Hypersensitivity reactions to fluoroquinolones: analysis of the factors involved.


BACKGROUND: Hypersensitivity reactions to fluoroquinolones seem to be on the increase, especially immediate type reactions.

OBJECTIVE: The aim of this study was to determine whether several conditions, including gender, age, type of reaction, time interval between the reaction and the study, type of symptoms, the specific fluoroquinolone involved in the reaction and previous confirmed hypersensitivity to beta-lactams or to other drugs were factors contributing to the development of hypersensitivity to fluoroquinolones.

METHOD: We analysed retrospectively all patients attending our allergy department between January 2005 and December 2010 because of a reaction associated with fluoroquinolone administration. The diagnosis was confirmed by basophil activation test or drug provocation tests. In accordance with the results, patients were then classified as having hypersensitivity or non-hypersensitivity to fluoroquinolones.

RESULTS: A group of 218 patients was evaluated; 69 were confirmed as having hypersensitivity, 146 as non-hypersensitivity and 3 were excluded. Comparisons between groups showed that the allergic patients more often had a previous confirmed hypersensitivity to betalactams (P = 0.029), immediate reactions (P = 0.001) and anaphylaxis (P = 0.000), and moxifloxacin was the fluoroquinolone most frequently involved (P = 0.027). The logistic regression analysis showed three factors associated with the diagnosis of hypersensitivity reactions to fluoroquinolones: previous hypersensitivity to betalactams (OR: 4.571; 95% CI: 0.987-21.171; adjusted OR: 23.654; 95% CI: 1.529-365.853), immediate reactions (OR: 17.333; 95% CI: 4.374-68.691; adjusted OR: 52.493; 95% CI: 6.621-416.200) and reactions induced by moxifloxacin (OR: 3.091; 95% CI: 1.160-8.239; adjusted OR: 13.610; 95% CI: 2.419-76.565).

CONCLUSION: In patients who develop reactions to fluoroquinolones, hypersensitivity is more often confirmed in those with immediate reactions and when moxifloxacin is involved. Moreover, patients with hypersensitivity to betalactams are more prone to develop hypersensitivity reactions to fluoroquinolones.