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INFLUENCE OF COMBINED ANTIHYPERTENSIVE AND HYPOLYPIDEMIC THERAPY ON HEMODYNAMICS INDICATORS PATIENTS WITH ARTERIAL HYPERTENSION

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Introduction. Hypertension is significantly contributing to global mortality and morbidity and has been identified as the most important modifiable risk factor for early development of cardiovascular diseases (CVD) (1-3). However, in recent years, great emphasis has been placed on the role of arterial stiffness in the development of CVD (4). Arterial stiffness has long been viewed as a consequence of long-standing hypertension, but recent studies suggest that it may actually contribute to the pathogenesis of hypertension (5). Reports show that over one billion people worldwide suffer from hypertension, while research data predicts that in 2025 the number of patients will increase by additional 560 million (3, 6). The latest epidemiological data from 2016 shows that the overall mortality rate due to CVD in Bosnia and Herzegovina is 47.2% (45.6% in Federation of Bosnia and Herzegovina and 49.5% in Republika Srpska) (7, 8). CVD was the seventh leading cause of death in Federation of Bosnia and Herzegovina in 2016 (7).

Ambulatory blood pressure measurement (ABPM) is increasingly being used in clinical practice, since it provides more accurate and noninvasive measurement of blood pressure (BP) and pulse wave velocity (PWV) (9). all 45 measures differed less than 15 mmHg, 43 and 33 out of 45 differed less than 10 and 5 mmHg. As for diastolic pressures even better scores were reached when the device passed the eHs score. In phase II, data were collected in an additional 18 individuals leaving a total of 33 individuals and 99 measures. The phase counts the achieved percentages of two or three measures per individual within 15, 10 and 5 mmHg limits. Systolic pressures exceeded the required 95, 80 and 65% for 15, 10 and 5 mmHg differences with values of 98, 94 and 71%, respectively. As again for diastolic pressure the values were even better, the device passed phase II also. Thus, all phases of the European society of Hypertension procedure were passed and the results of this study can recommend the use of the mobil-o-Graph new generation ambulatory blood pressure monitor device in clinical practice. This is particularly important since the European Society of Hypertension/European Society of Cardiology (ESH/ESC) guidelines for the management of arterial hypertension suggests that measuring pulse wave velocity (PWV) can be used as a golden standard method for assessing the arterial stiffness (5,10).

The aim of pharmacological treatment of hypertension is to achieve values of systolic blood pressure (SBP) <140 mmHg and diastolic blood pressure (DBP) <90 mmHg. There are five main drug groups used as the first-line drugs: diuretics, β-blockers, calcium antagonists, angiotensin-converting enzyme (ACE) inhibitors and angio-tensin-II receptor blockers (ARBs) (6, 11) peer-reviewed journals. ”The following is a brief statement of the 2003 European Society of Hypertension (ESH. Studies suggest that these antihypertensive drugs may also improve arterial stiffness to varying degree, since the improvements in PWV has become assessment indicators for the treatment of hypertension (12). This can essentially

contribute to reducing the risk of cardiovascular and renal complications as well as improvement of quality of life in patients with hypertension (4, 13, 14).

Purpose of the study. To compare the effect of two combination antihypertensive therapy using an angiotensin-converting enzyme inhibitor and a thiazide diuretic and in combination with statins on blood pressure (BP).

Material and methods. We examined 40 men aged 30–65 years, suffering from mild and moderate hypertension according to the WHO/WHO criteria (1999). The patients were divided into 4 groups comparable in age and other parameters.

The first group (n=22) received noliprel (perindopril 2 mg/ indapamide 0.625 mg) once in the morning, if the target blood pressure level was not achieved - noliprel forte (perindopril 4 mg/ indapamide 1.25 mg). The second group (n=22) received Enzix (enalapril 10 mg/ indapamide 2.5 mg) once in the morning; if ineffective, Enzix duo (enalapril 20 mg/ indapamide 2.5 mg) . The third group (n=22) received noliprel (perindopril 2 mg/ indapamide 0.625 mg) once in the morning, if the target blood pressure level is not achieved - noliprel forte (perindopril 4 mg/ indapamide 1.25 mg) in combination with atorvastatin at a starting dose of 10 mg/ day . The fourth group (n=22) received Enzix (enalapril 10 mg/ indapamide 2.5 mg) once in the morning; if ineffective, Enzix duo (enalapril 20 mg/ indapamide 2.5 mg) in combination with atorvastatin at a starting dose of 10 mg/ day day _

monitoring was performed with measurement of the vascular wall stiffness coefficient, and quality of life was assessed. In all groups, the condition of patients was assessed initially and at the end of the course of treatment.

Results. In group 1, over 8 weeks of treatment, blood pressure decreased from 155±25/93±8 to 128±0.10/79±0,5 мм Hg _ ($p<0.0001$). Heart rate significantly decreased from 75±0.8 to 71±0.6 beats/min ($p<0.001$).

In group 2, over 8 weeks of treatment, blood pressure decreased from 157±0.14/94±0.8 to 131±11/81±6 мм Hg _ ($p<0.001$). Heart rate significantly decreased from 75±0.4 to 72±0.2 beats/min. Over 8 weeks of treatment with noliprel / noliprel forte, it was possible to reduce SBP by 27% and DBP by 13%, which made it possible to achieve the target blood pressure level in 87% of patients.

In group 3, over 8 weeks of treatment, blood pressure decreased from 159±23/93±8 to 127±10/77±5 мм Hg _ ($p<0.0001$). Heart rate decreased from 74±0.7 to 69±0.5 beats/min ($p<0.001$).

In group 4, by the 8th week of treatment, blood pressure decreased from 160±14/95±8 to 129±11/81±6 мм Hg _ ($p<0.001$). Heart rate from 74±0.9 to 70±0.5 beats/min ($p<0.001$).

Conclusions. After 8 weeks of treatment, all 4 groups showed favorable changes in the parameters of 24-hour blood pressure monitoring in those receiving therapy combined with statins .

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