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Editorial

Recent published hypertension guidelines: A critical approach

Since 2012, doctors encountered a tsunami of new guidelines in the field of hypertension. > 8 guidelines have been published by different societies or groups, causing confusion not only among general practitioners, but also among experts. However, if we look into the literature, no new drugs for the treatment of blood pressure (BP) have been released and only a few randomized clinical trials have taken place, which leads to the conclusion that all the data being used in these guidelines are coming from these randomized clinical trials, post-hoc analyses of large outcome trials, registries, as well as meta-analyses clinical trials.

In this article, Angeli F and colleagues [1] assessed the similarities and differences among the most recent and popular hypertension guidelines; the ESC/ESH and the ACC/AHA [2,3]. In USA, within a short period of time both the ACC/AHA and the JNC-8 hypertension guidelines were published [4]. As a result, it is important to focus on both, since different groups of doctors in USA follow different guidelines. Around 30,000 cardiologists in USA follow the ACC/AHA guidelines with a BP target below 130/80 mmHg, however around 250,000 family practitioners and internists continue to follow the JNC-8 guidelines with a BP target below 150/90 mmHg, which is a completely different approach.

1. Definition

The ACC/AHA guidelines have proposed a new classification with normal, elevated, stage I and stage II hypertension, while in the ESC/ESH guidelines, BP classification remains unchanged from the previous one, with optimal, normal, high normal, grade 1, grade 2, and grade 3 hypertension. It seems that there is a gray area at 130–139/80–89 mmHg, regarding which the ACC/AHA calls stage I hypertension, while the ESC/ESH guidelines high normal BP. According to their statement, the rationale for this categorization in ACC/AHA guidelines is based on observational data related to the association between systolic/diastolic BP and cardiovascular risk (CVR). They state that an increasing number of individual studies and meta-analyses of observational data have reported a gradient of progressively higher CVR going from normal BP to elevated BP and stage 1 hypertension.

This ACC/AHA classification may create a couple of problems in daily practice;

1. Over one night, millions of people in USA and worldwide became hypertensives;
2. The prevalence of hypertension increased in all ages;
3. The number of uncontrolled hypertensives increased;
4. According to this classification a person with systolic BP 122 mmHg in USA has elevated BP, while according to JNC-8, in the same country, a person with systolic BP 122 mmHg has normal BP; and
5. People with BP above 140 mmHg have the same risk as those with 170 mmHg as both are in the same stage 2 hypertension.

Hence, a question arises; where is the evidence for such an approach? By labeling people as hypertensives in the area of high normal or below, we may cause anxiety and lead to overinflated hypertension treatment in low-risk younger people and especially in women, for whom evidence of treatment benefit is not yet established. Regarding the BP measurement, both guidelines propose a wider use of out-of-office BP measurement with 24-Hour Ambulatory BP measurement (ABPM) and/or home BP measurement (HBPM), but especially HBPM, as a way to confirm the diagnosis of hypertension and to detect white-coat and masked hypertension. However, office BP measurement will continue to be the gold standard of BP measurements. The ACC/AHA guidelines were mostly based on the results of the SPRINT trial [5], the measurements of which were unattended and about 10–15 mmHg lower than the office [6].

2. Treatment strategies

The ACC/AHA guidelines proposed initiation with combination treatment when BP is stage 2 or higher than 20/10 mmHg above their BP target. Initiation of antihypertensive treatment with single drug in adults with stage 1 and BP goal below 130/80 mmHg. The ESC/ESH guidelines mostly recommend initiation with a combination of two drugs, with the only exception being for those with BP close to their recommended target, or in the case of some frailer old or very old patients. Evidence suggests that this approach will improve the speed, efficiency and adherence. There is no difference in the selection of the drugs with the exception of β-blockers. According to the ESC/ESH guidelines, the main target is BP reduction and in this case, all five major classes of drugs should form the basis of antihypertensive therapy. However, since most patients need combination treatments in order to improve adherence and compliance, a combination of a renin-angiotensin system (RAS) plus calcium channel blocker (CCB's) or a RAS plus a diuretic are the preferred combination treatments.

3. Blood pressure targets

The ACC/AHA guidelines recommend lowering BP below 130/80 mmHg for all adults, even those with various comorbidities, who have confirmed hypertension and known cardiovascular disease or a high estimated risk. The ESC/ESH guidelines recommend a target BP below 130 mmHg for most adults younger than 65, but not lower than 120 mmHg the balance of benefit vs. harm becomes concerning at these levels of treated SBP [7]. According to G. Rose we must treat hypertension when management does more good than harm. The question

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is, does the new BP level proposed in the ACC/AHA guidelines fully satisfy the above criteria? The answer is probably not.

According to ACC/AHA guidelines, in all patients with diabetes and/or > 65 years of age and stage I hypertension should be offered drug treatment with a target BP below 130/80 mmHg. However, a reduction of BP below that level in older population is not supported by evidence and may cause harm in frail patients. Even in diabetic patients, there is a different approach by the American Diabetes Association, which proposes as a target below 140/90 mmHg [8].

Guidelines are updated regularly and we expect that the new guidelines will resolve these gray zones. However, it is often the case that this does not occur, perhaps because our expectations are too high or data are missing. Neuman MD et al. published an article looking into the durability of Class I recommendations in ACC/AHA guidelines. They found that 80% were retained in the subsequent guideline version, 9.2% were downgraded and 10,8% were omitted. Moreover, downgrades, reversals and omissions were most common among recommendations not supported by multiple randomized trials [9]. As a result, we need more SPRINT trials before lowering the BP targets in order to verify the balance of benefit vs. harm. At this moment, what we need is more effort in order to improve awareness, treatment and control of BP, as well as common guidelines all around the world in order to avoid confusion even among experts.

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Athanasios J. Manolis*, Manolis S. Kallistratos
Cardiology Department, Asklepeion Hospital, Athens, Greece
E-mail address: ajmanol@otenet.gr (A.J. Manolis).

* Corresponding author.