

QTc Interval Screening in Outpatients Receiving Methadone at a Veterans Affairs Medical Center

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Purpose

The primary objective of this study was to determine the frequency at which San Francisco Veteran Affairs Medical Center (SFVAMC) providers are screening for QTc prolongation in outpatients receiving methadone for pain or opioid replacement therapy (ORT). Secondary objectives were to describe the range of QTc interval values and methadone daily doses, determine the incidence of QTc prolongation, and identify any underlying cardiac risk factors and/or concomitant prescribing of known QTc-prolonging medications in this patient population.

Method

This was a single-center, retrospective study that included outpatients at the SFVAMC. A list of outpatients who received methadone at the SFVAMC between October 1, 2007 and December 31, 2007 was generated. Data from these patients' records was collected for the period of January 1, 2006 (or date patient began taking methadone if it was after January 1, 2006) through December 31, 2008. Baseline data was not obtained for patients who started methadone prior to January 1, 2006. ECGs obtained during inpatient or emergency room admissions were excluded. Descriptive statistics were performed for data collected.

Results

Eighty patients in the ORT and 170 patients in the pain group were included. There were few patients with cardiac risk factors in both groups (1.3% of ORT and 11.8% of pain patients). Amitriptyline and paroxetine were identified as the most frequently prescribed concomitant QTc-prolonging medications in this population.

Seventy-eight percent of ORT and 34% of pain patients started methadone before 2006. Ninety-four percent of ORT (n=18) and 18% of pain patients (n=104) had an ECG obtained at baseline. Six percent of ORT (n=16) and 2% of pain patients (n=91) had an ECG obtained at one month. Twenty-four percent of possible annual ECGs in the ORT group were obtained. Nine percent of possible annual ECGs in the pain group were obtained.

Forty-two percent of ORT patients had total daily doses of methadone between 61-100 mg and 28% of ORT patients had total daily doses greater than 100 mg. Fifty-one percent of pain patients had total daily doses of methadone <30 mg.

At baseline, ORT and pain patients had a 6% and 26% incidence of QTc >450 ms, respectively. At one month, no patients had QTc >450 ms. There was a 13% incidence in the ORT group and 23% incidence in the pain group of QTc prolongation in ECGs taken annually. Of the ECGs obtained that could not be defined as baseline, 1 month, or annually, 26% in the ORT and 21% in pain group had QTc >450 ms.

Conclusions

ECGs in outpatients who received methadone were not consistently monitored at baseline, at 1 month, or annually. QTc prolongation occurred in a small percentage of patients and was similar to published literature. Overall, ORT patients were prescribed a higher total daily dose of methadone and few patients taking methadone had cardiac risk factors. Amitriptyline and paroxetine were the most frequently

prescribed concomitant QTc-prolonging medications in this population. Future studies are needed to determine the risk-benefit ratio, recommended frequency, and clinical utility of routine QTc monitoring.