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EDITORIAL

New (2018) European (ESC/ESH) Hypertension Guidelines: What is New/ What is Different?

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Abstract

The changes introduced with the new (2018) compared with the previous (2013) European Hypertension Guidelines are herein highlighted together with some notable differences from current (2017) American Guidelines. ***Rhythmos 2018;13(4):71-74.***

Key Words: hypertension; guidelines; drug therapy; resistant hypertension

Abbreviations: BP = blood pressure; CV = cardiovascular; CVD = cardiovascular disease; HTN = hypertension

CHANGES IN RECOMMENDATIONS

Several changes, highlighted below, have been effected with the new (2018) European Society of Cardiology / European Society of Hypertension (ESC / ESH) Hypertension (HTN) guidelines [1] compared with the previous (2013) ones.[2]

Diagnosis

Previous recommendation of using office blood pressure (BP) for screening and diagnosis of HTN has been modified, but has remained *class I* recommendation. The new recommendation is to base the diagnosis of HTN on: • Repeated office BP measurements; or • Out-of-office BP measurement with ambulatory BP monitoring (ABPM) and/or home BP monitoring (HBPM) if logistically and economically feasible.

Treatment Thresholds

High-normal BP (130–139/85–89 mmHg). Previous (class III) recommendation indicating no initiation of antihypertensive drug therapy for high-normal BP has changed to *class IIb*: Drug treatment may be considered when cardiovascular (CV) risk is very high due to established CV disease (CVD), especially coronary artery disease (CAD). N.B.: The 2017 American (ACC/AHA) HTN Guidelines had also decreased the BP cutoff for treatment to >130/80 mmHg, suggesting that elevated BP should be treated earlier with lifestyle changes and in some patients with medication – at 130/80 mm Hg rather than 140/90 mmHg. [3]

Treatment of low-risk grade 1 HTN. Recommendation for treatment of low-risk grade 1 HTN

has changed from class IIa to *class I*: In patients with grade 1 HTN at low–moderate risk and without evidence of end-organ damage, BP-lowering drug treatment is recommended if the patient remains hypertensive after a period of lifestyle intervention.

Older patients. For older patients the recommendation also changed from class IIb to *class I*: BP-lowering drug treatment and lifestyle intervention is recommended in fit older patients (>65 years but not >80 years) when systolic BP (SBP) is in the grade 1 range (140–159 mmHg), provided that treatment is well tolerated.

BP Treatment Targets (Class I)

• It is recommended that the first objective of treatment should be to lower BP to <140/90 mmHg in all patients and, provided that the treatment is well tolerated, treated BP values should be targeted to ≤130/80 mmHg in most patients.
• In patients <65 years it is recommended that SBP should be lowered to a BP range of 120–129 mmHg in most patients.

BP treatment targets in older patients (65–80 years). In older patients (≥65 years), it is recommended that SBP should be targeted to a BP range of 130–139 mmHg (*class I*).

BP treatment targets in patients aged over 80 years. An SBP target range of 130–139 mmHg is recommended for people older than 80 years, if tolerated (*class I*).

Diastolic BP (DBP) targets. A DBP target of <80 mmHg should be considered for all hypertensive patients, independent of the level of risk and comorbidities (*class IIa*).

Initiation of Drug Treatment

It is recommended to initiate an antihypertensive treatment with a two-drug combination, preferably in a single pill combination (SPC) (now *class I*). The exceptions are frail older patients and those at low risk and with grade 1 HTN (particularly if SBP is <150 mmHg).

Resistant HTN

Recommended treatment of resistant HTN is the addition of low-dose spironolactone to existing treatment, or the addition of further diuretic therapy if intolerant to spironolactone, with either eplerenone, amiloride, higher-dose thiazide/thiazide-like diuretic or a loop diuretic, or the addition of bisoprolol or doxazosin (*class I*)

Device-Based Therapy for HTN

In case of ineffectiveness of drug treatment, invasive procedures such as renal denervation and baroreceptor stimulation, have been downgraded from class IIb to *class III*:
● Use of device-based therapies is not recommended for the routine treatment of HTN, unless in the context of clinical studies and randomized controlled trials (RCTs), until further evidence regarding their safety and efficacy becomes available (Grade III).

NEW SECTIONS

New sections and topics have been added:
● When to suspect and how to screen for the causes of ***secondary HTN***
● Management of ***HTN emergencies***
● Updated recommendations on the management of ***BP in acute stroke***
● Updated recommendations on the management of ***HTN in women and pregnancy***
● HTN in ***different ethnic groups***
● The ***effects of altitude*** on BP
● HTN and ***chronic obstructive pulmonary disease***
● HTN and ***AF and other arrhythmias***
● ***Oral anticoagulant*** use in HTN
● HTN and ***sexual dysfunction***
● HTN and ***cancer therapies***
● ***Perioperative management*** of HTN
● ***Glucose-lowering drugs*** and BP
● Updated recommendations on ***CV risk assessment and management***: (i) using the SCORE system to assess risk in patients without CVD; (ii) the importance of HTN-mediated organ damage (HMOD) in modifying CV risk; and (iii) the use of statins and aspirin for CVD prevention

NEW CONCEPTS

New concepts have been introduced:

BP measurement: • Wider use of out-of-office BP measurement with ambulatory BP monitoring (ABPM) and/or home BP monitoring (HBPM), especially HBPM, as an option to confirm the diagnosis of HTN, detect white-coat and masked HTN, and monitor BP control.

