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Implementation of pharmacist-driven penicillin allergy evaluation and testing at an academic medical center

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Keywords

Penicillin Allergy, Graded oral challenge

Abstract

Background

Penicillin allergies are reported by approximately 10% of the US population, however, studies reveal that >90% of those patients are not allergic to penicillins. Penicillin allergies are associated with negative health outcomes due to reduced efficacy and increased adverse effects of alternative antibiotics.

Patient interview, penicillin skin testing (PST) and/or an oral graded challenge can be used to evaluate penicillin allergy.

Methods

Adult patients (≥18 years) admitted with a history of penicillin allergy were evaluated for eligibility between September 2019 and March 2020. Pregnant and critically ill patients as well as those receiving medication that would invalidate testing were excluded. Patients were evaluated and tested using institutional protocols. Allergies were removed from the medical record with standardized documentation to discourage relabeling. Data collected included but were not limited to, the number of patients challenged and delabeled, number of delabeled patients who were relabeled, and number of patients whose change in allergy status resulted in change of therapy.

Results

Thirty patients were interviewed. One patient was evaluated by PST while 20 patients underwent a graded amoxicillin challenge. Nine patients were delabeled as a result of chart review and patient interview alone. One patient failed oral challenge with minor itching that did not require any rescue medications, while 20 patients passed. Twenty-nine penicillin allergies were removed or modified. At time of review, 1 patient who was delabeled had been relabeled with a penicillin allergy with no record of a new reaction. Of patients who had a penicillin allergy removed, 50% received a penicillin for treatment following removal, either during that admission or as future therapy.

Conclusions

Penicillin allergies can be evaluated and removed using a standardized algorithm and protocol. Risks of a reaction are low, and removal leads to change in treatment in a significant portion of patients.