METHODS A total of 111 people aged 80 and over were divided into two groups according to the ABI: low ABI group (ABI < 0.9, n = 56) or normal ABI group (ABI > 0.9, n = 55). Then they were divided into two groups according to the blood pressure: Hypertension group (HG, n = 48) or normal group (NG, n = 63). Ambulatory blood pressure monitoring was performed for all patients.

RESULTS 24-hour mean diastolic blood pressure (24hDBP) [66.2 (61.1, 71.2) mm Hg], day mean diastolic blood pressure (dDBP) [67.2 (62.7, 71.8) mm Hg], night mean diastolic blood pressure (nDBP) [64.6 (57.0, 72.0) mm Hg] were significantly lower in low ABI group than in normal ABI group. Day 24 hour systolic blood pressure variability (24hSBPV) [12.80 (11.66, 14.14) mm Hg] were significantly lower in low ABI group than in normal ABI group, night mean systolic blood pressure variability (nSBPV) [11.99 (4.13, 19.9) mm Hg] were significantly higher in low ABI group than in normal ABI group. (all P < 0.05). 24hSBPV [14.87 (3.90, 23.41) mmHg vs [13.20 (3.41, 3.91) mmHg], nSBPV [12.27 (5.50, 18.92) mm Hg vs (10.33 (3.53, 3.93) mm Hg] were higher in HG than NG, ABI [0.98 (0.21, 2.10) vs (1.07 (0.20) mm Hg were lower than NG (P < 0.05).

CONCLUSIONS 24hDBP, dDBP, nDBP, 24hSBPV, nSBPV may be the risk factors of low ABI in people aged 80 and over. nSBPV is an independent risk factor.

GW26-e2109 Blood pressure profile, left ventricle remodeling and endothelial dysfunction in patients with arterial hypertension and COPD
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OBJECTIVES Chronic overload of the left ventricle in hypertension leads to structural and morphological reorganization of the myocardium, which combines the concept of "remodeling", which is characterized by the presence of hypertrophy, dilatation and changes in the geometry of the heart cavities and myocardium as a whole, and ultrastructure of myocardium, which is ultimately remodeling of the myocardium and the integral substrate that determine the occurrence and progression of heart failure.

To evaluate the relationship of endothelial dysfunction with blood pressure (BP) daily profile and type of left ventricle (LV) remodeling in hypertensive patients with COPD.

METHODS We examined 120 patients with arterial hypertension and COPD. Assessment of systolic and diastolic LV function, condition vasomotor endothelial function using Doppler brachial artery during reactive hyperemia and drug, HD11XE-Phillips, US. Daily BP monitoring was carried out for 24 hours on CardioTens-01-Meditech, Hungary.

RESULTS Analysis of vasomotor function in patients with BP profiles showed that the diameter of the brachial artery was the greatest in patients with profile type night-peeker, and was 4.25 (3.80;5.00), followed by those with non-dipper 3.70 (3.04;4.60), dipper 4.10 (3.0;4.65) mm Hg, reduced and most patients over-dipper, while the velocity of the blood was reduced in patients with night-peeker - 0.60 (0.53;0.84) m/s.

Vasodilatation reaction during decompression was the least pronounced in night-peeker patients - 5.47 (3.04;12.72%) (p < 0.00014), in non-dipper patients - 11.63 (7.75;18.92%), dipper - 8.94 (7.04;15.46%), over-dipper - 7.24 (5.82;13.32%).

Vasodilatatory response to nitroglycerin was preserved in most patients with non-dipper, accounting for 16.61 (10.52;25.00%), night-peeker - 13.67 (8.02;20.24%), over-dipper - 11.73 (5.47;17.08%), and decreased in dipper - 9.97 (7.04;15.46%).

Evaluation of correlation of endothelial dysfunction and indices of LV structural and functional properties showed that there is an inverse correlation between endothelial dysfunction in the form of reduced vasodilatatory effects on diagnostic tests and concentric hypertrophy (r = -0.32, P = 0.001), type of BP non-dipper (r = -0.27, P = 0.009), degree of night reduction in diastolic BP (r = -0.25, P = 0.014), systolic index (r = -0.25, P = 0.016), performance dilatation of brachial artery (r = -0.24, P = 0.017), normal LV geometry (r = -0.22, P = 0.026), the type of dipper (r = -0.22, P = 0.032), degree of night reduction in systolic BP (r = -0.22, P = 0.030), speed E (r = -0.21, P = 0.037).

