

very few side-effects have been reported. We report a case of contact urticaria due to cyclopentolate hydrochloride eye-drops, with tolerance to other mydriatic eye-drops.

A 72-year-old man, with a clinical history of adverse drug reactions to sulfonamides, was referred for allergologic investigation because of an adverse reaction after local application of several eye-drops. He was treated with

Colircusí
Tropicamida®
(1% tropicamide)
eye-drops for

**The patient tolerated
other mydriatic eye-
drops.**

ophthalmologic examination and then with Tobrex® (0.3% tobramycin) eye-drops for 2 days, before undergoing cataract surgery. During the immediate preparations for surgery, several drugs were instilled into his right eye: Colircusí Tropicamida, Colircusí Cicloplejico® (1% cyclopentolate hydrochloride), and Colircusí Fenilefrina® (10% phenylephrine hydrochloride) one drop every 15 min up to four drops of each drug, and Voltaren Colirio® (0.1% diclofenac sodium) one drop every 20 min. During the course of this procedure, the patient developed erythema, edema, itching, and burning in his right eye, and an urticarial rash on his right cheek, following the path of drug-containing tears. There were no other symptoms. The rash began to subside a few minutes later, and the symptoms disappeared without treatment.

Patch testing was carried out with the eye-drops (as is) used in our patient, and with Colircusí Atropina® (1% atropine sulfate). They were applied to the skin of the patient's back by the AL-Test® method with Scanpor® tape. Readings were performed every 15 min during the first hour. If negative, patch tests remained applied, and further readings were done at 48 and 96 h.

At the 15-min reading, mild erythema appeared at the site of the patch test with Colircusí Cicloplejico; at the 30-min reading, the patient developed an itching

wheel at the same site. All of the other eye-drops tested were negative for both immediate and delayed reactions. By the same procedure, eight healthy individuals were tested as controls for immediate reactions with Colircusí cicloplejico, and all were negative.

Afterward, our patient underwent cataract surgery successfully, using other mydriatic eye-drops (Colircusí Atropina, Colircusí Fenilefrina®) without adverse reactions.

Mydriatics are continually used by ophthalmologists for both diagnostic and therapeutic procedures. Allergic reactions to the topically applied cycloplegics are unexpected responses, and are very rare with cyclopentolate (2–4). To our knowledge, one case of contact urticaria (2) and another one of generalized urticaria due to cyclopentolate hydrochloride have been reported (4). Nevertheless, in these cases, patch tests were not performed, and the patients were not rechallenged with cyclopentolate.

In the case reported here, clinical features led us to suspect a contact urticaria syndrome. The positive result at 15- and 30-min readings of patch testing with Colircusí Cicloplejico confirmed the diagnosis of contact urticaria. In our patient, preservatives were not suspected to be responsible for the adverse reaction because Colircusí Atropina shares with Colircusí Cicloplejico the same substances (methyl-parahydroxybenzoate, propyl-parahydroxybenzoate, sodium chloride, and distilled water), and patch testing with Colircusí Atropina was negative. Furthermore, Colircusí Atropina was used later in cataract surgery in our patient without adverse reactions.

The negative results elicited in all the subjects from the control group (atopic and nonatopic) challenge the concept of direct histamine release. For confirmation of an immunologic mechanism, the presence of specific IgE against cyclopentolate hydrochloride may be difficult to prove, and

tests are not available. All these data led us to diagnose this case as contact urticaria due to cyclopentolate hydrochloride, caused by an uncertain (although probably immunologic) mechanism.

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Accepted for publication 27 September 1999
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ISSN 0105-4538

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Anaphylaxis to sesame

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Key words: anaphylaxis; celiac disease; gluten-free diet; sesame.

• THE generally increasing consumption of sesame might explain the growing frequency of reported cases of immediate-type systemic reactions after ingestion of sesame seeds in recent years (1–4). Sesame seeds are often present in gluten-free foods (e.g., bread, cakes, pastries, and biscuits) used to treat celiac patients.

