

Bad news for people with a penicillin allergy

There are over 500,000 hospitalizations annually in the U.S. in which patients will have a reported allergy against first line antibiotics. Beta-lactams are the largest group of antibiotics which include penicillins, cephalosporins, and carbapenems. These antibiotics are the first line treatment against most serious bacterial infections; however, they are also the class of antibiotics to which patients are most commonly allergic. Patients labeled as allergic to one of these antibiotics are often prescribed second line antibiotics. Previous studies have shown that the use of second line antibiotics are more expensive, result in more adverse events, and longer hospital stays.

We theorized that patients labeled as penicillin, cephalosporin, or carbapenem allergic treated with non-beta-lactams would have higher rates of clinical failure, but lower rates of allergic reactions, than patients treated with beta-lactams. Analysis of the data revealed that patients treated with non-beta-lactams did indeed have higher rates of clinical failure. Unexpected findings of the study were the low number of new allergic reactions which occurred in 16 patients, less than 3% of the study population.

The study showed that patients with a history of beta-lactam allergies are more likely to experience treatment failure when treated with a non-beta-lactam and no less likely to experience a hypersensitivity reaction. The findings of this do not support the practice of avoiding all beta-lactam antibiotics for patients with an allergy to penicillins, cephalosporins, or carbapenems. While the use of an antibiotic in the same class of allergy should continue to be avoided, clinicians can utilize this data to improve clinical outcomes by providing the most appropriate antibiotics.

In an effort to combat the overutilization of second line antibiotics, clinicians must critically assess the validity of patient reported allergies and, when possible, update allergy data within the patient's medical record. Additionally we need to identify methods in which clinicians can safely remove beta-lactam, particularly penicillin, allergy labels from a patient's medical records. Research describing effective systems that would disseminate the updated allergy information to all prescribers is also needed.

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Publication

[Consequences of avoiding \$\beta\$ -lactams in patients with \$\beta\$ -lactam allergies.](#)

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