

Atrial fibrillation diagnosis associated with increased risk of memory decline

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Atrial fibrillation (AF) diagnosis was associated with a 45% increased risk of mild cognitive impairment (MCI) among a cohort of 4.3 million individuals in the UK, according to a new study published in *JACC: Advances*. These findings suggest that cardiovascular risk factors and multiple comorbidities could further the progression from MCI to dementia in this cohort.

MCI is an early stage of cognitive function decline. In some cases it can be reversed, but it can indicate development of early [dementia](#)

-associated disease. There has not been sufficient research on the development of MCI in AF patients and the subsequent development of dementia, so the authors of this study sought to investigate the association between MCI and AF diagnosis in the UK.

"Our study showed that AF was associated with a 45% increase in the risk of MCI, and that [cardiovascular risk factors](#) and multi-comorbidity appear to associate with this outcome," said Rui Providencia, MD, Ph.D., Full Professor at the Institute of Health informatics Research at University College London and the study's senior author.

The researchers used the UK primary electronic health record (EHR) data of 4.3 million individuals to investigate the risk of MCI after AF diagnosis, identifying 233,833 individuals with incident AF and 233,747 without AF.

In addition to the 45% increased risk of MCI after AF diagnosis, the study found that [older age](#), female sex, higher socioeconomic deprivation, clinical history of depression, stroke and multimorbidity were associated with a higher MCI risk. However, these factors did not modify the link between AF and MCI. For individuals over 74 years old, AF and MCI were frequently diagnosed when multi-comorbidity was detected, including diabetes, depression, hypercholesterolemia, and peripheral artery disease.

Patients with AF who were treated with digoxin did not experience an increased MCI risk. The risk of MCI was higher in patients with AF who did not receive oral anticoagulant treatment and amiodarone treatment. Similarly, patients with AF who received oral anticoagulant treatment and amiodarone treatment were not at risk of MCI.

During the study period, there were 1,117 individuals diagnosed with dementia on or after a diagnosis of MCI. AF was linked with a higher

risk of dementia among those who had developed MCI. Sex, asthma, smoking, [chronic kidney disease](#) and multi-comorbidity were associated with an elevated subsequent dementia risk.

"Progression from MCI to dementia appears to be, at least partially, mediated by cardiovascular risk factors and the presence of multiple comorbidities," Providencia said.

The researchers said these findings suggest that integrated AF care, such as combining anticoagulation and comorbidity-management, could help prevent cognitive deterioration and the progression to dementia. A confirmatory clinical trial is needed to explore this topic further.

More information: *JACC: Advances* (2023).
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