Do Extreme Dippers Have a Lower Cardiovascular Risk Than Dippers?

To the Editor:

We have recently read with interest the article by Verdecchia et al\(^1\) concerning the relationship between day-night blood pressure (BP) dip. During a mean follow-up period of 8.44 years, extreme dippers had a lower rate of cardiovascular CV events (0.57 [95% CI, 0.36–0.88]) than dippers (0.76 [95% CI, 0.63–0.92]). These data were apparently discrepant with the results of some previous large studies. Kario et al\(^2\) have revealed that an excessive decline of nighttime BP values may contribute to heart and central nervous system ischemic episodes. This fact may be related to the limited opportunities of BP regulation mechanisms in the central nervous system and coronary circulation (J-shaped phenomenon). In another study, Kario et al\(^3\) observed 108 mm Hg for systolic BP and 60 mm Hg for diastolic BP as the lowest BP values, but in the Progetto Ipertensione Umbria Monitoraggio Ambulatoriale (PIUMA) study the lowest values for BP were ≈8 mm Hg higher (116 mm Hg for systolic BP and 68 for diastolic BP).\(^1,3\) The study performed by Pierdomenico et al\(^4\) confirmed that a further reduction of nighttime BP by pharmacotherapy in extreme dippers is related to an increase in both the number and duration of nighttime cardiac ischemic episodes. Therefore, is it appropriate to identify the extreme dipper group apart from nocturnal BP values? According to these data, it seems that extreme dipper status and the lowest nocturnal BP values should be assessed together with CV risk evaluation in patients with an ≥20% decline of nighttime BP. Maybe identification of patients with the lowest BP values from the group with an ≥20% nocturnal BP decline would improve CV risk assessment?

According to us, Verdecchia et al\(^1\) do not provide enough information about pharmacotherapy during the follow-up period. Pierdomenico et al\(^1\) observed an increase of nighttime myocardial ischemia in extreme dippers treated with atenolol and in those treated with verapamil. It is possible that therapy with some β-blockers and calcium channel blockers may increase CV risk in extreme dippers because of the triggering of ischemic episodes. We are convinced that analysis adjusted to antihypertensive treatment could provide important new data regarding excessive nocturnal BP decline.

We propose that extreme dipper profile should be considered in relation to the lowest BP. A particular therapeutic BP threshold may be needed to prevent CV complications because of excessive nocturnal BP fall.

Disclosures

None.

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