

Correspondence

Reply

To the Editor:

We would like to thank Calogiuri et al¹ for their remarks and interest in our article. We agree with their comments that for IgE-mediated reactions, the cross-reactivity between different corticosteroids does not seem to follow the classification of Coopman et al,² which has been proposed for contact dermatitis. As Calogiuri et al report, Wilkinson³ suggested an alternate view on cross-reactivity for steroids causing contact dermatitis based on 2 immune recognition sites on the corticosteroid molecule (one influenced by a C6/9 substitution and one by a C16/17 substitution) and on the recognition of the carbon ring. In particular, Wilkinson proposed that the C6/9 halogenation was highly significant for these types of reactions and “possibly the major determinant in determining cross-reaction pattern.”

Ventura et al⁴ reported on 10 patients with immediate reactions and intradermal test results consistent with IgE-mediated reactions to methylprednisolone, hydrocortisone, or both. Interestingly, all these patients had negative intradermal test results to the halogenated corticosteroids betamethasone and dexamethasone, and oral challenge to betamethasone was tolerated in all of these 10 patients. Later, however, the same group reported on 1 patient who had anaphylaxis to betamethasone and had positive skin prick test responses to both betamethasone and methylprednisolone, whereas test results were negative for dexamethasone.⁵ In our study some patients had clinical reactions, intradermal reactions, or both to both the halogenated and nonhalogenated corticosteroids.⁶

Therefore at this point, we do not think there is enough convincing evidence of a definite increase in cross-reactivity between specific corticosteroids. Although there might be more than 1 immune recognition site involved for IgE-mediated reactions, the degree of the effect of C6/C9 halogenation or the C16/17 substitution is not currently clear. We agree with Calogiuri et al¹ that the proposed mechanism whereby the IgE recognizes the whole carbon ring structure based on an analogy to the crystallographic studies on IgG antibody to cortisol⁷ might

provide a more plausible explanation for the concomitant allergy that has been observed with different corticosteroids and might warrant further investigation. Any modification of the rings can potentially lead to an increase or decrease in reactivity with specific IgE, possibly depending in part on individual factors. Larger studies, possibly multicenter ones, are required to evaluate in further depth the cross-reactivity between corticosteroids and elucidate the antigenic site or sites leading to IgE-mediated reactions.

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