New clinical guidelines for management of patients with arterial hypertension and diabetes from ADA

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BP main goals, hypertension diagnosis and treatment were considered.

Background

Hypertension or high blood pressure is an important health problem, which is registered in a significant part of the population in developed countries. For example, according to the results of epidemiological studies its prevalence in Canada is established at 21.4% in the UK - 29.5%, in Greece - 16.9% and in China - 27.7% 1. The problem is extremely relevant for Ukraine where every 4th adult person has high blood pressure 2.

Hypertension is also one of the major causes of morbidity and mortality among people with type 2 diabetes. Active control of blood pressure in hypertension and diabetes can reduce the risk of retinopathy progression by 34%, mortality by 6-32% and stroke by 44% 3. These data demonstrate the importance of adequate treatment of hypertension for cardiovascular diseases prevention.

In September, the American Diabetes Association updated recommendations for the diagnosis and treatment of hypertension in patients with diabetes 4. As part of this work were considered the target levels for blood pressure, as well as lifestyle modification and rational pharmacotherapy.

Diagnosis and target blood pressure levels

According to the new guidelines measuring blood pressure should be a routine practice in the examination of patients with diabetes. If blood pressure ≥140 / 90 mm Hg, it requires additional proof from measures on another day and at home to exclude "white coat" hypertension. Also, physicians should be aware of "masked hypertension", when the pressure is normal at a visit, but is increased at home.

For most patients with diabetes and hypertension recommended target levels of systolic and diastolic blood pressure are below 140 and 90 mmHg, respectively. While in epidemiological studies were demonstrated an increased risk of cardiovascular diseases ranging from 115/75 mmHg, but the artificial blood pressure lowering below 120 mmHg with antihypertensive treatment did not demonstrated significant advantages in the context of myocardial infarction, stroke and cardiovascular deaths prevention.

Treatment

In case of increased systolic and/or diastolic arterial pressure for more than 120 and 80 mmHg, respectively, according to new guidelines patient should be recommended lifestyle changes, such as weight loss (if overweight or obese), increase in fruits and vegetables consumption and restrictions in alcohol and salt intake. Also aerobic physical activity should be encouraged.
When the blood pressure is \( \geq 140/90 \) mmHg, in addition to lifestyle changes, pharmacotherapy should be recommended with a gradual titration to reach the target blood pressure levels. If blood pressure reaches \( 160/100 \) mmHg, treatment with 2 antihypertensive agents should be considered. According to the guidelines all of widely used antihypertensive medications can be recommended for prescription, including ACE inhibitors, angiotensin receptor inhibitors 2, thiazide diuretics and calcium channel blockers. Often, achieving target blood pressure level requires a combination of drugs from different classes, but combination of ACE inhibitors and angiotensin receptor inhibitors 2 should be avoided (Fig. 1).

**Figure 1. Algorithm for antihypertensive treatment initiation in patients with diabetes (modyf. 4).** *ACEi - angiotensin-converting enzyme inhibitors, ARB - inhibitors of angiotensin 2, CCB - calcium channel blockers, TD - thiazide diuretics.*

In the case of resistant hypertension, when it is not possible to achieve target blood pressure levels with only 2 agents, addition of 3rd antihypertensive agent should be considered. If such therapy also proved to be ineffective, it is recommended to add mineralocorticoid receptor antagonist to the regimen.

### Comparison with other guidelines

According to the guidelines of the European Society of Cardiology, published in 2013, target levels of systolic and diastolic blood pressure should be < 140 and 85 mm Hg, respectively. Antihypertensive therapy should be started when the blood pressure is equal or above 140 mmHg.

For the treatment recommended all common classes of antihypertensive drugs, but preference should be given to ACE inhibitors and angiotensin receptor inhibitors 2, especially in the presence of proteinuria or microalbuminuria.

### References

1. Kearney PM, Whelton M, Reynolds K, Whelton PK, He J. Worldwide prevalence of...


