

*International Conference on***PHARMACEUTICAL AND BIOMEDICAL ENGINEERING***October 16-17, 2017 Osaka, Japan***Correlation between sympathetic power and left ventricular ejection fraction in diabetics and hypertensives****Manjusha Joshi and Mukesh Patel**
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In the case of diabetic subjects with and without hypertension and other cardiac complications and hypertensive subjects, episodes of cardiac diseases are more prevalent. Such complications are irreversible. Prevention is possible if they are diagnosed at the preclinical stage. Such diagnostic practices can control mortality and morbidity rate. Study is conducted with 27 normal subjects, 39 diabetic subjects with and without myocardial ischemia/infarction and 40 hypertensive subjects with and without diabetes. All the cases are recorded at Fortis-S L Raheja hospital Mahim (W). ECG samples of 3-5-minute duration in sitting and supine position are collected. The HRV parameters are compared with established performance index-Left Ventricular Ejection Fraction (LVEF) from echocardiogram. Randomness in age, class, sex and other parameters is ensured on the basis of the data collection as per the registration of the subjects. HRV index-SDNN and LVEF is found to have medium degree of positive correlation in diabetic subjects with myocardial ischemia/infarction (0.47) and a weaker positive correlation (0.37) between hypertensive cohort with and without diabetes. Heart Rate and LVEF have negative medium degree of correlation (-0.417) for normal cohort and higher negative correlation for diabetic with and without myocardial infarction (-0.606) and no correlation for hypertensive without diabetes. Heart rate, SDNN and HF power jointly contribute to 39.34% of the LVEF outcome in normal cohort (Linear regression). Heart rate, SDNN and LF power jointly contribute to 42.36% of the LVEF outcome in normal cohort and 42.62% in diabetic cohort with and without myocardial ischemia/infarction.

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