

# Direct oral anticoagulants linked with higher bleeding risk in kidney disease patients

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Certain blood thinners approved to treat atrial fibrillation may put patients with chronic kidney disease (CKD) at a higher risk of bleeding, according to the results of a study in an upcoming issue of the *Clinical Journal of the American Society of Nephrology (CJASN)*.

Direct oral anticoagulants, which are a certain type of blood thinners used to treat [atrial fibrillation](#), are cleared by the kidneys to varying degrees, and their elimination is slower in individuals with CKD. This may predispose these patients to drug accumulation and a greater risk of bleeding events. Although all randomized clinical trials of direct oral anticoagulants have excluded patients with severe kidney dysfunction, these medications have been approved by the US Food and Drug Administration for use in patients with advanced kidney disease.

Given that approximately one-quarter of patients with atrial [fibrillation](#) have CKD, the real-world safety and effectiveness of direct oral anticoagulants in patients with atrial fibrillation across the spectrum of [kidney](#) function is of great public health importance. To investigate, Jung-Im Shin, MD, Ph.D. (Johns Hopkins University) and her colleagues examined 2010-2017 information from the electronic health records of 3206 patients with atrial fibrillation who used direct oral anticoagulants and similar 3206 patients with atrial fibrillation who used the conventional [anticoagulant](#) warfarin.

There were 1181 bleeding events and 466 ischemic strokes over 7391 person-years of follow-up. (A person-year is the number of years of

follow-up multiplied by the number of people in the study.) In patients without CKD, the risk of bleeding and benefits of preventing ischemic stroke between direct oral anticoagulant and warfarin use were similar. On the other hand, patients with CKD who took direct oral anticoagulants had 23% higher risk of bleeding compared with those on warfarin, but similar benefits from prevention of ischemic stroke.

"Despite sparse evidence in safety and effectiveness of direct oral anticoagulants in CKD, we saw that prescription of direct oral anticoagulants in the CKD population increased substantially over time. We also found that direct oral anticoagulant use was linked with a higher risk of bleeding compared to warfarin use in patients with CKD." said Dr. Shin.

The findings suggest the need for caution in prescribing direct oral anticoagulants in [patients](#) with CKD.

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**More information:** Jung-Im Shin et al, Risks and Benefits of Direct Oral Anticoagulants across the Spectrum of GFR among Incident and Prevalent Patients with Atrial Fibrillation, *Clinical Journal of the American Society of Nephrology* (2018). [DOI: 10.2215/CJN.13811217](https://doi.org/10.2215/CJN.13811217)

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