

Correspondence

Reduction of side effects of specific immunotherapy

To the Editor:

In their editorial, "Systemic reactions from allergen immunotherapy" (J ALLERGY CLIN IMMUNOL 1992;90: 567-78), Stewart and Lockey report a high incidence of systemic side effects of specific immunotherapy. Because of reported side effects, it appears desirable to improve safety of treatment while retaining efficacy.

Over the past 4 years we have administered specific immunotherapy using exclusively standardized aluminum-absorbed allergen extracts (ALK, Copenhagen, Denmark). Thirty-six injections were administered within 2 years, starting with 1 standardized quality-unit (SQ-U) and reaching a maintenance dose of only 50,000 SQ-U in all patients, because most systemic reactions occur beyond this dosage^{1, 2} (Table I).

In addition to the reduced dosage, specific immunotherapy was done with strict antihistamine premedication (astemizole 10 mg; now terfenadine 60 mg or loratadine 10 mg) before all injections to obtain maximum security for the patient.^{1, 2} Side effects were noted 20 minutes after injections by the doctor administering the injections.

The present mean success rate of specific immunotherapy with 50,000 SQ-U is 82% according to patients' judgments (884 patients).¹

In 100 patients who were allergic only to grass pollens, 84% mean success of specific immunotherapy was reported with a significant decrease in the size of skin prick test wheals to grass pollens and rye pollens, as well as a decrease in levels of specific IgE to grass pollens (Phadebas RAST, Pharmacia, Upssala, Sweden). In addition, 32 patients showed a significant decrease of spontaneous histamine release after 4 months of specific immunotherapy³ (Table II).

Between 1989 and 1992, 22,250 prospectively documented injections were given. No reactions were seen in 97.9% of injections. Mild swelling (wheal <5 cm) was observed in 1.9% and severe swelling (wheal >5 cm) in 0.17%. Mild systemic reactions occurred in 5 of 22,250 injections (0.023%), but there were no serious systemic reactions.

Although data were not obtained in a comparative fashion (50,000 SQ-U vs the standard 100,000 SQ-U), the outcome compares very favorably with success rates reported for higher dosage regimes.

We therefore recommend restriction of maximal dosage at 50,000 SQ-U and consistent antihistamine premedication for all patients.

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TABLE I. Specific immunotherapy regime

Vial	(SQ-U/ml)	Quantity of injection (ml)					Frequency
0	10	0.1	0.2	0.4	0.8		Weekly
1	100	0.2	0.4	0.8			Weekly
2	1,000	0.2	0.4	0.8			Weekly
3	10,000	0.2	0.4	0.6	0.8		Weekly
4	100,000	0.1	0.2	0.3	0.4	0.5	Weekly
4	100,000	0.5	(maintenance dose)				Monthly

TABLE II. Decrease of skin prick test wheals and spontaneous histamine release by specific immunotherapy

Mean ± SD	Before SIT	After SIT	p Value
Grass (mm ²)*	1.4 ± 0.5	0.9 ± 0.5	<0.0001
Rye (mm ²)*	1.4 ± 0.5	1.0 ± 0.5	<0.0001
RAST grass	4.3 ± 1.2	3.2 ± 0.8	<0.0001
SHR (%) 4 months	0.94 ± 0.87	0.58 ± 0.30	<0.04
SHR group	Patients vs control subjects		<0.05

SIT, Specific immunotherapy; SHR, spontaneous histamine release.

*Skin prick test wheal ÷ histamine wheal.

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3. Götz M, Wantke F, Jarisch R. Nonspecific spontaneous histamine release in whole blood in patients prior and after 4 months of specific immunotherapy [Abstract]. *J ALLERGY CLIN IMMUNOL* 1993;91:369.

Reply

To the Editor:

An increased incidence of systemic reactions with rapid immunotherapy schedules (rush immunotherapy) and high-dose regimens was described in our editorial, "Systemic Reactions From Allergen Immunotherapy," (*J ALLERGY CLIN IMMUNOL* 1992;90:567-78). The editorial concluded that fewer systemic reactions are associated with conventional immunotherapy schedules, modified extracts, and modified extracts with conventional schedules. The lowest mean incidence of systemic reactions (8.44%) was associated with the use of modified extracts. A premedication regimen of methylprednisolone, ketotifen, and a long-acting theophylline with a rush immunotherapy protocol was associated with a lower incidence of systemic reactions.¹

The findings described by Wantke et al. in the current issue of the *JOURNAL* indicate that lower dose regimens, modified extracts, and premedication (H₁ antihistamines) decrease the incidence of systemic reactions. The studies summarized in the editorial and the study described by Wantke et al. were not blinded and controlled. Such studies are necessary to define the contribution of each of these factors to increased immunotherapy safety.

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Correction regarding an adverse reaction to the recombinant hepatitis B vaccine

To the Editor:

We would like to offer the following correction with respect to the article by Hudson et al. (*J ALLERGY CLIN IMMUNOL* 1991;88:832) concerning an adverse reaction to the recombinant hepatitis B vaccine.

In Fig. 1, A, a Coomassie blue stain of the crude Engerix-B vaccine preparation separated by means of sodium dodecylsulfate-polyacrylamide gel electrophoresis demonstrates a strong 24 kd band corresponding to monomeric hepatitis B surface antigen. Additional bands of higher molecular weights were observed and were incorrectly interpreted to be of yeast origin. Western blot analysis of these bands with a specific antibody from a convalescent patient with hepatitis B has revealed that these bands correspond to dimeric and trimeric forms of the hepatitis B surface antigen in the vaccine.

The authors would like to apologize to the readers of *THE JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY* for the incorrect interpretation of the figure. However, this does not modify the primary goal of the article, which was to report a patient with repeated immediate reactions to the recombinant hepatitis B vaccine. The article concluded correctly in stating that no specific inciting agent in the vaccine could be implicated and that caution must be used in the treatment of a patient with a history of an allergic-type reaction to this vaccine.

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