

Effects of Citalopram on Heart Rate Variability of Patients with Generalized Anxiety Disorder

Zakeri Faramarz, Shahrokh Amiri

Department of psychiatry, Razi Hospital, faculty of medicine, Tabriz University of Medical Sciences

Abstract

Background: Heart rate variability (HRV) is defined as variations in R-R interval with time. Dysautonomia is common in patients with psychiatric disorders such as depression and anxiety. Using HRV analysis, recent studies showed that in anxiety disorders, vagal cardiac function decreases and sympathetic function increases. This study aimed at investigating citalopram effects on HRV.

Methods: This before and after experimental study conducted in 30 generalized anxiety disorder (GAD). GAD was diagnosed based on clinical interview according to DSM-IV-TR criteria using SCID-I questionnaire. A cardiologist performed 24 hours ambulatory monitoring of electrocardiogram (Holter) on all patients before the treatment. Then, 20 mg of citalopram was administered to the subjects on a daily basis. Then they were studied by holter monitoring again after 1 month of administration of citalopram.

Results : The average age of participants was 35.32 ± 8.7 . The average holter monitoring time was $23.29 + 1.14$ hours before treatment and $23.81 + 0.68$ after it. The 3 hours LF/HF ratio was significantly different between 3 hours segments of time before treatment ($P=0.01$). This difference was higher after treatment ($P=0.003$) (Fig 2). This figure shows significant increase in parasympathetic tone during sleep both before and after treatment.

Conclusion: Our patients suffered from severe impairments in HRV which made them prone to cardiac arrhythmias and even cardiac arrest. Moreover, their condition did not improve significantly after the administration of citalopram 20 mg/day; and persisted while using the medication. Appropriate measures should be taken to improve the autonomic state of these patients.

Key Words: GAD, citalopram, Heart Rate Variability , SDNN