history of systemic reaction and negative skin testing to insects should be evaluated by means of RAST analysis and repeated in testing after 3 to 6 months. If all results are negative, the authors suggest that patients be counseled to the limitations of testing and the possibility of systemic reaction, as well as appropriate avoidance and treatment recommendations.

**Reviewer’s Comments.** This study provides a practical assessment of an important aspect of insect sting allergy. Current practice guidelines state that patients with negative skin tests are not candidates for immunotherapy, but they provide no guidance for the management of these patients. The authors of this study have thus provided insight into the clinical risks for these patients and have provided practical diagnostic and management suggestions to more fully evaluate and care for these patients. In addition, this study highlights the need for improved diagnostically testing for insect sting allergy.

**TREATMENT OF 193 EPISODES OF LARYNGEAL EDEMA WITH C1 INHIBITOR CONCENTRATE IN PATIENTS WITH HEREDITARY ANGOEDEMA**


**Purpose.** Hereditary angioedema (HAE) is an autosomal dominant disease (Mendelian Inheritance in Man 106100) caused by an inherited deficiency of C1 inhibitor (C1-INH) function. The clinical symptoms include skin swelling, abdominal pain, and life-threatening episodes of upper airway obstruction. The authors evaluated the efficacy of C1-INH concentrate for treating sudden airway compromise.

**Patient Population and Methods.** A series of 95 patients with HAE and a functional deficiency of C1-INH belonging to 59 families underwent screening for laryngeal edema. Double-blind treatment of randomized patients was not justifiable because of the life-threatening nature of this condition. Efficacy was evaluated by determining the interval from injection of C1-INH concentrate to the beginning of resolution of symptoms. The mean duration of episodes of laryngeal edema was compared in treated and untreated patients. Clinical information was obtained from emergency department physicians, the hospitals involved, reports of the general practitioners, and patients and their relatives.

**Results.** Forty-two patients had 517 episodes of laryngeal edema. Eighteen patients received 500- or 1000-U injections of C1-INH concentrate in 193 episodes. The C1-INH concentrate was effective in all laryngeal edemas. The interval from injection to interruption in progress of symptoms ranged from 10 minutes to 4 hours (mean standard deviation: 19.9 minutes). The mean standard deviation duration of laryngeal edema was 15.3 ± 9.3 hours in patients who received C1-INH concentrate and 100.8 ± 6.2 hours in those who did not.

**Conclusions.** Injected C1-INH concentrate is highly and rapidly effective in the treatment of laryngeal edema of HAE. Relief and resolution of symptoms begins 30 to 60 minutes after injection, and duration of the upper airway obstruction is substantially reduced.

**Reviewer’s Comments.** Injection of the C1-INH preparation, now available in Europe, has been successful in helping resolution of the episodic swelling of the skin and intestinal mucosa, which commonly occur in HAE. However, before this study the use of the C1-INH concentrate had not been assessed in laryngeal edema of HAE because of the rapid onset and potential fatality of this complication. Although this study is not carefully controlled, the results are encouraging, especially because emergency measures, such as tracheostomy, were never required. Hopefully, this C1-INH concentrate will soon be readily available in all countries.

ALLEN ADINOFF, MD
Aurora, CO

**ATOPIC DERMATITIS**

**EFFECTIVENESS OF OCCLUSIVE BEDDING IN THE TREATMENT OF ATOPIC DERMATITIS—A PLACEBO-CONTROLLED TRIAL OF 12 MONTHS’ DURATION**


**Purpose of the Study.** Allergen exposure in atopic dermatitis (AD) is a contributing factor in the pathogenesis of this multifactorial disease. This study addressed the effectiveness of allergen avoidance measures in patients with AD by utilization of mattress enclosure.

**Study Population.** Forty adult patients with AD whose treatment consisted of low-potency topical steroids and emollients only.

**Methods.** Serum was obtained from each participant for total immunoglobulin E (IgE), CD30, IgE-specific antibody to house dust mites (HDM), cat, and *Pityrosporum orbiculare*. Each subject was evaluated by the Severity Scoring of Atopic Dermatitis (SCORAD) index to determine eczema severity as well as skin prick test (SPT) and atopy patch test (APT) for HDM. The active treatment group (n = 22) received occlusive mattress and pillow covers while the placebo group (n = 18) received cotton covers. Participants kept a symptom diary of itch severity. The above lab data and eczema severity were followed over a 12-month period. In addition, dust samples were analyzed for cat and HDM allergen at 3, 6, and 12 months.

