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Editorial comments

Thoughts on the European Society of Cardiology 2024 guidelines for the management of elevated blood pressure and hypertension

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1. Abbreviations

ACE	angiotensin-converting enzyme
ARA II	angiotensin II receptor antagonists
ESC	European Society of Cardiology
ESH	European Society of Hypertension

The European Society of Cardiology (ESC) published its latest recommendations on elevated blood pressure and hypertension in 2024 [1]. The main objective of the recommendations is to help practicing physicians to better manage their patients, and therefore improve the epidemiology of the pathology in question. Europe has poor health statistics for hypertension, and France is not an exception; therefore, any help in the management of this disease can only be beneficial for clinicians.

Recently, the pace of renewal of practice recommendations has accelerated. Regarding hypertension, since 2018 (the date of the previous ESC recommendations [2]), we have had the recommendations of the International Society of Hypertension in 2020 [3], the recommendations of the World Health Organization in 2021 [4] and the recommendations of the European Society of Hypertension (ESH) in 2023 [5], in addition to many national recommendations.

One may wonder whether new data that are truly disruptive in terms of hypertension emerge often enough to justify such frequently renewed recommendations. On the other hand, the epidemiological situation on hypertension in Europe is so concerning that it seems important to help to manage this disease, which remains the most common chronic disease in Europe (and in the world) and is responsible for a higher number of deaths than all other risk factors.

In the past, several groups of experts proposed recommendations that indisputably broke with previous ways of thinking. In 1997, American experts proposed changing the operational definition of the disease (i.e. one was no longer hypertensive from 160/95 mmHg, but from 140/90 mmHg) [6]. In 2017, the American recommendations wanted to go further, and proposed lowering the threshold to 130/80 mmHg, but with less success, as 140/90 mmHg remains the "official" threshold of arterial hypertension [7]. In 2003, the North American Joint National Committee VII opened the door, for the first time, to the initiation of antihypertensive treatment with dual therapy, particularly in patients with blood pressure > 160/100 mmHg [8]. In England, in 2011, the National Institute for Health and Care Excellence (NICE) recommendations proposed, for the first time, differentiating the initiation of monotherapy in the treatment of arterial hypertension according to the age and skin colour of the patient (we were then advised to initiate treatment with a calcium channel antagonist or a thiazide diuretic in patients aged > 55 years or with black skin) [9]. In 2013, then in 2016, the French Society of Arterial Hypertension, then the Haute Autorité de santé, proposed carrying out an information and announcement consultation in all patients with hypertension, in order to improve patient compliance [10]. In 2018 [2], modulation of the blood pressure target was proposed, according to the level of cardiovascular risk and co-morbidities; and in 2013 [10] and 2018 [2], an inferior limit was proposed for the systolic blood pressure goal (not < 130 or 120 mmHg, respectively).

The new 2024 recommendations of the ESC [1] also propose some relatively consensual elements, but also some innovations that deserve attention. The most novel of these is included in the title; the experts propose a new category of blood pressure, called "elevated blood pressure", which is defined as a systolic blood pressure between 120 and 139 mmHg and a diastolic blood pressure between 70 and 89 mmHg. Hypertension remains defined as a blood pressure in the doctor's office ≥ 140/90 mmHg. The management of this elevated blood pressure requires assessment of the overall cardiovascular risk by the Systematic Coronary Risk Evaluation 2 (SCORE 2) risk scale, to which must be added the cardiovascular risk modifiers. In these patients, if non-drug measures are insufficient to reduce blood pressure, initiation of antihypertensive drug treatment from 130/80 mmHg is proposed.

In terms of aetiological assessment and impact, there is not much that is new, except that experts suggest looking for primary hyperaldosteronism in all patients with hypertension. This diagnosis is indeed the most common in secondary arterial hypertension; nevertheless, does this justify looking for it systematically in all patients with hypertension, even without any warning signs? To date, there is no intervention trial showing that this systematic research (measuring the aldosterone/renin ratio) improves the prognosis or even control of patients with hypertension. Never-

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theless, these recommendations are class IIa, grade B according to European experts. Furthermore, given that < 5% of patients with primary hyperaldosteronism are diagnosed, it may be more effective to focus on patients presenting with suggestive signs of primary hyperaldosteronism (hypokalaemia, resistant hypertension, disproportionate hypertension-mediated organ damage, atrial fibrillation, etc.) rather than expanding screening to the entire hypertensive population.

