

AMERICAN HEART ASSOCIATION: MEETING HIGHLIGHTS

The Sixth Report of the Joint National Committee on the Detection, Evaluation, and Treatment of High Blood Pressure

Based on presentations by Sheldon G. Sheps, MD, FCC; Henry R. Black, MD; Jerome D. Cohen, MD; Norman Kaplan, MD; and Keith C. Ferdinand, MD

Presentation Summary

There has been a significant slowing in the previously remarkable decline in stroke and coronary heart disease deaths, whereas the incidence of heart failure and end-stage renal diseases continues to increase. Uncontrolled hypertension is a common denominator of these diseases. A reduction in hypertension awareness and knowledge of the need for treatment among the US population is thought to be partly to blame.

The Joint National Committee on the Detection, Evaluation, and Treatment of High Blood Pressure (JNC) convened to address this problem, and the resultant report included guidelines that hopefully

will help physicians better manage their hypertensive patients.

The new recommendations place much greater emphasis on detecting overall cardiovascular risks and target organ diseases than the previous committee guidelines. For the first time, recommendations are made, including one that says combination treatment for hypertension may provide additional efficacy while it reduces the incidence of adverse effects.

It should be noted that the full report is a concise document that provides guidelines for hundreds of hypertension-related patient scenarios. The highlights and major deviations from previous reports are presented in this Special Report.

The JNC is composed of representatives from the medical, nursing, pharmaceutical, nutrition, and public health fields. Its members reviewed all literature published since January 1992 to identify the most appropriate treatment strategies for specific patients, including those who constitute special populations. The full report of the JNC-VI was released in the fall of 1997.^{1,2}

“Disturbing new data reveals a slowing in the previously remarkable decline in age-adjusted death from stroke and coronary disease, as well as a continuing increase in heart failure and end-stage renal disease,” according to Sheldon G. Sheps, MD, emeritus professor of medicine, Mayo Clinic, Rochester, Minnesota.¹

“These are diseases for which uncontrolled hypertension is a common

theme. The number of hypertensives who are aware of this condition and are undergoing treatment has not seen an increase in this decade," Dr. Sheps said, noting that nearly three-fourths of hypertensives do not have the recommended blood pressure of 140/90 mmHg or lower.³ This indicates a need for action and a renewal of our efforts to control hypertension."

In response to this crisis, the JNC-VI recommendations involve more aggressive control strategies than the JNC-V recommendations. They base treatment plans on the patient's degree of hypertension and specific medical profile in an effort to reduce the number of questions physicians may have about management.¹

JNC-VI as Clinical Policy

"Because only about 27% of the hypertensives in the United States are currently controlled, the goal of the JNC-VI report is to increase this control rate to at least 50%," said Henry R. Black, MD, chairman of the department of preventive medicine, Rush-Presbyterian-St. Luke's Medical Center, Chicago, Illinois. It is hoped that the guidelines will become familiar to primary care physicians, who are most often responsible for initiating treatment of hypertension for those who need it and for following hypertensive patients who have no complications.

Dr. Black explained that to initiate the process, the recommendations spell out specific laboratory tests to be routinely used for patients in various risk categories. They also emphasize the correct method and timing of blood pressure measurement. Patient self-monitoring is stressed as well.

Some of the primary areas of emphasis in the JNC-VI report have shifted since the JNC-V report was released, and Dr. Black urged that these changes be widely disseminated among practicing physicians. If these areas of emphasis become clinical practice, it is likely that hypertension control rates will increase in the years to come, Dr. Black

said, "but this will only occur if there is population-wide adoption of the treatment guidelines."

Among the areas of emphasis is the need for physicians to take a much more aggressive stance on the patient's diet and lifestyle modification efforts, particularly if he or she has few risk factors. However, physicians should remember that if lifestyle modification alone has not lowered blood pressure to 140/90 mmHg or lower within 1 year, it is unlikely to produce the desired change, so drug therapy should be considered. In addition, for patients who have one or more risk factors, lifestyle modification should be tried for only 6 months before instituting drug therapy. Lifestyle modification alone is never recommended for patients with initial pressures of more than 160/100 mmHg or for those with diabetes, target organ damage, or cardiovascular disease, regardless of their initial blood pressure, Dr. Black said.

Another change of focus in the JNC-VI report involves paying special attention to patients with isolated systolic blood pressure elevations. "It is no longer appropriate to consider elevated systolic pressures to be normal because of age," Dr. Black said.

The JNC-VI report also emphasizes treatment for those who have systolic pressures of 140 mmHg to 159 mmHg, who perhaps comprise the largest untreated group. "The risks for these patients are enormous, but they are essentially being ignored," Dr. Black observed. More attention must also be paid to patients with high normal pressures, especially when there are other cardiovascular risk factors, because it is among this group that most adverse events occur.

Finally, the differences seen between certain populations, such as African-Americans and those living in the stroke-prone Southeast in terms of hypertension control should be addressed, and the guidelines should be used to help end treatment disparities, Dr. Black said.

Risk Stratification

Hypertensive patients are classified as being in one of four stages. The first stage includes patients with a high normal blood pressure, which is defined as a systolic pressure between 130 and 139 mmHg and/or a diastolic pressure between 85 and 89 mmHg. In stage 2 patients, systolic pressures range from 140 to 159 mmHg and diastolic pressure from 90 to 99 mmHg. Patients in stage 3 have systolic readings from 160 to 179 mmHg and diastolic readings from 100 to 109 mmHg. Stage 4 includes patients with a blood pressure greater than 180/110 mmHg.

A major new dimension in the JNC-VI report is the risk stratification of hypertensives, which takes into account the presence or absence of other cardiovascular risk factors and the presence or absence of clinical or subclinical coronary artery disease.