**Results.** The eczema severity by SCORAD index and patient perception of itching was significantly reduced in both the active treatment and placebo groups. The serum CD30 significantly decreased in both groups and seemed to correlate with the eczema severity (P < .001). The HDM-specific IgE was also significantly decreased in both study populations in the last 6 months of the study (P < .05). Elevated HDM allergen concentration was not common in either group; however, for those with detectable levels, exposure significantly decreased in the active treatment group (P < .005). Patients with a positive APT to HDM had a more pronounced reduction of HDM-specific IgE in the active treatment group (P < .05).

**Conclusions.** Both groups had significant reduction in eczema severity and HDM-specific IgE. One explanation is the allergen reduction capacity of the cotton covers may be similar to occlusive covers in this population with low HDM concentrations. Also participant awareness of dust mite infestation may have altered the cleaning habits of placebo participants. Serum CD30 seemed to correlate with asthma severity suggesting that this may be a useful marker in AD. Sensitization and exposure did not appear to have an effect on the study outcome as nonsensitized and nonexposed individuals benefited equally as compared with sensitized and exposed individuals. This may be explained by reduction of other allergens or irritants.

**Reviewers’ Comments.** Although allergen exposure plays a role in AD, large studies have not been performed in this population to address the proposed benefits of
aeroallergen avoidance. This study suggests that eczema severity, HDM-specific IgE, and CD30 are significantly decreased with occlusive bed covers, however, there was not a statistically significant difference between the study populations. Additionally, HDM allergen in this study was not common and may not be an important factor in the disease process of this population. Future studies should include participants with both sensitization and significant exposure.

TAMARA PERRY, MD
ROBERT A. WOOD, MD
Baltimore, MD

MONTELUKAST IN THE TREATMENT OF CHILDREN WITH MODERATE-TO-SEVERE ATOPIC DERMATITIS: A PILOT STUDY


Purpose to the Study. The role of leukotrienes in the pathogenesis of atopic dermatitis (AD) is uncertain. This double-blind, placebo-controlled crossover study addressed the efficacy of the leukotriene receptor antagonist montelukast in moderate to severe AD.

Study Population. Fifteen patients (ages 6–16) with moderate to severe AD despite conventional therapy consisting of at least a class II steroid, soap substitutes, and emollients.

Methods. Disease severity was evaluated by grading 8 areas of the body (head/neck, front of the trunk, the back, genitalia, and 4 limbs) on a scale of 0 to 3. A score of at least 40 was required to be enrolled in the study. The extent of disease was calculated by estimating the percentage of the body surface involvement. Patients were examined by the same physician on a biweekly basis and completed questionnaires to assess the impact of AD on daily life, as well as the effect of disease on relationships with family members and social life. There was a 2-week run-in period during which standardized topical treatment was initiated. Patients were randomized to receive either 5 mg montelukast or placebo daily for 4 weeks. There was a 2-week washout period before crossover for the second phase.

Results. Eleven patients completed the study with 6 in group A (placebo first) and 5 in group B (drug first). Despite randomization, the baseline median disease severity score between groups was significantly different, group A 52 and group B 78 (P = .018). Group B had a significant decrease in the disease severity (P = .05) during the drug phase. There was also an increase in disease severity during the placebo phase, however, severity scores did not return to baseline. Group A had improvement during both the placebo and drug phase (P = .075 and .029, respectively). Patient index scores and extent of disease did not change significantly for either group.

Conclusion. This pilot study shows that leukotrienes may be important mediators in AD and leukotriene receptor antagonists (LRAs) may be suitable adjuvant therapy in those patients with severe disease.

Reviewers’ Comments. Although leukotrienes are important chemical mediators in asthma and allergic rhinitis, their role in the pathogenesis of AD is not as clear. This study suggests that they may have a role in AD and that LRAs may provide some clinical benefit. In practice, some patients do seem to improve although the responses have not been overwhelming, which is consistent with the results of this study. It may be worth a try in patients with severe disease and, in addition, patients who are started on an LRA for their asthma may experience some improvement in their AD.

DRUG ALLERGY

IMMEDIATE ALLERGIC REACTIONS TO CEPHALOSPORINS: CROSS-REACTIVITY AND SELECTIVE RESPONSES


Purpose of the Study. Beta lactams are the most common agents involved in allergic reactions to antibiotics. There appears to be less cross-reactivity between penicillin and the newer generation cephalosporins. These latter agents might be associated with specific immunologic responses that do not cross-react with penicillins or other cephalosporins. These investigators examined the scope of immunoglobulin E (IgE) responses to various cephalosporins and penicillins in children and adults with histories compatible with cephalosporin allergy.

Study Population. Six children and 24 adults who had experienced urticaria/angioedema or anaphylaxis after ex-
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