The JNC-7 Guidelines and the Optimal Target for Systolic Blood Pressure

To the Editor:

The JNC-7 guidelines suggested that diastolic blood pressure (DBP) should not be aggressively lowered below 55 to 60 mm Hg because of possible increase in cardiovascular events associated with lower values (pages 1222 and 1229 of the report). This conclusion was mainly derived from results of the Systolic Hypertension in the Elderly Program (SHEP). However, the committee did not provide similar cutoffs for systolic blood pressure (SBP). In that respect, we are concerned about the experts' statement that no increase in coronary events (or J-shaped relationship) has been observed with excessive lowering of SBP (page 1222). Indeed, analysis of 7 randomized trials, including the SHEP, suggested that there may be increased risk of cardiovascular and all-cause mortality with lower levels of DBP as well as SBP. While the JNC-7 defined a clear goal for control of SBP (<140 mm Hg, and <130 mm Hg in patients with diabetes and chronic kidney disease), the extent to which SBP must be lowered was not addressed. Thus, apart from patients with heart failure in whom lowering of SBP <100 mm Hg may be desirable as the committee recommended, it still remains unclear to us what is the optimum and safest lower limit of SBP in other patients' groups (eg, diabetes, history of coronary artery disease, uncomplicated hypertension, etc). It will be very useful if the JNC-7 experts clarify this issue in order to know how aggressive clinicians should be in lowering the SBP in various settings.

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Response

INDANA concluded, “The increased risk for events observed in patients with low blood pressure was not related to antihypertensive treatment and was not specific to blood pressure related events. Poor health conditions leading to low blood pressure and an increased risk for death probably explain the J-shaped curve.”

While virtually all, large scale, well conducted randomized clinical trials (RCTs) of systolic blood pressure (SBP) lowering demonstrate substantial SBP reductions can be achieved and are beneficial, most rarely obtain the SBP goal levels far below 140 mm Hg. When the evidence from RCTs regarding lowering BP substantially below the goal of 140 mm Hg is obtained, the committee will reconsider its recommendation. In the meantime, clinicians have a formidable challenge in attempting to reach the <140 mm Hg SBP goal.

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