

[2003 Fall A22] The effect of methadone on QTc intervals in a retrospective study of chronic pain patients

Yeatman D, Yeatman A, McKee A

Tufts University School of Medicine, Springfield, MA, USA

Introduction: This retrospective chart review looks at the effect of methadone on QTc interval prolongation for a correlation between increasing dose of methadone and increasing QTc interval.

Objective: To investigate the possible relationship between methadone and QTc (the corrected QT) prolongation.

Design: A retrospective case series analysis of patients on methadone.

Setting: Outpatient pain management center.

Patients: A group of patients who were receiving methadone from an outpatient pain center for chronic pain that subsequently developed a prolonged QTc interval.

Measurements: For each patient multiple variables were recorded. For each patient the dose of methadone was noted, it was also noted if the patient had been on that same dose for a minimum duration of one month. The length of the QTc interval for each patient was calculated. The patient's potassium, concurrent QTc- prolonging drugs, age, sex and whether or not the patient had concurrent cardiac disease was also noted. Using linear regression analysis, a positive relationship was found to exist between the dose of methadone and an increased QTc interval.

Conclusion: Methadone causes prolonged QTc intervals. It has recently been reported in the literature that there exists strong evidence of a positive correlation between the dose of methadone and the incidence of torsade de pointe (1). High dose methadone is becoming increasingly more common in the outpatient pain clinic. Recognizing its potentially serious adverse effects is of utmost importance to physicians who prescribe this medication on a daily basis.

We propose that patient's on methadone should have a baseline pre-methadone EKG and serial EKG's while on chronic methadone dosing. Concurrent medications that prolong the QTc interval should also be carefully observed. Patient's should be made aware of common medications such as antibiotics that may also prove additive in QTc prolongation. An implanted defibrillator may also be an option for symptomatic QTc prolongation in patients whom alternatives to methadone are not available.

References: Krantz MJ, Kutinsky IB, Robertson Ad, Mehler PS. Dose-Related Effects of Methadone on QT Prolongation in a Series of Patients With Torsade de Pointes. *Pharmacotherapy* 2003; 23:802-805.

Reg Anesth Pain Med 2003;28