

Original Paper

Cardiovascular autonomic neuropathy among non- insulin dependent diabetics patients

Hosseini SM (Ph.D)^{*1}, Maleki AR (M.D)², Bazrafshan HR (Ph.D)³

¹Associate Professor, Department of Physiology, Neuroscience Research Center, Medical Faculty, Golestan University of Medical Sciences, Gorgan, Iran. ²General Physician. ³Associate Professor, Department of Internal Medicine, Medical Faculty, Golestan University of Medical Sciences, Gorgan, Iran.

Abstract

Background and Objective: Cardiovascular autonomic neuropathy (CAN) is the most common and important type of diabetic autonomic neuropathy. Silent myocardial infarction, respiratory failure and increased mortality are the outcomes of CAN. This study was carried out to screen the cardiovascular autonomic neuropathy in non- insulin dependent diabetics patients.

Method: This descriptive - analytic study was carried on 70 (22 males, 48 females) non- insulin dependent diabetics' patients. Resting heart rate, heart rate variability, orthostatic changes in heart rate, blood pressure and corrected QT interval were recorded for each subject. The final findings were categorized as follow: 0=normal, 1=borderline and 2=CAN positive.

Results: 10 (14.3%) of patients were normal, 35 (50%) of patients were borderline and 25 (35.7%) of patients were considered cardiovascular autonomic neuropathy positive. There was significant differences between duration of diabetes and three CAN scores ($P<0.05$). The systolic blood pressure alterations showed the maximum correlation with CAN scores ($r=0.509$).

Conclusion: In our study, the rate of cardiovascular autonomic neuropathy was higher than other reports. The most important risk factor for cardiovascular autonomic neuropathy was more than 10 years history of diabetes mellitus.

Keywords: Diabetes mellitus, Cardiovascular autonomic neuropathy, Hypertension

* **Corresponding Author:** Hosseini SM (Ph.D), E-mail: hosseini@goums.ac.ir

Received 18 Jun 2013

Revised 7 Aug 2013

Accepted 18 Aug 2013