

Assessment of Cardiac Autonomic Dysfunction in Young Patients of Depression

Shivam Goyal*, Atul Shekhar**

AFMC, Pune, India

E-mail: shivamgoyal2002@gmail.com

Background

In today's fast paced life and its associated stress & strain, depression has become common in not only elderly but in young working adults as well. According to WHO, depression affects around 121 million people worldwide. Numerous studies carried out in India as well as abroad have found that the relative risk of developing Coronary Artery Disease (CAD) increases 2 fold in cases of depression. Various workers in the past have tried to assess autonomic dysfunction in cases of depression using Heart rate Variability (HRV) analysis. A few studies show low HRV in cases of depression. While, some studies have shown that there is no distinct relationship between HRV and depression. A few studies have also questioned the reliability of HRV as a measure of autonomic activity. Also, most of the studies have been done on study population > 45 years of age and similar evidence in younger population is grossly lacking. Most of the investigators have studied only the cases of major depression leaving out other types of depression episodes. Therefore, the exact relationship between depression and cardiac autonomic functions in young patients of depression is still obscure.

Aims & Objectives

To assess the cardiac autonomic functions using a battery of non invasive tests in 30 young cases of all types of depression who are not on any antidepressant medication and 30 matching controls; and compare the two results to assess the effect of depression on the cardiac autonomic functions.

Material & Methods

A cross-sectional study of drug naive population of

depression reporting in the Psychiatric OPD of Command Hospital, Pune. A total of 30 male patients aged between 20-45 years were selected randomly from the study population and 30 matched controls were selected from healthy volunteers. Patients already on medication, smokers/alcoholics and with any pre-existing cardiac abnormality were excluded. Tests were carried out using CANWIN PC Windows Based Cardiac Autonomic Neuropathy Analysis System (Genesis Medical Systems Pvt. Ltd. (India) available in Department of Physiology, AFMC. The male patients reporting in the Psychiatry OPD were diagnosed as cases of depression (ICD-10) using Beck's Depression Inventory (BDI), Psychosocial Performa and Psychiatrist interview. All the patients meeting the inclusion criterion were explained the study protocol in brief and after taking an informed consent, a brief history, basic anthropometric measurements and an ECG were taken in order to exclude any preexisting cardiac disease and also for documenting presence of any other risk factors for CAD. A total of 30 matched controls were also selected randomly from healthy volunteers. The patients as well as the controls were then subjected to the following tests on CANWIN to assess their autonomic functions in Resting ECG, Deep Breathing, Valsalva Maneuver, Postural Hypotension and sustained hand-grip. Appropriate statistical tests were used to compare the results between the two groups.

Results

(to be completed).

Conclusions

(to be completed).