New Web tool may help predict risk of second stroke

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Scientists have developed a new web-based tool that may better predict whether a person will suffer a second stroke within 90 days of a first stroke, according to research published in the December 16, 2009, online issue of *Neurology*, the medical journal of the American Academy of Neurology.

"This is an important new tool because studies show that people who have a second stroke soon after a first stroke are more likely to die or have severe disability," said study author Hakan Ay, MD, with Massachusetts General Hospital and Harvard Medical School in Boston. "This tool can help doctors identify people who are at high risk of having another stroke and need immediate evaluation based on information typically available at the time of initial evaluation."

For the study, researchers examined information from 1,458 people who experienced an ischemic stroke and were admitted to the hospital within 72 hours. Participants gave information about their medical history and underwent brain scans. After a three-month follow up involving 806 of the participants, 60 strokes had occurred. Of those, 30 strokes occurred within 14 days of the first stroke. The study found that the risk of recurrent stroke was 2.6 percent at 14 days and six percent at 90 days.

Scientists developed a new tool known as the "Recurrence Risk Estimator at 90 days" or "RRE-90 score" to calculate a person's risk of having another stroke within three months by looking at risk factors of stroke, such as history of mini-stroke, or transient ischemic attack (TIA),

age and the type of first stroke the person experienced, along with information from brain scans. The higher the score, the more likely it was a patient would experience a second stroke. The 90-day risk was approximately 40 times greater in people with four or more stroke risk factors than in people without any risk factors. The study found that over 96 percent of patients who developed a second stroke showed signs of one or more risk factor.

"We currently don't have a well-developed tool for predicting short-term risk of early recurrent stroke, so this tool could help improve stroke care and outcome," Ay said. "For example, people at high risk of a second stroke can be immediately admitted to specialized stroke centers and given preventative treatment."

Another interesting finding in the study was that long-term predictors of stroke, such as smoking, diabetes and hypertension did not predict short-term strokes. Ay says the accuracy of the tool still needs to be confirmed before it can be implemented for general use.

Provided by American Academy of Neurology

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