

Inflammatory marker linked to dementia

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An inflammatory marker called sCD14 is related to brain atrophy, cognitive decline and dementia, according to a study of more than 4,700 participants from two large community-based heart studies. The study was published Monday, Dec. 9, in the journal *Neurology*.

"We have strong reason to believe that sCD14 can be a useful biomarker to assess a person's risk of [cognitive decline](#) and dementia," said study senior author Sudha Seshadri, M.D., professor of neurology at UT Health San Antonio and director of the university's Glenn Biggs Institute for Alzheimer's and Neurodegenerative Diseases.

"The most exciting part is that we could assess this risk in advance, when there is ample time to intervene and change the course of a person's life," Dr. Seshadri said.

"Higher levels of sCD14 were associated with markers of [brain](#) aging and injury, such as total brain atrophy and a decline in executive functioning—the decision-making needed for many activities of daily life," said study lead author Matthew Pase, Ph.D., of the Florey Institute for Neuroscience and Mental Health in Melbourne, Australia.

The researchers studied risk of dementia in 1,588 participants from the Framingham Heart Study and 3,129 participants from the Cardiovascular Health Study. Dr. Pase and Dr. Seshadri are Framingham investigators.

Plasma sCD14 was measured in participants' blood upon study enrollment. In the Framingham group, brain MRI and cognitive testing were performed within one year after the blood draw for sCD14. A second round of tests was performed after seven years. Surveillance for dementia was conducted over an average of nine years.

In the Cardiovascular Health Study, the first brain MRI was obtained three to four years after enrollment and a second round five years later.

"Cost-effective, blood based biomarkers are greatly needed to detect and track the progression of preclinical brain injury predisposing to dementia," the researchers state in the paper. "Such biomarkers could

also act as endpoints in clinical trials of disease-modifying interventions and expand our understanding of disease biology."

There are not yet any drug trials to see if lowering sCD14 levels would help cognition in humans. However, treatment with several targeted anti-inflammatory medications—such as statins—can lower sCD14. "There is a growing recognition of the role of inflammation in neurodegeneration and vascular injury-related cognitive decline and [dementia](#)," Dr. Seshadri said.

More information: *Neurology* (2019). [DOI: 10.1212/WNL.00000000000008682](#)

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