Review: lower dose combination antihypertensive therapy is preferable to standard dose single drug therapy


Q What is the safety and efficacy of different doses and combinations of 5 main categories of blood pressure (BP) lowering drugs?

MAIN RESULTS

354 trials (median duration 4 wk) met the selection criteria. The trials included 791 treatment groups (219 in crossover and 572 in parallel group trials) that tested different drugs or different doses of the same drug. 7 thiazides, 15 β blockers, 12 ACE inhibitors, 8 ARBs, and 11 calcium channel blockers were studied. 39 879 participants (mean age 53 y) received treatment and 15 817 participants (mean age 53 y) received placebo.

Data were synthesised by meta-analysis. The 5 drug categories gave similar BP reductions. The mean placebo adjusted reduction was 9.1 mm Hg (95% CI 8.8 to 9.3) systolic and 5.5 mm Hg (CI 5.4 to 5.7) diastolic at half standard doses. The different drugs within each of the 5 categories gave similar BP reductions. For every 10 mm Hg increase in pretreatment BP, the reduction in BP with 1 drug at standard dose was ~2 weeks; most participants were black; or patients had heart failure, acute myocardial infarction, or other cardiovascular disorders.

CONCLUSIONS

The 5 main categories of blood pressure (BP) lowering drugs give similar reductions in BP. Within each drug category, individual drugs give similar BP reductions. When drugs are used in combination, the BP reductions are additive, but the adverse effects are less than those of single drugs. Adverse effects of thiazides, β blockers, and calcium channel blockers were dose related. The main adverse effect with ACE inhibitors was cough, and this did not vary with dose. ARBs were not associated with excess of adverse effects. In 33 trial arms, 2 drugs used in combination caused adverse effects in 7% (5.8% to 9.3%) of participants, which was less than additive.
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