

Stroke Etiology May Differ According to Gender

BY AMY ROTHMAN SCHONFELD

TORONTO — The etiology of first-time strokes in young to middle-aged adults differed according to sex in a prospective study of patients seen at one center.

Men tended to have a higher risk of strokes caused by cardioembolism, intracerebral hemorrhage, or substance abuse, whereas women had more strokes related to a vasculopathic etiology, Dr. Emily M. Nakagawa reported at the annual meeting of the American Academy of Neurology.

"When you have a young stroke patient, a lot of physicians tend to think of the etiology to be atherosclerotic disease or a cardioembolic event. If you have a patient who is a young woman, you have to start thinking about other etiologies

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Major Finding: Men had significantly higher rates of stroke caused by cardioembolism, hemorrhage, or substance abuse, whereas women had significantly higher rates of stroke with a vasculopathic etiology.

Data Source: A prospective study of 363 stroke patients aged 18-49 years.

Disclosures: Dr. Nakagawa had no relevant disclosures.

to appropriately treat and avoid future strokes. At the same time, young women who have already been diagnosed with a vasculopathy need to be educated on their vulnerability to strokes and the signs of stroke to get immediate care, and discuss with their primary care physician about using traditionally known stroke preventions such as use of

aspirin," said Dr. Nakagawa, a resident in neurology at the University of South Florida, Tampa.

Dr. Nakagawa's sample consisted of 202 women and 161 men with a mean age of 40 years (ranging from 18 to 49 years) who presented during a 4-year period to Tampa General Hospital. Patients underwent MR imaging, angiography, echocardiography, and stroke blood investigations. Strokes were stratified using expanded TOAST (Trial of ORG 10172 in Acute Stroke Treatment) classification and neurological deficit was assessed using the NIH Stroke Scale (NIHSS).

The women tended to present with a better clinical picture than men, making the diagnosis of stroke in women more

difficult. The mean NIHSS was significantly lower among women (4.7) than men (6.0).

Compared with women, men had significantly higher rates of stroke caused by cardioembolism (26 of 42 vs. 16 of 42), intracerebral hemorrhage (63 of 106 vs. 43 of 106), or substance abuse (26 of 41 vs. 15 of 41).

Women were significantly more likely than men to have strokes associated with cerebral venous thrombosis, vasculitis, migraine, or miscellaneous vasculopathy.

Knowing that there are differences between the sexes in stroke etiology can help guide treatment decisions, Dr. Nakagawa said. Female patients can have strokes due to causes that "neurologists do not traditionally think of first for stroke." ■

Lifestyle Factors Can Lower Mortality Risk Among Stroke Survivors

BY AMY ROTHMAN SCHONFELD

TORONTO — Even after having a stroke, people who maintain a healthy lifestyle can reduce the risk of death, and the more healthy lifestyle practices they follow, the greater the benefit, according to data from 388 stroke survivors.

Those who did not smoke and exercised regularly were less likely to die, and those who ate fruits and vegetables routinely were less likely to die from cardiovascular causes, Dr. Amytis Towfighi said at the annual meeting of the American Academy of Neurology.

"The benefits of five simple healthy lifestyle factors had been shown in the general population, but had not been shown before for the stroke survivor population," said Dr. Towfighi, assistant professor of neurology at the University of Southern California, Los Angeles.

Dr. Towfighi analyzed cross-sectional and prospective data from the National Health and Nutrition Examination Survey (NHANES). From an initial sample of more than 33,000 people, 649 subjects were identified who had a prevalent stroke in the years 1988-1994 and were followed through 2000.

In the final analysis, 388 stroke survivors met all criteria, including information

on such covariates as age, sex, race, and prior myocardial infarction. The sample was 80% white and 53% female, with a mean age of 67 years. Of the 388 stroke patients, 206 died by 2000, with 126 deaths attributed to cardiovascular causes.

Of the stroke survivors, 75% self-reported that they did not smoke, 23% used alcohol moderately (although most did not drink), and 40% ate five or more servings of fruits and vegetables daily when surveyed at baseline. About one-third said that they exercised more than 12 times per month and 70% had a body-mass index in the 18.5 to 29.9-kg/m² range.

