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## Atrial fibrillation-related dementia



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University of Minnesota Medical School researchers have determined that atrial fibrillation (Afib) is independently associated with changes that occur with aging and dementia.

"Atrial Fibrillation and Brain Magnetic Resonance Imaging Abnormalities" published in *Stroke* advances researchers' understanding of the mechanisms underlying atrial fibrillation-related dementia. Jeremy Berman, a University of Minnesota cardiology fellow is the first author of this paper. It had already been determined that Afib is associated with dementia independent of clinical stroke but the mechanisms surrounding the association were still unclear.

"Until this point, most studies which looked into this association were cross-sectional, which have limitations," said Lin Yee Chen, MD, MS, Associate Professor with tenure, Cardiovascular Division, in the Department of Medicine with the University of Minnesota Medical School. "In our study, brain MRI scans were performed at two different times within ten years."

The longitudinal analysis included 963 participants without prevalent stroke. They underwent a brain MRI in 1993-95 and a second in 2004-06. Researchers took note of finding such as subclinical cerebral infarctions, sulcal size, ventricular size, and white matter hyperintensity volume and total brain volume.

"We found that people with Afib did have an increase in subclinical cerebral infarction and worsening of sulcal and ventricular grade, which are changes associated with aging and dementia," said Chen.

"We need to find out why people with atrial fibrillation experience worsening of sulcal grade," said Chen. "This may involve collaborating with other scientists to understand other pathways we have not yet uncovered. Clearly, Afib is a public health problem which touches on the important theme of heart and brain connections."

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