

# ANALYSIS OF ANTIHYPERTENSIVE DRUGS SPECTRUM USED IN THE DISTRICT HOSPITAL OF UZBEKISTAN

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Introduction. About 5% of the world population, and in the older age group to 25.5% suffer from various pathologies of the cardiovascular system. In Uzbekistan, the number of deaths from diseases of this group in 2015 amounted to 68.7% of all cases. Among these diseases most often recorded arterial hypertension, which is observed in 55-65% of patients visiting pharmacies suffering from cardiac disorders, and they have a major risk factor for typical complications. That in different periods of development of the disease presented with myocardial infarction, stroke, congestive heart failure and other significant complications.

Currently, for treatment of arterial hypertension using a plurality of drugs, including calcium antagonists, ACE inhibitors, angiotensin II blockers, diuretics and others. But the most important role in the treatment of arterial hypertension in combination with coronary heart disease, according to current international guidelines,  $\beta$ -blockers are playing (BB). It is worth emphasizing that in the last decade, the view of the place of this group of antihypertensive drugs in the treatment of various diseases are often changed. This is due primarily to the fact that the group of BB is heterogeneous. Various drugs differ in selectivity to  $\beta$ -adrenergic receptors, their physico-chemical properties and the additional qualities. Therefore, the findings obtained in the same preparation, can not be attributed to another. It is now well established itself in the treatment of arterial hypertension in combination with coronary heart disease applying of bisoprolol, carvedilol and nebivolol. This subgroup of BB has additional vasodilating properties, which have no side effects typical of earlier preparations of this group. Especially water-soluble and non-selective. In a number of cohort studies of representative groups of patients with chronic heart failure it was observed a significant difference not only in the level of overall mortality, but also showed a significant reduction in the frequency and severity of typical complications associated with arterial hypertension.

Mechanism of BB action is complex and consists of components such as a reduction in sympathetic activity, antioxidant and antiarrhythmic action. Effect on  $\beta$ -adrenergic receptors leads to significant reduction in sympathetic activity. And antioxidant and antiarrhythmic effect contributes to saving energy in the myocardium, which affects many patients in terms of the future.

Aim. The aim of the work was to determine the range of application of antihypertensive drugs in one of the district hospitals in Uzbekistan in 2018 and its compliance with current international recommendations. Particular attention was paid to the frequency of use of various preparations of beta-blockers and cases of irrational or inadequate it's use.

Materials and methods. A total of 136 medical records of patients with stage II – III of arterial hypertension and concomitant heart diseases (mainly ischemic heart disease) were analyzed retrospectively. Patients were hospitalized in the cardiology

department of the Bukhara regional diversified medical center in 2018. The study group included 61 men and 75 women aged from 44 to 69 years (mean age  $53 \pm 3.7$  years). Patients with the presence of significant concomitant systemic nature diseases (diabetes mellitus, rheumatic disease in its active phase, renal or hepatic failure, etc.) were excluded from the study. Similarly, culled from the study patients with myocardial infarction within the last 5 months.

Results and discussion. ACE inhibitors were used in 69 patients (50.7% of subjects). The most commonly prescribed lisinopril, then ramipril and enalapril. At the same time, ACE inhibitors are antihypertensive drugs of the first line and their use as part of complex therapy in the presence of contraindications only 11.4% our patients indicates an insufficient assessment of this group of medications. Relatively rare prescribed among ACE inhibitors medications ramipril (15.4%), and perindopril (7.7%), which have as additional evidence for improving the prognosis of patients with coronary artery disease.

In 95 patients used calcium channel antagonists (69.8% of cases). It should be noted that the frequency of use of this group of drugs, advantageously dihydropyridine structure in EU is 16 to 21%. At the same time half the non-dihydropyridine agents were used in our study. In addition, 7.4% of their destination is set not to use them according to the protocol of medical care for patients with chronic heart failure. In 25.3% patients had side effects.

In 24 patients used diuretics (mainly thiazide group) and usually in combination with ACE inhibitors (commonly INAP various dosages). According to the requirements of today's recommendations for medical care to patients with arterial hypertension, all patients should receive diuretics. However, despite the fact that contraindications to this group of drugs were found in only 4 (3.0%) patients, diuretics took only 44 persons (32.4%).

Beta-blockers were used only in 73 patients (54% our group). At the same time according to the requirements of the current international guidelines for patients with arterial hypertension and related coronary heart disease BB should be given to all such patients unless contraindicated. With the exclusion of patients with contraindications results (16 patients with bradycardia, atrioventricular blockage, hypotension and atherosclerosis obliterans lower extremity arteries), the overall frequency of use of BB was only 62%. In this case, 21.9% of the drug dose was not sufficient (at discharge heart rate was more than 65 beats / min), and 15% had an overdose (bradycardia below 55 beats / min). Furthermore, it was revealed 7 cases of inefficient application of fat soluble metoprolol in patients with sleep disorders (sleeping pills were the destination in a medication list). Metoprolol has the ability to penetrate the hemato-encephalic barrier.

Conclusions. The analysis made recommendations for the use of diverse groups of antihypertensive drugs (for the doctor and a pharmacist, and patient) and conclusions are drawn with respect to the most important points pharmaceutical care patient when taking BB. To enhance the efficiency of therapy in patients with cardiac profile must be strict compliance with the requirements of the protocols of medical care and a thorough analysis of pharmacotherapy, which makes it necessary to participate in the treatment process of the clinical pharmacist.