**EMBARGOED FOR RELEASE: 11 A.M. (ET) TUESDAY, JULY 7, 2015**

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**Stroke Associated With Both Immediate and Long-Term Decline in Cognitive Function**

In a study that included nearly 24,000 participants, those who experienced a stroke had an acute decline in cognitive function and also accelerated and persistent cognitive decline over 6 years, according to an article in the July 7 issue of *JAMA*.

Each year, approximately 795,000 U.S. residents experience a stroke. In 2010, almost 7 million adults were stroke survivors. Cognitive decline is a major cause of disability in stroke survivors. The magnitude of survivors' cognitive changes after stroke has been uncertain, according to background information in the article.

Deborah A. Levine, M.D., M.P.H., of the University of Michigan Medical School and Ann Arbor VA Health System, and colleagues examined the changes in cognitive function among survivors of incident stroke, controlling for their pre-stroke cognitive trajectories. The study included 23,572 U.S. participants 45 years or older without cognitive impairment at study entry (2003-2007), and followed up through March 2013. Over a median follow-up of 6.1 years, 515 participants (306 white, 209 black) survived incident stroke and 23,057 remained stroke free. Participants are in the Reasons for Geographic and Racial Differences in Stroke (REGARDS) study.

The researchers found that stroke survivors had a significantly faster rate of incident cognitive impairment after stroke compared with the pre-stroke rate, controlling for the odds of developing cognitive impairment before or acutely after the event. Incident stroke was associated with accelerated and persistent declines in global cognition and executive function (cognitive process that regulates an individual's ability to organize thoughts and activities, prioritize tasks, manage time and make decisions), after accounting for individuals' cognitive changes before and acutely after the event. In addition, there were significant, acute declines in new learning and verbal memory after stroke but no acceleration of pre-stroke rates of change in these functions.

“Our study has potential implications for clinical practice, research, and health care policy. Although clinical practice guidelines and quality improvement programs recommend cognitive assessments be performed for patients with stroke before hospital discharge and also in the postacute settings, our results suggest that stroke survivors also warrant monitoring for mounting cognitive impairment over the years after the event,” the authors write.

“Moreover, our results suggest that long-term cognitive dysfunction is a potential domain for evaluating acute stroke therapies. As adults increasingly survive stroke, cases of post-stroke cognitive impairment will multiply. Given that post-stroke cognitive impairment increases mortality, morbidity, and health care costs, health systems and payers will need to develop cost-effective systems of care that will best manage the long-term needs and cognitive problems of this increasing and vulnerable stroke survivor population.”

(doi:10.1001/jama.2015.6968; Available pre-embargo to the media at <http://media.jamanetwork.com>)

**Editor’s Note**: This work was supported by a cooperative agreement from the National Institute of Neurological Disorders and Stroke, National Institutes of Health, Department of Health and Human Services. Additional funding was provided by a grant from the National Institute on Aging (Dr. Levine). Please see the article for additional information, including other authors, author contributions and affiliations, financial disclosures, etc.

**Editorial: Stroke and Cognitive Decline**

“Clinicians should remain alert for the presence of clinically manifest stroke or silent stroke identified incidentally on neuroimaging study, because these findings may be harbingers of future major complications such as recurrent stroke, cognitive impairment, and disability,” write Philip B. Gorelick, M.D., M.P.H., and David Nyenhuis, Ph.D., of the Michigan State University College of Human Medicine, Grand Rapids, in an accompanying editorial.

“Information gained from cognitive screening can be used to plan for daily management of patient care based on cognitive performance and need for possible formal neuropsychological testing. In addition, intensification of vascular risk management may be indicated for patients at risk of cognitive impairment in an attempt to prevent subsequent stroke, myocardial infarction, loss of cognitive vitality, and overall disability.”

(doi:10.1001/jama.2015.7149; Available pre-embargo to the media at <http://media.jamanetwork.com>)

**Editor’s Note**: The authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.

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