
Paolo Verdecchia and Fabio Angeli

Dipartimento Malattie Cardiovascolari, Ospedale R. Silvestrini, Perugia, Italy.

The Seventh Report of the Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) has recently came to light in a short version. A complete version will soon be available. JNC 7 is the last attempt to bridge the big gap between the current availability of potent and well tolerated antihypertensive strategies and their poor implementation in the clinical practice. Some new and important features characterize the JNC 7 document. The aim of the new and challenging definition of «pre-hypertension» (BP 120-139/80-89 mmHg) is to sensitize the general population and health professionals to implement effective strategies for a healthier life in order to prevent hypertension and related cardiovascular disease as early as possible. Stage 3 hypertension has been deleted and merged with stage 2 (systolic ≥ 160 or diastolic ≥ 100 mmHg). BP levels to achieve with treatment («goals») are < 140/90 mmHg (< 130/80 mmHg in diabetics). To reach the goal, diuretics are recommended for initial treatment «in most subjects with stage 1 hypertension». However, combination of at least 2 drugs is recommended if initial BP is 20/10 mmHg higher than goal BP. Apart from the definition of pre-hypertension and the advice to begin therapy with diuretics in most patients with stage 1 hypertension, JNC 7 shares several positions with the hypertension guidelines recently released by the European Society of Cardiology and European Society of Hypertension. JNC 7 seems to dedicate limited space to stratify the level of cardiovascular risk in the individual subjects on the basis of the different combinations between BP levels and concomitant risk factors. In summary, JNC 7 is an updated and well equipped arsenal of formidable weapons against hypertension and its complications. The stage is now set for an hard task: their effective implementation in the clinical practice with the aim to decrease cardiovascular morbidity and mortality.


INTRODUCCIÓN


La séptima recomendación del Comité Nacional para la Prevención, Detección, Evaluación y Tratamiento de la Presión Arterial Alta (JNC 7), coordinado por el Instituto Nacional del Corazón, Pulmón y Bajo, ha recientemente sido publicada en una versión reducida y una versión más completa será publicada pronto.3 JNC 7 es un gran desafío, más de lo que parece a primera vista. Es esencialmente el último gran intento y esfuerzo para acercar el conocimiento de las potentes, bien probadas y toleradas estrategias antihipertensivas con su implementación pobre e insuficiente en la práctica clínica.

Se incluyen partes de la JNC 7 document son similares a anteriores JNC reportes. Sin embargo, algunos puntos críticos de la JNC 7 report merecen mención y crítica.

PRE-HYPERTENSION

Los sujetos de presión sistólica 120-139 mm Hg o diastólica 80-89 mm Hg (el Altísimo hace fe) ahora se llaman «hipertensibles» (Figura 1). Insensiblemente, un sujeto perfectamente saludable de 19 años con PA persistente 120/80 mm Hg no sería considerado «normal», pero «pre-hipertensivo». El concepto de «pre-hipertensión» claramente proviene de la evidencia sólida, bien establecida de una asociación lineal, graduada y continua entre PA y riesgo cardiovascular sin evidencia de un umbral a partir de valores de 115/75 mm Hg.4 También proviene de la evidencia de Framingham que un CA normal o alto (130-139 mm Hg sistólico o 85-89 mm Hg diastólica) está asociado con un mayor riesgo de enfermedad cardiovascular y hipertensión futura.5 En la mente de los expertos de JNC 7, la importancia del concepto subordinado a «hipertensión» está claramente orientada para sensibilizar a la población general y a los profesionales de la salud para implementar estrategias efectivas y sostenidas para un estilo de vida más saludable (enfrentamiento a la nicotina, prevención o tratamiento del sobrepeso, actividad física, etc.). En cambio, en la mente de los críticos, el concepto de «hipertensión» podría ser visto como una definición «nearly disease» incluso en sujetos completamente saludables, lo que generaría ansiedad, depresión y estrés, con posibles influencias en el entorno laboral y familiar.

La tabla 1 muestra la clasificación de la hipertensión según las recomendaciones de JNC 7 y las guías ESC/ESH.6

STAGES 1 AND 2 ONLY

La etapa 3 ha sido eliminada porque las estrategias terapéuticas en las etapas 2 y 3 son básicamente las mismas. Por lo tanto, todos los sujetos con presión arterial sistólica ≥160 mm Hg o diastólica ≥100 mm Hg ahora pertenecen a la etapa 2, que es la etapa más alta. Por contraste, las guías ESC/ESH mantienen la etapa 2 (sistolica 160-179 o diastólica 100-109 mm Hg) y la etapa 3 (sistolica ≥180 o diastólica ≥110 mm Hg).
ROLE OF SYSTOLIC BP

JNC 7 recognizes that systolic BP is more important than diastolic BP as a cardiovascular risk factor, except perhaps in younger subjects. Progressive stiffening of large arteries is believed to be an important basic mechanism of the rise progressive in systolic and decrease in diastolic BP after age 55, with consequent widening of pulse pressure (PP) with age. A wide PP may thus reflect already diseased arteries, with adverse prognostic implications. In cross-sectional studies, PP showed a strong direct association with carotid atherosclerosis, left ventricular mass and white matter lesions detected by magnetic resonance imaging. From a prognostic standpoint, an association has been noted in several studies between PP and risk of cardiovascular morbid events in different clinical settings and such association was independent of systolic and diastolic BP. Unfortunately, systolic BP control is more difficult to achieve than diastolic control, particularly in the elderly.

