

Heart Rate and Blood Pressure Variability to Autonomic Stressors

Mohd Inayatulla Khan

Dr. Mohd Inayatulla Khan, Department of Physiology, Rajiv Gandhi Institute of Medical Sciences (RIMS), Adilabad, Telangana State. Email: drkhan123@gmail.com

Abstract

Background: Cardiovascular Autonomic Function has not found a quantifiable marker. Recent research has demonstrated a strong correlation between ANS and CV morbidity, including as abrupt death and malignant arrhythmias. The distinguishing feature of such indicators is heart rate variability. These tools have been used by physiologists and clinical cardiology researchers. **Methods:** A total of n=60 subjects were included in the study they were n=30 cases of hypertension (Group T) and n=30 normotensive subjects acting as controls (Group C). routine CV ANFT tests were performed. The ECG Electrodes were fixed in the Left arm, Right arm and left leg and ground electrode on the right leg. 2) Respiratory belt was tied around the chest at the level of nipple to record respiratory movement. 3) The electrodes and the respiratory belt were connected to Power lap equipment. Blood Pressure cuff was tied to the right upper arm and connected to an automated non-invasive BP monitor. **Results:** A total of n=60 subjects were included in the study they were n=30 cases of hypertension (Group T) and n=30 normotensive subjects acting as controls (Group C). The age range of the group T was from 30.5 – 45 years and the mean age was 38.5 years for the group C the age ranges was from 28 – 42 years and the mean age was 33.5 years. The values of Deep breathing, vasalva maneuver and 30/15 ratio on immediate standing is given in table 3. The values were calculated by recording the maximum RR intervals and minimum RR intervals and the mean values of maximum RR divided by mean values of minimum RR intervals. The p values in all the three conditions were found to be < 0.05 and considered significant. **Conclusion:** The important observations of the current study were there was a significant reduction of RR ratio in the study group during deep breathing for one minute. Valsalva ratio in the study group was found to be significantly higher than the control group. There were a significant cardiovascular parameters in control group during standard isometric hand grip exercise and also during the cold pressor test. Therefore, a bedside evaluation based solely on blood pressure readings may not accurately reflect the physiology in the notion of normotensive hypertension.