

# AF patients treated long term with warfarin at increased risk for dementia

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A new study of more than 10,000 patients treated long term with the blood thinner, warfarin, reveals higher rates of dementia for patients with atrial fibrillation versus non-AF patients Credit: Intermountain Medical Center

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with atrial fibrillation versus non-AF patients

The study, by researchers at the Intermountain Medical Center Heart Institute in Salt Lake City, found that [atrial fibrillation](#) patients treated long term with warfarin had higher rates of [dementia](#), Alzheimer's disease and [vascular dementia](#) compared to anticoagulated non-atrial fibrillation patients.

Results of the research were presented today at Heart Rhythm 2016, the Heart Rhythm Society's 37th Annual Scientific Sessions.

Atrial fibrillation is the most common type of arrhythmia, which is a problem with the rate or rhythm of the heartbeat. During an arrhythmia, the heart can beat too fast, too slow, or with an irregular rhythm. Incidence rates of atrial fibrillation are growing dramatically as the population ages.

Dementia is a neurological disorder that impairs memory and other cognitive abilities, and it is now listed among the leading causes of morbidity and mortality in developed countries.

Atrial fibrillation can increase the risk of dementia because it exposes patients to both large and small clots that can affect brain function. Blood thinners used to prevent all forms of clots and strokes can increase the risk of both large and small brain bleeds that can also negatively impact brain function over time.

The study was conducted through the Intermountain Healthcare Clinical Pharmacist Anticoagulation Service, which is part of the Intermountain Healthcare system based in Salt Lake City.

Researchers enrolled a total of 10,537 patients with no history of dementia prior to the study. They were treated with a blood thinner for

atrial fibrillation and non-AF conditions like valvular heart disease and thromboembolism on a long-term basis.

Other variables in the patients studied included age, hypertension, diabetes, hyperlipidemia, renal failure, smoking history, prior myocardial infarction or cerebral vascular accident, and heart failure. Participants were aged 18 years and older.

During a follow-up of approximately seven years, researchers found that all types of dementia increased in the atrial fibrillation group more than the non-AF group.

In both groups, however, the risk of dementia increased as the time in therapeutic range decreased or became more erratic. When warfarin levels were consistently too high or too low, dementia rates increased regardless of why patients were receiving a blood thinner.

Researchers discovered that regardless of the adequacy of anticoagulation, atrial fibrillation patients consistently experienced higher rates of all forms of dementia. This finding indicates that the efficacy of therapy is strongly associated with dementia. Of note, researchers found that patients younger than 70 years tended to be the most susceptible to the risk of dementia.

"Our study results are the first to show that there are significant cognitive risk factors for patients treated with warfarin over a long period of time regardless of the indication for anticoagulation," said lead author T. Jared Bunch, MD, director of heart rhythm research at Intermountain Medical Center Heart Institute and medical director for heart rhythm services for the Intermountain Healthcare system.

This study is important in many ways, Dr. Bunch said.

"First, as physicians we have to understand that although we need to use anticoagulants for many reasons including to prevent stroke in AF patients, at that same time there are risks that need to be considered some of which we are only right now beginning to understand," he said. "In this regard, only those that absolutely need blood thinners should be placed on them long-term. Second, other medications like aspirin that may increase the blood thinners effect should be avoided unless there is a specific medical need. Finally, in people that are on warfarin in which the levels are erratic or difficult to control, switching to newer agents that are more predictable may lower risk."

In further exploring the association between atrial fibrillation, anticoagulation and dementia, this study offers insight into future treatment for patients with AF and for those taking a blood thinner for other needs. With atrial fibrillation raising the risk of dementia in addition to, and independent of, anticoagulation, how the abnormal rhythm is treated may be a way to lower dementia risk.

Provided by Intermountain Medical Center

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