

## PHARMACOTHERAPY

## Association between NSAIDs and risk of atrial fibrillation

The causes of atrial fibrillation (AF) are largely unknown. “There have been reports of some association between the use of steroidal anti-inflammatory drugs (SAIDs) and AF,” says Raffaele De Caterina, author of a new study published in the *Archives of Internal Medicine*. “Having access to a large database of British doctors reporting the use of several types of drugs, we decided to investigate the possible association [of AF] with non-SAIDs (NSAIDs).”

The UK General Practice Research Database was used to identify patients aged 40–89 years with a first-ever recorded diagnosis of AF in 1996. In total, 1,035 patients were classified as having incident chronic AF (arrhythmia persisting for more than 1 week), and 525 as having paroxysmal AF (arrhythmia reverting to sinus rhythm within 1 week, either spontaneously or after treatment).

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Nested case–control analyses were used to determine the risk of first-time AF among patients treated with SAIDs and NSAIDs. Details of timing (current, recent, past), duration ( $\leq 30$  days,  $>30$  days, 31–365 days,  $>365$  days), and dose (low, medium, high) for 20 different NSAIDs were incorporated into the analysis.

Current use of SAIDs was associated with a substantial (149%) increase in risk of chronic AF, as previously reported. Current use of NSAIDs was also associated with an increase (44%) in risk of chronic AF, although risk decreased after cessation of treatment. Risk was not dose-dependent, and there were no differences between individual NSAIDs. For paroxysmal AF, a similar increase in risk was only found among long-term users with a treatment duration longer than 1 year.

Several NSAIDs have been associated with the occurrence of coronary heart disease, particularly myocardial infarction, which increases the risk of heart failure. However, the investigators

do not believe that heart failure mediates the association between the use of NSAIDs and increased risk of chronic AF. “Our working hypothesis is that the association between NSAIDs and AF is not causal. NSAIDs (as well as SAIDs) are used to combat inflammatory conditions, such as arthritis. It is possible that the use of NSAIDs marks the presence of an underlying condition—inflammation—that directly contributes to the occurrence of AF. This hypothesis needs further testing and evaluation,” says De Caterina.

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