

## Young adults with stroke symptoms are sometimes misdiagnosed in emergency rooms

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In the Misdiagnosis of Acute Stroke in the Young During Initial Presentation in the Emergency Room study, researchers reviewed data on 57 patients, ages 16 to 50 years old, enrolled since 2001 in the Young Stroke Registry at the Comprehensive Stroke Center at Wayne State University in Detroit, Mich.

Four males and four females (14 percent), average age 34, were misdiagnosed as having vertigo, migraine, alcohol intoxication or other conditions. They were discharged from the hospital and later discovered to have suffered a stroke. Those misdiagnosed included:

- an 18-year-old man who reported numbness on his left side but was diagnosed with alcohol intoxication;
- a 37-year-old woman who arrived with difficulty speaking and was diagnosed with a seizure;
- a 48-year-old woman with sudden blurred vision, an off-balance walk, lack of muscle coordination, difficulty speaking and weakness in her left hand, who was told she had an inner ear disorder.

"Accurate diagnosis of stroke on initial presentation in young adults can reduce the number of patients who have continued paralysis and continued speech problems," said Seemant Chaturvedi, M.D., senior author of the study and a professor of neurology and director of the stroke program at Wayne State.

"We have seen several young patients who presented to emergency



rooms with stroke-like symptoms within three to six hours of symptom onset, and these patients did not get proper treatment due to misdiagnosis. The first hours are really critical."

Intravenous delivery of the clot-busting drug tissue plasminogen activator (tPA) is the only U.S. government-approved treatment for acute stroke. It must be delivered within three hours of symptom onset to reduce permanent disability caused by stroke. Chaturvedi said experimental interventional stroke treatment such as intra-arterial clot busters and mechanical clot retrieval may be an option for some patients three to eight hours after symptoms.

"Part of the problem is that the emergency room staff may not be thinking stroke when the patient is under 45 years old," Chaturvedi said. "Physicians must realize that a stroke is the sudden onset of these symptoms."

Patients arriving with "seemingly trivial symptoms like vertigo and nausea" should be assessed meticulously, he said.

"Some people believe that younger people may respond better to stroke treatments, so that makes it doubly important to recognize when a stroke is happening. After 48 to 72 hours, there are no major interventions available to improve stroke outcome."

No matter the age, people must also get to the hospital quickly if these stroke symptoms occur:

- sudden numbness or weakness of the face, arm or leg, especially on one side of the body;
- sudden confusion, trouble speaking or understanding;
- sudden trouble seeing in one or both eyes;
- sudden trouble walking, dizziness, loss of balance or coordination;



## and/or

• sudden, severe headache with no known cause.

Stroke is the third leading cause of death and one of the top causes of disability in the United States.

"Early intervention is the most critical component of effective stroke care," said Abraham Kuruvilla, M.D., the study's lead author and a stroke fellow in the neurology department at Wayne State University. "Early intervention will reduce the burden of disability of the young patients afflicted with stroke disability and the associated high cost of medical care in this population."

Source: American Heart Association

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