Assessment of fluoroquinolone cross-reactivity in a real world setting

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Introduction

- Fluoroquinolone allergies are reported in 2% of hospitalized patients with the incidence increasing.[2]
- Although risk is low, fluoroquinolones are the third most common medication associated with hypersensitivity reactions and the second most frequent medication causing severe anaphylaxis.[3]
- Data is unclear about cross-reactivity of IgE-mediated reactions within the fluoroquinolone class.[4-11]
- In an attempt to add to the literature, we aim to evaluate rates of IgE-mediated cross-reactivity among patients with a reported fluoroquinolone hypersensitivity reaction.

Research Question: What is the likelihood of fluoroquinolone IgE-mediated cross-reactivity in a real world setting?

Methods

- This was a single-center, retrospective, case series within a 2,600-bed health system.
- Patients were included if they were admitted to our health-system between 2013 and 2021 and had a documented IgE-mediated fluoroquinolone allergy within the electronic health record (EHR) and at least 1 subsequent documented inpatient administration of an alternative fluoroquinolone.
- This case series was reviewed by all applicable Institutional Review Boards (IRB) within the Yale New Haven Health System and granted exempt status.

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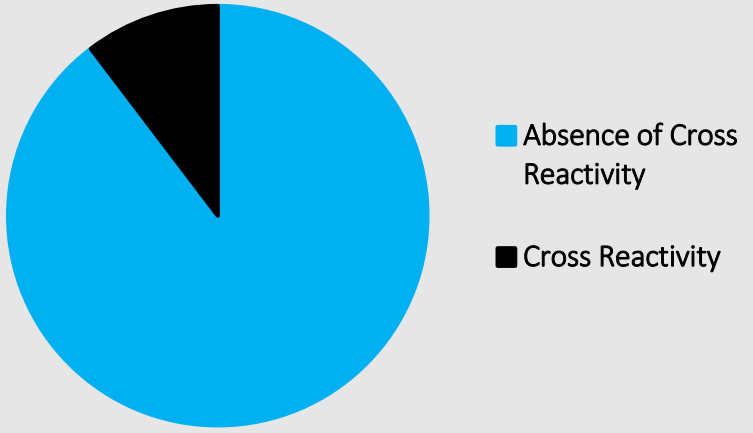
Fluoroquinolone cross-reactivity occurred in 10% of cases.

This study suggests low risk of allergic cross-reactivity between fluoroquinolones, especially when ophthalmic moxifloxacin is the challenged fluoroquinolone.

Generalizability of this report is limited by its sample size.

All cases meeting inclusion criteria were reviewed over a 8-year period throughout a 2,600-bed health-system, suggesting upcoming studies performed in a real-world setting with a larger sample size may be challenging.

Cross Reactivity Between Fluoroquinolones



Disclosure: The authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation: Kathleen Adams: Nothing to disclose, Sunish Shah: Nothing to disclose.

Results

- Of the 94 patients evaluated, 29 patients had a documented IgE-mediated fluoroquinolone allergy with subsequent administration of an alternative fluoroquinolone.
- Thirty-eight percent of patients had an antibiotic allergy to ciprofloxacin, 34% to levofloxacin, and 28% to moxifloxacin.
- Seventy-nine percent of patients had antibiotic allergies other than fluoroquinolones. The median time from the initial incident fluoroquinolone to subsequent alternative fluoroquinolone challenge was 6 years (1 day – 11 years).
- Cross-reactivity occurred in 3 of 29 (10%) cases. Two patients reacted to ciprofloxacin; one reacted to moxifloxacin. Of the 8 patients that received a challenge with ophthalmic moxifloxacin, no patients experienced a reaction.

Discussion

- Limitations include the retrospective nature as it relied on accurate documentation in the EHR.
- All cases meeting inclusion criteria were reviewed over a 8-year period throughout a health-system, suggesting upcoming studies performed in a real-world setting with a larger sample size may be challenging.
- This study suggests low risk of allergic cross-reactivity between fluoroquinolones, especially when ophthalmic moxifloxacin is the challenged fluoroquinolone.

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