Penicillin allergy is the most commonly reported drug allergy in the US (10% of the population) but after an allergy evaluation including skin testing (ST), less than 1% are truly allergic to penicillin. 1

Skin tests are validated for penicillin but not for other antibiotics containing beta-lactam (e.g. amino-penicillin and cephalosporins). 2

Previously reported non-irritating concentrations (NIC) were obtained from small cohorts and in healthy volunteers. 3

To elucidate the NIC of commonly used beta-lactam containing antibiotics other than penicillin including cephalosporins utilized during an allergy evaluation.

Methods

- All enrolled patients had received at least one dose of a systemic beta-lactam containing antibiotic without adverse reactions.
- Negative (normal saline) and positive (histamine) controls were used in all tests.
- Initial intradermal (ID) wheal size was 3-5 mm and results were read 15 minutes after injection.
- An increase in ID wheal size by more than 3 mm compared to negative control and the appearance of a flare was considered positive.

Background & Objective

• Penicillin allergy is the most commonly reported drug allergy in the US (10% of the population) but after an allergy evaluation including skin testing (ST), less than 1% are truly allergic to penicillin. 1

• Skin tests are validated for penicillin but not for other antibiotics containing beta-lactam (e.g. amino-penicillin and cephalosporins). 2

• Previously reported non-irritating concentrations (NIC) were obtained from small cohorts and in healthy volunteers. 3

• To elucidate the NIC of commonly used beta-lactam containing antibiotics other than penicillin including cephalosporins utilized during an allergy evaluation.

Conclusions

• Skin tests with beta-lactam containing antibiotics should be performed using the highest NIC possible (Table I) in order to reduce false negative results and to improve diagnosis and delivery of care.

• NIC to the tested beta-lactam containing antibiotics were found to be higher than what has been proposed to date.

• We propose an easy method to dilute these antibiotics to their highest NIC that can be helpful in day-to-day clinical practice.

• This study and future others may help improving diagnosis of allergy or lack thereof to these antibiotics.

References