

NSAIDs shown to have causal role in cardiovascular risk of patients with osteoarthritis

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The results of a study presented today at the Annual European Congress of Rheumatology (EULAR 2018) suggest that over two thirds of the increased cardiovascular risk associated with osteoarthritis is linked to the use of non-steroidal anti-inflammatory drugs (NSAIDs).

Osteoarthritis is a common condition that makes a person's joints stiff and painful, particularly in the morning. It is caused by, amongst others, thinning of the cartilage within the joints, which allows the bones to rub against each. Joint swelling and pain are frequent symptoms. It is the most common of all the different types of arthritis, and typically becomes more common as people get older.

"The examination of [cardiovascular risk](#) among individuals with [osteoarthritis](#) is an important area of research as very little is known about the association, despite osteoarthritis being the most common rheumatic disease with high prevalence among the elderly," said Professor Thomas Dörner, Chairperson of the Abstract Selection Committee, EULAR. "This study is important because it provides new information about the potential causal role of NSAIDs for the observed cardiovascular complications among individuals with osteoarthritis."

Recent research suggests that osteoarthritis is an independent risk factor for cardiovascular disease (CVD) and several mechanisms have been suggested to account for this association.³ One of these is the frequent use of NSAIDs in the treatment of osteoarthritis as they have been shown to be a proven risk factor for CVD.

"To the best of our knowledge, this is the first longitudinal study to evaluate the mediating role of NSAID use in the relationship between osteoarthritis and CVD in a large population-based

sample," said Professor Aslam Anis, School of Population and Public Health, University of British Columbia (study author). "Our results indicate that osteoarthritis is an [independent risk factor](#) for CVD and suggest a substantial proportion of the increased risk is due to the use of NSAIDs. This is highly relevant because NSAIDs are some of the most commonly used drugs to manage pain in patients with osteoarthritis."

Results of the study demonstrate that people with osteoarthritis had a 23 percent higher risk of developing CVD. The increased risk of congestive heart failure (CHF), ischemic heart disease (IHD), and stroke was 42 percent, 17 percent and 14 percent respectively. Investigators then calculated the impact of NSAID use on the increased risk and found that 68 percent of the total effect of osteoarthritis on CVD risk was due to NSAID use. The proportion of the increased risk due to NSAIDs seen in CHF was calculated at 45 percent and more than 90 percent for IHD and stroke respectively.

This population-based cohort study used data from 7,743 osteoarthritis patients and 23,229 non-osteoarthritis controls matched for age and gender from health administrative data from British Columbia, Canada. Statistical analysis was used which adjusted the results for age, gender, socioeconomic status, body mass index, and several conditions known to be associated with CVD, such as chronic obstructive pulmonary disease (COPD), high blood pressure, diabetes, high cholesterol, and Romano comorbidity score.

Provided by European League Against Rheumatism (EULAR)

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