The risk factors in the JNC-VI report include smoking, dyslipidemia, diabetes, older age, male gender, postmenopausal status in women, and a family history of cardiovascular disease, said Jerome D. Cohen, MD, professor of internal medicine and director of preventive cardiology programs, St. Louis University, Missouri. Other factors are evidence for existing ischemic or hypertensive heart disease including left ventricular hypertrophy, the presence of cerebrovascular disease, including stroke or transient ischemic attacks, retinopathy, nephropathy, and peripheral arterial disease.

The JNC now puts patients in one of three risk categories, based on their history, physical examination, and laboratory tests. Risk group A includes patients without target organ disease or clinical cardiovascular disease and no risk factors for cardiovascular disease. Risk group B patients have at least one risk factor, but no diabetes, target organ disease, or clinical cardiovascular disease. Risk group C includes patients who have target organ disease, and clinical cardiovascular disease and/or diabetes, with or without other risk factors.

“Regardless of the presence or absence of other risk factors, all diabetic hypertensives are now classified in the highest risk group,” Dr. Cohen explained. “Those with stage 2 or 3 hypertension and those in the highest risk group, regardless of blood pressure, are targeted for immediate drug therapy. Drug therapy should also be considered for those who have blood pressures in the high normal category if there is coexisting heart failure, renal insufficiency, or diabetes (Table 1).” Lifestyle modifications become adjunctive therapy when drugs are used.

In general, physicians should cross-index the patient’s blood pressure stage with his or her risk group rating to determine the appropriate initial management steps.

Drug Therapy

It is important to remember that any treatment of existing hypertension is inadequate unless it is maintaining the

Table 1. Risks Associated with Blood Pressure Stages

Blood Pressure Stage	Risk Group A	Risk Group B	Risk Group C
High Normal (130-139/85-89)	Lifestyle modification	Lifestyle modification	Drug therapy
Stage 1 (140-159/90-99)	12 months lifestyle modification	6 months lifestyle modification	Drug therapy
Stage 2 (160-179/100-109)	Drug therapy	Drug therapy	Drug therapy
Stage 3 (180/110 and higher)	Drug therapy	Drug therapy	Drug therapy

patient at a target blood pressure, which for most patients without complications is 140/90 mmHg, according to Norman Kaplan, MD, chairman of the section on therapy of the JNC-VI and professor of internal medicine, University of Texas Southwest Medical Center, Dallas, Texas. Dr. Kaplan explained that, "We are now recommending three pathways to the initial choice of drug. For the usual patient with ordinary hypertension and no complications, we recommend diuretics and beta-blockers as the initial choice, unless there are compelling indications for the use of a different drug."

However, beta-blockers as monotherapy are not recommended for use with elderly patients, according to Dr. Kaplan. "Diuretics are preferred for use in older people who have isolated systolic hypertension, because data from many large trials show that they significantly reduce multiple endpoint events," he said.

"But the JNC-VI report also recognizes the many studies that have been published in the last few years on four other specific conditions where we think there is a compelling indication for certain types of drugs," Dr. Kaplan said. "These are the drugs that must be used in these patients unless there is an overwhelming contraindication."

The first two of the four patient groups are diabetics and those with heart failure; diuretics and ACE inhibitors are recommended for both. Dr. Kaplan noted that diabetics should be treated to achieve a target blood pressure of less than 130/85 mmHg because of the magnitude of complications associated with diabetes and hypertension. A third group includes patients with kidney failure and proteinuria, who should be treated to attain a target blood pressure of 125/75 mmHg. For these patients, ACE inhibitors also are preferred because they have a better renoprotective effect than other antihypertensive agents.

For all these special groups, an angiotensin II receptor blocker may be considered but only when an ACE in-

hibitor is contraindicated or cannot be tolerated by the patient, according to the guidelines of the JNC-VI report. "Equal weight was not given to this new class of agents because of a lack of evidence of equal benefit to date," Dr. Kaplan explained.

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— Norman Kaplan, MD

The fourth special group includes elderly patients with isolated systolic hypertension, for whom long-acting dihydropyridine calcium antagonists are an appropriate alternative based on the Systolic Hypertension in the Elderly Program trial and more recently the Systolic Hypertension in Europe (SYST-EUR) trial, which showed a 42% reduction in stroke.^{5,6} "Although this trial used nitrendipine, which is not available in the United States, similar agents are available here and are just as effective," Dr. Kaplan said. "We made the assumption, based on SYST-EUR, that the long-acting dihydropyridines we have available are just as good."

The JNC-VI report also addressed numerous other special situations. For example, alpha-blockers may be a better choice for older hypertensive men with prostatism, beta-blockers are specified for post-myocardial infarction patients, and those with systolic dysfunction should receive ACE inhibitors.

Other Highlights

In each case of hypertension, long-acting, once daily drugs that provide 24-hour efficacy are optimal, Dr. Kaplan

said. The JNC-VI report also recognizes that low-dose, fixed combinations of two agents from different drug classes have shown added antihypertensive efficacy and may minimize the likelihood of dose-dependent adverse effects.

Dr. Ferdinand emphasized that the JNC-VI recommendations should be consulted when treating special patients, especially African-Americans who have a higher incidence of hypertension and related complications.

Other special populations addressed in the JNC-VI report include hypertensive adolescents, pregnant women, women who use oral contraceptives, and older women. "It should be noted that high blood pressure is not a contraindication to hormone replacement therapy, but after hormone replacement is started in hypertensive patients, blood pressure should be monitored more frequently," Dr. Ferdinand said, adding that the report covers almost all of the imaginable concomitant conditions, ranging from cerebral vascular disease and heart disease to surgical patients and cocaine abusers. In many of these special cases, the report suggests a very thorough investigation of the possible cause of hypertension to address any underlying problems.

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