Another element – this one therapeutic – corresponds to an innovation in the management of patients with hypertension. European experts recommend focusing more on the proven cardiovascular benefit of drugs than on their antihypertensive efficacy. In particular, it is proposed that certain classes that have demonstrated a cardiovascular benefit with a high level of proof (e.g. sodium-glucose cotransporter 2 [SGLT2] inhibitors) should be favoured. Still on the therapeutic side, compared with the ESC/ESH 2018 recommendations [2], the ESH 2023 recommendations proposed, in certain preferential indications, prescribing beta-blockers at the same priority level as other antihypertensive classes, i.e. possibly for initiation of treatment [5]. The experts who produced the ESC 2024 recommendations have returned to this "rehabilitation" of beta-blockers, and consider that their level of proof is lower than that of the other major classes (angiotensin-converting enzyme [ACE] inhibitors, angiotensin II receptor antagonists [ARA II], calcium channel antagonists and thiazides or thiazide-like diuretics). Beta-blockers can and should be prescribed early in cases of heart failure, postinfarction, need to slow down the heart rate (atrial fibrillation) or angina, but apart from these few preferential indications, they are fifth-line drugs, coming after the combination of ACE inhibitors or ARA II, calcium channel antagonists, thiazide or thiazide-like diuretics and spironolactone.

Regarding the initiation of treatment, the literature review conducted by the experts led them to conclude that, in the absence of a randomized controlled trial comparing the effects of monotherapy and dual therapy on cardiovascular morbidity and mortality outcomes in parallel groups, dual therapy as initial treatment could not be classified as a class I recommendation, but should be a class IIa recommendation. However, based on improvements in blood pressure control, adherence and cardiovascular prognosis – evidenced by observational studies, as well as the positive outcomes demonstrated by polypills, and in line with the 2018 recommendations – the experts ultimately issued a class I recommendation for dual therapy as initial treatment. In cases of insufficient effect, rather than increasing the dose of dual therapy, the next recommended step is to switch to triple therapy at low doses. Indeed, monotherapy is recommended for initiation in cases of elevated blood pressure, frailty, age > 85 years or orthostatic hypotension. Finally, although the recommendations now advocate starting pharmacological treatment earlier, depending on the level of cardiovascular risk, dietary measures and physical activity should be implemented first, and should always serve as a complement to pharmacological treatment.

The ESC guidelines emphasize blood pressure targets more strongly than previous recommendations. Very broadly, the proposal is to bring patients with hypertension back to a systolic blood pressure between 120 and 129 mmHg and a diastolic blood pressure between 70 and 79 mmHg, provided that the treatment is well tolerated. The existence of exceptions to this rule requires individualization of the therapeutic decision.

Following the publication of these recommendations, we projected this new classification of blood pressure values and these new blood pressure targets onto the French population, in order to quantify the changes. To do this, we used individual data from the participants in the Esteban study [11], which was an observational study carried out in 2015 on a representative sample of the French population. It had been shown that approximately 30% of the French population was hypertensive. Thus, with the previous recommendations, it could be considered that 70% of the population was normotensive, with high normal blood pressure for patients between 130 and 140 mmHg. The application of the new classification resulting from the ESC 2024 recommendations shows that if the proportion of patients with hypertension remains stable at 30%, the remaining 70% of the French population will now be divided into 50% with elevated blood pressure and only 20% with non-elevated blood pressure.

The application of the new blood pressure target to the Esteban hypertensive population would reduce the proportion of patients with hypertension who were screened, treated and controlled from 26.4% to only 2.5%. This very low figure must be interpreted with caution; in fact, the blood pressure target proposed in these new recommendations was not the "official" target when the Esteban study was carried out; it therefore only has an indicative value, showing the path that would have to be taken if we were to comply with this new blood pressure goal.

The scientific work conducted to develop these new recommendations is enormous, remarkable and of high quality, with the various proposals thoroughly detailed, discussed and justified. Only time will tell if the innovative proposals (in particular the classification of blood pressure measurements in the newly created "elevated blood pressure" group) and the blood pressure target (particularly ambitious in these recommendations) will form the basis of the next reflections on the management of hypertension, or if these innovations will be forgotten when writing the next recommendations.

In any case, despite the multiplication of recommendations, the epidemiological situation concerning hypertension is not improving, and is even worsening in certain subpopulations in some countries, such as women in France [12], and the most anticipated innovation should be the translation of good words and good ideas into good public health actions!

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