

2018 ESC/ESH CLINICAL PRACTICE GUIDELINES FOR THE MANAGEMENT OF ARTERIAL HYPERTENSION

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Keywords: blood pressure targets; cardiovascular risk; hypertension; lifestyle modification; treatment initiation

The 2018 ESC and ESH guidelines for the treatment of hypertension were presented at the ESH meeting in Barcelona in June 2018 and the final presentation with the publication of the full paper made at the ESC congress in Munich in August 2018.¹

PREVALENCE AND DEFINITION OF HYPERTENSION

Based on office BP, the global prevalence of hypertension was estimated to be 1.13 billion in 2015 (30% to 45% of adults worldwide), affecting over 150 million people in Central and Eastern Europe. The definition of hypertension was unchanged as compared with the version available in the 2013 guidelines, with office SBP ≥ 140 mmHg and/or DBP ≥ 90 mm Hg. The 2018 guidelines still categorize patients with an SBP/DBP of 130-139/85-89 mmHg as having high-normal blood pressure, and then grade 1, 2, and 3 hypertension and isolated systolic hypertension (SBP >140 mmHg). Definitions are still based on office blood pressure measurements, which is in contrast with the ACC/AHA guidelines that classify patients with an SBP/DBP of 130-139/85-89 mmHg as having grade 1 hypertension and then all the other patients as grade 2.

Regarding the diagnosis, in addition to office BP, out-of-office BP measurements (home and/or ambulatory BP measurements) should be used. There is now more evidence to suggest that doctors can diagnose hypertension based on home blood pressure measurements, which reduces the number of people with the diagnosis of white-coat hypertension who then receive unnecessary treatment.

TOTAL CARDIOVASCULAR RISK

There is an emphasis on the importance of total CV risk, as in the previous ESC/ESH guidelines, and not just on blood pressure level, because hypertension rarely occurs in isolation and often clusters with other CV risk factors, such as dyslipidemia and

glucose intolerance. In addition, it is now recommended to measure serum uric acid as part of the screening process of patients with hypertension. A unique and important aspect of CV risk estimation in patients with hypertension is the need to consider the impact of hypertension-mediated organ damage. This was previously termed “target-organ damage,” but hypertension-mediated organ damage more accurately describes hypertension-induced structural and/or functional changes in major organs (ie, the heart, brain, retina, kidney, and vasculature). Finally, quantification of total CV risk is an important part of the risk stratification process for patients with hypertension.

DRUG TREATMENT INITIATION AND BLOOD PRESSURE TARGETS

All guidelines recommend that patients with grade 2 or 3 hypertension receive antihypertensive drug treatment in addition to lifestyle interventions. The guidelines also recommend that patients with grade 1 hypertension and high CV risk or hypertension-mediated organ damage should be treated with BP-lowering drugs. However, it is not clear whether BP-lowering drugs should be offered to patients with grade 1 hypertension and low to moderate CV risk or older patients (>60 years) with grade 1 hypertension, nor is it clear whether patients with high-normal BP levels need BP-lowering drug treatment. However, based on the new data, the Task Force recommends that, in patients with grade 1 hypertension and a low to moderate CV risk, lifestyle advice should be accompanied by BP-lowering drug treatment.

Other new messages include recommendations for BP-lowering drug treatment in those with high-normal BP (ie, 130-139/85-89 mm Hg) when CV risk is very high and in those with grade I hypertension (ie, 140-159/90-99 mm Hg), including older patients (between 65 and 80 years old), in addition to lifestyle advice.

Treatment targets in all patients are recommended at or below 130/80 mm Hg, and, in patients <65 years old, a BP range of 120 to <130 mm Hg is advised. These guidelines pay more attention to hypertension in the elderly. Frailty and biological age rather than chronological age determine the tolerability and benefit of BP-lowering drugs. For patients >65 years old, the treatment target is ≥ 130 to <140 mm Hg. Targets should never be <120 mm Hg, as this could result in adverse effects.

Lifestyle recommendations

Healthy lifestyle choices can prevent or delay the onset of hypertension and can reduce CV risk. Effective lifestyle changes may be sufficient to delay or prevent the need for drug therapy in patients with grade 1 hypertension. The recommended lifestyle measures that have been shown to reduce blood pressure include:

- Restricting salt intake to less than 5 g/day.
- Limiting alcohol consumption to less than 14 units/week for men and less than 8 units/week for women.
- Increasing the consumption of vegetables.
- Controlling body weight.
- Performing regular aerobic exercise at least 30 min/day.
- Quitting smoking.

