

Stroke increases risk of seizures - survivors need to recognize symptoms ***Epilepsy Currents commentary assesses recent studies***

CHICAGO - People who suffer from a stroke are seven times more likely to develop epilepsy. Stroke survivors and their caregivers need to be aware of the risk and learn to recognize the often-subtle symptoms of seizures to ensure timely treatment, suggests an [Epilepsy Currents](#) commentary synthesizing recent research. The publication is the journal of the [American Epilepsy Society](#).

“People increasingly are surviving stroke because we’re getting better at diagnosing and treating it, but this also means more people are at risk for developing epilepsy,” said Adriana Bermeo-Ovalle, M.D., author of the commentary and associate professor of neurology at Rush University Medical Center, Chicago. “Many stroke survivors - and their doctors - don’t realize strokes and seizures can be related. The good news is research helps identify those at highest risk, so they, their family members, caregivers and health care providers can be more proactive.”

Epilepsy is a complex disease of the brain that causes sudden and unpredictable seizures. While it affects people of all ages, it is more common in infants, children and older adults. Because it damages the brain, stroke can lead to the development of epilepsy.

Nearly 1 in 10 people (9.27%) who had a stroke developed seizures within 10 years, according to a recent study of 859,260 people, which combined data from emergency department visits and hospitalizations in California, Florida and New York and a 5% sample of Medicare beneficiaries nationwide.¹ People may develop seizures soon after having a stroke, or many years later.

Another study demonstrates that an instrument, called SeLECT, can help predict who is at highest risk, based on five factors which are assigned points: severity of stroke (0-3); blockage in a large artery (0 or 1); experiencing seizures the first week after the stroke (0 or 1); stroke involving the cortex, the outer surface of the brain (0 or 3); and stroke caused by a blockage in the middle cerebral artery (0 or 1).² Patients receive a score from 0 to 9. Researchers tested the instrument in 1,169 people from three international studies and found that, among those determined by the instrument to be at highest risk (9 points), 63% developed seizures within one year and 83% within five years. Among those at the lowest risk (0 points), 0.7% developed seizures within one year and 1.3% developed seizures within five years.

Most strokes (87%) are ischemic, meaning they are caused by a blockage of an artery in the brain. Others are caused by bleeding in the brain (hemorrhagic). People who have a hemorrhagic stroke are at increased likelihood for seizures, more so if the bleeding affects the cortex.

Those determined to be at high risk - as well as their caregivers and healthcare providers - should be told what symptoms of seizures may look like, such as lack of activity, behavior changes, excessive sleepiness and slowed recovery.

135 S. LaSalle Street
Suite 2850
Chicago, IL 60603

www.aesnet.org

If stroke survivors are determined to be at high risk for seizures their healthcare providers should consider asking about subtle seizure symptoms and get diagnostic tests such as an EEG (electroencephalogram) if necessary. If these tests are positive, they may recommend anti-epileptic drugs (AEDs), she said.

Treatment to prevent the development of epilepsy is not yet available but it's still helpful to be proactive in the identification of symptoms and early diagnosis. For example, stroke survivors should learn early signs of a seizure so they can get to a safe place or get help, avoid high-risk activities such as driving and get adequate treatment so they can recover to their maximum potential. Their healthcare provider also should talk to them about their risk of sudden unexpected death in epilepsy (SUDEP) and the potential to develop cognitive problems and other issues, such as depression and anxiety, which are more common in patients with epilepsy.

“Seizure symptoms can easily go unrecognized and untreated if people don’t know they are at risk to begin with,” said Dr. Bermeo-Ovalle. “SeLECT is one tool that can be used to assess risk when they are released from the hospital, so they, their caregivers and their physicians know what to look for and to seek treatment if needed.”

About the American Epilepsy Society

Founded in 1946, the American Epilepsy Society (AES) is a medical and scientific society whose members are dedicated to advancing research and education for preventing, treating and curing epilepsy. AES is an inclusive global forum where professionals from academia, private practice, not-for-profit, government and industry can learn, share and grow to eradicate epilepsy and its consequences.

For more information, visit the American Epilepsy Society online at aesnet.org.

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1. Merkler A, Gialdini G, Lerario M, et al. Population-based assessment of the long-term risk of seizures in survivors of stroke. *Stroke*. 2018;49(6):1319-1324.
2. Galovic M, Dohler N, Erdélyi-Canavese B, et al. prediction of late seizures after ischemic stroke with a novel prognostic model (the SeLECT core): a multivariable prediction model development and validation study. *Lancet Neurol*. 2018;17(2):143-152.

CONTACT:

Caitlin Blum
Public Communications Inc.
O: 312-558-1770 x 129
C: 630-335-7425
cblum@pcipr.com