

Research looks for possible COVID tie to later Alzheimer's

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3D print of a spike protein of SARS-CoV-2, the virus that causes COVID-19—in front of a 3D print of a SARS-CoV-2 virus particle. The spike protein (foreground) enables the virus to enter and infect human cells. On the virus model, the virus surface (blue) is covered with spike proteins (red) that enable the virus to enter and infect human cells. Credit: NIH

Researchers are trying to unravel why some COVID-19 survivors suffer "brain fog" and other problems that can last for months, and new findings suggest some worrisome overlaps with Alzheimer's disease.

One study of older adults in Argentina found a surprising amount of dementia-like changes in memory and thinking for at least six months after a bout with the coronavirus—regardless of the severity of their infection. Other researchers found Alzheimer's-related proteins in the blood of New Yorkers whose COVID-19 triggered brain symptoms early on.

The preliminary findings were reported at an Alzheimer's Association meeting Thursday. Experts stress far more research is needed—and getting underway—to tell if COVID-19 might raise the risk of Alzheimer's or other [brain problems](#) later in life, or if people eventually recover.

The possibilities "are real and troubling," but it's too soon to know "whether this is really going to result in long-term cognitive change," cautioned Dr. Richard Hodes, director of the National Institute on Aging.

His agency wasn't involved in Thursday's research but has begun its own large study to try to find out.

"If you did have COVID, this does not necessarily mean that you will be impacted," agreed the Alzheimer's Association's Heather Snyder.

But protecting the brain from COVID-19 offers yet another reason to get vaccinated, she added.

Some hints about the risk come from a study tracking about 300 people in the Jujuy province of Argentina that kept a health registry of anyone

tested for the virus, whether they had symptoms or not. Researchers combed the registry for people 60 and older who had no record of brain disorders prior to the pandemic and asked if they'd undergo cognitive testing.

"It's quite scary, if I have to put it bluntly," said Dr. Gabriel de Erausquin of the University of Texas Health Science Center at San Antonio, who is leading the study.

Between three and six months after their coronavirus infection, about 20% of the older adults had problems with [short-term memory](#). And 34% had more profound impairment including trouble finding words and difficulty with longer-term memory, what de Erausquin called a "dementia-like syndrome."

Severity of their COVID-19 didn't predict the problems—instead those most at risk had a persistent loss of smell. That loss often is temporary with COVID-19. But de Erausquin noted the brain's olfactory region is directly linked to areas critical for memory, and a loss of smell is sometimes an early sign of degenerative diseases such as Alzheimer's or Parkinson's.

The study will track participants for three years to see how they fare. While the early findings focused on older adults, de Erausquin said there's other evidence that lingering problems in younger COVID-19 survivors tend to center more around the ability to concentrate.

Researchers at New York University-Langone Health took a different approach, testing the blood of more than 300 [older adults](#) hospitalized for COVID-19. About half experienced new neurologic symptoms such as confusion as part of their coronavirus infection, and the study found a jump in their blood levels of proteins linked to inflammation of the nervous system, brain cell injury and Alzheimer's disease.

That shows the brain is responding to injury, but it will take time to tell if the abnormal levels really signal Alzheimer's-like changes or are a temporary blip, said the National Institute on Aging's Dr. Eliezer Masliah, who wasn't involved in the research. He noted that one protein that goes awry during Alzheimer's also has a normal role in the [brain](#), to defend against infection.

Previous research has suggested that certain viruses may play a role in later Alzheimer's, and "the pandemic certainly gave us an unwelcome opportunity" to try to finally better understand why, Snyder said.

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