

### Beta-Blockers Should Not Be First in Line for Treating Hypertension

*In a meta-analysis, lowering of heart rate was associated with increases in cardiac mortality, risk for nonfatal MI, and heart failure.*

It is well established that elevated resting heart rates increase risks for morbidity and mortality in patients with and without heart disease. That beta-blocker administration lowers mortality and other cardiovascular events in individuals with coronary disease and congestive heart failure has also been fairly conclusively demonstrated. Therefore, it seems quite logical that beta-blockade should be beneficial in treating essential hypertension; indeed, to suggest otherwise is akin to proposing a possible harm from suppression of premature ventricular contractions in patients who have had MIs (remember CAST?).

Ahem. Sure enough, systematic reviews of a multitude of studies have shown the *inferiority* of beta-blockers in the treatment of hypertension, and many experts and writing committees have argued against their use as initial agents for hypertensive patients.

The authors of this meta-analysis examined existing outcomes data from clinical trials of beta-blockers as a first-line treatment of hypertension. Most of the nine eligible studies, involving a total of 68,000 patients, were comparisons of atenolol with calcium channel blockers, angiotensin-receptor blockers, or diuretics. The investigators found an increase in cardiovascular mortality that correlated directly with the magnitude of heart rate slowing by beta-blockade ( $P=0.00001$ ). Reductions in heart rate were also associated with increases in the risks for overall mortality ( $P=0.0000001$ ), nonfatal MI ( $P=0.00001$ ), heart failure ( $P=0.00001$ ), and stroke ( $P=0.06$ ).

**Comment:** These results contradict the conventional wisdom that lowering resting heart rate improves cardiovascular outcomes, driving another nail into the coffin of beta-blockade for hypertension treatment. The author of an accompanying editorial echoes the study authors' conclusions. Although beta-blockade might yet have a role as an adjunctive treatment, we cannot justify its use as a primary strategy for patients with essential hypertension.

— **Mark S. Link, MD**

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