clinical diagnosis (odds ratio: 2.52; $P < .05$). Bronchial hyperresponsiveness was significantly reduced in the SIT group, both in and out of season, when compared with controls ($P < .05$). Of nonasthmatics, asthma developed in 19 of 79 in SIT group and 32 of 72 controls. Children receiving SIT had improved VAS scores for conjunctivitis ($P < .001$) and rhinitis ($P < .01$).

Conclusions. This study indicates that specific immunotherapy for seasonal rhinoconjunctivitis can reduce development of asthma. The authors also demonstrate a reduction in symptom profiles and medication usage in the active treatment group.

Reviewer's Comments. Allergic rhinitis is a known risk factor for the development of asthma. Additionally, other investigators have demonstrated a link between upper airway disease and bronchial hyperresponsiveness. This study profiles a group of children with clinically relevant seasonal rhinoconjunctivitis and suggests that specific immunotherapy may have a role preventing the development of asthma. This study challenges clinicians to evaluate children with significant upper airway disease and consider the benefits of allergen immunotherapy. Additional work is needed to further define the role of allergen immunotherapy in the prevention of asthma development in children with both seasonal and perennial disease. Additionally, this study highlights the importance of surveillance for asthma symptoms in children with allergic rhinoconjunctivitis.

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LOW-DOSE LOCAL NASAL IMMUNOTHERAPY IN CHILDREN WITH PERENNIAL ALLERGIC RHINITIS DUE TO DERMATOPHAGOIDES


Purpose of the Study. To assess the safety and clinical efficacy of low-dose nasal immunotherapy (LNIT) in children with dust mite allergy.

Study Population. Thirty-two symptomatic children between the ages of 4 and 14 years with perennial allergic rhinitis to dust mites.

Methods. This was a multicenter, randomized, double-blind, placebo-controlled study conducted over a 2-year period. After baseline evaluation and 1-month washout period, participants were randomized to the placebo or modified LNIT group. Participants in the active group received increasing nasal doses of dust mite allergen to a maintenance dose of 80 allergen units (AU). The maintenance dose was given at home on a weekly basis for 18 months. Clinical symptoms, medication scores, threshold dose with specific nasal provocation test (NPT) (dose required to elicit 2 of 4 nasal symptoms including itching, sneezing, rhinorhea, and obstruction), and serum immunoglobulins IgE and IgG4 were followed. Statistical analyses were done to compare symptom and medication scores during period 1 (November 1994–March 1995) and period 2 (November 1995–March 1996). Results of NPTs and immunologic assays were compared at baseline, 5 and 18 months.

Results. Twenty-six participants completed the study (12 active and 14 placebo), and there were no serious local or systemic reactions. At baseline, the groups were similar in age, sex, duration of rhinitis, and results of NPT. There was no significant difference between groups in symptom or medication scores during the first period, however, participants in the active treatment group had significantly lower mean nasal symptom scores and mean medication scores during the second period. The threshold dose of allergen at NPT was significantly increased in the active treatment group when baseline and 18-month NPT results were compared. Also, the increase in the NPT threshold dose was significantly higher in the active treatment group when compared with placebo at the end of therapy. There was no statistically significant difference observed in IgE or IgG4 immunoglobulin levels between groups throughout the trial.

Conclusions. LNIT may be a safe and effective alternative to traditional immunotherapy in children with mild allergic rhinitis attributable to dust mites.

Reviewers' Comments. Few studies have assessed the clinical efficacy of nasal immunotherapy in children, and previous adult studies have had limited success resulting from increased symptoms of rhinitis associated with high-dose nasal immunotherapy. The current study utilizes a low maintenance dose in children with perennial allergic rhinitis and suggests a clinically significant reduction in symptoms and medication use as well as a significant increase in allergen threshold dose. The participants in this study had very mild symptoms of rhinitis, and it is unclear if similar results would be found in patients with moderate to severe disease. Additionally, participants were told to follow their normal cleaning habits and dust mite exposure was not assessed in either group. Therefore, it is difficult to say whether the apparent improvement observed in the active treatment group was entirely attributable to the effect of LNIT rather than differences in exposure between groups or changes in the level of exposure during the study.

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The Upper Airway

EFFECT OF OMALIZUMAB ON SYMPTOMS OF SEASONAL ALLERGIC RHINITIS: A RANDOMIZED, CONTROLLED TRIAL


Purpose of the Study. Seasonal allergic rhinitis is a common immunoglobulin E (IgE)-mediated disorder that produces troublesome symptoms. A recombinant humanized monoclonal anti-IgE antibody (omalizumab) forms complexes with free IgE, blocking its interaction with mast cells and basophils and lowering free IgE levels in the circulation. This study specifically seeks to assess the efficacy and safety of omalizumab for prophylaxis of symptoms in patients with seasonal allergic rhinitis.

Study Population. Patients 12 to 75 years old with no or mild symptoms during the preceding month but with at least a 2-year history of moderate-to-severe seasonal allergic rhinitis attributable to ragweed were considered eligible for the study. The history of moderate to severe ragweed-induced allergic rhinitis was defined as having a score of 2 or more on a 0- to 3-point scale ($0 = \text{no symptoms}$; $3 = \text{severe symptoms}$), in 4 of 8 symptom categories (sneezing, itchy nose, runny nose, stuffy nose, watery eyes, red eyes, itchy eyes, or itchy throat) based on patient recall of the previous ragweed pollen season. Skin test sensitivity to ragweed pollen and a baseline total IgE level of between 30 and 700 IU/mL also were required.
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