice by 59 pt with 7 re-sting reactions, and by negative RAST and/or negative ST by 50 pt with 3 re-sting reactions. Ninety five pt received VIT for less than 3 yrs. Re-sting reactions occurred in 4 of 43 pt who identified the same initial and re-sting insect.

These results suggest that adequate duration of VIT is primarily related to the severity of the initial anaphylactic symptoms. Two to 3 yrs. of VIT is sufficient for pt with mild-moderate symptoms. Longer therapy is advisable for pt with severe symptoms who retain positive venom ST.

- 591 THE CROSS-REACTIVITY BETWEEN BEE AND VESPID HYALURONIDASES HAS A STRUCTURAL BASIS. Robert S. Jacobson, M.S., Donald R. Hoffman, Ph.D., and D. Michael Kemeny, Ph.D., Greenville, North Carolina and London, England

Immunologic cross-reactions have been observed between human antibodies to bee and yellow jacket venoms. Studies by Hoffman and Wood in 1984, and by Wypych, Abeyounis and Reisman in 1989 have shown that this cross-reactivity results from the hyaluronidases and high molecular weight fractions, bee acid phosphatase and Vmac 1. N-terminal amino acid sequences were obtained from highly purified honeybee and *Vespula maculifrons* hyaluronidases.

Bee GPDNDKTVREFNVVNVPTFMCHKYGLRFEXV

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Vmac .DRCIWPKEGFSIYWNIPTHFCHNFGVYFKEL

The sequences are closely related from phenylalanine residue 10 on. No similar degree of match could be found for proteins contained in either the NBRF PIR or SWISS-PROT databases. Sequences similar to residues 24-29 of the bee venom enzyme are found in other carbohydrate binding proteins such as mouse glucosylceramidase and xylose isomerase.

- 590 SKIN TEST SENSITIVITY AS A PARAMETER TO JUDGE EFFICACY OF HONEY BEE VENOM IMMUNOTHERAPY. Ulrich Müller, M.D., Hansjörg Huber, M.D., Demetrio Pitarch, M.D. and Hugo Fischer, MD., Bern, Switzerland

According to the result of a sting challenge (CH), immunotherapy with honey bee venom (BVIT) induces complete protection in about 80% of bee venom allergic patients. Serological parameters do not allow to predict efficacy of BVIT.

We therefore investigated 23 patients with a history of systemic allergic reactions to honey bee stings and a positive i.c. skin test at $<10^{-4}$ g/l by i.c. skin test endpoint titration from 10^{-8} - 10^{-3} g/l. Tests were done both before starting BVIT and before a CH two months (0.4-6 months) later and compared by parallel line assay. Sixteen fully protected patients (non reactors = NR) were opposed to 7 who developed systemic allergic symptoms following the CH (reactors = R). Groups were comparable for age, sex, severity of the last bee sting reaction and interval between start of BVIT and CH.

From before treatment to before challenge the average skin test sensitivity decreased in both R and NR. R had a significantly higher mean skin test sensitivity than NR before BVIT ($p < 0.05$) but not before challenge ($p = 0.1$). In the individual patient neither skin test sensitivity before treatment or before challenge, nor the change of skin test sensitivity during BVIT allowed to predict the outcome of the CH.

- 592 BASOPHIL HISTAMINE RELEASABILITY IN HYMENOPTERA VENOM ALLERGY. M. Leclercq, M.D., R. Louis, M.D., M.F. Radermecker, M.D., LIEGE, BELGIUM

In about 15 % of subjects allergic to hymenoptera venom, blood basophils do not release histamine in the presence of antigen. Little is known on the basophil releasability in these patients. We therefore compared histamine releasability to immunological and non immunological secretagogues in 30 patients allergic to wasp venom.

Leukocytes obtained by dextran sedimentation of venous blood were incubated with vespid venom (10 and 100 ng/ml), anti-human IgE (1/2000 and 1/500) and formylmethionylphenylalanine (FMP, 10^{-5} and 10^{-4} M). Histamine was measured spectrofluorometrically.

The 23 subjects with a significant basophilic histamine release to venom (mean 53 % of total at 100 ng/ml) responded to anti-IgE (mean 42 % at 1/2000) but only 15 of them responded to FMP (mean 13 % at 10^{-4} M). In 7 subjects, basophils were unresponsive to antigen but responded well to anti-IgE (mean 30 %) and FMP (mean 35 %). FMP-induced histamine release was significantly higher in patients not responding to venom and it was found, in the whole group, negatively correlated with anti-IgE induced histamine release.

Thus, in wasp venom allergic patients, basophils unresponsive to antigen respond well to anti-IgE and FMP. The negative correlation between anti-IgE and FMP-induced histamine release suggest that in these patients, the degree of Fc ϵ RI saturation may influence basophil sensitivity to formylmethionine containing peptides.