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NCDR Study Shows Beta-Blockers May Have Little Benefit For Some Older PCI Patients

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Following percutaneous coronary intervention (PCI), beta-blockers may not significantly improve mortality rates or reduce the number of future cardiovascular incidents for older patients with stable angina but no history of myocardial infarction (MI) or heart failure, according to a study published Aug. 15 in the ***JACC: Cardiovascular Interventions*** [↗](#).


Using data from ***ACC's CathPCI Registry*** [↗](#) linked with Medicare information, researchers examined records from 755,215 patients from 1,443 sites between January 2005 and March 2013. Of this group, 71.4 percent received a prescription for beta-blockers. After adjusting for age, gender, body mass index, smoking status, hypertension, and other variables, researchers found no significant differences in outcomes at 30 days. Mortality rates and the occurrence of cardiac events were both under 1 percent.

At the three-year mark, patients taking beta-blockers had a mortality rate of 14 percent, compared to 13.3 percent for those not taking the medication. Differences in other outcomes were small: 4.2 percent incidence of MI for the beta-blocker group compared to 3.9 percent for the non-medication group; occurrence of stroke at 2.3 percent for the first group and 2.0 percent for the second; and occurrence of a revascularization procedure at 18.2 percent for first group compared to 17.8 percent for the second.

The study also found that at three years, 8 percent of patients taking beta-blockers were readmitted to the hospital due to heart failure, compared to 6.1 percent of patients not on this medication. In addition, the authors found that the

use of beta-blockers for angioplasty patients treated for stable angina increased over the eight-year study period.

Apurva A. Motivala, MD, FACC, the study's lead author, says the apparent lack of efficacy of beta-blockers among these patients may be attributed to the fact that they had a higher prevalence of traditional risk factors that could lead to adverse cardiac events. Therefore, it is possible that without beta-blockers, they would not have done as well, he explains. The reasons for the increased incidence of hospital readmissions due to heart failure in this group remain unclear and require further study.

In an [accompanying editorial](#) , **Anthony G. Nappi, MD**, and **William E. Boden, MD, FACC**, note that this study, along with others, raises questions about the continued role of beta-blockers in patients with coronary artery disease undergoing PCI, especially since there is no evidence of clinical benefit in patients without prior MI or heart failure. Moving forward, they suggest that treatment decisions be guided by physician judgment based on the needs of each patient.

Clinical Topics: Chronic Angina, Heart Failure and Cardiomyopathies, Invasive Cardiovascular Angiography and Intervention, Prevention, Stable Ischemic Heart Disease, Acute Heart Failure, Interventions and Coronary Artery Disease, Hypertension, Smoking

Keywords: *Adrenergic beta-Antagonists, Angina, Stable, Angioplasty, Body Mass Index, Coronary Artery Disease, Heart Failure, Hypertension, Incidence, Medicare, Myocardial Infarction, Patient Readmission, Percutaneous Coronary Intervention, Prevalence, Registries, Risk Factors, Smoking, Stroke, National Cardiovascular Data Registries, CathPCI Registry*

Suggested Materials

- [CathPCI Registry](#) 

