Response to Ambulatory Versus Home Versus Clinic Blood Pressure

In our recent study of 1007 inhabitants of a general population of Ohasama, Japan,1 we demonstrated that ambulatory, home, and casual/clinic blood pressure (BP) measurements were essentially different measurement technologies, representing different pathological states of target organ damage. Eguchi and Kario2 were also interested in the difference between home BP (HBP) and ambulatory BP (ABP). They focused attention on a difference (Δ) between BP values, ie, (HBP value minus ABP value).3

Though this is an intuitive index, its pathological significance has not been established. It is questionable that the simple index ΔBP represents the essential nature of the differences among BP measurement methods. Because the purpose of our study was not to evaluate the difference (Δ) between HBP and ABP, our article could not satisfy their interest in the Δ itself.

Eguchi et al examined the ΔHBP−ABP in a small number of hypertensive patients (n=56), and they raised a question, asking why our result for the difference between home and ambulatory systolic BPs (SBP) (6 mm Hg) differed from theirs (4 mm Hg).3 However, before discussing this discrepancy, one must examine the accuracy of the results on which their arguments relied. In their results, the point estimates and 95% CIs of awake SBP, home SBP, and ΔHBP−ABP were 131 mm Hg (127.3–134.7), 133 mm Hg (128.7–137.3), and 4.0 mm Hg (−1.4 to +9.4), respectively. The 95% CI of the Δ was too wide to discuss the discrepancy in the Δ between studies.

Furthermore, they might be confusing the results from hypertensive patients and those from the general population. The Δ from hypertensive patients in their report4 may not be identical to that from our population-based study. We previously reported in the Ohasama study that the daytime ambulatory SBP was significantly higher by 8.8 mm Hg than the morning home SBP among untreated subjects, whereas among treated subjects, the daytime ambulatory SBP was similar to the morning home SBP.4

We have demonstrated that HBP measurements show good reproducibility in subjects who measure their HBP in each of two 4-week periods separated by 1 year.5 In our Ohasama study, each subject had ABP and HBP measurements within a year.

ABP monitoring and HBP measurements have different pathological significance. At the present time, we should use these different BP measurement techniques considering the intrinsic strength of each, rather than considering which of these 2 measurements to use exclusively.

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