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Positive house dust mite skin test in a nonatopic patient with scabies



A 21-year-old nonatopic man was referred for allergy evaluation with a history of an intensely pruritic eruption on his trunk and bilateral upper and lower extremities for the past 7 months. Initially, he presented to the emergency department with rectal bleeding. During the same visit, he was diagnosed as having folliculitis. He was started on oral steroids for his newly diagnosed ulcerative colitis, and subsequently the skin eruption became more widespread with more intense pruritus. A skin biopsy showed spongiotic dermatitis with possible allergic contact dermatitis. He was treated with numerous high-potency topical steroids, which made his condition unbearable. During his allergy evaluation, a skin test reaction for house dust mite (*Dermatophagoides pteronyssinus* and *Dermatophagoides farinae*) was positive. The negative control containing 0.9% saline showed no reaction. The panel of antigens also included trees, grasses, weeds, and molds, which produced negative reactions. Owing to the positive skin test reaction to the house dust mite, he was referred to a dermatology clinic to rule out scabies. The differential diagnosis included scabies, folliculitis, impetigo, arthropod bites, tinea, eczema, and contact dermatitis. A skin biopsy showed a subcorneal mite in the spongiotic epidermis. A brisk lymphocytic infiltrate with numerous eosinophils was present in the dermis (Fig 1). The characteristic skin biopsy findings were diagnostic of scabies. He was started on oral ivermectin and permethrin 5% cream, which resulted in complete resolution of his symptoms and the eruption within a few days. The scabies mite (*Sarcoptes scabiei*) and the house dust mite are related phylogenetically.¹ Circulating immunoglobulin E antibodies against scabies mite antigens show cross-reactivity with house dust mite antigens and result in positive skin test reactions in most patients with scabies.^{2,3} The positive skin test reaction to the dust mite antigen and the fact that it was the only positive skin reaction among the panel of antigens being tested were helpful in the diagnosis of scabies in this otherwise nonatopic patient. It is important that allergists be aware of the antigenic cross-reactivity between house dust and scabies mites and its implications. The case report reminds the allergist of this possibility.

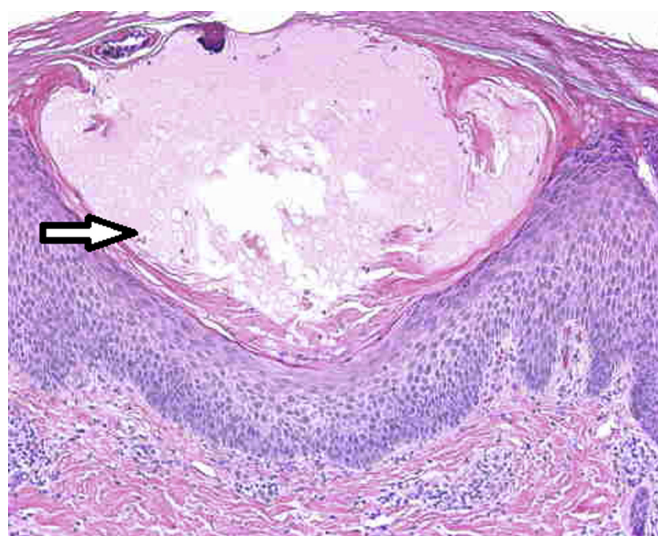


Figure 1. Skin biopsy showing the presence of a subcorneal mite (arrow) and spongiotic epidermis and a brisk lymphocytic infiltrate with numerous eosinophils (hematoxylin and eosin stain, magnification 10 $\times$).

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Cytokine responses to egg protein in previously allergic children who developed tolerance naturally



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Egg allergy is the second most common food allergy in childhood, with 1% to 2% of Americans affected.^{1,2} Although approximately 70% of children outgrow this allergy,³ few studies have explored the mechanism by which children naturally outgrow the allergy (natural tolerance [NT]). Most studies have compared children with allergy with those who were never allergic, have not evaluated allergen-specific responses, or have only focused on treatment inducing desensitization (oral immunotherapy). Although not previously demonstrated in food allergy, tolerance to venom has been