Expert Interview

The Evolving Definition and Classification of Hypertension: An Expert Interview With John B. Kostis, MD

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Editor’s Note:
John B. Kostis, MD, is John G. Detwiler Professor of Cardiology, Professor of Medicine and Pharmacology, and Chair of the Department of Medicine at UMDNJ-Robert Wood Johnson Medical School in New Brunswick, New Jersey. In addition to maintaining a clinical practice, Dr. Kostis conducts cardiovascular research and teaches at the undergraduate, graduate, and postgraduate levels. His research focuses on cardiovascular pharmacology, clinical trials, and biomedical engineering. Dr. Kostis has been involved in a number of major clinical trials, many as a principal investigator, including Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT),[1] the Systolic Hypertension in the Elderly Program (SHEP),[2] the Trial of Nonpharmacologic Interventions in the Elderly (TONE),[3] the Studies of Left Ventricular Dysfunction (SOLVD),[4] and the Omapatrilat Cardiovascular Treatment Assessment Versus Enalapril (OCTAVE)[5] trial.

Dr. Kostis serves on the Board of Directors of the Robert Wood Johnson University Hospital, the Board of the Educational Commission for Foreign Medical Graduates, the Executive Council of the American Society of Hypertension (ASH) (Treasurer), and is President-Elect of the Northeast Lipid Association.

He is also a member of the Hypertension Writing Group, a collaboration of leading experts that has proposed for a new classification and definition of hypertension for consideration by the Society in general. This classification/definition was first unveiled by ASH President, Thomas Giles, MD (Louisiana State University School of Medicine, New Orleans), at the recent 20th Annual Scientific Meeting of the American Society of Hypertension in San Francisco,[6] and at the time of this interview it was scheduled for publication in the Journal of Clinical Hypertension.[7]

Medscape: The proposal for a new classification/definition of hypertension devised by the Writing Group will be published shortly. Why, after the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7)[8] and other recently published international guidelines[9] and guidelines for special groups,[10,11] did the group feel that a new definition/classification was needed in the United States?

Dr. Kostis: Let me first clarify that this proposal is not an official position of ASH. It is a document prepared by a group of members of ASH appointed by the President of the society, Dr. Giles. It has not yet been discussed or debated in general by ASH or by the ASH board. The proposal still has to be put before the membership of ASH for vetting or validation.

Medscape: So discussion by ASH members will follow the publication?

Dr. Kostis: There has been continuing discussion both in writing and orally. This document is a work in progress rather than a final document that proposes ways of treating hypertension, such as JNC 7 or the European hypertension guidelines.[12]
Medscape: Does the new document also cover management or treatment?

Dr. Kostis: There is nothing at all about specific treatments. Therefore, this document does not substitute for any of the other guidelines.

Medscape: As a member of the Writing Group, you obviously agreed that it was necessary to produce a new definition/classification of hypertension. Why did you personally think it was necessary?

Dr. Kostis: I have been thinking about this for several years now, and I was coauthor of 2 papers proposing that looking at hypertension in isolation is not as useful as looking at it in the context of all other cardiovascular risk factors.[13,14] In my view, the new definition/classification is one step in that direction. One reason is that people with blood pressure slightly above normal or even normal who have many other risk factors should be treated, although some of the current guidelines do not recommend that. More importantly, from my personal point of view, is the issue that we have too many guidelines for each individual patient. For example, a 60-year-old man with a blood glucose of 135 mg/dL, LDL cholesterol of 135 mg/dL, and systolic blood pressure of 135 mmHg needs to be treated according to the hypertension guidelines, of which you have a choice of at least 2 -- the National Cholesterol Education Program (NCEP) Adult Treatment Panel (ATP) III guidelines[15] and the American Diabetes Association (ADA) guidelines. There are so many guidelines to apply to this one patient. That is one aspect that needs simplification and clarification.

Medscape: This seems to reflect the concerns of primary care physicians about the number of guidelines they need to read to treat a patient.

Dr. Kostis: That is my main impetus for trying to help in this situation. In my view it is an extension of that kind of thinking. It is not going to be very easy to do it, but I think it needs to be done.

Another example of why a new classification is needed is to replace the category of "prehypertension." According to the current definition of JNC 7, a person with systolic blood pressure of 125 mmHg is prehypertensive, but this could be a 25-year-old woman with LDL cholesterol of 70 mg/dL, HDL cholesterol of 70 mg/dL, and blood glucose of 70 mg/dL, or a 65-year-old smoker with LDL cholesterol of 190 mg/dL, HDL of 25 mg/dL, and blood glucose of 190 mg/dL. Both of them are judged to be prehypertensive, but the prognosis and the approach to each, in my view, should be different.

Medscape: Should the term "hypertension" also be abolished? Several hypertension experts seem to feel that it should be, but the writing group has retained the term, even in its title.

