

Antihypertensive Treatment in Patients without Hypertension

Morbidity and mortality were lowered — but only in patients with known cardiovascular disease.

Antihypertensive drugs are used widely in patients who have cardiovascular disease (CVD) but not hypertension. In this meta-analysis of 25 randomized trials of antihypertensive medications, researchers examined data for 64,162 nonhypertensive patients (mean age range, 55–68; mean follow-up, 1.5–63.0 months). Participants in 23 studies met criteria for CVD, such as recent myocardial infarction (MI) or congestive heart failure (CHF). In two studies, patients had only multiple CVD risk factors.

Pooled relative risk reductions for patients with known CVD were 23% for stroke, 20% for MI, 29% for CHF events, 17% for CVD-related mortality, and 13% for all-cause mortality. The absolute risk reduction per 1000 people ranged from 43.6 for CHF events to 7.7 for stroke events, with a corresponding NNT (number needed to treat for 1 patient to benefit) of 20–130. The absolute risk reduction for all-cause mortality was 13.7 per 1000 people, for an NNT of 73. No significant benefit was found in the two small trials in which participants had no known CVD.

Comment: These results confirm that nonhypertensive patients with known CVD benefit from antihypertensive drugs, although the NNTs are still fairly high. However, patients in these studies were a "mixed bag" (some had systolic heart failure, some had coronary disease, others had only risk factors), the studies were dominated by angiotensin-converting–enzyme inhibitors or angiotensin-receptor blockers (16 studies) and β -blockers (7 studies), and mean on-treatment blood pressures were not always substantially lower in intervention groups than in control groups. Thus, mechanisms other than simple blood pressure lowering (e.g., tissue effects, neurohormonal effects, afterload reduction) almost certainly explain some of the benefits. Whether lower-risk patients without CVD benefit from prehypertension treatment is less clear, but, even if a benefit exists, the NNT would be very high.

— [Thomas L. Schwenk, MD](#)

Published in [Journal Watch General Medicine](#) March 8, 2011