GW26-e0374
Could Central Hemodynamic Indices be the indicator of Orthostatic Hypotension in Chinese Han Nationality population?
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OBJECTIVES Orthostatic hypotension (OH) is an independent risk factor for cardiovascular morbidity. It is often unrecognized in the elderly. Given the impact of OH, it would seem important to identify it in clinical practice. The association between central hemodynamic indices (e.g. central systolic blood pressure, augmentation index and pulse wave velocity) and OH is unclear. This study evaluates whether central hemodynamic indices are correlated with OH and tests the usefulness of central hemodynamic indices to identifying OH.

METHODS A sample of 1099 participants was recruited from the general population who attended health check-ups. Questionnaire, physical examination and laboratory tests were performed by a standard protocol. To assess the correlation between central hemodynamic indices and the probability of OH, multiple logistic regression analysis was used to estimate the odds ratio in different models, and the discriminatory power of hemodynamic indices for OH was assessed by the area under the receiver operating curve (ROC).

RESULTS The prevalence of OH in this population was 5.6%. Compared with those without OH, OH subjects had a higher age, SBP in sitting position, blood pressure in supine position, brachial-ankle pulse wave velocity (BaPWV) and central systolic blood pressure (CSBP) (all P<0.05). After adjusting for potential confounders, both CSBP (OR=1.039, 95%CI: 1.016-1.062, P<0.001) and BaPWV (OR=1.259, 95%CI: 1.130-1.402, P<0.001) were significantly positive correlated with the probability of OH in a Chinese population. In addition, BaPWV seemed to be a better discriminatory power than CSBP (ΔAUC=0.128, 95% CI: 0.047-0.208, P<0.002).

CONCLUSIONS BaPWV appeared to be a better indicator of OH than CSBP in routine clinical practice. Future researches may be warranted to confirm this finding.

GW26-e0732
Superior Dynamic Heart Rate Control and Non-Inferior Blood Pressure Control with Bisoprolol vs Metoprolol Sustained Release Tablet in Mild-to-Moderate Hypertension: creative study
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OBJECTIVES Both bisoprolol and metoprolol sustained release tablet (SR) are indicated in the management of hypertension. While long duration of effect in metoprolol SR was achieved through its sustained release formulation, bisoprolol has intrinsic long duration of action. This study aimed to investigate long action of bisoprolol compared with metoprolol SR in controlling mean dynamic heart rate and diastolic blood pressure in the last 4 hours of a 12-week treatment period in patients with mild-to-moderate primary hypertension.

METHODS 186 mild-to-moderate hypertensive patients from 7 centers in China were enrolled in this randomized, parallel, multicenter, double-blind clinical study from Dec 2011 to Dec 2014. Patients were treated with either bisoprolol 5-10 mg or metoprolol SR 47.5-95 mg once daily for 12 weeks. Primary end points were mean dynamic heart rate control and mean dynamic diastolic blood pressure control in the last 4 hours of the treatment period. Safety endpoints included analysis of monitoring of the blood pressure and heart rate, safety, and compliance.

RESULTS A total of 186 subjects were enrolled and analyzed, 93 subjects in each group respectively. In the last 4 hours of the treatment period, bisoprolol demonstrated significantly better control of mean dynamic heart rate compared with metoprolol SR (LSmeans difference: 3.79 bpm, 97.5% CI: 2.45, 0.14). In the last 4 hours of the treatment period, the LSmeans difference of diastolic blood pressure was 1.00 (97.5% CI: -4.79, 2.78), with the upper limit less than 4, indicating that bisoprolol group was noninferior to metoprolol sustained release tablets group bisoprolol further provided significantly better control in 24 hour mean ambulatory, mean daytime, and nighttime heart rate. The overall adverse event (AE) rate was similar in bisoprolol group and metoprolol SR group (20.43% vs 17.20%). Noncompliance was reported in 3(3.3%) and 6(7.32%) subjects in bisoprolol and metoprolol sustained release tablets group respectively.

CONCLUSIONS Both bisoprolol and metoprolol SR could have long action. Bisoprolol provided superior dynamic heart rate control and non-dynamic blood pressure control vs metoprolol SR in patients with mild-to-moderate hypertension. No new safety concern was found.

GW26-e1031
A novel relationship between reverse-dipper pattern of blood pressure and type 2 diabetes in hypertensive patients
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OBJECTIVES Nocturnal variations of blood pressure (BP) were associated with type 2 diabetes. However, the relationship between the reverse-dipper pattern of BP and type 2 diabetes remains unknown.

METHODS In this cross-sectional study, BP variations of 531 hypertensive patients (285 men, 246 women) were evaluated with ambulatory blood pressure monitoring (ABPM). Circadian BP patterns were then divided into dipper (10% to 20% SBP fall), non-dipper (0% to 10% SBP fall), extreme dipper (>20% SBP fall) and reverse dipper (SBP nocturnal rise), according to the nocturnal reduction of systolic blood pressure (SBP). All. BP’s in reverse hypertensive patients were excluded if they (1) were <18 or >90 years old; (2) were under antihypertensive treatment; (3) had a BP over 160/100 mmHg; (4) were night workers; (5) had acute stroke or myocardial infarction within the past 6 months; (6) had sleep apnea syndrome; (7) were diagnosed as secondary hypertension; (8) were not tolerating the ABPM; (9) had other chronic diseases. Diagnosis of type 2 diabetes was made according to the 2015 Standards of medical care in diabetes. Descriptive statistics are presented as percentages for discrete variables and as means (standard deviation) for continuous variables. Multivariate logistic regression was used to examine the relationship between type 2 diabetes and ABPM results.

RESULTS In our study, a total of 133 patients (21.0%) had reverse-dipper BP pattern. Non-dipper pattern was observed in 300 (47.5%) hypertensive individuals and dipper pattern in 98 patients (15.5%). Reverse dippers were older (P<0.05), while had a higher fasting glucose (P<0.05), BMI (P<0.05) and DBP-bedtime (P<0.05). Importantly, the prevalence of diabetes (P<0.05) in reverse dippers was the highest among the patients of all BP patterns. After analysis of multivariate logistic regression, the reverse-dipper pattern of BP was shown to be directly associated with type 2 diabetes (Odds ratio [OR] 1.63; 95%CI 1.057-2.512; p=0.027). Moreover, fasting glucose was negatively correlated with the decline rate of nocturnal SBP (r=-0.128; p=0.003) and DBP (r=-0.125; p=0.004). The result of our study also suggested that type 2 diabetes (OR 1.636; 95%CI 1.049-2.553; p=0.030), age (OR 1.030; 95%CI 1.013-1.047; p=0.030) and triglycerides (OR 1.247; 95%CI 1.010-1.539; p=0.040) might contribute to the reverse-dipper pattern of BP.

CONCLUSIONS The reverse-dipper pattern of BP in ABPM may serve as one of the independent risk factors for type 2 diabetes. Therefore, more personalized BP control should be administered on the patients who had an elevated nocturnal BP.

GW26-e1058
Plasma migration inhibitory factor as biomarker in hypertension-hyperlipidemia patients
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OBJECTIVES To investigate the plasma levels of migration inhibitory factor (MIF) in hypertension-hyperlipidemia patients.

METHODS A total of 39 hypertension plus hyperlipidemia patients without any previous treatment were enrolled (HTN-HLP). Twenty-five