Of the five healthy lifestyle factors, abstaining from smoking (hazard ratio, 0.57; confidence interval, 0.34-0.98) and regular exercise (HR, 0.66; CI, 0.44-0.99) were associated with a lower all-cause mortality rate.

Eating at least five servings of fruits and vegetables was associated with lower risk of cardiovascular death (HR, 0.30).

There appeared to be a dose/response relationship. Compared with those who did not report any of the healthy practices, the HR for all cause-mortality was 0.07 for five practices, 0.04 for four practices, and 0.13 for three practices.

Dr. Towfighi said that she had no relevant conflicts. ■

Children Who Experience a Stroke Face a 13% Risk of Recurrence

BY MITCHEL L. ZOLER

SAN ANTONIO — Children who have had a stroke face a 13% risk for a second stroke, with the greatest recurrence risk during the first month after the index episode, based on prospective follow-up of 93 children at one U.S. center.

Half of the recurrences occurred before the index stroke was recognized and secondary prevention treatment begun, a finding that highlights the need for improved early recognition of strokes in children, Dr. Rebecca N. Ichord said at the International Stroke Conference.

"Delays in diagnosis may adversely affect recurrence risk by delaying the start of secondary preventive treatment," said Dr. Ichord, a pediatric neurologist and director of the pediatric stroke program at the Children's Hospital of Philadelphia.

"There is gross under-awareness of pediatric stroke. When EMTs, emergency department physicians, and primary care pediatricians see a child with an acute neurologic deficit they should immediately think of stroke first rather than last because stroke has the most time-sensitive treatment," Dr. Ichord said in an interview. "If the first stroke is missed because no one thought of it, we also miss the chance to prevent a second stroke."

She acknowledged, however, that right now no proven treatments exist for secondary stroke prevention in children.

"We use the same treatments in children that we use in adults,

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Major Finding: 12 of 93 children had a recurrent stroke during a median follow-up of 16 months.

Data Source: Prospective, single-center study of children followed after their index stroke during 2003-2009.

Disclosures: Dr. Ichord serves on the clinical event committee for the pivotal U.S. trial of the Berlin Heart ventricular assist device. She said that none of her associates had any disclosures.

but we don't know" how well they work.

Her study involved 93 children who came to the Children's Hospital of Philadelphia for stroke assessment. Their average age was 8 years; age ranged from neonatal to 18 years. Two-thirds were boys. The most common risk factors for stroke were vasculopathy in 37 followed by a cardioembolic cause in 26. Vasculopathy included any vascular-imaging finding of stenosis or occlusion in a large vessel that was not obviously caused by a cardiac embolus. The vasculopathies included focal cerebral arteriopathy in 14, dissection in 10, moyamoya disease in 8, postradiotherapy necrosis in 2, infection in 2, and vasculitis in 1.

Three of the 93 patients died from their underlying disease soon after their initial stroke; follow-up data were available for 85 of the remaining 90 for a median of 16 months, ranging from 1 to 72 months. During follow-up, 12 children had recurrent strokes (13% of the initial 93), including one child with two recurrences. Recurrent strokes were defined as episodes that occurred at least 24 hours after the index stroke and were radiologically distinct events.

Six children had their recurrence before their index stroke was identified and prophylaxis begun. The other six children had their second stroke an average of 9 days following confirmation of the index episode and prophylaxis had begun, ranging from 4 to 96 days. Ten of the recurrences occurred in children with vasculopathy as the primary cause of their index event, and two had index events that involved a cardioembolic trigger.

In patients whose index stroke was recognized, all but two received antiplatelet treatment, anticoagulant treatment, or both. Selected patients also received surgical interventions such as revascularization or repair of a patent foramen ovale.

"Risk factors for stroke are completely different in children than in adults." In adults, it's often atherosclerotic disease or atrial fibrillation or other chronic disorders that pose a chronic stroke risk. Children are usually generally healthy, but with a focal lesion that poses a transient risk. "It's a convergence of one or two risk factors and some inciting event," Dr. Ichord said at the conference, which was sponsored by the American Heart Association. ■