White-Coat Hypertension Is Hypertension

J. David Spence

The article in this issue from Puato et al1 in Padova, Italy, is important because it was prospective, with 5 years of follow-up, and the hypertensive patients were never treated. They showed that carotid intima-media thickness was greater at baseline in white-coat hypertensive subjects (WCHs), increased more during follow-up than in normotensive subjects, and was not different in WCHs with sustained hypertension.

There is a widespread tendency, which I characterize as wishful thinking,2 to believe that it is a kindness to withhold therapy in patients with white-coat hypertension. Withholding therapy avoids labeling, the cost of therapy, and the adverse effects of antihypertensive drugs, so is thought to be desirable if therapy does not reduce cardiovascular events. This is justified by the important prospective findings of Verdecchia et al,3 who showed that when ambulatory blood pressure was consistently <130/80 mm Hg, there was no excess of cardiovascular events. It is seldom remembered that this definition was very strict and that even ambulatory blood pressure between 130/80 mm Hg and 131/86 mm Hg (for women) or 136/87 mm Hg (for men) was as strongly associated with cardiovascular events as were higher pressures.

Several cross-sectional studies have shown that white-coat hypertension is a form of hypertension that is intermediate between normotension and sustained hypertension.4,5 Glen et al4 found that left ventricular function and arterial compliance, elasticity, and stiffness were similarly adversely affected compared with normotensive subjects, in WCHs, and in patients with sustained hypertension. Cerasola et al5 showed that left ventricular mass, carotid intima-media thickness, retinopathy, and microalbuminuria in WCHs were all intermediate between normotensive subjects and sustained hypertensive subjects.

It is likely that white-coat hypertension identifies patients who react to stress with a rise in blood pressure. Higher blood pressure during mental arithmetic is associated with white-coat hypertension.6,7 Thus, when blood pressure in the office is high, it is very likely that blood pressure is also high during daily stressors, such as being cut off in traffic, an argument with the boss or a coworker, or a disagreement with a friend or spouse. Reactivity to mental stress, induced either by mental arithmetic or by the Stroop task, a frustrating cognitive task based on color/word interference, is also associated with progression of carotid total plaque area,8 left ventricular mass,9 and carotid intima-media thickness.10

Virtually all of the evidence that hypertension is harmful and the evidence that treatment reduces cardiovascular risk is based on office pressures. It is no kindness to withhold therapy that markedly reduces the risk of stroke, cardiovascular disease, and dementia. It must be recognized that the hypothesis that it is safe to withhold therapy in white-coat hypertension remains untested. What is required is a randomized, controlled trial in which WCHs are randomly assigned to have their blood pressure treated on the basis of office pressures versus ambulatory blood pressure or home pressures. Until that is done, the prudent course is to treat high blood pressures measured in the office.

Disclosures

None.

References


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From the Departments of Clinical Neurological Sciences (Neurology) and Internal Medicine (Clinical Pharmacology), Schulich School of Medicine and Dentistry, University of Western Ontario, London, Ontario, Canada; and the Stroke Prevention and Atherosclerosis Prevention Centre, Robarts Research Institute, London, Ontario, Canada.

Correspondence to David Spence, Stroke Prevention and Atherosclerosis Research Centre, 1400 Western Rd, London, Ontario, Canada N6G 2V2. E-mail dspence@roberts.ca

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