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**Analysis of the assortment of antihypertensive drugs in Morocco and their comparative pharmacological characteristics**

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**Introduction.** Cardiovascular diseases are the leading cause of death worldwide. Since 2000, the number of deaths from cardiovascular diseases has increased by more than 2 million and in 2019 reached almost 9 million. Arterial hypertension is the most common disease of the cardiovascular system. The renin-angiotensin-aldosterone system (RAAS) is one of the main regulators of vascular tone, water and electrolyte balance and blood pressure. It has been proven that the inhibition of RAAS activity by drugs that block the formation or action of angiotensin II causes a significant decrease in blood pressure in most patients with arterial hypertension. Drugs that inhibit the activity of the RAAS, namely angiotensin converting enzyme inhibitors (ACE inhibitors) and angiotensin II receptor antagonists (ARA II), are currently one of the most effective antihypertensive agents.

**Aim of the study.** To analyze the assortment of ACE inhibitors and ARA II in the pharmaceutical market of Morocco, compare their effectiveness and safety, and evaluate the possibilities of their combined use.

**Materials and methods.** We conducted an analysis of the pharmaceutical market of antihypertensive drugs in Morocco to determine the place of ACE inhibitors and ARA II in its structure. We have given a comparative pharmacological characteristics of ACE inhibitors and ARA II. Based on the data of evidence-based medicine, we found out the clinical efficacy and safety of ACE inhibitors and ARA.

We used marketing analysis methods, method of system approach and system analysis in our work. To analyze the clinical effectiveness and conditions of rational use of «АПФ» и АРА II, well-known databases were used: Cochrane Library, Trip Database, and PubMed. These databases contain systematized primary or secondary

information on a specific clinical issue: the effectiveness and safety of various medical technologies.

**Results.** Based on the results of the work, it was found that the pharmaceutical market of Morocco registered 11 international generic names of ACE inhibitors and 7 international generic names of ARA II. There are 44 brand names of ACE inhibitors and 80 brand names of ARA II on the Moroccan market. The ACE inhibitors market leaders are ramipril (13 trade names) and perindopril (12 trade names). Of ARA II, the most represented drugs are losartan (28 trade names) and irbesartan (26 trade names). It can be assumed that consumers prefer domestic drugs. Their range is 56.8% and 67.5%, respectively, of the total number of medicines of these groups on the market.

ACE inhibitors block the activity of one of the key enzymes of the RAAS, which contributes to the conversion of inactive angiotensin I into highly active angiotensin II. ACE inhibitors are well tolerated, as they do not have metabolic side effects compared to  $\beta$ -blockers and diuretics. However, it has been established that the formation of angiotensin II also occurs with the participation of other enzymes, which are not affected by ACE inhibitors. In this case, it is advisable to act directly on the angiotensin II receptors, blocking them.

Also, on the basis of evidence-based medicine data, a comparative characteristic of the efficacy and safety of these groups of drugs is given. From the point of view of evidence-based medicine, ACE inhibitors and ARAs do not have significant differences in the severity of the antihypertensive effect. The main distinguishing features of ARA II are high safety and a small number of side effects, comparable to placebo, due to the lack of influence on the breakdown of bradykinin. The absence of cough and a small number of allergic reactions are an absolute advantage of sartans compared to ACE inhibitors.

**Conclusions.** Today there is no unequivocal answer to the question about the absolute benefits of any of these groups of drugs. Each group has its own advantages and disadvantages. There is no doubt that ACE inhibitors and ARA II are currently one of the most effective and popular antihypertensive drugs.