Maintenance of Certification clinical management series

Series editor: James T. Li, MD, PhD

Optimal duration of allergen immunotherapy

Efren Rael, MD,[a] and Richard F. Lockey, MD[b] *Hershey, Pa, and Tampa, Fla*

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Target Audience: Physicians and researchers within the field of allergic disease.

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List of Design Committee Members: Efren Rael, MD, and Richard F. Lockey, MD (authors), and James T. Li, MD, PhD (series editor)

Activity Objectives

1. To enhance sublingual immunotherapy (SLIT) treatment safety.
2. To extrapolate the magnitude of treatment-related long-term responses one might expect with grass SLIT and subcutaneous immunotherapy (SCIT).
3. To recognize risk factors associated with treatment-refractory venom immunotherapy (VIT).
4. To identify methods to improve immunotherapy treatment compliance.

Recognition of Commercial Support: This CME activity has not received external commercial support.

Disclosure of Significant Relationships with Relevant Commercial Companies/Organizations: R. F. Lockey is a board member for the World Allergy Organization; has consultant arrangements with Merck and ALK-Abelló; is employed by the University of South Florida and the Veterans Affairs Hospital; has provided expert testimony for Shook, Hardy and Bacon and Chamberlain and McHaney; has received research support from the American Lung Association (grant no. G62326), Forest Research Institute, GlaxoSmithKline, Genentech, Merck, Pfizer, Pharming, Sanofi-Aventis, Shire, and Teva; has received payment for lectures from Merck and AstraZeneca; has received royalties from Informa Publishing; and has received travel support from the World Allergy Organization. E. Rael declares no relevant conflicts of interest. J. T. Li has consulted for Abbott.

Key words: *Short case, subcutaneous immunotherapy, sublingual immunotherapy, immunotherapy duration, venom immunotherapy, clinical allergy pearls*

CLINICAL VIGNETTE

A 15-year-old boy who lives in Richmond, Virginia (northeastern United States), presents to you in February with a history of debilitating sneezing, rhinorrhea, and nasal pruritus; stuffiness; and redness and tearing of his conjunctiva that has occurred for the last 4 summers. Treatment with over-the-counter and intranasal antihistamines have failed, and he has experienced nosebleeds with intranasal glucocorticoids. Additionally, during the summer, he needs an albuterol inhaler for wheezing and coughing associated with exercise. He experiences similar respiratory symptoms within 15 minutes of cat exposure but chooses to treat this with cat avoidance.

Further history reveals a sting by what he thinks was a honeybee on his neck while working in the yard 2 years prior. His mother removed the "stinger." Within several minutes, he experienced generalized flushing, erythema, and pruritus, followed by diffuse urticaria. Within another 10 minutes, he started to wheeze and became progressively short of breath. He was taken to the emergency department (ED). On arrival, he had a feeling of impending doom, and his mother overheard a paramedic say that his blood pressure was "low." ED admission records showed that his pulse at admission was 140 beats/min, his respiratory rate was 20 breaths/min, and his blood pressure was 80/40 mg/Hg. He was placed in the supine position with his lower extremities elevated and treated with repeated intramuscular injections of epinephrine in the anterior lateral thigh, intravenous fluids, and oxygen and 30 minutes later was given 50 mg of diphenhydramine and 40 mg of methylprednisolone,

From [a]the Section of Allergy, Asthma & Immunology, Division of Pulmonary, Allergy, and Critical Care, Department of Internal Medicine, Penn State College of Medicine, Milton S. Hershey Medical Center, Hershey; and [b]the Division of Allergy and Immunology, The University of South Florida College of Medicine, Tampa.

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Corresponding author: Efren Rael, MD, Penn State, Milton S. Hershey Medical Center, Allergy/Immunology, C5804B, MCH0401, 500 University Drive, Hershey, PA 17033-2360. E-mail: efrenrael@gmail.com.

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both of which were administered intramuscularly in the buttocks. He was discharged several hours later without sequelae. The ED physician did not suggest follow-up for the systemic allergic reaction (SAR). Present, past, social, and family histories and review of systems were otherwise unremarkable, except for a family history of atopy and asthma.

Physical examination revealed a well-developed, well-nourished, and cooperative male subject oriented to time, place, and person with a blood pressure of 110/70 mm Hg, a pulse of 76 beats/min, and a respiratory rate of 14 breaths/min whose examination results were otherwise normal. Spirometric results (including a flow-volume loop before and after β-agonist) were normal. Prick puncture skin test (PPST) results were markedly positive to timothy and related northern grasses and cat and showed minimal reactivity to a few other seasonal and perennial allergens. PPST results were negative to all Hymenoptera venoms; however, a honeybee intradermal skin test (IDST) at 0.01 μg/mL revealed a wheal of 10 × 12 mm and a flare of 15 × 25 mm. Results of all other IDSTs to Hymenoptera venoms were negative up to 1.0 μg/mL. Results with histamine and saline controls were positive and negative, respectively. His tryptase level was normal.

The patient wants to begin grass sublingual immunotherapy (SLIT). You advise that such therapy is indicated but that he also should be prescribed and know how to use self-injectable epinephrine, institute avoidance measures for Hymenoptera stings, and receive honeybee venom immunotherapy (VIT). He wants long-term guidance. What do you tell him?

The full review of this article, including a preview of relevant issues to be considered, can be found online at www.jacionline.org. If you wish to receive CME or MOC credit for the article, please see the instructions above.