Letter by Castilla-Guerra and Fernandez-Moreno Regarding Article, “Average Daily Blood Pressure, Not Office Blood Pressure, Is Associated With Progression of Cerebrovascular Disease and Cognitive Decline in Older People”

To the Editor:

We have read with interest the article by White et al1 recently published in Circulation. Although we consider it particularly interesting, we would like to raise 3 important issues.

First, the title of the article states that average daily blood pressure (BP), not office BP, is associated with progression of cerebrovascular disease and cognitive decline in older people. However, the conclusions are not exactly the same. Authors conclude by emphasizing the importance of only 24-hour systolic BP in the progression of brain white matter hyperintensity (WMH) volume burden. Nowhere in the article is the relationship between diastolic BP and WMH commented.

Maybe it is important to remark that the relationship between both systolic and diastolic BPs and WMHs is really more complex. Thus, for example, Goldstein et al,2 in a sample of 144 elderly individuals, with the use of casual and 24-hour ambulatory BP measurements, showed that individuals with the highest severity rating of WMHs had higher casual, awake, and sleep systolic BPs, but only higher awake diastolic BPs.

Furthermore, the Cardiovascular Health Study3 has recently shown that diastolic BP had no effect on ischemic stroke incidence in elderly patients with low WMH levels, but had a marginally significant J-curve relationship with ischemic stroke in elderly patients with high WMH levels. Indeed, in elderly individuals with low-grade WMH, low diastolic BP may not pose a risk for ischemic stroke. However, in high-grade WMH, ischemic stroke risk may increase in diastolic BP <69 mm Hg but is highest in >80 mm Hg.

Second, there are no comments in relation to orthostatic hypotension in their population, despite it being a common health problem among older people. In fact, in a previous article, Matsubayashi et al4 studied 334 community-dwelling adults aged >75 years and found that orthostatic hypotension was closely related to WMHs and poorer neurobehavioral function scores.

Finally, the authors do not distinguish between periventricular and deep WMHs, despite earlier studies and observations that suggest a different cause, progression rate (periventricular WMHs volume increases steeply with higher BP levels, whereas the volume of deep WMHs do so only modestly), clinical consequences, and even different relation with ambulatory BP levels of these subtypes of WMHs.5

Disclosures

None.

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References


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Circulation. 2012;125:e1017
doi: 10.1161/CIRCULATIONAHA.111.090720

Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circ.ahajournals.org/content/125/23/e1017

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