**Objective:** Hypertension very often accompanies diastolic dysfunction. A high blood pressure response to exercise is future risk of developing hypertension. We investigated the association of the hypertensive response in Treadmill testing and diastolic function on echocardiographic indices in normotensive patients.

**Design and method:** Three hundred nineteen consecutive normotensive patients (mean age 54 ± 10.5 years; male: female = 163:158) who showed negative Treadmill exercise stress echocardiography (TSE) were enrolled. TSE was performed using Bruce protocol. LAV diastolic function was assessed before exercise. Systolic blood pressure (SBP) response was defined as (exercise SBP) - [resting SBP] and was corrected by the estimated metabolic equivalent (MET).

**Results:** SBP response corrected by MET was correlated with age (r=0.116, p=0.038), resting diastolic blood pressure (DBP) (r=-0.13, p=0.021), left atrial dimension (LAD) (r=0.146, p=0.009) and early diastolic transmitral velocity/early diastolic tissue velocity (E/e') (r=0.153, p=0.007). SBP response corrected by MET was associated with E/e' (r=0.167, p=0.011, adjust R²=0.037) after adjusting for age, DBP.

**Conclusions:** Hypertensive response to exercise is associated with diastolic dysfunction reflected by echocardiographic index, E/e' in normotensive patients. It suggests that diastolic dysfunction can accompany in normotensive individuals with hypertensive response as well as in hypertensives.

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**Objective:** Cardiovascular event risk can be predicted by using Framingham cardiovascular disease (CVD) risk score. Visit-to-visit blood pressure variability (BPV) is strong predictors of stroke, independent of mean systolic blood pressure (SBP) but not for the cardiovascular event. Similarly, the role of mean pulse pressure (PP) in predicting the cardiovascular event is still unsettled. We investigated whether visit-to-visit BPV and PP are a suitable, simple, noninvasive alternative to predict the cardiovascular event compared to the conventional method of Framingham CVD risk score.

**Design and method:** This is a retrospective study of a cohort over a period of 10 years. The BP of three visits i.e. at baseline, 5 years and at 10 years were captured from patient records. Demographic factors, cardiovascular parameters and use of antihypertensive agents were also captured. We used standard deviation (SD) and coefficient as a measure of BPV. SD is calculated as \[ \text{SD} = \sqrt{\text{Variance}} \] and coefficient of variation as SD divided by the mean SBP.

**Results:** 1547 subjects were in original cohort, 91% (n=1408) had complete BP readings for analysis. The mean age of the participants at baseline was 56.4±9.8 years (ranged 30–86). 33.8% were males. The median of the standard deviation of systolic SBP was 9 (IQR:9–14) mmHg and coefficient of variation was 7 (IQR:6–10) mmHg. There is a significant relationship found between BPV and age, use of CCB, RAS inhibitors and beta-blockers. Every one year increased in age, the BPV is expected to increase by 0.013 mmHg. The use of CCB, RAS inhibitors and beta-blockers are expected to decrease BPV by 0.304mmHg, 0.404mmHg and 0.330mmHg respectively.

**Conclusions:** There is a positive relationship found between BPV and age. Use of CCB, RAS inhibitors and beta-blockers were associated with lower BPV.

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**Objective:** Epicardial fat thickness (EFT), an indicator of visceral obesity is an emerging cardiometabolic risk factor, and patients with obesity have an increased prevalence of the non-dipper blood pressure (BP) pattern. This study aimed to investigate the effects of gender on the association between EFT and circadian BP changes in patients with recently diagnosed essential hypertension (EH).

**Design and method:** A total of 441 patients with EH (Male/female: 236/205 and mean age: 50±13.8) and 83 control patients (normotensive normal weight, female/male: 41/42) underwent office BP measurements, 24-h ambulatory BP monitoring, laboratory measurements for cardiovascular risk factors and echocardiography. True EFT was defined with ambulatory diagnosis, and obesity was defined when the body mass index was more than 25 kg/m². EFT was averaged from the parasternal long axis and parasternal short axis echocardiographic images.

**Results:** Obese EH patients showed increased circadian BP profile with BP variability, increased wall thickness and LV mass compared to the non-obese EH and controls (all p≤0.05) without gender difference. Interestingly, EFT was thicker in female than male patients (7.6±2.5 vs 5.9±2.2 mm, p<0.001), and highest in the obese female EH group (7.5±2.6 mm) than in the control (6.4±2.8 mm) and non-obese EH group (6.7±2.8 mm) among women, whereas EFT was not changed among the males (5.9±1.9 vs 6.0±2.7 vs 5.9±2.4 mm, p=0.937). Multivariate logistic regression analysis demonstrated that the 24-hour BPV was associated with EFT (standardized beta coefficient = 0.16, p=0.016 and BMI (standardized beta coefficient=0.19, p=0.006) in female patients, but not in male.