

## TREATMENT OF ATOPIC DERMATITIS WITH TOLEROGENIC DOSES OF ANTIGEN

David L. Morris

*La Crosse, Wisconsin 54601, USA*

*Abstract.* The principles of allergic management of atopic dermatitis, with special reference to sublingual hyposensitization, are briefly elucidated.

*Key words:* Tolerance; Sublingual hyposensitization

Atopic dermatitis from an allergist's point of view is simply one form of allergy. The physiology of atopic skin is analogous to the physiology of asthmatic lungs. Many scientific studies have clearly shown that there is a condition of beta-adrenergic blockade with an imbalance of cyclic AMP vs. cyclic GMP in both skin and lungs. There is also probably a T-cell defect in atopic dermatitis and asthma, with decreased T-suppressor cells and increased production of IgE antibodies. The genetic defect which allows these conditions to occur may cause atopic dermatitis, nasal allergy, asthma, and any of the whole spectrum of allergic diseases.

The life-time variation of atopic disease is quite clear. The initial symptoms of atopy in the infant are frequently atopic dermatitis involving the cheeks, which usually clears during the second year of life. The nasal symptoms may occur at the same time but are frequently delayed into childhood. If the severity of the problem is great enough, with a family history of wheezing, then asthma may occur. Infection, heavy antigen exposures, and stress factors, account for some of the changes in the cycle.

Hyposensitization has not been particularly successful in atopic dermatitis and is not clearly recommended in its treatment. The conventional use of increasing dosages of injectable antigens to produce blocking antibody has not given good results in atopic dermatitis.

The only allergic condition clearly benefiting from blocking antibodies has been stinging insect allergy. This is a special type of allergy where a small amount of antigen is injected by the insect into the subject. In this type of exposure it has clearly been

shown that blocking antibodies can be passively transferred and are effective in preventing the allergic reaction.

The end result of successful long-term allergic management is the development of tolerance, with decreased IgE and IgG antibodies. This would be an example of high dose tolerance. The immunologic development of low dose tolerance in animals has had little clinical use in man. Low dose tolerance can be achieved in man by the frequent administration of small doses of antigen which produce decreased IgE antibodies and evidence of immune tolerance. I have utilized the technique over the last 12 years in treating various allergic disorders.

The primary allergic management of atopic dermatitis must include a broad approach to the allergy problem. Inhalants tested and treated must include dust, dust mite, pollens, epidermals, and molds. Various techniques must be used to carefully diagnose food intolerance and chemical susceptibility. It has been shown that part of the problem in certain patients with atopic dermatitis who have a marked elevation of IgE, have excessive IgE antibodies specific to the bacteria which releases histamine and interferes with the body's immune response. Bacterial antigens that cause skin infections should be included in the diagnosis and treatment of atopic dermatitis. To make matters more complicated, certain materials such as formaldehyde must be considered as both contact and inhalant problems. The inhalation of formaldehyde fumes from new fabrics, carpeting, foam insulation, and wall board, constitute definite hazards which are probably more of an allergic nature than simple toxicity.

Careful evaluation of the patient with atopic dermatitis for inhalants can be done by intradermal titration and radioallergosorbent (RAST) for allergens. Elimination diets followed by sublingual provocative food testing and subsequent feeding challenges can be used for foods. Radioallergo-

sorbent (RAST) tests can be of some help for foods. Chemicals can be tested by intradermal and provocative techniques. Inhalants and chemicals are treated with proper sublingual dosage of antigen three times daily under the tongue. Foods are also treated sublingually before meals and as needed with food antigen. Response of patients under treatment can be judged by their clinical response, by their decreased skin reactivity, and by improvement in the radioallergosorbent tests. The dosage of inhalant antigen is increased as the patient's sensitivity decreases.

This treatment lends itself to the early treatment of atopic problems. After 25 years of medical

practice, it is clear to me that the problem infant, if properly recognized and diagnosed as atopic, can be very effectively treated, and that the natural development of further allergic problems is retarded or completely reversed. Atopic dermatitis is an allergic disease which can be treated by using tolerogenic doses of antigens.

#### DISCUSSION

*Brandrup* (Copenhagen). Q: Can you argue for your statement that cracking of the chin and fissures by the ear lobe are connected with mold/house dust allergy?

A: I do have to rely on my experience, but I think my observations are correct.