Response to Nocturnal Blood Pressure Fall Changes in Correlation With Urinary Sodium Excretion

We thank Coelho Ortega et al. for their comments on our article. As mentioned by the authors of the letter, little is known about the mechanisms associated with the reproducibility of the circadian blood pressure (BP) pattern, and even less is known about the reproducibility of the circadian pattern of sodium excretion. According to their observation, subjects who changed their dipping pattern from a dipper to a nondipper profile had a lower 24-hour sodium excretion when they were nondippers. These data would indeed suggest that 24-hour sodium excretion is a determinant of nighttime BP, but it is difficult to reconcile their observations with the findings of Bankir et al. Indeed, because Coelho Ortega et al. do not provide separate daytime and nighttime urinary sodium and potassium excretion data, it is difficult to conclude that the lack of BP dip in these individuals is because of a lower daytime urinary sodium excretion. Indeed, a lower 24-hour sodium excretion has been associated with a restoration of the dipping profile at least in salt-sensitive hypertensive subjects. Thus, as indicated in the conclusion of their letter, a clear explanation of their data could only obtained with the separate determination of daytime and nighttime urinary sodium excretion. Moreover, we do not know whether they used the actual sleep-awake states or arbitrarily predefined day-night definitions, which may influence the reproducibility of circadian BP pattern. In addition, the authors should take into account one important confounding factor, ie, renal function. At last, in the study by Coelho Ortega et al., an analysis of the relationships between the continuous nighttime BP difference overall (“changed”+“maintained” groups) and the continuous covariate differences would make best use of the available information. In addition to hormonal mechanisms involved in BP control, the extent to which the circadian pattern of dietary salt intake plays a role in the reproducibility of the circadian patterns in BP and/or urinary sodium excretion remains an open question. Separate daytime and nighttime urine collection are obviously needed to answer these questions.

We thank the authors of this letter for their interesting observation.

Disclosures

None.

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