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Chesebro et al. report dysfunctional circadian variation of systolic blood pressure—reverse dipping, i.e., night/day BP>1—among the hypertensive subset (mean age 64 years) of their Venezuelan cohort, and they link this to periventricular white matter hyperintensities and decreased memory. In 2019, we reported associations between reverse dipping of diastolic blood pressure and both cerebral microvascular disease and decreased cognition—overall cognitive status and test of language—in an elderly (aged 90+ years) California cohort. We found this association for all participants—which included 64% hypertensives by history, 45% by measurement—and for all white matter disease, rather than just periventricular disease. Although location of white matter disease may be relevant, previous work suggests periventricular, deep, and total white matter hyperintensities are highly correlated. We also described linkage of reverse dipping with cerebral microbleeds. The findings of these two groups, working independently of each other in two very different populations, emphasize the likely validity of the primary findings. An important implication of these papers relates to the timing of hypertension medications and whether patients may benefit from a nighttime dosing regimen. In addition, tract-specific location analysis of white matter hyperintensities may be fruitful for further investigation.

Disclosure

The authors report no relevant disclosures. Contact journal@neurology.org for full disclosures.

References