CARDY-56

DAILY PULSE PRESSURE AND STATE OF TARGET ORGANS IN MEN WITH MODERATE HYPERTENSION

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BACKGROUND/AIMS: Pulse pressure (*PP*) has recently become an active area of discussion as an independent predictor of cardiovascular risk. The aim of the study was to evaluate the relationships between changes in the cardiovascular system and daily *PP* in men with moderate *AH*.

METHODS: Examination of 128 males (mean age 52,4±1,3, duration of *AH* 5,5±0,6years) included ultrasonographic studies of the heart [evaluation of *LV* myocardial mass index (*LVMMI)*], carotid artery intima-media complex (*IMC*) with detection of atherosclerotic plaques (*AP),* and assessment of endothelium-dependent vasodilatation (*EDVD*) of the brachial artery. Based on 24-hour blood pressure (*BP*) monitoring values, the patients were divided into two groups: patients (*n*=58) with normal daily *PP*< 53 mmHg (group 1) and patients (*n*=70) with increased daily *PP* >53 mmHg (group 2).

RESULTS: The groups were comparable in terms of age, duration of *AH*, and *BMI*. In group 2, *BP* variability and time index (78% vs 64% and 95% vs 77%, respectively), *LVMMI* (150.6±5.4 vs 137.6±5.1 g/m^2; $p<0.05$), and *IMC* thickness (1.1±0.03 vs 0.96±0.03 mm; $p<0,001$) were significantly increased and *EDVD* (6.2±0.3 vs 8.1±0.4%; $p<0.002$) reduced. Patients in group 2 had more frequent occurrence of *LV* hypertrophy (82% vs 73%), eccentric type (33% vs 23%), *AP* (14 vs 5), and 24-hour *BP* profile disorders (90% vs 65%) In group 2, *Non-Dippers* were 7 times more common than *Dippers* (70% vs 10%). In group 2, normal geometry (8% vs 15%) and *Dipper*-profile (10% vs 35%) were rare.

CONCLUSIONS: Thus, in men with moderate *AH*, increased daily *PP* is associated with more pronounced and frequent changes in target organs (*LV* hypertrophy, carotid artery affection-*IMC* thickening and *AP*, *EDVD* reduction). These disorders were associated with unfavorable changes in *BP* profile (increased variability and time index, reduced night decrease of *BP*). In patients with increased daily *PP*, the presence of significant target organ damage and circadian profile disorders probably predicts a higher risk of cardiovascular complications.

Keyword: Pulse Pressure, Arterial Hypertension, Target Organs