We report herein the case of a celiac patient with systemic reactions due to sesame ingestion. D.F., an 18-year-old

woman, was diagnosed as having celiac disease at the age of 4 years. The diagnosis was based on clinical symptoms (chronic diarrhea, vomiting, and malnutrition) and jejunal biopsy. After the diagnosis, the patient was put on a gluten-free diet, which led to clinical recovery and symptom disappearance. One year ago, the patient

presented two severe systemic reactions after eating food containing sesame. The first episode involved facial erythema, pruritus, and conjunctivitis a few minutes after she ate biscuits. The second episode, 1 week later, occurred after she ate sesame-containing bread and consisted of vomiting, cough, generalized itching, and laryngeal edema. The latter episode required emergency treatment including the administration of subcutaneous epinephrine and intravenous corticosteroids.

She had no personal or familial history of allergic disorders; routine skin prick tests were all negative for a standard series of common inhalant allergens and for an extensive panel of food allergens. Prick by prick tests with poppy seeds, flaxseed, pine nuts, hazelnut, and sunflower seeds were negative. Prick by prick tests performed with sesame seeds and sesame oil did not show any skin reaction. No specific IgE (Pharmacia CAP System) antibodies against

sesame seeds and common inhalant allergens were found. The total serum IgE was 22.3 kU/L.

A double-blind, placebo-controlled food challenge (DBPCFC) was carried out in the outpatient clinic with full facilities for resuscitation. The challenge was performed with sesame seeds (5 g) masked in bread. The placebo bread was baked with hazelnut (5 g).

No adverse reaction was observed to the oral intake of hazelnut-containing bread.

About 15 min after the patient ate a small amount of sesame bread, generalized flushing and hives, abdominal pain, cough, and dyspnea appeared. She was promptly treated with subcutaneous epinephrine, intravenous corticosteroids, and intramuscular antihistamine, and the symptoms disappeared within 1 h. At the onset of symptoms, the FEV₁ fell to 61% of the predicted value and returned to normal values after inhaled salbutamol and the above-mentioned therapy (Fig. 1). No increase in serum tryptase was observed (12.4 µg/ml, normal range 4.8–13.5 µg/ml). Non-sesame-specific IgE could be detected 12 weeks after the DBPCFC.

In the present case of systemic reaction to sesame, no skin positivity was present and no specific IgE could be found; moreover, in a recent paper, the poor sensitivity of specific antibodies against sesame has been reported (4). On the other hand, the negative result obtained with prick by prick tests

allows us reasonably to exclude an IgE-mediated reaction.

This result agrees with other studies showing that sesame can induce non-IgE-mediated anaphylaxis (2–4). In our patient, no increase in serum tryptase was found. Serum tryptase usually rises in 1 h and remains high for several hours after anaphylaxis induced by Hymenoptera venom or drugs (5), whereas it is well known that tryptase rarely increases after anaphylaxis due to food (6).

The reason for this is not clear, but this fact suggests that cells other than mast cells, such as basophils, monocytes, or macrophages, may be more important in food-induced allergic reaction. Our DBPCFC was performed with sesame seeds hidden in baked bread; therefore, there are relevant allergens in sesame which are heat resistant.

The potency of particular foods to induce an anaphylactic reaction appears to vary and is also dependent upon the sensitivity of the individual. Because the gluten-free diet for celiac patients often contains sesame seeds, we underline the potential seriousness of a missed diagnosis of sesame allergy. The life-threatening nature of anaphylaxis makes prevention the cornerstone of therapy. If the causative food allergen is not clearly delineated, an investigation to determine the cause should be promptly initiated. An early diagnosis based on a detailed allergologic history and a cautious DBPCFC may prevent further, possibly life-threatening exposure to sesame.

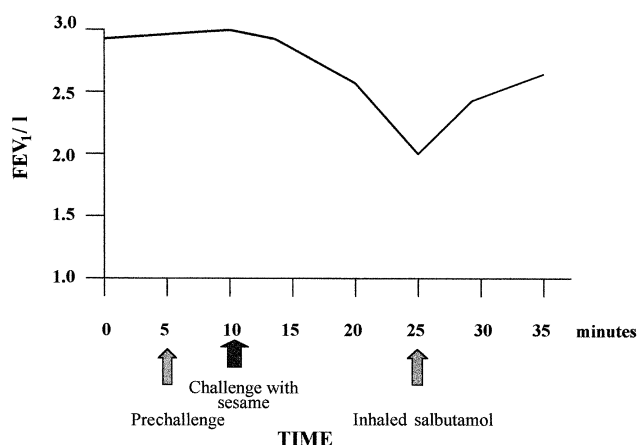


Figure 1. FEV₁ before and after food challenge with sesame.