Drugs for the treatment of hypertension

Most patients will require drug therapy in addition to lifestyle measures to achieve optimal BP control. Since the release of the previous guidelines, different meta-analyses have been published. These meta-analyses have reported cause-specific differences on outcomes between some drugs (eg, less stroke prevention with β -blockers and less heart failure prevention with CCBs); however, overall, major CV outcomes and mortality were similar with treatment based on initial therapy, with all five major classes of treatment. Therefore, these guidelines recommend that the same five major classes of drugs should form the basis of antihypertensive therapy. However, as in previous guidelines, there are preferred and less preferred drugs based on BP level, risk factors, and subclinical and clinical organ damage.

Previous guidelines have generated a variety of different strategies to initiate and escalate BP-lowering medication to improve BP control rates. In previous guidelines, the emphasis was on the initial use of different monotherapies, increasing their dose, or substituting for another monotherapy. Despite this, BP control rates worldwide have remained poor, close to 35%. This failure to achieve BP control in most hypertensive patients, despite numerous interactions of previous guidelines, suggests that these treatment strategies are not working and that a different approach is needed. The Task Force believes that one of the most important issues is how to improve BP control in patients receiving treatment, which has become an even more pressing matter because, based on new evidence, current guidelines are recommending more stringent BP targets (on-treatment values of $\leq 130/80$ mm Hg in the general population and $\leq 140/90$ mm Hg in older hypertensive patients), which will make the achievement of BP control even more challenging.

The new guidelines recommend starting with a two-drug combination in most patients (high BP levels and/or high CV risk) as initial therapy to rapidly and effectively reduce BP, this is in contrast to the stepwise treatment in the previous

recommendations. As nonadherence plays a major role in poor BP control and increases with the number of pills, drug combinations of two or even three drugs in a single tablet “could transform blood pressure control rates.”

Now, based on the results of outcome RCTs and recent meta-analyses, all five major drug classes can be combined, except for ACE inhibitors and ARBs, whose concomitant use may lead to further BP reduction, but increased adverse effects and is thus discouraged. The guidelines recommend that the treatment of hypertension should be preferentially based on combinations of an ACE inhibitor or ARB with a CCB and/or a thiazide or a thiazide-like diuretic. These combinations are now widely available in a single pill and in a range of doses, facilitating treatment simplification from lower to higher doses, and they will limit potential adverse effects associated with diuretic or CCB monotherapy, reducing the risk of hypokalemia due to diuretics, and reducing the prevalence of peripheral edema due to CCBs. In addition, these combinations also ensure that the RAS is inhibited as part of the treatment strategy, which is an important consideration for many patient groups (eg, diabetes, metabolic syndrome, LVH, proteinuria, CHD, CHF).

Other combinations, such as a CCB and a diuretic, also have evidence from RCTs supporting their use. However, they are much less widely available and do not include RAS blockade, which may be desirable in many patient groups. β -Blockers in monotherapy or combination should be preferentially used when there is a specific clinical indication for their use (eg, CHD, angina, postmyocardial infarction, high heart rate, CHF along with ACE inhibitors or ARBs, etc). Previous studies have shown that some low- or moderate-risk patients with grade 1 hypertension may achieve their BP target with monotherapy, but this is unlikely in patients with an initial SBP >150 mm Hg who would require a BP reduction of ≥ 20 mm Hg. The new guidelines also suggest starting with a low-dose combination of two antihypertensive drugs, even in patients with grade 1 hypertension and a low to moderate CV risk.

For patients with resistant hypertension, they suggest reinforcement of lifestyle measures, especially sodium restriction, addition of low-dose spironolactone to existing triple treatment, or the addition of further diuretic therapy if intolerant to spironolactone, with either eplerenone, amiloride, a higher dose of the thiazide or thiazide-like diuretic, or a loop diuretic, or the addition of bisoprolol or doxazosin.

In patients with white-coat hypertension, it is recommended to implement lifestyle changes aimed at reducing CV risk. Drug treatment may be considered in people with evidence of hypertension-mediated organ damage or in whom the CV risk is high or very high.

Routine drug treatment is not indicated. In masked hypertension, lifestyle changes are recommended to reduce CV risk, with regular follow-ups, including periodic out-of-office BP monitoring. Antihypertensive drug treatment should be considered in masked hypertension to normalize the out-of-office BP, based on the prognostic importance of out-of-office BP elevation.

Finally, in contrast with the 2013 guidelines, device-based therapy for hypertension is no longer recommended, until further evidence regarding safety and efficacy becomes available. ■

REFERENCES

1. Williams B, Mancia G, Spiering W, et al. 2018 ESC/ESH guidelines for the management of arterial hypertension. *Eur Heart J*. 2018;00:1-98.