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Hot from the hypertensive press

Short analysis of clinical studies that may change our practices in the field of hypertension
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Reproducibility and treatment effect on office and ambulatory pressure relation

So far, hypertension guidelines provide 24-hour mean blood pressure (BP) values that correspond to trial-validated office BP values in untreated and treated patients but no outcome-based ambulatory BP data are available. Moreover, the question whether ambulatory values are similar in untreated and treated hypertensives and reproducible over time during treatment still remains unanswered.

The study “Reproducibility and treatment effect on office and ambulatory pressure relation” by Mancia et al., published in Hypertension (1), addressed these questions by analyzing data from almost 2400 patients included in the ELSA (European Lacidipine Study on Atherosclerosis) and PHILLIS (Plaque Hypertension Lipid-Lowering Italian Study) trials. The results demonstrated that the slope of the office 24-hour BP linear relationship was superimposable for recordings performed yearly over a 3-year antihypertensive treatment, indicating that the office/24-hour BP relationship is stable over time. However, the slopes of the office/24-hour BP regression were significantly flatter during treatment compared to the absence of treatment, pointing to the need for separate calculations of corresponding office versus ambulatory BP values in untreated and treated patients.

Why is this study relevant and what are the implications of this study?

The study addresses a white spot on the “BP measurement map” as it points out that a revision of the ambulatory BP values corresponding to the office BP values that identify hypertension diagnostic thresholds and treatment targets is desirable and urgently needed to improve BP treatment monitoring and therapy guidance. It also highlights the fact that evidence from prospective randomized trials investigating the relationship of ambulatory BP values with events in treated and untreated patients is still lacking and that filling this gap remains the ultimate goal of future research on ambulatory BP diagnostic thresholds and treatment targets.

Reference:

1. Mancia G, Facchetti R, Quarti-Trevano F, Grassi G. Reproducibility and Treatment Effect on Office and Ambulatory Pressure Relation. Hypertension. 2025; 82: 1–10. DOI: 10.1161/HYPERTENSIONAHA.124.23549

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