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Accepted for publication 11 October 1999
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ISSN 0105-4538

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Lettuce allergy

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Key words: Compositae; food allergy; lettuce.

● LETTUCE (*Lactuca sativa*), a plant of the Compositae family, is widely eaten. It is known to provoke allergic contact dermatitis (1), which is sometimes made worse by ingestion (2). IgE-dependent allergy is less frequent and has more recently been reported among workers handling lettuce, but also among other people sensitized to various pollens (3–5). We report the case of a man presenting with a digestive and respiratory form of food allergy to lettuce confirmed by oral challenge test and identification of specific IgE to a 40-kDa protein.

A 32-year-old man suffering from pollinosis presented with chronic urticaria and grade 1 perennial asthma. Prick tests were negative to perennial allergens, but positive to grass pollens and herbaceous

pollens (solidago, goosefoot, sorrel, alfalfa, plantain, and clover).

The prick tests were positive to Umbelliferae (fennel [4 mm], celery [4.5 mm], carrot [4.5 mm], against a 9% codeine control at 3 mm) and to Compositae (Jerusalem artichoke [5 mm], lettuce [3.5 mm], chicory [3 mm], artichoke [3 mm], and tarragon [2.5 mm]). Screening for specific IgE (Phadebas CAP RAST, Sweden) was negative. The oral challenge test to celery (16 g) provoked abdominal pain 2.3 h later. Oral challenge test to lettuce (30 g) caused labial pruritis, dry cough, and stomach pain 30 min later. A 15% decrease in peak expiratory flow was observed 2 h after ingestion.

Identification of the allergen was performed by SDS–PAGE electrophoresis followed by Western blot. The core and leaves of the lettuce were crushed separately and placed in an aqueous solution of 2% polyvinylpyrrolidone, 2 mM EDTA, for 1 h at room temperature (4). The proteins were assayed by a pyrogallol red method. Electrophoresis was performed on a PhastSystem (Pharmacia) on 8–25 polyacrylamide gel. One electrophoresis was stained silver, whereas a Western blot was performed on a nitrocellulose membrane using a second electrophoresis.

The membrane was saturated for 1 h in a 5% bovine serum albumin buffer, and then submerged for one night at –4°C in a 1:10 dilution of the patient’s serum in 1% BSA–0.1% PBS Tween buffer.

The fixed IgE was observed by chemiluminescence using anti-IgE secondary antibodies, marked with peroxidase (Dako) diluted 1:1000 in 1% BSA–0.1% PBS Tween buffer. After washing, the membrane was submerged in Luminol (Covalab) with H₂O₂.

The protein concentrations were 2.3 g/l (core of the lettuce) and 1.8 g/l (leaves).

The electrophoresis showed nine main bands of molecular mass 16, 22, 28, 37, 51, 64, 82, 86, and 94 kDa for the core, and five main bands of 22, 28, 40, 51, and 60 kDa for the leaves.

The Western blot revealed a protein band of 40 kDa in the extract of the core. No band was observed with the extracts of the leaves or with the chicory extracts.

The 40-kDa protein identified by specific IgE was present in the core of the lettuce, but was not found in the leaves. This protein is mentioned in previous studies, most often in association with other proteins (3–6). There appeared to be no major difference in the electrophoresis conditions, all the authors having worked in denaturing conditions. However, a variability in IgE response existed for several reasons:

- 1) the protein content of lettuce is very low, and the leaves do not contain certain allergens
- 2) these allergens are thermolabile
- 3) the variety of lettuce contributes to the variability of the response.

The Western blot development technique by chemiluminescence is highly adapted to screening for delicate allergens because it increases the sensitivity of detection by at least 10 times (7) compared with conventional techniques.

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Accepted for publication 19 October 1999
Copyright © Munksgaard 2000
ISSN 0105-4538

Acknowledgments We thank Mmes. Verdun, Schutz, and Roth for their valuable technical assistance.

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