Dr. Kostis: In my view, guidelines designed to decrease risk of atherosclerotic complications would be better than separate guidelines dealing with hypertension, cholesterol, diabetes, etc. We should have one as the framework for all other guidelines, which may be more specific -- for example, for endocrinologists who are taking care of the complications of diabetes. In my view, a guideline would look at cardiovascular risk in general.

Of course, that is easy to say but it is not very easy to implement. First, it is breaking new ground, and second, it depends on your individual approach. You may approach it from the hypertension point of view and then your focus is hypertension, or you may approach it from the dyslipidemia point of view and then you have a different focus. Others may focus on smoking cessation, physical activity, and weight control. It can get confusing. I believe that it should be a collaborative effort of those who focus primarily on hypertension, those who are concerned primarily with lipids, those who have primary interest in diabetes or weight control, those concerned with lifestyle issues, and those who have a more global view, to try to come up with a new algorithm of what to do that would be simple and easy to follow by the average health provider. So you need enlargement of the group to incorporate not only ASH members but other stakeholders. This is my personal opinion; other members of the Writing Group may feel differently.

Medscape: The definition/classification that the Writing Group is proposing looks more like the latest guidelines published jointly by the European Society of Cardiology (ESC) and the European Society of Hypertension (ESH) than JNC 7.

Dr. Kostis: It is more similar to the European guidelines. The European guidelines, in my view, are more in the direction I think we should be going. Hypertension guidelines are evolving and I believe that sooner or later the guidelines on the 2 sides of the Atlantic will converge.
Medscape: The new definition/classification returns to 3 stages of hypertension. As presented at the ASH meeting, Stage 1 is defined by early signs of functional/structural changes in the heart and small arteries, together with blood pressure > 120/80 mmHg, suggesting that most people who were previously thought of as prehypertensive would now be classified as hypertensive. Would that affect treatment?

Dr. Kostis: According to the new definition, the young woman I described earlier would not be labeled hypertensive. She would be classified as normal. An older person with the same blood pressure but with structural or functional abnormalities may have stage 1 hypertension. If there were no early signs of arterial change he would be regarded as normal and would not need to get his blood pressure down. Prehypertensives are now divided into normal and Stage 1, according to other characteristics unrelated to the blood pressure level.

Medscape: Does the new classification define the other risk factors?

Dr. Kostis: It defines the risk factors, target organ damage, and functional abnormalities. In my opinion we have to move in that direction. In a commentary published with the new classification,[16] we have stated the opinion that ASH may not be able to go the whole way on this at once. We can start by writing position papers that are validated and vetted by the society and, more importantly, enlarge the group to include many constituencies rather than just persons with primary interest in hypertension.

Medscape: The other constituencies would presumably include organizations like the American Diabetes Association (ADA), the American Society of Nephrology (ASN), and the NCEP. You must foresee some difficulties in getting consensus, since each group tends to approach every aspect from its own specialty.

Dr. Kostis: It will not be impossible. In my view it will be possible if the initial steps are not huge and if the means used to achieve the end are a framework rather than "the guidelines to end all guidelines." Detailed guidelines for different conditions could gradually be appended to this framework. This is the way I personally would do it.

Medscape: By expanding the definition of hypertension to include other risk factors in addition to blood pressure, doesn't this add up to a definition of the "metabolic syndrome"?

Dr. Kostis: I see the metabolic syndrome as a constellation of risk factors that may have a common underlying pathophysiology or may not. The metabolic syndrome is very prevalent in the United States, so it has to be addressed either as a syndrome or in its individual components. However, the metabolic syndrome addresses only a subset of people at high risk and there are other subsets. For example, an elderly person with isolated systolic hypertension and low HDL cholesterol who smokes is a different subset.

Medscape: Will producing a new classification or definition such as the one proposed by the Writing Group have implications for treatments like combination treatments or polypills for simultaneous treatment of blood pressure and other risk factors?

Dr. Kostis: I think it makes sense to do that. I recently proposed that a national clinical trial should be done on simultaneous treatment of hypertension and other risk factors,[17] but it appears unlikely that it will be carried out in the near future.

Medscape: Physicians in the United States are currently recommended to follow the JNC 7 guidelines. Should there be an effort to re-educate them or change their focus to include all risk factors simultaneously?

Dr. Kostis: I think it is important to educate physicians at all levels on the importance of the coexistence of risk factors. This is common sense and I believe that most practicing physicians try to apply this even though the guidelines are fragmented. We hope that the new definition/classification of hypertension that we have produced is the first step in the right direction toward bringing all the guidelines for all the risk factors together.

References

1. The ALLHAT Officers and Coordinators for the ALLHAT Collaborative Group. Major outcomes in high-risk hypertensive patients randomized to angiotensin converting enzyme inhibitor or calcium channel blocker vs


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