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 asthmatics, 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 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, rhinorrhea, 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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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 = no symptoms; 3 = 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.
Methods. This randomized, double-blind, dose-ranging, placebo-controlled trial assigned patients to receive omalizumab, 50 mg (n = 137), 150 mg (n = 134), or 300 mg (n = 129), or placebo (n = 136) subcutaneously just before ragweed season and repeated during the pollen season every 3 weeks in patients with baseline IgE levels of 151 to 700 IU/mL (4 total treatments) and every 4 weeks in patients with baseline IgE levels of 30 to 150 IU/mL (3 total treatments). Main outcome measures were self-assessed daily nasal symptom severity scores (range: 0–3), rescue antihistamine use, and rhinitis-specific quality of life during the 12 weeks from the start of the treatment.

Results. Nasal symptom severity scores were significantly lower in patients who received 300 mg omalizumab than in those who received placebo (P = .002). A significant association was observed between IgE reduction and nasal symptoms and rescue antihistamine use. A linear dose-response relationship was observed for average daily nasal symptom scores and omalizumab dose. Patients in the 300-mg and the 150-mg omalizumab groups had significantly greater percentage of days with minimal nasal symptoms versus those in the placebo group. Rhinitis-specific quality of life scores were consistently better in patients who received 300 mg of omalizumab than in those who received lower dosages or placebo and did not decline during the peak season. A dose-dependent decrease in average daily nasal symptom severity scores occurred after omalizumab treatment. The frequency of adverse events was not significantly different among the omalizumab and placebo groups.

Conclusions. Omalizumab decreased serum-free IgE levels and provided clinical benefit in a dose-dependent fashion in patients with seasonal allergic rhinitis. This was demonstrated by decreased average daily nasal symptom scores, daily nasal and ocular symptom severity and duration scores, and assessment of quality of life scores. Patients receiving 300 mg omalizumab also experienced profound reductions in serum-free IgE levels after the first dosing interval, when 63% of patients had serum-free IgE levels <10.4 IU/mL.

Reviewers’ Comments. This well-designed study thoroughly assesses the impact that omalizumab can have on the treatment of allergic rhinitis. There are, however, several limitations to this study. According to the article, only two thirds of patients were exposed to the severe pollen season. Therefore, variability in ragweed exposure across different sites in the United States is one factor that must be considered. It should also be known that patients entering the study were not completely asymptomatic, which could be attributable to a lingering effect from allergic rhinitis symptoms from the spring allergy season. However, this 12-week study of patients with seasonal allergic rhinitis did demonstrate that omalizumab therapy decreased serum-free IgE levels and provided clinical benefits, improving rhinitis-specific quality of life and reducing rescue medication use. Additional studies are necessary to pinpoint the exact placement of this agent in the therapeutic regimen for treatment of seasonal allergic rhinitis.

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DECREMENTS IN VIGILANCE AND COGNITIVE FUNCTIONING ASSOCIATED WITH RAGWEED-INDUCED ALLERGIC RHINITIS


Purpose of the Study. Previous studies have shown adverse effects on sedation, cognition, and psychomotor performance in patients with allergic rhinitis with or without medical therapy. This study was done to further delineate the impact and consequences of symptomatic allergic rhinitis on vigilance and a wide range of tests of cognitive function.

Study Population. Two hundred ninety-six adults (mean age: 36–37 years) were studied in an allergen exposure unit (AEU). The subjects had a minimum 2-year history of ragweed-associated allergic rhinitis with positive prick/puncture or intradermal skin tests to ragweed. The patients were not allowed to be on any other medications for allergy, asthma or central nervous system (CNS) depressants or stimulants.

Methods. This was a randomized, parallel-group, single-center study. The patients were all asymptomatic during an initial screening period and for baseline testing. The patients were administered a battery of automated neuro-psychologic tests at baseline. The primary measure was the Kay Continuous Performance Test (KCPT), which is a measure of vigilance or the ability to maintain a certain level of arousal or attention while engaged in a monotonous or repetitive task. Secondary tests measured working memory, psychomotor speed, reasoning/computation, and divided attention. After the asymptomatic screening period and baseline testing, subjects were divided into symptomatic or asymptomatic groups. The symptomatic group was exposed to a consistent pollen level in the AEU. The asymptomatic subjects could have as many as six 90-minute allergen exposure sessions over a 7-day period until they achieved specified levels of symptoms. Then, the testing was repeated as well as repeated in an asymptomatic control group with allergic rhinitis who had no pollen exposure in the AEU.

Results. Symptomatic allergic rhinitis had major adverse impacts on measures of vigilance. Symptomatic subjects performed significantly worse than asymptomatic subjects on all parameters of the KCPT. The cognitive battery of tests also showed a negative impact on a broad range of cognitive functions in symptomatic allergic rhinitis subjects. The greatest effect sizes were for tests measuring working memory and psychomotor speed.

Conclusions. Symptomatic, untreated allergic rhinitis subjects were found to have a significant decrement on measures of vigilance and a broad range of cognitive functions.

Reviewer’s Comments. Another study showing cognitive changes in patients with allergic rhinitis. Another reason not to compound the problem with first-generation, sedating antihistamines.

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COMPARISON OF CEFUROXIME WITH OR WITHOUT INTRANASAL FLUTICASONE FOR THE TREATMENT OF RHINOSINUSITIS—THE CAFFS TRIAL: A RANDOMIZED, CONTROLLED TRIAL


Purpose of the Study. It is not known whether intranasal corticosteroids are beneficial to treat acute rhinosinusitis in patients with a history of chronic or recurrent sinus symptoms. This study specifically seeks to determine if the addition of an intranasal corticosteroid to antibiotic ther-
EFFECT OF OMALIZUMAB ON SYMPTOMS OF SEASONAL ALLERGIC RHINITIS: A RANDOMIZED, CONTROLLED TRIAL

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