

ASSOCIATION BETWEEN LEFT VENTRICLE DIASTOLIC DYSFUNCTION AND NON-DIPPER BLOOD PRESSURE PATTERN IN ARTERIAL HYPERTENSION

S. J. Nisal Siddiarachchi, Arjuna P. Vitharana

Grodno state medical university

Научный руководитель: Smirnova L. N.

Introduction. Arterial hypertension (AH) constitutes one of the most common causes of left ventricle (LV) diastolic dysfunction (LVDD) which is a powerful predictor of cardiovascular events and heart failure (HF) [1]. A non-dipper blood pressure (BP) pattern is also a significant predictor of cardiovascular events, including sudden death, stroke, recurrence of hospitalization for HF and cognitive dysfunction [2].

Aim of the study. To study and analyze the circadian rhythm of BP in patients with AH depending on the presence of LVDD.

Materials and methods. 54 patients (25 men, 29 women) with AH of I-II degrees were examined. Average age – 60 [57.0; 63.0] years. Body mass index (BMI) was 29.7 [27.5; 32.9] kg/m² on average. Echo-CG was performed transthoracically using a high-end ultrasound device GE Vivid 7 Pro (USA). LVDD was diagnosed in accordance with the Russian clinical guidelines for chronic HF 2020 [3]. 24-hour Ambulatory Blood Pressure Monitoring (ABPM) was carried out using a Watch BP 03 device of Microlife on the non-dominant arm. Based on the decrease in mean night-time BP compared to mean daytime BP, patients are classified as dippers (>10% – 20%), non-dippers (>0% – 10%), reverse-dippers (≤0%), and extreme dippers (>20%) [4]. Statistical analysis of the obtained results was carried out using the Statistica 10.0 application package. At p<0.05, the differences were considered statistically significant.

Results and discussion. After echo-CG all patients were divided into two groups. The first group is patients with AH and LVDD (n=18), second group is patients AH without LVDD (n=36).

Analysis of ABPM indicators in patients with AH revealed the predominance of unfavorable types of daily profile of systolic BP (SBP) and diastolic BP (DBP) in patients with LVDD. Systolic dipping in groups 1 and 2 was 7.4 [1.6; 10.4] % and 12.9 [8.7; 15.3] %, respectively (p=0.005). Dippers constitute 22.2% out of patients with AH and LVDD while 58.3% out of hypertensive patients without LVDD (p=0.01). Non-dippers constitute 61.1% out of the first group while 30.6% out of second group (p=0.03). Extreme dippers (p>0.05) occurred with the same frequency in both groups (11.1%). Reverse-dippers (p>0.05) 5.6% out of the 18 patients had LVDD (n=1), reverse-dippers were absent in the group of patients without LVDD.

Diastolic dipping in groups 1 and 2 was 8.6 [3.7; 13.3] % and 16.6 [12.9; 21.8] %, respectively ($p=0.005$). Dippers constitute 22.2% out of the patients with AH and LVDD while 50.0% out of hypertensive patients without LVDD ($p=0.05$). Non-dippers constitute 61.1% out of first group while 19.4% out of second group ($p=0.002$). Extreme-dippers constitute 16.7% and 11.1% out of hypertensive patients with and without LVDD respectively ($p>0.05$). Reverse-dippers were absent in both groups.

Conclusion. The incidence of LVDD in patients with AH was 33.3%. In LVDD, insufficient nocturnal reduction in SBP and DBP is significantly more often detected.

ЛИТЕРАТУРА

1. The impact of diastolic dysfunction as a predictor of cardiovascular events: A systematic review and meta-analysis / R. Ladeiras-Lopes, M. Araújo, F. Sampaio [et al.] // Rev Port Cardiol (Engl Ed). – 2019. – Vol. 38, iss. 11. – P. 789–804.
2. Cappuccio F. P. The Role of Nocturnal Blood Pressure and Sleep Quality in Hypertension Management // Eur Cardiol. – 2020. – Vol. 15. – Art. № e60.
3. 2020 Clinical practice guidelines for Chronic heart failure / S. N. Tereshchenko, A. S. Galyavich, T. M. Uskach [et al.] // Russian Journal of Cardiology. – 2020. – Vol. 25, iss. 11. – P. 311–374.
4. Cheng Y., Li Y., Wang J. Ambulatory blood pressure monitoring for the management of hypertension // Chin Med J (Engl). – 2022. – Vol. 135, iss. 9. – P. 1027–1035.

ELECTROCARDIOGRAPHIC PARAMETERS ASSOCIATED WITH OBSTRUCTIVE CORONARY ATHEROSCLEROSIS IN PATIENTS WITH ISCHEMIC HEART DISEASE

S. Senuri Kethma Silva, H. A. Malsha Chathudyani Wilfred

Grodno state medical university

Научный руководитель: PhD in M Kalatsei L. V.

Introduction. Early diagnosis of coronary atherosclerosis is mainly based on risk stratification approaches, including medical history, physical examination, electrocardiograms and serum cardiac marker measurements and therefore the diagnosis requires a careful review of cardiac ischemia manifestations [1]. In patients with hemodynamically significant obstructive coronary atherosclerosis, myocardial ischemia is manifested not only by ST segment depression on ECGs, but also by parameters such as QT interval duration, $T_{(Peak-End)}$ interval duration and $T_{(Peak-End)}/QT$ ratio which are characteristic due to an increase in the instability of the state of cardiomyocytes in the phase of ventricular repolarization.