

хронічних інфекцій сечового міхура та нирок, а саме, циститу та пієлонефриту, та профілактики сечокам'яної хвороби, можна дійти висновку, що цей засіб має широкі перспективи використання у хворих на хронічну хворобу нирок. Однак, це питання потребує подальшого вивчення та експериментального обґрунтування.

## **THE NOVEL APPROACHES IN THE MANAGEMENT OF ARTERIAL HYPERTENSION: ANALYSIS OF 2018 EUROPEAN CLINICAL PRACTICE GUIDELINES**

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**Introduction.** Arterial hypertension (AH) – an increase in blood pressure (BP)  $\geq 140/90$  mm Hg is one of the most common premorbid conditions that cause the development of serious and fatal diseases. Over 7% of deaths worldwide are directly related to hypertension, tobacco and high blood cholesterol. Also, AH increases the risk of stroke by 3-19% and heart failure (HF) – by 3%. Therefore, the continuous improvement of measures for the diagnosis, treatment and prevention of hypertension is of high importance. In 2018 ESH / ESC guidelines for the treatment of hypertension (ESC, 2018) has been updated and adopted providing a number of new guidelines for hypertension management.

**Aim.** The aim of our work was to conduct an analytical review of Practice guidelines for the management of AH of the European Society of Cardiology and the European Society of Hypertension compared to the previous guidelines and to summarize the key changes and new recommendations for the management of antihypertensive therapy.

In the new ESC/ESH recommendations, the thresholds for the diagnosis of hypertension have not changed, as before, the criterion of hypertension in office measurement is considered to be BP  $\geq 140/90$  mm Hg. However, the target BP levels for most patients were actually lowered. In the new version of the recommendations, the key positions related to the target BP include:

- the primary purpose of treatment is to reduce BP  $< 140/90$  mm Hg in all patients (I A);
- with good tolerability in most patients, a reduction in BP up to 130/80 mm Hg and below (I A) can be considered as a goal;
- diastolic BP target in all patients with hypertension, regardless of risk and comorbidities should be  $< 80$  mm Hg (IIa B)

The current concept of BP control might be formulated as follows: "Lower BP  $< 140/90$  mm Hg and with good tolerability  $< 130/80$  mm Hg but not lower than 120/70 mm Hg»

A recommendation for the possible treatment of patients with high normal BP (130-139/85-89 mm Hg) was first introduced in high-risk groups, especially in patients with coronary heart disease (CHD), approaching European recommendations to American ones, published in November 2017.

The risk stratification system has not fundamentally changed, however, additional risk factors have emerged that have been discussed before, but they are not formally included in the risk factors list: hyperuricemia, early menopause, psychosocial and socio-economic factors, heart rate  $> 80$  beats/min alone.

Prescribing only antihypertensive therapy of the patients that are at moderate and higher risk, as well as with existing cardiovascular diseases is no sufficient for appropriate risk reduction. These patients should receive statins that help to reduce further risk of myocardial infarction (MI) by 1/3 and the risk of stroke by 1/4, even when the target BP has been reached. At the same time, antiaggregant drugs (aspirin) in primary prevention are still not recommended.

The principles of pharmacotherapy have also undergone significant changes. Firstly, guidelines recommend starting with combination therapy of most patients. Monotherapy is only possible in patients

with not high BP and low risk, as well as the very elderly and attenuated patients. Secondly, it is worth noting that beta-blockers have been eliminated from first-line drugs in patients with uncomplicated hypertension. Meta-analysis showed that beta-blockers do not reduce overall mortality or risk of myocardial ischemia. Moreover, it has been reported that beta-blockers are inferior to other antihypertensive drugs in reducing the risk of strokes. Other evidences supporting this argument are as follows: meta-analyzes showing lower efficacy of beta-blockers in the prevention of cardiovascular complications in patients with hypertension; REACH observational study did not confirm the ability of beta-blockers to reduce the risk of death and cardiovascular complications in a large number of patients with CHD and CHD risk factors; meta-analysis by S. Bouri et al., which showed that beta-blockers do not reduce, but, on the contrary, increase perioperative mortality in non-cardiac operations; meta-analysis showing that efficacy of beta-blockers in patients with HF and atrial fibrillation is less pronounced, than in patients with sinus rhythm. For most patients, treatment should start with a combination of a reninangiotensin system inhibitor (angiotensin converting enzyme inhibitor or angiotensin receptor blockers) with a calcium antagonist and/or a diuretic. The prescription of beta-blockers can only be considered in the presence of special indications (HF, angina pectoris, MI, atrial fibrillation, pregnancy), as well as in resistant hypertension.

Also noteworthy is the better position of spironolactone, as a fourth-line drug in resistant hypertension, related to the results of the PATHWAY-2 study.

**Conclusions.** The analytical overview of the updated ESH/ESC Practice guidelines for the management of AH showed the increase of requirements towards the target blood levels and the priority of the combination therapy as a first-line antihypertensive treatment that include reninangiotensin system inhibitor (angiotensin converting enzyme inhibitor or angiotensin receptor blockers) with a calcium antagonist and / or a diuretic. Beta-blockers were shifted to the second-line antihypertensive therapy because of the range of long-term negative impact on mortality and overall cardio-vascular risk.

## **FEATURES OF THE MEDICINAL TREATMENT OF ARTERIAL HYPERTENSION IN PATIENTS WITH TYPE 2 DIABETES MELLITUS**

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**Introduction.** Type 2 diabetes mellitus (DM II) and arterial hypertension (AH) are currently competing for primacy among the causes of the earliest of all common diseases of mortality and disability. And the combination of these pathologies presents special problems about prevention and adequate treatment. The presence of diabetes affects a person in almost all organs and systems, determining the high number and various types of complications. It should be understood that the disease is only compensated, but not eliminated. And it is precisely the optimal compensation of metabolic disorders in this disease that is a key factor in the prevention of such complications. The number of patients with diabetes currently in the world has significantly exceeded 422 million people. And according to the results of many epidemiological studies, we can assume that this figure is significantly lower than the true one. Perhaps, as some researchers admit, at half. Moreover, in 2008 the number of such patients was 108 million. In Ukraine, the incidence of DM II for women 60–70 years old is 10–20%. And for the age category of 40-50 years - 3-5%.

It is widely known that AH occurs in patients with DM II about 2 times more often than in the general population. And hypertension has a significant impact on the fate of patients with DM II, increasing the risk of developing cardiovascular and renal complications, which are mentioned among the main causes of mortality. At the same time, its effective medicinal therapy for diabetes significantly reduces the development of all types of complications of this disease. But the practical use of antihypertensive