

Horse Dander Allergens in a House Dust Mite Extract

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Extracts from the house dust mites *Dermatophagoides* (*D.*) *pteronyssinus* and *D. farinae* are widely used for allergy diagnosis and allergen specific immunotherapy (hyposensitization). Mites are fed on various nutrition media to provide material for the extracts. Since the digestive tract makes up a prominent proportion of the mite, one must anticipate that any allergens present in the medium (mite food) are present as well in the mite extracts. This

possibility should certainly be kept in mind as long as the extract manufacturers do not provide complete declarations as to the mite food used.

In our department mite extracts from a number of different manufacturers are used for comparative purposes in diagnostic work. One mite extract (*D. pteronyssinus*) from producer "X" was shown to elicit marked positive skin prick test (SPT) reactions in a number of



Fig. 1. Two precipitates were formed in crossed immunoelectrophoresis when the *D. pteronyssinus* mite extract from "X" reacted with a rabbit antiserum to horse dander.

patients while the others used gave negative or only irritant reactions. When this was analyzed we found a constant association between this and strong positive SPT reactions to horse dander extracts.

The mite extracts were allowed to react in crossed immunoelectrophoresis (CIE) with anti-sera from rabbits to horse dander, horse skin scrapings and horse serum, respectively (3, 5). The "X" extract resulted in two distinct precipitate lines with anti-horse dander and anti-horse skin scrapings, respectively, but not with horse serum (Fig. 1). The other four mite extract products tested at the same time did not precipitate with the antisera employed.

Crossed radioimmuno-electrophoresis (CRIE) was performed with serum from a patient (A) showing positive SPT reactions to the "X" mite extract and not to the other mite extracts, and from one (B) showing positive SPT reactions to all the mite extracts but not to horse dander extracts. CRIE was performed with the "X" mite extract and a reference mite extract from *D. farinae* mites fed on inert material as to allergens (2) as antigens. An antiserum to the reference mite extract and antisera to horse dander and to horse epithelium (skin scrapings), respectively, were used in these experiments.

Serum A gave a positive CRIE radiostaining corresponding to the horse-derived antigens in the "X" mite extract only. Serum B gave positive radiostaining corresponding to the mite-derived precipitates in both systems.

DISCUSSION

The CIE and CRIE results confirm the clinical suspicion that positive SPT reactions to the "X" mite extract may be caused by contaminating

horse dander or epithelium scraping antigens and allergens. Allergen contaminations like this tend to produce false diagnoses as regards the specificity of allergic symptoms. If hyposensitization is initiated with mite extracts containing horse-derived allergen, there is a risk that the mite allergic individuals will become sensitized to the horse epithelium allergens, and that horse allergic individuals with a false mite allergy diagnosis will become sensitized to mite allergens. Hyposensitization with this sort of allergen extract is condemnable (1). Physicians using such extracts should be aware of the possibility of contamination in mite extracts of extraneous allergens. There is a need for more strict international regulations similar to those introduced by the Nordic Council (4).

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