Less conservative treatment of BP in older and very old patients:

• Lower BP thresholds and treatment targets for older patients, with emphasis on considerations of biological rather than chronological age (i.e. the importance of frailty, independence, and the tolerability of treatment).

• Recommendation that treatment should never be denied or withdrawn on the basis of age, provided that treatment is tolerated.

A Single-Pill combination (SPC) treatment strategy to improve BP control:

• Preferred use of two-drug combination therapy for the initial treatment of most people with HTN

• A single-pill treatment strategy for HTN with the preferred use of SPC therapy for most patients

• Simplified drug treatment algorithms with the preferred use of an angiotensin converting enzyme (ACE) inhibitor or angiotensin-receptor blocker (ARB), combined with a calcium channel blocker (CCB) and/or a thiazide/thiazide-like diuretic, as the core treatment strategy for most patients, with beta-blockers used for specific indications

New target ranges for BP in treated patients:

• Target BP ranges for treated patients to better identify the recommended BP target and lower safety boundaries for treated BP, according to a patient's age and specific comorbidities.

Detecting poor adherence to drug therapy:

• A strong emphasis on the importance of evaluating treatment adherence as a major cause of poor BP control.

A key role for nurses and pharmacists in the longer-term management of HTN:

• The important role of nurses and pharmacists in the education, support, and follow-up of treated hypertensive patients is emphasized as part of the overall strategy to improve BP control.

COMPARISON WITH THE AMERICAN GUIDELINES

Some of the European recommendations[1] differ from those of the Americans[3] (https://www.tctmd.com/news/new-european-hypertension-guidelines-not-harmony-us-guidance). Two of the major changes, according to ESC chairperson Bryan Williams, are an emphasis on using at least two drugs to initiate treatment in the vast majority of patients and on using single-pill combinations to boost compliance, which will also improve BP control rates. The focus remains on 3 main categories of antihypertensive drugs for most patients: blockers of the renin-angiotensin system (ACE inhibitors/ARBs), CCBs, and diuretics. Algorithms are provided to help guide clinician choices.

Treatment thresholds and targets. With regards to the differences from the US guidelines, the Europeans have maintained traditional BP categories, with grade 1 HTN starting at an office BP of ≥140/90 mm Hg, whereas the Americans lowered the threshold for stage 1 HTN to 130/80 mm Hg. The US recommendation is to initiate drug treatment to lower BP in patients in the range of 130 to 139 mmHg range who have established CVD or an estimated 10-year risk of at least 10%. Most of the recommendations in the ESC/ESH guideline propose treatment starting at 140/90 mm Hg, though there may be people in the "high, high-normal" range who might get treatment if they have very high risk. "But that's got to be an individual decision and we don't think the evidence is very strong in support of it," Williams has stated (www.tctmd.com/news/new-european-hypertension-guidelines-not-harmony-us-guidance).

There is also a transatlantic difference regarding treatment goals; the Europeans have not adopted the target suggested by the SPRINT trial data[4] to lower BP to <130/80 mmHg as the Americans have, who recommend this aggressive target for all adults, even those with various comorbidities, who have confirmed HTN and known CVD or a high estimated risk.

The Europeans recommend target ranges, advising a systolic target of 120-130 mm Hg, but not lower, for most adults < 65. For adults >65, regardless of comorbidities, the treatment target range is the same as the one in younger patients with chronic kidney disease: <140 mm Hg, but not <130 mm Hg. For the European guidelines, the first priority for all patients is to lower systolic BP to < 140 mm Hg. It may be reasonable to aim for lower in younger patients who may tolerate these lower levels.

Diagnosis. The new ESC/ESH guideline introduce the strategy of out-of-office BP-monitoring as equivalent with repeated office-based measures for confirming a diagnosis of HTN, when screening has detected high BP.[1] They suggest that either home or ambulatory monitoring can be useful and occasionally may be preferred to repeated office measurements, e.g. for ruling out white coat HTN.

Life-style changes. The guidelines also continue to emphasize the importance of lifestyle changes of smoking cessation, reducing salt intake (to <5 g/d), moderating alcohol consumption, engaging with regular aerobic exercise, and controlling body weight. These measures may prevent or delay the onset of HTN and reduce CV risk; they may even suffice to delay or obviate the need for drug therapy in patients with high-normal BP (130-139/85-89 mmHg) or grade 1 HTN (140-159/90-99 mmHg). They can also enhance the effects of BP lowering therapy, but they should not delay the initiation of drug therapy in high-risk patients.

Device-based therapies. Another notable addition to the guidelines is a class III recommendation against using device-based therapies, apparently based on the results of

the SYMPLICITY HTN-3 trial.[5] Whether the new SPYRAL HTN-ON MED trial (NCT02439775) will revive the procedure remains to be seen; a preliminary analysis of the results of the first 80 of 467 patients enrolled into the study and randomly assigned to renal denervation (n=38) or sham control (n=42) indicated that renal denervation in the main renal arteries and branches significantly reduced BP compared with sham control with no major adverse events.[6]

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