Evaluating the True Prevalence of Resistant Hypertension

To the Editor:

We are grateful to de la Sierra et al and Persell for their worthy effort to provide significant information about the prevalence of true resistant hypertension.1,2 These important articles fill a long-lasting gap in the hypertension field, yet we believe that several concerns interfere in the evaluation of this phenomenon in addition to those discussed in the accompanying editorial comments3,4 and should be cautiously acknowledged.

Regarding the article by de la Sierra et al,1 the true prevalence of resistant hypertension might have been underestimated. First, 1757 subjects taking ≥4 antihypertensive drugs, irrespective of office blood pressure, who were, by definition resistant hypertensives, were excluded from the study for reasons not adequately addressed. Inclusion of these patients would directly raise the percentage of resistant hypertension from the reported 7.6% to 9.2% (provided that white-coat hypertension was met in the same proportion by them as well). Second, if lower blood pressure cutoff limits of 130/80 mm Hg were applied for hypertensive subjects with diabetes mellitus or renal insufficiency, as recommended by guidelines, the proportion of resistant hypertension would increase considerably. Third, the Spanish population presents a satisfactory level of adherence to a Mediterranean diet5 and are, thus, less likely than the rest of the Western world to exhibit excessive dietary sodium intake, a well-established contributor to resistance.6 Fourth, resistant hypertension appears more prevalent among a black, non-Hispanic population,2 whereas Spanish are mainly of a white origin. Fifth, uncontrolled patients, while on ≤2 drugs, or naive patients were not included; some of them might have underlying resistant hypertension. Sixth, the possibility of masked resistant hypertension potentially augments true prevalence and cannot be excluded, given the significant portion of masked hypertension among a hypertensive population. Because all 68 045 patients composing the initial selection population have adequate information regarding both office blood pressure measurements and ambulatory blood pressure measurements, we would welcome the authors, in the absence of preceding studies, to provide relevant data. On the other hand, the study population can be considered selected and not reflecting the general hypertensive population, suggesting that prevalence of resistant hypertension might actually be greatly overestimated.

With regard to the study by Persell,2 on the other hand, we believe that the reported prevalence of resistant hypertension is significantly overestimated. First, white-coat resistant hypertension was not designated in the study, although it was expected to be present in a substantial portion of study participants, reaching 37.5% in a previous study.1 Even with modest estimations, subtraction of white-coat resistant hypertension would shatter the reported prevalence of resistant hypertension. Second, exclusion of secondary hypertension was not warranted, although such forms are highly prevalent in resistant patients, especially primary aldosteronism in >10%,7 obstructive sleep apnea, and drug-induced secondary hypertension. It would be very interesting to know whether patients with secondary hypertension or concomitant administration of NSAIDS and oral contraceptives were included in the study population. Third, salt intake is not provided in the study, although salt restriction has shown impressive blood pressure reductions of >20 mm Hg in resistant hypertension.6 Relevant data, if available, would be of great interest. Finally, inadequate doses of antihypertensive therapy, improper use of diuretics, and nonadherence to treatment might also significantly exacerbate the prevalence of resistant hypertension.2,4 Because of these factors, management of resistant hypertensives in specialized centers is of crucial importance.

Disclosures

None.

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