

1.2 ml, 6 ml and 12 ml of barley malt extract (1-hour intervals between challenges). No reactions were observed. Six days after the oral challenge with sesame seeds, the test was repeated after the patient had taken 200 mg of sodium cromoglycate 90 and 180 minutes before he ingested 1 and 2 gm of sesame seeds, respectively. No clinically apparent symptoms occurred, and he only felt "shivering" 2 hours after the last ingestion of sesame seeds.

DISCUSSION

Sesame seeds and sesame oil are traditional food ingredients in the Orient, in China, in Japan, or in Mexico. Their use has increasingly spread also to the United States and to Europe during recent decades. Ingestion of sesame seeds and sesame oil has been reported as the cause of immediate-type hypersensitivity.²⁻⁴ The clinical picture includes oral pruritus; angioedema of the lips, tongue, and uvula; generalized erythema or urticaria; rhinitis, respiratory distress, asthma, nausea, vomiting, weakness, or hypotension. In 19 of 26 cases reported in the literature a skin test was done. Seventeen of these 19 patients showed a scratch, prick, or intracutaneous test reaction to sesame. The skin tests were usually done with self-made sesame seed extracts. In the two patients with negative skin test responses, specific IgE antibodies could be demonstrated in the serum. Altogether, sesame-specific serum IgE was demonstrable in 15 of 18 patients evaluated in this manner.²⁻⁴

Our case demonstrates that a clinically manifest sesame seed hypersensitivity can exist without a positive skin test response or demonstrable specific IgE antibodies in the serum. Oral challenge was definitely necessary for a diagnosis of food hypersensitivity.¹ With regard to the mechanism of the hypersensitivity reaction in our patient, one can

speculate that the reaction was not IgE-mediated or that epitopes recognized by IgE antibodies were not present in the skin test solution or in the allergens used in the CAP system because they might have developed as a result of digestion.

The only available therapy for food hypersensitivity is avoidance. With regard to sesame seeds, this is easy if seeds are visible on the food (e.g., bread, pretzels) or if the patient is aware of the food groups that frequently contain sesame seeds (most likely oriental specialties, ready-made foods, crackers, chips). However, sometimes (e.g., when dining at a restaurant) definite information on the composition of food is not available. Oral sodium cromoglycate has been reported to be effective in suppressing urticaria and angioedema in some patients with food allergies, and it also protected our patient. The patient was instructed to avoid sesame and to take sodium cromoglycate 1 to 2 hours before eating any food that could not be checked for the presence of sesame. Also, he was supplied with emergency medications to be used in the case of a reaction after an unintentional ingestion of sesame seeds.

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Cockroaches and mites share the same beds

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Recent studies suggest that sensitization to cockroach allergens is common in urban areas and highlight the importance of cockroach allergens as

a risk factor for asthma in cockroach-infested houses. In Marseilles, France, we evaluated the importance of cockroach allergens relative to other major aeroallergens in the general population.¹

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TABLE I. Number of positive reactions to other indoor allergens (*D. pteronyssinus*, cat, mold mix, and grass mix) in patients with positive or negative skin test or CAP RAST responses to cockroach (*B. germanica*).

	<i>D. pteronysinus</i> positive	Cat positive	Mold mix positive	Grass mix positive	<i>L. destructor</i> positive
Skin test (<i>n</i> = 106)					
<i>B. germanica</i>					
Positive	20	7	2	9	Not done
(<i>n</i> = 26)	<i>p</i> < 0.03	<i>p</i> = NS	<i>p</i> = NS	<i>p</i> = NS	
Negative	42	28	6	47	
(<i>n</i> = 80)					
CAP RAST(<i>n</i> = 106)					
<i>B. germanica</i>					
Positive	26	6	10	18	23
(<i>n</i> = 31)	<i>p</i> < 0.001	<i>p</i> = NS	<i>p</i> = NS	<i>p</i> = NS	<i>p</i> < 0.001
Negative	40	9	21	37	12
(<i>n</i> = 75)					

NS, Not significant.

The prevalence of cockroach sensitization according to specific IgE measurements was equal to 5%, as common as sensitization to cat allergens. A high association between cockroach and mite sensitization was found (63%). We extended this study to a group of atopic patients.

METHODS

During a 6-month period, 139 consecutive patients with respiratory disorders, asthma, and/or rhinitis, attending the outpatient Department of Respiratory Diseases, Hospital Sainte Marguerite in Marseilles, France, were included in the study. All subjects were skin prick tested with 21 common aeroallergens (Stallergenes Laboratories, Fresnes, France), and blood samples were drawn for CAP RAST to *Dermatophagoides pteronyssinus*, *Lepidoglyphus destructor*, mold mix, cat, grass pollen, and cockroach allergens (Pharmacia AB Diagnostics, Uppsala, Sweden). The cockroach species tested was *Blattella germanica*.

Of 139 patients, 106 were atopic: they had at least one positive skin test response to a major aeroallergen, including cockroach extract. In the group of atopic patients, 24.5% had a positive skin test response to cockroach allergen. The most prevalent hypersensitivity skin reaction was to mite (58.5%), and grass pollen was second (52.8%). Next, in decreasing order were cat (33%), cockroach (24.5%), and mold mix (7.5%) allergens. In the atopic group we found a statistically significant association, as determined by chi square test (*p* < 0.03), between positive skin test responses to *D. pteronyssinus* and cockroach allergens but no association between hypersensitivity to cockroach allergens, cat, mold mix, and grass mix allergens (Table I). There was a statistically significant association between the presence of specific IgE against cockroach,

D. pteronyssinus (*p* < 0.001) and the storage mite allergens: *L. destructor* (*p* < 0.001) (Table I).

DISCUSSION

The prevalence of cockroach sensitivity, defined by skin tests or blood tests (RAST), varies from study to study but is usually high.^{2,3} Prevalence of cockroach hypersensitivity among patients with asthma, rhinitis, or both in our study was equal to 35% (positive skin test or CAP RAST results); this prevalence is slightly higher than that found in other European studies. The study group was an urban population. Usually, the prevalence of cockroach sensitivity assessed by skin tests is higher than the prevalence of positive RAST results in response to cockroach. We found an opposite result, probably because of the higher sensitivity of CAP RAST compared with RAST. Cockroach hypersensitivity assessed by skin tests was the most prevalent allergy after sensitivity to mite, grass pollens, and cat allergens. The rationale for a high concordance of sensitization to cockroach and *D. pteronyssinus* and *L. destructor* is unclear. Although cross-reactivity between cockroach and mite allergens cannot be ruled out, our hypothesis is that these allergens commonly coexist in the same environment.

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