Should More Significance Be Granted to Medication Response to Antihypertensives in Patients With Resistant Hypertension?

To the Editor:

In a recent thesis published in the journal, Calhoun et al presumed that although resistant hypertension (RH) is relatively common among treated patients with hypertension, true antihypertensive treatment failure is rare. We are grateful to Calhoun et al for their worthy efforts to provide significant information about the prevalence of refractory hypertension. Our next task is to figure out whether true antihypertensive treatment failure is common in treated patients with hypertension. About the article, we have to maintain reservations about the definition of RH. More importantly, the article causes our reflection on medication response evaluation in RH-therapy.

In the journal, Calhoun et al defined RH as patients whose blood pressure (BP) measures \( \geq 140/90 \) mmHg, despite being treated with \( \geq 3 \) antihypertensives with no changes in medication for a minimum of 2 weeks. It is closer to that of apparent RH ascribed in 2013 ESH/ESC (European Society of Hypertension/European Society of Cardiology) guidelines of hypertension without mentioning whether diuretics are prescribed and white coat hypertension are excluded. Meanwhile, on the basis of 2008 American Heart Association criteria, we conclude that instead of 2 weeks, antihypertensive medications should be \( \geq 1 \) month. Patients enrolled in the study of Daugherty reported that more than half of them, with uncontrolled hypertension on 3 classes of antihypertensives prescribed for \( \geq 1 \) month at baseline, had their BP controlled in 1 year later, which implies importance in identification of response in pharmacotherapy. Therefore, we observe that clinical BP remaining \( \geq 140/90 \) mmHg after treatment with \( \geq 3 \) different antihypertensive drugs not necessarily as the end of medication, but an open-end for many unanswered questions (eg, the ideal constituents of multidrug regimens, the most effective drug in RH treatment).

Also of note, therapeutic inertia of physicians was more marked in patients with apparent treatment-RH. In fact, many interesting phenomena provide clues for an urge to reassess the effects of pharmacotherapy or drug regimens response in patients with RH, which leaves substantial leeway for improving BP control in treatment-RH. Some include the following: (1) effects of pharmacogenomics on BP in response to thiazide diuretics, which may provide guidance on adjustment of diuretics; (2) although not designed for epidemiological investigation on RH, the analyses of HOT-CHINA study recently illustrates the rate of RH in China is much lower, only 1.9%, than reported previously, which suggests that racial factor affect, at least to some extents, the sensitivity to calcium channel blocker, especially in Chinese Han nationality population; and (3) baseline plasma rennin activity and aldosterone/renin ratio could play a part in identifying in RH treatment, assessing for which treatment spironolactone is most effective, as assumed in ASPIRANT (Addition of Spironolactone in Patients With Resistant Arterial Hypertension) study.

In conclusion, the true prevalence of RH might actually be greatly overestimated, and we promote here that more significance should, and needs to be granted to the identification of medication response in RH exploration, which, most probably, would fill the gap between apparent antihypertensive treatment failure and true antihypertensive treatment failure.

Disclosures

None.

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