

# Adults who experience stroke before age 50 have higher risk of death over long-term

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In an examination of long-term mortality after stroke, adults 50 years of age and younger who experienced a stroke had a significantly higher risk of death in the following 20 years compared with the general population, according to a study in the March 20 issue of *JAMA*.

"[Stroke](#) is one of the leading causes of mortality, with an annual 6 million fatal events worldwide. Stroke mainly affects elderly people, yet approximately 10 percent of strokes occur in patients younger than 50 years. Despite this considerable proportion, only limited data exist on long-term prognosis after stroke in adults aged 18 through 50 years. It is exactly this long-term prognosis that is particularly important in adults in these ages, given that they have a long [life expectancy](#) during a demanding time of life in which they are beginning their families and building their careers," according to background information in the article.

Loes C. A. Rutten-Jacobs, M.Sc., of Radboud University Nijmegen Medical Centre, Nijmegen, the Netherlands, and colleagues conducted a study to investigate long-term mortality and cause of death after first [acute stroke](#) among adults 18 through 50 years of age and to compare this with nationwide age- and sex-matched [mortality rates](#). The study included adults with [transient ischemic attack](#) (TIA), ischemic stroke, or [hemorrhagic stroke](#) admitted to a medical center between January 1980 and November 2010. The survival status of 959 patients with a first-ever TIA (n=262), ischemic stroke (n =606), or intracerebral [hemorrhage](#) (n=91) was assessed as of November 1, 2012. Average follow-up duration was 11.1 years. Observed mortality was compared with the expected mortality, derived from mortality rates in the general population with similar age, sex, and calendar-year characteristics.

During the follow-up period, 192 patients (20.0 percent) had died. The researchers found that the

cumulative 20-year [mortality risk](#) was 24.9 percent for patients with TIA; 26.8 percent for patients with ischemic stroke; and 13.7 percent for patients with ICH. Analysis of the data indicated that after surviving the first 30 days after ischemic stroke, the cumulative mortality was increased compared with expected based on nationwide population mortality data. "This mortality remained at this higher level even in the second and third decade after young [18-50 years of age] stroke. In patients who survived the first 30 days after an ICH, mortality gradually coincided with that expected."

The cumulative 20-year mortality for [ischemic stroke](#) among 30-day survivors was higher in men than in women (33.7 percent vs. 19.8 percent).

The authors point out that their study showed an excess in [mortality](#) compared with the general population (in which half of deaths were attributable to a vascular cause), even decades after stroke. "This may suggest that the underlying (vascular) disease that caused the stroke at relatively young age continues to put these patients at an increased risk for vascular disease throughout their lives. It may also be noted that risk factors indicated in the study group, such as smoking and alcohol consumption, seem likely to confer risk as well."

"Although data are currently lacking, the observation of long-term increased risk for vascular disease could have important implications for the implementation of secondary prevention (both medical and lifestyle) treatment strategies. Future studies should address the role of this stringent implementation in these [patients](#) with young stroke."

Graeme J. Hankey, M.D., F.R.C.P., F.R.C.P. Edin., F.R.A.C.P., of the University of Western Australia, Perth, writes in an accompanying editorial that the "implications for researchers of the results reported by Rutten-Jacobs et al are that efforts to reduce the burden of stroke among young adults should

extend beyond acute treatment and early secondary prevention into the long-term."

"Hence, studies evaluating the effectiveness, safety, and cost of interventions to prevent recurrent cardiovascular events and death among adults younger than 50 years with stroke should acknowledge the continuing augmented risk of death throughout subsequent decades and continue the intervention and follow-up in the long term, when substantial yields are likely to be realized. The study by Rutten-Jacobs et al indicates that secondary prevention after stroke in young [adults](#) is a long-term, and probably lifelong, endeavor."

**More information:** *JAMA*.

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