

## Blood Pressure Lowering in Dialysis Patients

*In a meta-analysis, antihypertensive therapy lowered risk for adverse cardiovascular events by about 30%.*

Ten percent to 20% of patients on dialysis die annually, and about half of such deaths are caused by adverse cardiovascular events. No specific intervention has been shown to lower risks for these outcomes; in particular, trials of blood pressure–lowering agents in this population have produced conflicting results.

In a meta-analysis of eight randomized controlled trials (involving 1679 adult dialysis patients with and without baseline hypertension), researchers assessed the effects of blood pressure–lowering drugs on cardiovascular outcomes. Active agents were angiotensin-receptor blockers, angiotensin-converting–enzyme inhibitors,  $\beta$ -blockers, and calcium-channel blockers; comparators were placebo and usual treatment; follow-up ranged from 12 months to 36 months. Compared with controls, patients who received active treatment had mean blood pressure reductions of 4.5 mm Hg (systolic) and 2.3 mm Hg (diastolic).

Compared with controls, active-treatment patients experienced significantly fewer cardiovascular events (relative risk, 0.71), cardiovascular deaths (RR, 0.71), and all-cause deaths (RR, 0.80). The rate of adverse cardiovascular events was lower in the active-treatment arm than in the control arm for each prespecified subgroup, but not all these differences reached statistical significance. Few patients discontinued study medications because of adverse effects.

**Comment:** These findings suggest that cardiovascular-related mortality could be significantly lowered in dialysis patients through reduction of blood pressure. However, the analysis doesn't tell us what constitutes optimal blood pressure for this population or how it might best be achieved.

— [Bruce Soloway, MD](#)

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