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Anaphylaxis to sublingual immunotherapy

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Subcutaneous allergen immunotherapy (SCIT) is an approved efficacious treatment for respiratory allergy (1). Although used in Europe for the treatment of respiratory allergy, sublingual allergen immunotherapy (SLIT) is less effective than SCIT and is not FDA approved, nor recommended by United States-based expert guidelines (1–3; <http://www.theallergyreport.org>). No reports of systemic reactions have been reported with SLIT, prompting its promotion as safe for home administration (1, 2).

We report the first case of anaphylaxis with SLIT administered in the United States. A 31-year-old Caucasian female, with a known history of perennial and seasonal allergic rhinitis, tree nut and peanut allergy, and well-controlled asthma began SLIT at home by a local allergist. She was skin test reactive to multiple local spring and fall aeroallergens, and perennial allergens. She never received conventional subcutaneous allergy immunotherapy as her symptoms were well controlled on nasal steroids and antihistamines. Asthma symptoms were infrequent and controlled with an as needed β -agonist inhaler. She was compliant with a diet restricted from tree nuts and peanuts.

The patient sought out a practice promoting self-administered SLIT for

This is the first report of anaphylaxis to sublingual immunotherapy. Home administration may not be advisable.

allergies. The extracts were prepared from Greer (Lenoir, NC, USA). A 1 : 100 dilution of a stock bottle of mixed extracts was used containing: 0.5 ml of *Alternaria tenuis* (1 : 20 w/v), 1.0 ml of standardized cat hair (10 000 BAU/ml), 0.50 ml dog epithelia (1 : 10 w/v), 0.25 ml of standardized grass mix (10 000 BAU/ml), 1 ml of ragweed mix (1 : 20 w/v), and 0.5 ml of common weed mix (1 : 20 w/v) with 3.7 ml of saline diluent. On the second day of SLIT, within 2 min of administering six drops of the serum, the patient reported generalized pruritis, a feeling of hives beneath the skin of her palms, and within minutes developed swelling of both hands. Following self-administration of an antihistamine, the patient spoke with the prescribing local allergist and was informed that her symptoms were not an allergic or an adverse reaction to SLIT. She was advised to continue the schedule of self-treatment. The next morning, within a few minutes of administering six drops of the same dilute concentration of allergy serum, the patient experienced marked generalized pruritus. Gradually symptoms progressed to swelling of her hands and feet, eventually so severe she had difficulty walking. The patient also became dyspneic and began wheezing. Although hypotension was not clearly defined, the patient experienced dizziness during the peak of her symptoms. Initially, the patient self treated with an antihistamine and nebulized albuterol. The prescribing allergist recommended a course of prednisone which eventually brought her symptoms under control. She was not examined during the course of this reaction. Following this anaphylactic reaction, the patient decided to discontinue SLIT.

As with other orally administered medication it would seem plausible that allergic individuals would be at some risk for systemic reactions to sublingually or orally administered allergy extracts to which they have a specific allergy. This

case documents that sublingual administration of allergy extracts is not risk free from systemic reactions. The absence of prior reports of anaphylaxis regarding SLIT does not mean that systemic reactions have not occurred. Many factors may account for the lack of case reports including the fact that SLIT is usually carried out at home without the benefit of supervision of on-site trained professionals questioning for prior adverse reactions. This case should alert allergists that SLIT may be associated with very serious risks. Patients receiving this therapy should be informed of the potential of systemic reactions and responsible precautions should be taken anticipating the possibility of a severe allergic reaction. While SLIT is still under review in the United States, it is perhaps best to establish its safety and efficacy through large-scale controlled clinical trials.

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