
Title

Impact of timing of antihypertensive treatment on mortality: An observational study from the Spanish Ambulatory Blood Pressure Monitoring Registry

Abstract

Background and aims: Whether bedtime versus morning administration of antihypertensive therapy is beneficial on outcomes is controversial. We evaluated the risk of total and cardiovascular mortality in a very large observational cohort of treated hypertensive patients, according to the timing of their usual treatment administration (morning versus evening). Methods: Vital status and cause of death were obtained from death certificates of 28 406 treated hypertensive patients (mean age 62 years, 53% male individuals), enrolled in the Spanish Ambulatory Blood Pressure Monitoring (ABPM) Registry between 2004 and 2014. Among the 28 406 patients, most (86%) received their medication exclusively in the morning; whilst 13% were treated exclusively in the evening or at bedtime. Follow-up was for a median of 9.7 years and 4345 deaths occurred, of which 1478 were cardiovascular deaths. Results: Using Cox-models adjusted for clinical confounders and 24-h SBP, and compared with patients treated in the morning (reference group), all-cause mortality [hazard ratio 1.01; 95% CI 0.93-1.09] and cardiovascular mortality (hazard ratio 1.04; 95% CI 0.91-1.19) was not significantly different in those receiving evening medication dosing. The results were consistent in all the subgroups of patients analysed. Conclusion: In this very large observational study, morning versus bedtime dosing of antihypertensive medication made no difference to the subsequent risk of all-cause or cardiovascular mortality. These findings are in accordance with results from a recent randomized controlled trial and do not support the hypothesis of a specific beneficial effect of night-time antihypertensive treatment dosing on risk of all-cause or cardiovascular death. © 2024 Lippincott

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