

Women with common heart rhythm disorder found to have faster cognitive decline than men

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Women with atrial fibrillation progress more rapidly to cognitive impairment and dementia than men with the heart rhythm condition, according to research presented today at ACNAP 2023, a scientific congress of the European Society of Cardiology (ESC) and published in

the journal *Alzheimer's & Dementia*.

"Symptoms of [atrial fibrillation](#) in women are often ignored by [healthcare providers](#) or attributed to stress or anxiety so it can go undiagnosed for long period of time, while men are more likely to be diagnosed and treated quickly," said study author Dr. Kathryn Wood of Emory University, Atlanta, US. "Being undiagnosed means not receiving oral anticoagulant medication to prevent [blood clots](#) and strokes caused by atrial fibrillation. These women may be having clots that go to [small blood vessels](#) in their brain, causing them to lose [brain function](#) gradually and develop [cognitive impairment](#)."

"ESC Guidelines for the care of patients with atrial fibrillation recommend oral anticoagulants for both women and men," continued Dr. Wood. "However, we know that women are less likely to receive these medications than men. This is another reason why women may have small silent strokes that go unrecognized and damage brain tissue leading to cognitive impairment."

Atrial fibrillation is the most common heart rhythm disorder, affecting more than 40 million people worldwide. People with this condition have a five-fold increased risk of stroke compared with their healthy peers. Women have more atrial fibrillation symptoms than men and worse outcomes from the disorder, with a higher risk of death and more disabling strokes.

Dementia is more common in women than men. Atrial fibrillation is associated with a higher risk for cognitive impairment and dementia, possibly because the condition is linked with a more than two-fold risk of silent strokes. The accumulation of silent strokes and the associated brain injuries over time may contribute to cognitive impairment. Stroke prevention with oral anticoagulant drugs is the main priority in the management of atrial fibrillation and may reduce the risk of dementia.

This was the first longitudinal study to use multicentre data to examine sex differences in the prevalence of cognitive disease in patients with atrial fibrillation and the trajectory to dementia. The study included 43,630 participants of the National Alzheimer's Coordinating Center (NACC) cohort which has enrolled adults from the US general population since 1984.

Of those, 4,593 (11%) had atrial fibrillation at baseline and 39,037 (89%) did not. The average age was 78.5 years and 46% were women. To be included in this study, participants were required to have at least three annual clinic visits during which they took neuropsychological tests and were categorized as normal cognition, mild cognitive impairment (MCI) or dementia.

The researchers analyzed the associations between 1) atrial fibrillation and baseline cognitive diagnosis; and 2) atrial fibrillation and time to progression in cognitive diagnosis. The analyses were adjusted for factors that could influence the relationships including age, sex, race, education, body mass index, smoking, depression, hypertension, diabetes, high cholesterol, heart failure, stroke, and sleep apnoea. Men and women with atrial fibrillation were compared to those without the condition and differences by gender were examined.

Women with atrial fibrillation were three times more likely to have MCI and dementia at baseline compared to women without atrial fibrillation, with odds ratios of 3.43 (MCI) and 3.00 (dementia). The odds ratios for men were 1.73 and 1.60, respectively, but neither association was statistically significant in men.

During a median follow-up of four years, 30% of participants progressed to a worse stage of cognitive impairment and 21% developed dementia. Women with atrial fibrillation had a higher risk of progressing to a worse stage of cognitive impairment compared to women without atrial

fibrillation, with a hazard ratio (HR) of 1.21.

Regarding progression to each stage, compared to women without atrial fibrillation, women with the condition were more likely to transition from normal cognition to MCI (HR 1.17) and from MCI to vascular dementia (HR 2.57). The associations between atrial fibrillation and more rapid cognition decline were not statistically significant in men.

Dr. Wood said, "The analyses indicate stronger associations between atrial fibrillation and declining cognitive function in [women](#) compared with men. Establishing ways to identify atrial fibrillation patients at the highest risk of cognitive decline and [stroke](#) will inform future interventions to prevent or slow the progression to cognitive impairment and [dementia](#)."

More information: Conference:
esc365.escardio.org/presentation/264914

Kathryn A. Wood et al, Do Sex Differences Exist in Cognitive Function in Patients with Atrial Fibrillation?, *Alzheimer's & Dementia* (2022).
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