Safety and outcomes of direct provocation testing to Amoxicillin without preliminary skin testing

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**Background:** Ten percent (10%) of hospitalized patients report Penicillin Allergy (PA); however, studies indicate that ~98% patients are not truly allergic. Unconfirmed PA labels pose substantial public health risks and PA evaluation is recommended as part of effective antibiotic stewardship. While the most widely accepted protocol is Skin Testing (ST) followed by oral amoxicillin challenge, time constraints and other limited resources may be a barrier to ST application. An accumulating body of evidence supports the safety and efficacy of using direct oral amoxicillin challenges in low-risk individuals with a history of PA.

**Objectives:** To evaluate the safety of direct oral graded challenges to amoxicillin.

**Methodology:** This is a retrospective review of adult patients treated at the outpatient allergy clinic at Emory University. For PA, we currently recommend direct oral amoxicillin challenge in patients with history of benign rash, benign somatic symptoms or unknown history associated with last penicillin exposure >12 months ago. If the index reaction occurred within the past 12 months, or with a history of anaphylaxis, we perform ST first and proceed to oral challenge only if the ST is negative. We do not evaluate PA further if there is a history of a penicillin-associated blistering rash, hemolytic anemia or organ involvement. Any delayed reactions after the oral challenge are reported by the patient.

**Results:** We describe outcomes of direct oral challenges in patients with PA labels. No acute positive reactions or delayed reactions were noted for the course of the study period. While subjective reactions were reported, these did not constitute a clinically significant challenge reaction.

**Conclusion:** Direct oral challenge without preceding ST is safe and sufficient to rule out PA in low risk patients. While a history of anaphylaxis or severe drug reactions warrants extreme caution, a simpler and more streamlined protocol might do for lower risk patients.

**Biography**

Merin Kuruvilla is an Assistant Professor of Allergy and Immunology at Emory University in Atlanta, GA. Her research interests include drug allergy and biologic therapies. She is also collaborating with translational researchers to elucidate disease mechanisms behind nasal polyps and provide insight into future therapies. She acts as Clinical Mentor for young investigators involved in clinical research. She is also interested in antimicrobial stewardship in the context of medication allergies and is actively contributing to the antimicrobial stewardship program at Emory.