

Reply



To the Editor:

We appreciate the comments and queries to our article¹ presented by Abrams and Ben-Shoshan,² who raise the question of the utility of skin testing as the current standard for evaluation of historical allergic reactions to penicillin and penicillin derivatives. It is true that penicillin allergy will diminish over time and that a careful history may indeed identify patients that could be chosen for an oral challenge with careful consideration. Low-risk patients could be selected from a demographic that includes a very remote history of last reaction to penicillin (>10 years),³ are stable with respect to comorbid conditions such as asthma, and are willing to undergo an ingestion challenge. In fact, we noted in our report that 5 subjects did not mount a histamine response required for interpretation of skin testing; 4 were deemed low risk by history for an ingestion challenge and went on to direct oral challenge.¹

In our cohort, we described subjects who had a pretest probability of an immediate reaction or suspected to have an IgE-mediated reaction to a beta-lactam.¹ Therefore, we did not report our experience with subjects who reported symptoms that were either inconsistent with an immediate reaction, or manifested physical complaints that were inconsistent with an expected IgE-mediated reaction such as maculopapular rash, abdominal upset, diarrhea, and dizziness. In these subjects, an evaluation may determine minor reactions or adverse reactions that prove tolerability on rechallenge. Reactions consistent with severe cutaneous adverse reactions, serum sickness-like reactions, Stevens–Johnson syndrome (SJS) and drug rash with eosinophilia and systemic symptoms (DRESS) syndrome would not be tested or challenged.

Sensitivity and specificity of skin testing for penicillin are limited to the reagents used and the likelihood of an IgE-mediated result for the test. Skin testing is expected to be unreliable for testing non-IgE-mediated reactions. Therefore, an expanded cohort included for immediate hypersensitivity testing is likely the reason for the results seen in reports by Mill et al⁴ and Tannert et al.⁵

The limitations of skin testing with Pre-Pen (benzylpenicilloyl polylysine) and penicillin G are the exclusion of testing for minor determinants penilloate and penicilloate or the amoxicillin side chain. Therefore, the oral challenge can identify subjects who will react to either of these that the skin testing did not determine. This is another potential reason for the findings by Mill et al⁴ and Tannert et al.⁵

There is little evidence that penicillin skin testing as the current standard fails to identify patients with a beta-lactam hypersensitivity.^{6,7} Although rare, there remains the risk of provoking a severe IgE-mediated reaction on oral challenges with amoxicillin. Skin testing and challenges require trained medical personnel for medical decision making regarding the historical and skin testing interpretation as well as treating a potentially life-threatening reactions. It is our opinion that patients with a history consistent with an IgE-mediated reaction to a beta-lactam require an evaluation including skin testing with an allergist. For subjects with mild non-IgE-mediated reactions or deemed low risk, an oral challenge can be considered depending on the resources and comfort level of the physician and patient.

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