CHAPTER 20

QT Prolongation and Psychotropic Medications

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INTRODUCTION

Prolongation of the QT interval, which may predispose to ventricular arrhythmia, remains an important problem for psychiatrists and other clinicians. QT prolongation is associated with fatal ventricular arrhythmias such as Torsades de Pointes (TdP), especially in those with medical illnes (1). Antipsychotic drugs can cause serious cardiovascular side effects such as arrhythmia, cardiomyopathy, and myocarditis (2). QT interval prolongation is the most common rhythm disorder that can lead to TdP. TdP can transform into ventricular fibrillation, causing sudden death. Drug-induced QT prolongation is more common in women than men (3). Predisposing factors such as hypokalemia, hypomagnesemia, hypocalcemia, bradycardia, malnutrition, advanced age, female gender, diabetes mellitus, cerebrovascular disease, ,coronary heart disease, hypertension, congestive heart failure, hypothermia, hypoglycemia, obesity and hypothyroidism may cause QT prolongation (4). The mean QTc interval in healthy individuals is 400 ms, and the longer the interval, the greater the risk of TdP. The fact that the QTC range is greater than 500 ms is an important risk factor for TDP (2,3). QTC is a normal upper limit of 450 ms in men and 460 ms in women (5).

ANTIPSYCHOTIC MEDICATIONS

Typical Antipsychotic Medications

Studies have noted that typical antipsychotic drugs cause greater QT prolongation than atypical antipsychotic drugs. In a study using psychotropic drugs and

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be the first choice for individuals with cardiac risk factors who have not taken antidepressants before. Clinicians should approach the decision to prescribe a psychotropic known to be at risk of QTc interval prolongation using a comprehensive risk-benefit analysis, including the risk of onset QTc, comorbid conditions, and whether or not to adequately treat existing psychopathology (25,40).

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