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Seizures may increase dementia risk for young stroke survivors

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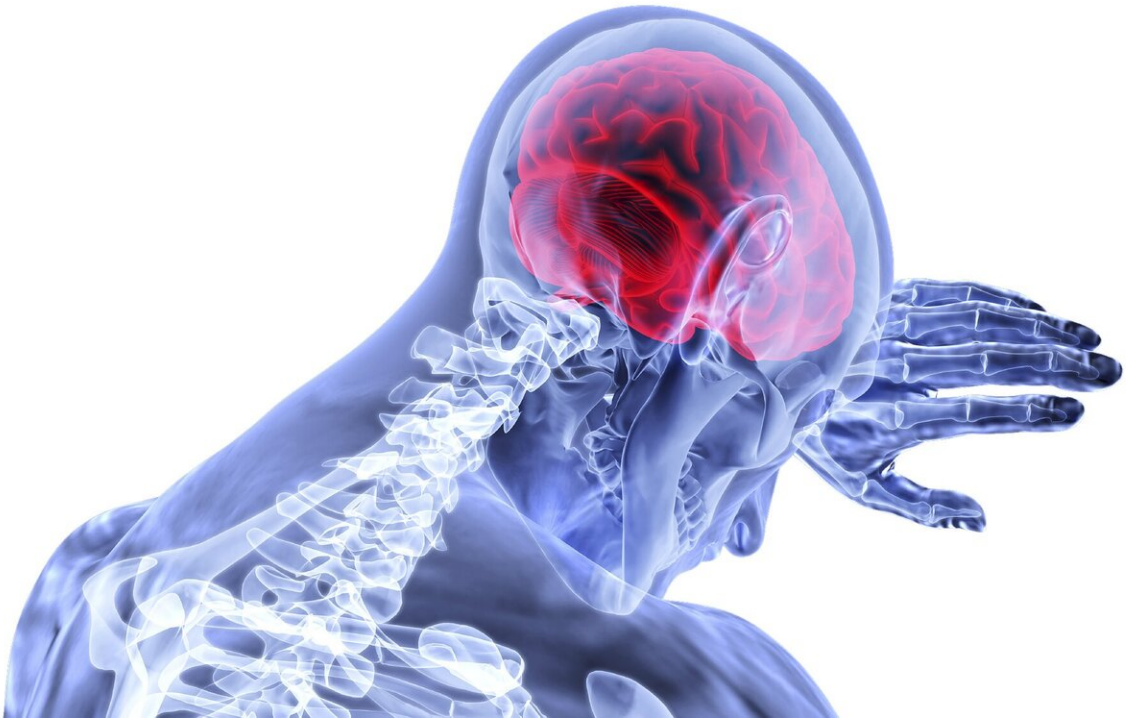

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Young stroke patients who have a seizure following their diagnosis are two and a half times more likely to develop dementia than patients who don't experience seizures, according to a new study by Penn State College of Medicine researchers. They said their results warrant further study into whether monitoring and treating young stroke survivors

—those 60 years old and younger—for seizures can slow or prevent dementia onset and progression.

Dementia, a neurocognitive disease involving memory loss and language and problem-solving deficits, affects approximately 3% of all stroke patients annually, and is associated with an increased likelihood of stroke recurrence and other complications, including death. Risk factors like diabetes and stroke characteristics have previously been used to predict patients at greatest risk for developing dementia. Since stroke survivors are treated for seizures at a rate greater than the general population, the research team sought to further explore whether having a seizure increased a stroke patient's risk for developing dementia.

Dr. Alain Lekoubou Looti, assistant professor of neurology and principal author of the study, said that while prior studies have suggested a link between post-stroke seizures increased risk of dementia, they were smaller in scale and focused on the time period immediately following a stroke. The current study provides increased understanding by using a larger sample size and looking at seizure incidence for a longer period after the stroke.

"Dementia is a disease with high economic and social burden," Lekoubou said. "Since strokes are occurring in younger people and survival rates are increasing, it is important to understand the long term effects and determine who is at greatest risk for severe complications like dementia."

The research team analyzed data from nearly 24,000 patients ages 18 to 60 years old in a private insurance database who experienced a stroke between 2006 and 2009 and had no prior claims for dementia, brain tumors, toxin exposure, traumatic brain injuries or other infectious brain diseases. The team identified patients who had seizure and dementia diagnoses within five years following their stroke.

Seizures occurred in 6.7% of stroke patients (ischemic and hemorrhagic strokes) and dementia developed in 1.3% of the patients studied. After adjusting for variables like age, sex, type of residence, region, use of antiseizure medications and diagnoses of diseases like diabetes, hypertension, depression and congestive heart failure, the researchers determined that young stroke patients who had seizures had a 2.5 times greater risk of developing dementia compared to those who did not have post-stroke seizures. The results were published in the journal *Neurology*.

According to Lekoubou, future research will focus on accurately identifying stroke patients with the highest risk of seizures and planning interventions that would lessen the detrimental effects of seizures and their effects on the onset and progression of dementia.

"Seizures are a common complication of stroke," Looti said. "Screening and treating stroke survivors for them may reduce the onset of dementia and have important public health implications."

More information: Alain Lekoubou et al, Poststroke Seizures and the Risk of Dementia Among Young Stroke Survivors, *Neurology* (2022). DOI: 10.1212/WNL.0000000000200736

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