CARDIOVASCULAR RISK FACTORS

JNC 7 list several well established cardiovascular risk factors, which include also microalbuminuria or estimated glomerular filtration rate <60 ml/min. The statement is correct in view of the extensive evidence on the independent prognostic impact of microalbuminuria in patients with hypertension. However, at least in the short version published in JAMA, little effort seems devoted to define the level of cardiovascular risk in the individual subject (risk stratification) on the basis of the different combinations between BP levels and concomitant risk factors. In contrast, the ESC/ESH document defines 5 levels of risk (average risk, low-added risk, moderate added risk, high added risk and very high added risk) on the basis of such combinations. For example, subjects with stage I hypertension would be at low-added risk in the presence of no other risk factors, moderate added risk in the presence of 1-2 other risk factors, high added risk in the presence of 3 or more risk factors, diabetes or target organ damage, or very high added risk in case of associated clinical condition (prior stroke, TIA, coronary artery disease, peripheral vascular disease or retinopathy stage III or IV). As discussed below, implications for treatment seems to be scarcely dependent on concomitant risk factors (apart from the case of diabetes) and mostly oriented on BP levels.

WHO NEEDS ANTIHYPERTENSIVE DRUGS

Subjects «not at goal» with lifestyle modifications should begin drug treatment. Goal means <140/90 mm Hg, with the notable exception of <130/80 in diabetics. Fortunately, the ESC/ESH document endorses exactly the same goals. Of note, JNC 7 recommends drug treatment in non diabetic subjects with systolic BP ≥ 140 mm Hg or diastolic BP ≥ 90 mm Hg despite lifestyle modifications even in the complete absence of concomitant risk factors, as well as in the presence of only 1-2 risk factors. This sounds like a quite liberal approach to drug treatment. By contrast, the ESC/ESH document looks a bit more restrictive, by recommending drug treatment in subjects not at goal after at least 3 months of life-style measures in case of moderate added risk (1-2 risk factors in grade 1 hypertension, 0-2 risk factors in grade 2 hypertension), or not at goal after 3-12 months of life style measures in case of low risk (no risk factors in grade 1 hypertension).

WHICH DRUGS?

This is a crucial point. JNC 7 seems to be quite drastic on the surface, but a careful inspection of the entire document reveals flexibility. JNC 7 simply states that in subjects with stage I hypertension, thiazide diuretics should be used «as initial therapy for most patients with hypertension.» The rationale for such position comes from the low cost of diuretics and the evidence that «in most outcome trials including the recently published Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT), diuretics have been virtually unsurpassed in preventing the cardiovascular complications of hypertension.» Critics may argue that «unsurpassed» does not mean «superior» and that the ALLHAT trials has several methodological shortcomings. An important shortcoming of ALLHAT was the forced association, by protocol, of lisinopril with atenolol, instead of a diuretic or a dihydropiridine calcium-antagonist (the usual choice in the clinical practice), in subjects resistant to monotherapy. Such policy inevitably led to favor chlorthalidone (which could add atenolol in a pharmacologically appropriate combination) and to punish lisinopril.

At variance with JNC7, the ESC/ESH document considers diuretics, beta-blockers, ACE-inhibitors, calcium antagonists and angiotensin II blockers as suitable drugs for the initiation and maintenance of therapy. Such a position is based on the lack of evidence of a clear superiority of one single class versus another in the major outcome trials. Notably, the ESC/ESH document adds the statement (box 11) that the choice of drugs will be influenced by many factors including the «cost of drugs.» Thus, the acute physician may interpret such a position (lack of superiority of one class versus another and cost of drug to be taken into account) as very similar, in its essential substance, to that expressed by the JNC 7 document in support of diuretics as first line agents.

Beyond the points of pre-hypertension and initial therapy with diuretics, JNC 7 and ESC/ESH show an
apparent agreement over several points. Both recognize that combinations between two or more drugs are needed to normalize blood pressure in many patients. Here, JNC 7 introduces objective criteria by stating that if pre-treatment BP is >20/10 mm Hg above the goal, consideration should be given to begin treatment with 2 agents. Thus, JNC 7 clearly suggests that in all non-diabetic subjects with BP>160 mm Hg systolic or 100 mm Hg diastolic (as well as in diabetics with BP>150 mm Hg systolic or 90 mm Hg diastolic) treatment should begin with 2 drugs.

Another important area of substantial agreement between the JNC 7 and ESC/ESH guidelines regards the preferential indication for specific drugs even for initial therapy. As shown in figure 2, the «compelling indications» for specific antihypertensive drug mentioned by JNC 7 are not substantially dissimilar from the «conditions favoring the use» of specific drugs mentioned in the ESC/ESH document.

From a purely scientific, and not diplomatic, perspective, it is encouraging to realize that most positions on the diagnosis and treatment of patients with hypertension are not substantially different on the two sides of the ocean.

In conclusion, JNC 7 is an updated and well equipped arsenal of formidable weapons against hypertension and its complications. The stage is now set for a hard task: their effective implementation in the clinical practice.

REFERENCES