Study shows 13% of patients with dementia may instead have cognitive decline from cirrhosis

July 11 2024, by A.J. Hostetler

About 13% of individuals diagnosed with dementia may suffer instead from reversible cognitive decline caused by advanced liver disease,
according to researchers from the Virginia Commonwealth University's School of Medicine and the Richmond VA Medical Center.

Published recently in The American Journal of Medicine, the new analysis of nonveteran patients corroborates and extends the research group's earlier work showing that about 10% of U.S. veterans diagnosed with dementia may suffer instead from cirrhosis.

It can be difficult for physicians to differentiate dementia from hepatic encephalopathy, which is the cognitive decline caused by cirrhosis. If it is undetected, patients may not receive treatment that can reverse or halt the impairment.

Hepatic encephalopathy is a nervous system disorder brought on by cirrhosis, an advanced form of liver disease in which patients experience severe scarring of the liver. When the liver doesn't work properly, toxins build up in the blood. These toxins can travel to the brain and affect brain function, leaving patients confused or delirious.

Widely available medications can readily rid the body of toxins and reverse this condition, but without treatment, patients can lapse into a coma or die.

The new VCU-VA analysis suggests that physicians treating veteran or nonveteran patients with dementia—even without a cirrhosis diagnosis—should consider assessing them for liver disease. Identifying cirrhosis early on may point to reversible causes of cognitive impairment, potentially improving the lives of these patients.

"This important link between dementia and liver health emphasizes the importance of screening patients for potentially treatable contributors to cognitive decline," said the study's corresponding author, Jasmohan Bajaj, M.D., a gastroenterologist with the VCU Stravitz-Sanyal Institute.
In their first report published in January in JAMA Network Open, the researchers said they believed the findings would apply to nonveterans with dementia, but that further research was needed.

The new study sought to provide additional data by examining health records of nearly 69,000 nonveteran patients diagnosed with dementia between 2009 and 2019.

Almost 13% of the patients with dementia had high scores that are used to estimate the level of scarring of liver tissue, meaning they were very likely to have cirrhosis.

Bajaj said it should not be difficult to incorporate liver assessments into routine care for patients, as their risk for liver disease can be easily evaluated with an initial, noninvasive screening tool called the FIB-4 index.

"Early detection of liver issues, which can contribute to the treatable cognitive decline known as hepatic encephalopathy, in those with dementia could help ensure that patients get access to targeted and appropriate therapies," Bajaj said.

The FIB-4 score is recommended by leading liver, gastroenterology and endocrinology associations as a first-line test to screen for liver scarring, or fibrosis. It is based on multiple measurements, including age, and was developed by Bajaj's VCU Health colleague and co-author on the new study, Richard Sterling, M.D., who is the chief clinical officer of the Stravitz-Sanyal Institute for Liver Disease and Metabolic Health.

Other co-authors of the paper are Scott Silvey, of VCU's School of
Population Health; Evan French, of VCU's C. Kenneth and Dianne Wright Center for Clinical and Translational Research; Michael Godschalk, M.D., and Angela Gentili, M.D., of the Division of Geriatric Medicine in VCU's School of Medicine and the Richmond VA Medical Center; and Nilang Patel, M.D., of the Division of Nephrology in VCU's School of Medicine and the Richmond VA Medical Center.

Bajaj's interest in the connection between dementia and cirrhosis was sparked by the cases of two older veterans who were thought to have dementia and Parkinson's disease, but whose symptoms dramatically improved after being treated for hepatic encephalopathy. About 30% of veterans suffer some form of liver disease, and in 2023, it was estimated that about 8% of U.S. veterans with cirrhosis had dementia.

In the study published in January, the researchers reviewed medical records of 177,422 U.S. veterans diagnosed with dementia but not cirrhosis between 2009 and 2019. It showed that 10.3% of veterans with dementia had high FIB-4 scores and were very likely to have cirrhosis.

Factors that increase the risk of cirrhosis include older age, being male, congestive heart failure, viral hepatitis, alcohol use and certain health conditions. The new analysis' findings among nonveterans were unexpectedly higher than those for veterans, Bajaj noted.

"The 13% rate we found in nonveterans was surprising in that it was higher than we found among veterans, who tend to be older, less diverse and more male. But ultimately, it confirms and extends the results in a database more reflective of the U.S. population," he said.

"The next step is to ensure that health care providers are made aware of this potential overlap between dementia and hepatic encephalopathy, which is treatable," said Bajaj, who has spent the past several years focusing on hepatic encephalopathy and the gut-brain axis.

Provided by Virginia Commonwealth University

Citation: Study shows 13% of patients with dementia may instead have cognitive decline from cirrhosis (2024, July 11) retrieved 19 July 2024 from https://medicalxpress.com/news/2024-07-patients-dementia-cognitive-decline-cirrhosis.html

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