Sex Differences in the Effect of Atomoxetine on the QT Interval in Adult Patients with Attention-Deficit Hyperactivity Disorder.


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Abstract

BACKGROUND:
The effects of atomoxetine on QT in adults remain unclear. In this study, we examined whether the use of atomoxetine to treat attention-deficit hyperactivity disorder in adults is associated with QT prolongation.

METHODS:
Forty-one subjects with attention-deficit hyperactivity disorder were enrolled in this study. Participants were administered 40, 80, or 120 mg atomoxetine daily and were maintained on their respective dose for at least 2 weeks. We conducted electrocardiographic measurements and blood tests, measuring plasma atomoxetine concentrations after treatment. Electrocardiograms of 24 of the patients were also obtained before atomoxetine treatment. The QT interval was corrected using Bazett (QTcB) and Fridericia (QTcF) correction formulas.

RESULTS:
In these 24 patients, only the female patients had prolonged QTcB (P = 0.039) after atomoxetine treatment. There was no correlation between plasma atomoxetine concentrations and the corrected QT interval (QTc), or between atomoxetine dosage and the QTc. However, in female patients, there was a significant positive correlation between atomoxetine dosage and the QTcB (r = 0.631, P = 0.012), and there was a marginally significant positive correlation between atomoxetine dosage and the QTcF (r = 0.504, P = 0.055). In male patients, there was no correlation between atomoxetine dosage and the QTcB or QTcF intervals. There was no correlation between plasma atomoxetine concentrations and the QTc in either female or male patients.

IMPLICATIONS:
Clinicians should exhibit caution when prescribing atomoxetine, particularly for female patients.