

# Long-term NSAID use by hypertensive patients with CAD increases risk of adverse events

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A study published in the July issue of *The American Journal of Medicine*, reports that among hypertensive patients with coronary artery disease, chronic self-reported use of non-steroidal anti-inflammatory drugs (NSAIDs) was associated with an increased risk of adverse events during long-term follow-up. Long-term NSAIDs use is common for treatment of chronic pain.

Researchers from the Division of Cardiovascular Medicine, College of Medicine and the Department of Pharmacotherapy and Translational Research, College of Pharmacy, University of Florida, Gainesville, found that after a mean of 2.7 years of follow-up, in hypertensive patients with [coronary artery disease](#) (average age of 65 years), chronic self-reported NSAID use was associated with a 47% increase in the occurrence of death, nonfatal [myocardial infarction](#), or nonfatal stroke. This was due to a 90% increase in all-cause mortality (which persisted into extended follow-up of more than 5 years), a 126% increase in [cardiovascular mortality](#), and a 66% increase in total myocardial infarctions. There was no significant difference in the occurrence of stroke.

"Among coronary artery disease patients with hypertension, chronic self-reported use of NSAIDs was associated with harmful outcomes, and this practice should be avoided where possible," commented Anthony A. Bavry, MD, MPH, Assistant Professor, Division of Cardiovascular

Medicine, College of Medicine at the University of Florida, Gainesville. "This association did not appear to be due to elevated blood pressure because chronic NSAID users actually had slightly lower on-treatment blood pressure over a mean of 2.7 years of follow-up. Until further data are available, alternative modes of pain relief should be considered for these patients."

Currently, there is a paucity of data about possible harmful effects of chronic NSAIDs in patients with hypertension and coronary artery disease. This observational study was conducted within a large randomized trial that provided long-term blood pressure measures, target blood pressures, and standardized assessment of adverse cardiovascular outcomes.

Data were obtained from INVEST (The INternational VERapamil Trandolapril Study), a [randomized trial](#) conducted in 14 countries, originally designed to compare the effects of a calcium antagonist (verapamil SR)-based strategy with a beta-blocker (atenolol)-based strategy for hypertension among patients with stable coronary artery disease. In this study, there were 882 chronic NSAID users and 21,694 nonchronic NSAID users. Many of the previous analyses on this topic have been conducted from case-control studies.

Interestingly investigators did not find a difference in serious gastrointestinal bleeding events from chronic NSAID use, as might have been expected. While this was somewhat counterintuitive, chronic NSAID users likely started these medications before study enrollment, at which time major bleeding events could have occurred.

**More information:** The article is "Harmful Effects of NSAIDs among Patients with Hypertension and Coronary Artery Disease" by Anthony A. Bavry, MD, MPH, Asma Khaliq, MD, Yan Gong, PhD, Eileen M. Handberg, PhD, Rhonda M. Cooper-DeHoff, PharmD, MS, and Carl J.

Pepine, MD. It appears in The American Journal of Medicine, Volume 124, Issue 7 (July 2011)

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