

# HIGHLIGHTS OF THE 2019 ESC CONGRESS IN ARTERIAL HYPERTENSION

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**Keywords:** arterial hypertension; blood pressure; dyslipidemia; guidelines

This article summarizes the highlights of the 2019 ESC congress in the field of arterial hypertension; it does not include research protocols or abstracts.

## INTRODUCTION

**A**rterial hypertension represents the leading risk factor for cardiovascular death worldwide,<sup>1</sup> and the burden of hypertension is expected to increase by up to 60% by 2025.<sup>2</sup> Thus, treatment and control of arterial hypertension is imperative, but also a challenge. Worldwide, 46.5% of adults with arterial hypertension are aware of their condition and 36.9% are treated with antihypertensive drugs, while only 13.8% have their blood pressure levels controlled.<sup>3</sup> Thus, despite the availability of effective therapies, blood pressure is poorly controlled. Low adherence to treatment represents one of the main factors contributing to this phenomenon. It is estimated that 30% of patients with arterial hypertension will discontinue their antihypertensive drug treatment within the first 6 months, while this percentage grows up to 50% within the first year.<sup>4</sup> In addition, 10% of the remaining patients who affirm to be adherent to treatment are not taking their medications every day.<sup>4</sup> Moreover, the vast majority of hypertensive patients also present with other risk factors and comorbidities, classifying them into a higher cardiovascular risk categories.<sup>5</sup> In these patients, the blood pressure target should be achieved in the shortest possible period since rapid blood pressure control translates into a prognostic benefit for these patients.<sup>6</sup> Simplifying the drug regimen by administering fixed-dose combinations has the potential to break the barrier of low adherence to treatment and to improve blood pressure reduction, while also decreasing drug-related side effects.<sup>6</sup> Current ESC/ESH guidelines for the management of arterial hypertension recommend starting with a dual combination in all hypertensive patients with blood pressure levels >150 mm Hg and <80 years of age in order to better control blood pressure levels and to improve adherence to treatment since the use of fixed-dose combinations can reduce the number of pills administered.<sup>6</sup>

## ACHIEVING THE BLOOD PRESSURE TARGETS

Today, fixed-dose combinations are used broadly, especially in patients with arterial hypertension in order to achieve blood pressure targets since they promptly and significantly decrease blood pressure levels. Unfortunately, monotherapy decreases blood pressure levels to a lesser degree, and patients on monotherapy have lower adherence to treatment and higher drop-out rates than those on combination therapy.<sup>7-9</sup> Patients usually require at least two drugs to control their blood pressure levels and patients on monotherapy are often discouraged for not achieving blood pressure targets, thus leading to treatment discontinuation.<sup>7-9</sup> In addition, side effects or adverse events are often dose dependent and patients on monotherapy are under the maximal recommended dose in an attempt to control their blood pressure levels, increasing their risk for a subsequent adverse event or side effect.

A further advantage of antihypertensive combination therapy is the potential for pharmacological synergy between different classes of agents, which may lead to a reduction in the incidence of side effects and provide a wider range of positive clinical effects than a single agent.<sup>10</sup> Current ESC/ESH guidelines for the management of arterial hypertension recommend starting with a dual combination in all hypertensive patients with blood pressure levels >150 mm Hg. This threshold was established in order to avoid significant hypotensive events resulting from dual combination therapy. We have to keep in mind, however, that the magnitude of blood pressure reduction with an antihypertensive drug usually depends on baseline blood pressure levels. The higher the blood pressure levels, the higher the decrease in blood pressure with antihypertensive drugs and vice versa. Thus, the incidence of hypotension is very low in the majority of studies with dual or triple antihypertensive drug combinations.<sup>7-9</sup> In addition, there are low-dose combinations with rapid antihypertensive effects that permit prompt achievement of the recommended blood pressure target, with good safety profiles when administered in patients with stage I arterial hypertension.<sup>6</sup>

Current ESC/ESH guidelines<sup>6</sup> recommend using the combination of a renin-angiotensin system inhibitor with a calcium channel blocker or a diuretic as a first-line treatment for the management of arterial hypertension. The combination of a renin-angiotensin system inhibitor with a calcium channel blocker represents one of the standard combinations that are used in everyday clinical practice. Several studies assessed the effect of the combination of low-dose perindopril and amlodipine, affirming that it is more effective in reducing blood pressure and, at the same time, safe, but with fewer adverse events than in monotherapy.<sup>11</sup> This prompt reduction is not only beneficial for high-risk patients with stage I arterial hypertension, but also for patients with lower cardiovascular risk.<sup>11</sup> Reducing blood pressure levels within a month of treatment would also help improve patient ad-

herence, possibly leading to additional long-term benefits, including a reduced risk of cardiovascular events.<sup>11</sup>

### **A COMBINED APPROACH TO TACKLING BOTH HYPERTENSION AND DYSLIPIDEMIA**

The vast majority of hypertensive patients also present with other risk factors and comorbidities, classifying them into a higher cardiovascular risk categories.<sup>5</sup> Hence, the assessment of the risk factors in a hypertensive patient is imperative in order to assess the total cardiovascular risk and to treat these risk factors, since, in this way, physicians may improve prognosis in these patients.<sup>6</sup> It is estimated that 55% of hypertensive patients also present with dyslipidemia and thus the addition of lipid-lowering drugs is often necessary.<sup>5</sup> The beneficial effect of statin administration in patients with or without previous cardiovascular events is well established. In the HOPE-3 trial, the addition of a statin in patients without cardiovascular disease reduced the incidence of cardiovascular events by up to 24%.<sup>12</sup> Of course, there is overwhelming evidence regarding the beneficial effect of statins in patients with higher cardiovascular risk.<sup>6</sup> Hence, often in addition to the antihypertensive drugs, physicians should also administer lipid-lowering drugs, such as statins. The beneficial effect of a combination treatment with an angiotensin-converting enzyme inhibitor, a calcium channel blocker, and atorvastatin was evaluated in the lipid-lowering arm of the ASCOT study.<sup>13</sup> In this study, there was a significant reduction in cardiovascular events, even with the addition of the lowest dosage (10 mg) of atorvastatin. The relative risk of fatal coronary heart disease and nonfatal myocardial infarction was decreased by 53% in the group receiving perindopril, amlodipine, and atorvastatin. In contrast, in the group receiving atenolol and/or bendroflumethiazide, the addition of atorvastatin failed to achieve a significant reduction in any of these end points.

As mentioned above, the combination of a renin-angiotensin system with a calcium channel blocker represents one of the standard combinations that are used in every day clinical practice and the presence of a fixed combination of perindopril, amlodipine, and atorvastatin is based on this concept. The use of this fixed combination improves blood pressure and lipid control not only because of the efficacy of its components, but also because it improves adherence to treatment. This triple combination simplifies the drug regimen allowing a once daily administration of the drug instead of two or three. In particular, hypertensive patients with dyslipidemia usually present with the poorest adherence to treatment, as a patient with poor adherence to antihypertensive therapy is also usually not adherent to the lipid-lowering therapy.<sup>14,15</sup>

## CONCLUSIONS

Despite the availability of effective therapies, both blood pressure and lipid profiles are poorly controlled. Low adherence to treatment represents one of the main factors contributing to this phenomenon. The administration of fixed-dose combinations that may also include lipid-lowering drugs has the potential to break the barrier of low adherence to treatment and to improve blood pressure and lipid reduction. ■

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