

inhibit RAST responses to common allergens with banana. In all these cases, no inhibition was observed.

The two episodes of hypotension during surgery in this patient were very puzzling until the patient reported urticaria while she was wearing latex gloves. This draws attention to the importance of latex testing in patients with peroperative anaphylactic shock and negative skin tests to anesthetic drugs, especially muscle relaxants. Another mechanism through which latex gloves could elicit anaphylactic reactions is an allergy to ethylene oxide used for sterilization of the gloves. The latter mechanism is unlikely in this patient because the RAST to ethylene oxide was negative.

Our patient had a history of angioedema induced by banana intake. RAST inhibition was performed in an attempt to establish an immunochemical basis for the skin cross-reactivity observed between banana and latex. In our RAST system, the extract of banana inhibited the binding of latex in a dose-dependent

manner. We demonstrated that the latex RAST was not inhibited by several common inhalant allergens and vice versa. This association between allergy to latex and banana may be related to the presence of a common but unknown allergic component in latex and banana.

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Comparison of the ACAREX test with monoclonal antibodies for the quantification of mite allergens

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Recently, Le Mao et al.¹ compared the results of quantitative measurements of guanine content and assays of *Dp* allergens in 22 house-dust samples. A significant correlation was demonstrated between the guanine content and relative *Dp* potency. A simple semiquantitative colorimetric test for guanine is now commercially available (ACAREX test Werner & Mertz, GmbH, Mainz, Germany).^{2,3} We decided to compare the results of this test and results obtained with ELISA, an established methodology for measuring mite allergen. One hundred seventy-seven

Abbreviation used

Dp: *Dermatophagoides pteronyssinus*

house-dust samples were collected by vacuuming 177 different mattresses (2 min/m² of surface area) with a vacuum cleaner fitted with new disposable paper bags. Samples were stored at 4° C until processing. All samples were collected between October 1987 and April 1988.

All ACAREX tests were performed by the same investigator before ELISA to avoid biasing the colorimetric reading. In this test, the quantity of guanine present is estimated from the color of guanine-azodye formed by an aromatic diazonium compound in the presence of guanine. In compliance with the manufacturer's instructions, one metered spoonful of fine house dust was mixed with one bag of the alkaline-alcohol extraction liquid. The test strip impregnated

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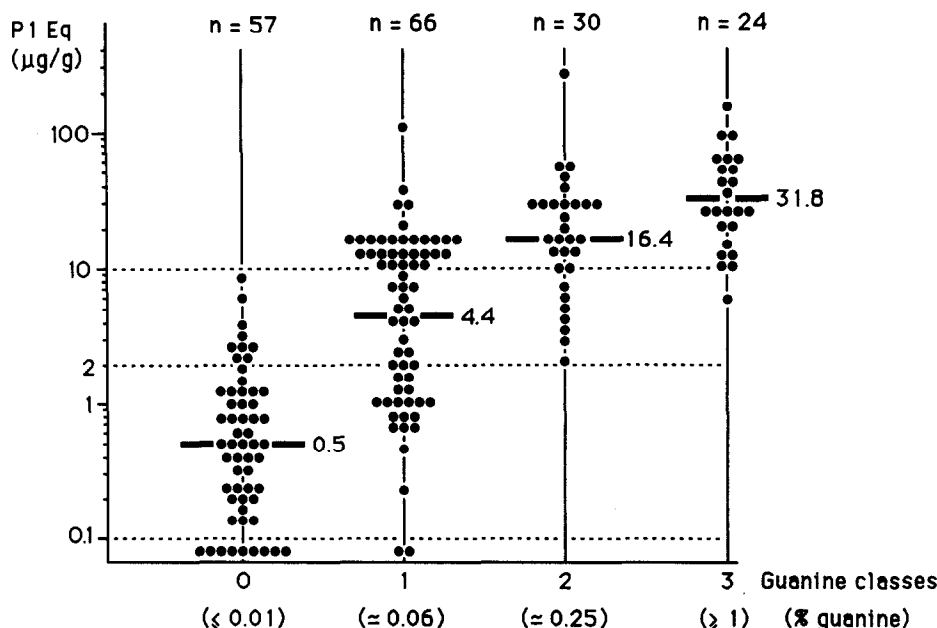


FIG. 1. Distribution of P₁ Eq in the four guanine classes. Each dot represents a single measurement; the solid line identifies the geometric mean of the P₁ Eq values in each guanine class.

with diazonium compound was dipped into the supernatant, and the resulting color was classified according to a four-step color scale: class 0, "negative" ($\leq 0.01\%$ guanine); class 1, "slightly positive" ($\approx 0.06\%$ guanine); class 2, "moderately positive" ($\approx 0.25\%$ guanine); and class 3, "strongly positive" ($\geq 1.00\%$ guanine).

The two-site ELISA method described by Luczynska et al.⁴ was used for quantification of *Der p* I and *Der f* I, the two major mite allergens, in the same house-dust sample. As illustrated in Fig. 1, 57 of the 177 samples studied were class 0; 66, class 1; 30, class 2; and 24, class 3. Group I allergen (sum of *Der p* I and *Der f* I) levels ranged from 0.1 (below detection limit) to 260 µg/g of dust. In class 0, values ranged from 0.1 to 8.5; in class 1, from 0.1 to 117.4 µg/g; in class 2, from 2.2 to 260; and in class 3, from 5.9 to 156. Only 6% of the samples contained no detectable mite allergen (group I allergens < 0.1 µg/g). Very high group I allergen levels (> 100 µg/g) were generally associated with guanine class 3, but also with classes 1 and 2. Always in class 0, and sometimes in class 1, group I allergen levels were < 0.1 µg/g. This finding was never true in classes 2 and 3. Class 1 noticeably overlapped with class 0 and the two higher classes. Comparison of group I allergen geometric means for each guanine class demonstrated a tenfold difference between classes 0 and 1 (0.5 to 4.4), a fourfold difference between classes 1 and 2 (4.4 to 16.4), and a twofold difference between classes

2 and 3 (16.4 to 31.8). The 95% confidence intervals were relatively large (except in class 0), with class 1 overlapping the three other classes and class 2 being very similar to class 3.

Testing the linearity of the regression of the guanine classes against log group I allergen values revealed a highly significant correlation ($F, 229; p < 0.0001$). Two-by-two comparisons of the guanine classes demonstrated significantly different log group I allergen levels between all classes except 2 and 3.

It has been suggested that 2 µg/g of dust of group I allergens should be regarded as a risk factor for sensitization and development of asthma and that 10 µg/g is a major risk factor for the development of acute asthma in mite-allergic individuals.⁵ Our results demonstrated that in class 0, 82% of the values were "low" (< 2 µg/g of dust). All values were < 10 µg/g of dust. The greatest disparity was found in class 1: 30% of the values were < 2 µg/g and 45% were ≥ 10 µg/g of dust. These results would have been impossible to interpret without assay of *Der p* I and *Der f* I.

The allergenic levels in classes 2 and 3 were consistently > 2 µg/g with 77% and 96% being ≥ 10 µg/g, respectively.

One possible source of misclassification would be misinterpretation and/or variation in specific dust weight. Other potential sources of guanine, such as *Euroglyphus maynei* for instance, may partly account for discrepancies. Despite these problems, however,

the ACAREX test could provide a useful clinical tool to identify rapidly high or low mite allergenic levels in house-dust samples. A negative reading (class 0) would be a reliable indication that the allergen level is low. A slightly positive reading (class 1) would be inconclusive. A moderately or strongly positive reading (classes 2 and 3) would mean that the allergenic level and the risk of development of acute asthma in sensitized patients was high.

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