NIH awards Tulane $2.3 million to study link between COVID-19 and cognitive decline

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Dr. Gregory Bix, Director of the Clinical Neuroscience Research Center at the Tulane School of Medicine, is studying the link between COVID-19 and cognitive decline. (Photo by Paula Burch-Celentano)

Since the early days of the pandemic, researchers and patients alike have noticed a link between COVID-19 infection and cognitive impairment. The Centers for Disease Control and Prevention lists dementia as a risk factor for contracting COVID-19, and a 2022 review found that patients with dementia were two to five times more likely to die as a result of COVID-19 infection than the general population.

Now, Tulane University has been awarded a $2.3 million grant from the National Institutes of Health to study how COVID-19 and dementia are linked and whether a drug used to treat cancer can help stem cognitive decline.

“There is an association between a particular kind of cognitive impairment, called vascular dementia, which has to do with decreased blood flow to the brain, and cognitive impairment after COVID-19,” said Dr. Gregory Bix, Director of the Clinical Neuroscience Research Center at Tulane School of Medicine.

He compares it to a fast forward button for patients. “If they were somewhat cognitively impaired prior to getting COVID, often, when they recovered, it was much, much worse.”

Bix and his collaborators, Elizabeth Engler-Chiurazzi, PhD, of the Tulane School of Medicine and Tione Buranda, PhD, of the University of New Mexico will study cognitive decline in COVID-19 patients with pre-existing vascular dementia (VaD) and animal models of the disease to investigate a link between the two and potential therapies.

“We have identified a therapy that we think both directly and indirectly targets the virus,” Bix said. This therapy is a protein fragment called ATN-161. It has been used before to treat other conditions, like some cancers, but this would be the first time it has been used as a treatment for COVID-19. “We think that this therapy can block acute viral infection but also can help with all of the blood vessel breakdown that occurs in association with viral infection. It’s sort of like a one-two punch against the virus.”

Since ATN-161 has been safely used before in patients, Bix is hopeful that it could help COVID-19 patients in the future. “If we see evidence that it is effective, I will be very aggressive with moving forward to clinical trials.”

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