Direct correlation was between endothelial dysfunction degree and diastolic dysfunction degree (r = 0.37, P = 0.00038), concentric remodeling (r = 0.25, P = 0.03), eccentric hypertrophy (r = 0.05, P = 0.02), restrictive type of diastolic dysfunction (r = 0.25, P = 0.026), normal LV geometry (r = 0.21, P = 0.036), type of night-peeker (r = 0.23, P = 0.026), LV systolic dysfunction (r = 0.21, P = 0.036).

CONCLUSIONS Endothelial dysfunction is a factor of correlation with LV myocardial remodeling by concentric type, and with the change of BP circadian rhythm as night-peeker in hypertensive patients with COPD.

GW26-e2241 The co-existence of endothelial dysfunction and mild renal dysfunction synergistically increases the extent of left ventricular hypertrophy in patients with arterial hypertension
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OBJECTIVES The association between impaired renal function and increase left ventricular mass was shown to be related to increase in arterial stiffness, which indicates that vascular homeostasis and remodeling may impact the left ventricular hypertrophy (LVH) in patients with renal dysfunction.

METHODS We measured the peripheral arterial reactive hyperemia index (RIH) and estimated glomerular filtration rate (eGFR) in 317 hypertensive patients comprising 115 normal RHI (RHI > 1.67) and normal eGFR (eGFR > 90 ml/min per 1.73m²), 136 low RHI (RHI ≤ 1.67), 27 low eGFR (60 ≤ eGFR < 90 ml/min per 1.73m²) and 39 low RHI combined with low eGFR.

RESULTS Multivariate logistic regression analysis identified lgl RHI (odds ratio [OR]: 0.001, 95% confidence interval [CI]: 10 to 0.246, p = 0.024) and lgl eGFR (OR: 0.009, 95% CI: 10⁴ to 0.414, p = 0.016) as independent factors correlated with LVH respectively in hypertensive patients. Compared with normal RHI and eGFR patients, the extent of LVH in patients with either low RHI (OR: 1.224 95% CI: 0.431 to 3.527, p = 0.691) or low eGFR (OR: 0.539 95% CI: 0.070 to 5.377, p = 0.632) did not significantly increased, while it increased significantly and synergistically in patients with low RHI combined with low eGFR (OR: 4.629 95% CI: 1.592 to 13.458, p = 0.005).

CONCLUSIONS The co-existence of endothelial dysfunction and mild renal dysfunction synergistically increased the extent of LVH in hypertensive patients.

GW26-e3542 Morning Blood Pressure Surge is Associated with Serum Brain Natriuretic Peptide in Essential Hypertensive Patients
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OBJECTIVES The phenomenon that blood pressure rises sharply in the morning is called “Morning Blood Pressure Surge” (MBPS). It has been shown to better reflect cardiovascular risk than mean BP in hypertensive patients. This study investigated the correlation of brain natriuretic peptide (BNP) to MBPS in patients with essential hypertension.

METHODS We included 538 hypertensive patients who had ambulatory blood pressure monitoring at our hospital from 2012 to 2014. We examined MBPS and assessed the serum BNP level at the baseline.

RESULTS Mean MBPS was 14.0±10.8. MBPS was positively correlated with age (r = 0.34, P < 0.001), body mass index (r = 0.26, P = 0.012) and log-transformed BNP (r = 0.425, P < 0.001), daytime augmentation index adjusted for heart rate (r = 0.23, P = 0.012). From the 25th to 75th quartile of MBPS, log-transformed BNP increased significantly (F trend < 0.001). In multivariate linear regression analysis, MBPS was independently associated with age (P = 0.01), dipping status (P < 0.001) and logBNP (P < 0.001).

CONCLUSIONS MBPS was independently associated with serum BNP level in essential hypertensive patients.

GW26-e5380 Intervention treatment of intractable hypertension caused by the stenosis in an accessory renal artery: A Case presentation
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OBJECTIVES For renovascular hypertension, a main reason for intractable hypertension, renovascular intervention treatment by femoral artery is often performed clinically. However, reports on the accessory renal artery intervention treatment by brachial artery are uncommon.