

Severe, rapid memory loss linked to future, fatal strokes

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Severe, rapid memory loss may be linked to -- and could predict -- a future deadly stroke, according to research presented at the American Stroke Association's International Stroke Conference 2012.

Researchers found that people who died after stroke had more severe memory loss in the years before stroke compared to people who survived stroke or people who didn't have a stroke.

"We're most surprised that people who died after strokes had such sharp memory declines years before stroke onset" said Qianyi Wang, the study's lead author and a graduate student at the Harvard University School of Public Health in Boston, Mass.

In the study, researchers examined 11,814 people age 50 years and older every two years for signs of declining memory. Study participants were stroke-free at enrollment and were followed up to 10 years. Participants continued in the study if they survived a stroke. They reported 1,820 strokes, including 364 individuals who died after stroke but before the next memory assessment. Average memory loss each year was compared for participants who remained stroke free; participants who survived a stroke, considering their memory loss might be different before and after stroke; and participants who had a stroke but did not survive.

The researchers used a standard word-recall list to measure memory loss. For participants whose memory loss became too severe to use the word lists, researchers interviewed spouses or other caregivers using a

standardized assessment. Memory score is expressed in standard deviation units.

The average memory score each year dropped:

- 0.078 points in those who didn't have a stroke while in the study;
- 0.137 points before stroke in those who later survived a stroke;
- 0.205 points before stroke in those who later died from stroke.

The people who survived a stroke had worse average memory even before the stroke compared to similar individuals who never had a stroke during follow-up. At the time of stroke, [memory function](#) dropped an average 0.321 points. This difference is about the same as the average memory decline associated with growing 4.1 years older among those who remained stroke free. Because of the large stroke-related declines, memory impairment was common among stroke survivors.

Increased [memory loss](#) may be linked to a higher risk of fatal stroke for several reasons, researchers said.

"People who die after stroke may have worse underlying disease prior to stroke. This suggests early disease is accumulating and that something is happening to these people before they are diagnosed with clinical stroke." said M. Maria Glymour, S.D., senior study author and an assistant professor at the Harvard School of Public Health. "However, memory impairment is associated with increased mortality regardless of stroke. [Memory impairment](#) may therefore make patients more vulnerable to death in the wake of the stroke, for reasons that are unrelated to stroke severity. We're not sure which is true and we can't tell with these analyses, but we hope to examine this in the future."

Studies are needed to determine whether the effects of [stroke](#) on

memory differ for different groups of people; for example, these effects may vary depending on race, gender, geographic location and socioeconomic status.

"Even health conditions that are much more common at older ages may have roots earlier in life," Glymour said. "Your entire life course influences your health in old age."

Provided by American Heart Association

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