Medical Xpress

10 percent of healthy people in study had injury from 'silent strokes'

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A recent study found that about 10 percent of the apparently healthy middle-aged participants with no symptoms of stroke were injured from "silent strokes," researchers report in Stroke: Journal of the American Heart Association.

Silent cerebral infarction (SCI), or "silent stroke," is a brain injury likely caused by a blood clot interrupting blood flow in the brain. It's a risk factor for future strokes and a sign of progressive brain damage that may result in long-term dementia.

"The findings reinforce the need for early detection and treatment of cardiovascular risk factors in midlife," said Sudha Seshadri, M.D., co-author of the study and associate professor of neurology at Boston University School of Medicine. "This is especially true since SCIs have been associated with an increased risk of incident stroke and cognitive impairment."

Researchers evaluated magnetic resonance imaging (MRI) from about 2,000 people, average age 62, who are part of the Framingham Offspring Study (children of participants in the original Framingham Heart Study). The offspring have undergone clinical examinations every four to eight years.

Among patients who displayed no symptoms of stroke, 10.7 percent had SCIs on routine brain MRI, researchers said. Previous estimates of SCIs ranged from 5.8 percent to 17.7 percent depending on age, ethnicity and

other issues. Of those in the study with SCIs, 84 percent had a single lesion.

The study is the first to correlate the total score of the Framingham Stroke Risk Profile to prevalence of SCI. The risk profile estimates the 10-year probability of having a stroke. The factors in the profile are age, systolic blood pressure, antihypertensive therapy, diabetes mellitus, cigarette smoking, cardiovascular disease, left ventricular hypertrophy and atrial fibrillation (AF).

All the components of the Framingham Stroke Risk Profile were positively associated with an increased prevalence of SCI. For the first time, researchers found a significant correlation between AF and silent cerebral infarction. AF is the most common form of heart arrhythmia, or irregular heartbeat in people older than 65.

"In our data, AF increased the risk of prevalent SCI more than two-fold," Seshadri said. Hypertension and systolic blood pressure were also associated with an increased prevalence of SCI.

Risk factors for stroke are also risk factors for AF. Hypertension and other factors that make it more likely individuals will experience AF also predispose those people to clinical stroke and probably to SCI. AF, therefore, may be a simultaneous outcome rather than a cause of SCI, researchers said.

The observational data could not indicate if screening for and appropriately treating AF would reduce the population burden of silent stroke, researchers said.

The study also found that high systolic blood pressure, hypertension and elevated levels of blood homocysteine, a sulfur-containing amino acid found in the blood, were other risk factors commonly associated with

stroke that also raised participants' chances of having SCI. Hypertension consistently has been implicated as a risk factor of SCI. Neither age nor gender significantly changed the effect of any of the risk factors on SCI.

Researchers' ability to generalize findings for other ethnic groups is limited because participants in the Framingham study are mostly of European descent.

"The significant relationship between hypertension, elevated serum homocysteine, carotid artery disease and prevalent SCI underscores the importance of current guidelines for the early diagnosis and prevention of hypertension and atherosclerosis and their risk factors," Seshadri said.

Source: American Heart Association