Morning rise in blood pressure according to ambulatory blood pressure monitoring in patients with hypertension and chronic heart failure

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Topic(s):
Hypertension - Other

Citation:
The morning rise in blood pressure occurs as a result of activation of neurohormonal systems and is associated with high risk of cardiovascular complications. Objective. Assess profile of the morning blood pressure data on ambulatory blood pressure monitoring (ABPM) in patients with arterial hypertension (AH) and chronic heart failure (CHF). Methods. 128 outpatients were included in the open, one-time study (35.9% M ? 64.1% F) aged 40 years and older. A general clinical examination, evaluation of the lipid profile, ECG, EchoCG, ABPM, ultrasound duplex scanning of the extracranial regions brachiocephalic arteries of the BCA. Prior to the study treatments, all patients provided written informed consent. The program used is Statistica 10. Results. AH was found in 120 (93,8%) patients (38,3% M/61,7% F) aged 40 to 83 (59,1±7,8) years. LVH according EchoCG was present in 53 (56,4%), thickening of intima-media complex of brachiocephalic artery – in 87 (92,6%), smoking - 21 (17.5%) patients. Co-morbidities were present in 96 (80%) patients: past myocardial infarction – in 5 (4,2%), diabetes mellitus – in 35 (29,2%), CHF – in 59 (49,2%) patients. The median age of patients with CHF was 59,1±9,7 years, without CHF (n=61, 50,8%) – 56,5±9,0 years. Average daily systolic blood pressure (SBP) was increased in 34 (57,7%) patients with CHF and in 26 (42,6%) – without CHF (p=0,145); diastolic blood pressure (DBP) - in 28 (47,5%) and in 23 (37,7%) patients, respectively (p=0,371), average nighttime SBP in 37 (62,7%) and in 20 (40, 9%) patients, respectively (p=0,002); average DBP - in 36 (61%) and in 25 (40,9%), (p=0,045), respectively. Insufficient reduction in SBP (non-diper) was in 21 (35,6%) patients with CHF and in 27 (44,3%) - without CHF, respectively; DBP – in 13 (22%) and in 14 (23%) patients, respectively. An overnight increase in SBP (night-picker) was observed in 9 (15,3%) patients with CHF and in 7 (11,5%) - without CHF; DBP – in 7 (11,9%) and in 6 (9 8%) patients, respectively. Morning SBP was 38±17 mm Hg in patients with CHF and 21±14 mm Hg - without CHF (p<0,001), DBP - 31±12 mm Hg and 18±10 mm Hg (p<0,001), respectively. CHF correlated with the value of SBP (r=0,15, p <0,001) and DBP morning rise (r=0,56, p <0,001), regardless of the values of the average daily BP. Morning SBP correlated with LDL cholesterol (r=0,24, p=0,034). Conclusion. The presence of heart failure is associated with an unfavorable profile of morning blood pressure, which can be considered as a target for therapeutic intervention in patients with hypertension and heart failure.