PEARLS: Practical Evidence About Real Life Situations

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Evening dosing of antihypertensive drugs more effective in lowering blood pressure

CLINICAL QUESTION
What are the time-related-effects of evening versus morning administration of once-daily antihypertensive drug monotherapy on all cause mortality, cardiovascular morbidity, and blood pressure reduction in patients with primary hypertension?

BOTTOM LINE
Based on data for six classes of antihypertensive drugs (ACE inhibitors, angiotensin II receptor blockers, calcium channel blockers, diuretics, alpha- and beta-blockers), evening drug administration caused an additional lowering of 24-hour systolic blood pressure by 1.71 mmHg and 24-hour diastolic blood pressure by 1.38 mmHg. The clinical significance of this is not known. No randomised controlled trial reported on all cause mortality, cardiovascular mortality or morbidity, and serious adverse events. There were no significant differences between the two regimens in overall adverse effects and withdrawals due to adverse effects.

CAVEAT
Meta-analysis showed significant heterogeneity across trials. Most trials had a risk of bias in at least two of several key criteria.

CONTEXT
Variation in blood pressure levels display circadian rhythms. The morning surge in blood pressure is known to increase the risk of myocardial events in the first several hours post awakening. Guidelines have recommended using once-daily long-acting antihypertensive drugs to provide more consistent 24-hour blood pressure control, reduce blood pressure variability, and improve adherence to therapy.¹

REFERENCE

COCHRANE SYSTEMATIC REVIEW

The review contains 21 studies, involving 1993 participants.

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Acknowledgements
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DOI: 10.3399/bjgp13X660887

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