

Original Paper

Effect of Methadone therapy on QTc interval in electrocardiogram of opioid addicted patients

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Abstract

Background and Objective: Methadone is a synthetic opioid which is used in opium addiction therapy and relief of acute and chronic pain. Side effects of Methadone were reported on heart and induction of Torsade De Pointes disease and increase QTc interval in electrocardiogram. This study was conducted to determine the effect of Methadone therapy on QTc interval in electrocardiogram and its relationship with dosage and duration of Methadone therapy.

Method: This cohort study was conducted on 60 opium addicted patients (57 males, 3 females) whom referred to "Methadone Therapy Clinic" in 5 Azar teaching hospital in Gorgan, northern Iran during 2009-10. Patients were divided to three groups based on the dosage of methadone: 0-35 mg (27 cases), 35-55 mg (27 cases) and 55-120 mg (26 cases) per day. QTc interval in electrocardiogram was measured at the beginning of study, one month and 5 months afterward.

Results: The mean±SD of QTc interval in patients at the beginning, one month and 5 months afterward of study was 0.42±0.027, 0.43±0.029 and 0.43±0.041 seconds, respectively. There was a significant increase in QTc interval after one month of methadone therapy, compared to the beginning of study. There was no significant difference in QTc interval between 1 month and 5 months following methadone therapy. There was no significant difference between QTc interval and different dosage of methadone.

Conclusion: Methadone therapy increase QTc interval but there is not any relationship between dosage and duration of methadone therapy and QTc interval.

Keywords: Opioid addiction, Methadone therapy, Electrocardiogram, QTc interval

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Received 29 Sep 2013

Revised 28 Dec 2013

Accepted 5 Jan 2014