

# Pain relievers linked to higher risks of heart-related deaths among healthy people

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(PhysOrg.com) -- Some nonsteroidal anti-inflammatory drugs (NSAIDs) are associated with significantly higher risks of dying from heart-related causes among healthy people, according to new research reported in *Circulation: Cardiovascular Quality and Outcomes*, a journal of the American Heart Association.

The study is the first to report on specific cardiovascular risks among healthy people.

“Even though the frequency of these effects is quite low, they are still important,” said Emil Loldrup Fosbøl, M.D., study author and research fellow in the Department of Cardiology at Gentofte University Hospital in Hellerup, Denmark. “People should at a minimum be aware that this is a problem.”

NSAIDs are a class of drugs widely used to treat pain and inflammation among people suffering from arthritis and various forms of short-term pain.

Over nine years, researchers compared medical outcomes of otherwise healthy Danish residents taking prescription NSAIDs with those who had not taken NSAIDs.

Compared to those who did not take a prescription NSAID, the study found that:

- Ibuprofen use was associated with a 29 percent greater risk of fatal or non-fatal stroke.
- Diclofenac was associated with a 91 percent greater risk of cardiovascular death.
- Rofecoxib was associated with a 66 percent increased risk of cardiovascular death.

For people taking the highest-level doses, diclofenac and rofecoxib were associated with a two and three times higher risk of having a heart attack, respectively. Both drugs had dose-dependent increases in cardiovascular risks in the study.

In contrast, naproxen wasn't associated with any increases in heart-related problems, leading Fosbøl and his colleagues to suggest that the drug be considered as a safer cardiovascular choice among its class.

In the epidemiological study, researchers used Danish national medical records for 1,028,437 [healthy people](#) over age 10, collected from 1997 through 2005. The median age was 39. At least 44.7 percent of the study population took NSAIDs at least once during this time. Most in the study used an NSAID for about two weeks, and usually in low doses.

People in the study were assumed to be “healthy” if they had not been in contact with the Danish nationalized hospital system for the five years before their first NSAID prescription and if they had no prescriptions for serious medical problems two years before the study.

The researchers focused on ibuprofen, diclofenac, rofecoxib, celecoxib and naproxen. Researchers were unable to establish conclusive results about the heart risks of celecoxib.

Results of the study emphasize the need for the general population to be aware of cardiovascular risks with commonly used NSAIDs, Fosbøl said.

Although the study was conducted entirely among Danes, its implications also apply to the U.S. population, he said.

The study findings are consistent with a 2007 American Heart Association scientific statement that advised doctors about evidence that the use of NSAIDs (except aspirin) for chronic pain increased the risks for heart attack and stroke. For those patients with or at high risk for cardiovascular disease, it recommended a stepped-care approach to pain management, based on a patient's risk profile, in which doctors use higher heart risk medications only after lower-risk treatments prove inadequate.

“The recommendations we made were based on our best estimates from the existing pharmacological and biological research available at the time,” said Elliott M. Antman, M.D., lead author of the statement and professor of medicine at Harvard Medical School and Brigham and Women's Hospital in Boston, Mass. “I find this new study reassuring because it endorses the recommendations we made using a large body of actual clinical evidence.

“Doses examined in this new study were very similar to doses that patients are likely to encounter both at the over-the-counter level (OTC) and the prescription level. For patients regularly taking an NSAID now — whether it's a prescription or OTC — it is advisable to discuss with your physician why it was originally recommended or prescribed, whether you need to continue taking it, and at what dose.”

Antman also said the study's use of national health and pharmacy databases and sophisticated statistical models provided a rare degree of completeness in calculating risks.

“This is not information you can get in the U.S. because we just don't have this ability to track individual records in the same way,” he said.

Provided by American Heart Association

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