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"White coat" hypertension.

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Letters to the Editor

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"White Coat" Hypertension

To the Editor:

I am writing to follow up on the correspondence from Dr. Tom Pickering¹ and Dr. Stevo Julius² regarding "white coat" hypertension. Our recent study³ showed that among patients being followed by their family physician with borderline hypertension, over 60% were normotensive both by ambulatory blood pressure recordings and in a research clinic setting. These readings were taken by a research nurse in the hypertension clinic facility but were performed on a day in which no physician was present, and the patient did not have an appointment to see the physician. Our criterion for normal ambulatory blood pressure was that of Pickering et al⁴ (134/90 mm Hg), so we avoided the problem of definition of white coat syndrome, at least with respect to blood pressures, to which Pickering objected in the Tecumseh Study.

We found that the best predictor of an increase in left ventricular mass over 2 years of untreated follow-up was the baseline left ventricular mass and that reactivity to mental arithmetic and mirror tracing was more predictive than the clinic pressures or the ambulatory pressures.

Our findings suggest the possibility that the definition of white coat hypertension may need to be expanded: it seems that the expectation of seeing the physician may be important and that staying out of the room while the nurse takes the pressure may not be enough to eliminate the white coat effect.

I suspect that a reason for the difference in prevalence of white coat hypertension between that observed in Pickering's clinic and that observed in our study and the Tecumseh Study may be that patients attending a hypertension clinic are more definitely hypertensive than those with borderline hypertension being followed up by their family doctor.

Our findings, based on a population of patients from family practice, support the finding of Julius et al⁵ that about 60% of patients with borderline hypertension have white coat syndrome.

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The following is in response:

To the Editor:

Dr. Spence's observation that 60% of patients being followed up by their family physicians for borderline hypertension could be classified as having "white coat" hypertension (in contrast to our own estimate of 20%) deserves comment. Dr. Spence's classification was based on three sets of measurements: clinic readings taken by a nurse with a random zero device, readings taken in the same setting by an automated device, and ambulatory monitoring. The 60% of patients classified as having white coat hypertension were normotensive by all three of these criteria.

He states that "the expectation of seeing the physician may be important." I agree and suggest that this may explain the difference in our findings, as Dr. Spence points out in his paper,¹ these patients were originally classified as having borderline hypertension on the basis of visits to their own physicians, who would be the persons deciding whether to prescribe drug treatment. When they visited Dr. Spence's research unit, however, they had readings taken by a nurse rather than a physician, and they presumably did not expect to be prescribed treatment. This may explain why so many of them were found to be normotensive. It would be of considerable interest to know if their own physicians still found them to be hypertensive.

These distinctions may seem excessively subtle, but there are ample data to back them up. The tendency for physicians to record higher pressures than nurses is well recognized.² In a study we are conducting in 11 patients with white coat hypertension (admittedly a highly selected group), the average systolic pressure with a random zero device was 169 mm Hg when taken by a physician, 159 mm Hg when taken by a nurse, and 150 mm Hg when taken by an automated device similar to the one used by Dr. Spence. All these readings were taken with the patients seated in the clinic setting, and the differences could not be explained by observer bias. The importance of the patients' expectations has been well demonstrated by Rostrup et al,³ who performed an experiment in 29 young men found to have high blood pressure at a screening examination. They were randomly assigned to two groups; one group was sent a letter saying their pressure was too high and the other a neutral letter. On rescreening, the first group had blood pressure measurements 16/10 mm Hg higher than the second group.

The important point at issue here is not so much whether the prevalence is 20% or 60%, but the recognition that the phenomenon is common and clinically relevant. Dr. Spence's work is a further testament to the fickle nature of conventional blood pressure measurement.

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