

# Lack of aspirin before angioplasty linked with higher mortality

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Despite recommendations from leading medical groups, a surprising number of patients are not given aspirin before artery-clearing coronary angioplasty and stenting, and those patients have a significantly higher in-hospital death rate, according to research from a Michigan network being presented at the American College of Cardiology's 62nd Annual Scientific Session.

[Aspirin](#) use before angioplasty is a Class I recommendation of the American College of Cardiology and [American Heart Association](#), the highest level of evidence for ACC/AHA guidelines. Aspirin has well-documented anti-platelet activity in reducing the risk of [cardiac events](#).

Researchers evaluated registry data for 65,175 [patients](#) who had angioplasty and stenting, a [percutaneous coronary intervention](#) or PCI, at one of 42 hospitals enrolled in the Blue Cross Blue Shield of Michigan Cardiovascular Consortium PCI Quality Improvement Initiative from January 2010 through December 2011. Of these, 4,640 patients, or 7.1 percent, did not receive aspirin as recommended within 24 hours before PCI. Roughly 90 percent of the non-aspirin patients had no documented barriers to aspirin. Records did show that aspirin was withheld from some patients who had a history of [gastrointestinal bleeding](#), even though such a history usually does not preclude pre-PCI aspirin.

"Our study is not designed to confirm a direct causal effect of aspirin use on PCI outcomes, but [rather] to examine any association with worse outcomes," said Mohamad Kenaan, MD, a [cardiovascular medicine](#)

fellow with University of Michigan Health Systems, Ann Arbor, Mich., and the study's lead investigator. "Moreover, it highlights an unexpectedly significant number of patients undergoing PCI without receiving aspirin, despite the lack of a documented contraindication in the majority of cases—even in institutions that are active participants in an ongoing quality improvement initiative."

The in-hospital mortality rate of 3.9 percent for the non-aspirin group was considerably higher than the aspirin group's 1.2 percent, and the disadvantage remained after adjustment for confounding bias: death, 3.9 vs. 2.8 percent and stroke, 0.5 vs. 0.1 percent. Those findings held across subgroups, including gender, age, type of coronary artery disease presentation and diabetes. The exception was cardiogenic shock—a state that presents challenges for use of oral medicines like aspirin. There was no difference between the groups in bleeding, need for transfusions or kidney damage caused by imaging contrast agent.

Additional data analysis will address other subgroups, hospital length of stay and bleeding. The registry does not contain post-discharge data for longer-term follow-up.

"The strong association our study demonstrated between aspirin non-use before PCI and worse outcomes, including in-hospital death, across all types of ischemic heart disease should be used as a platform for more studies to confirm our findings and motivate quality efforts focused on optimizing aspirin use before PCI," Dr. Kenaan said. "Our findings also may indicate lack of adherence to other guidelines, thus leading to worse outcomes."

**More information:** Dr. Kenaan will present the study "Lack of Aspirin Use Prior to Percutaneous Coronary Intervention Is Relatively Common and Strongly Associated with Increased In-Hospital Mortality" on Monday, March 11 at 9:45 a.m., in Moscone Center, Expo North.

Provided by American College of Cardiology

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