STUDY ADDS MORE GOOD REASONS FOR KEEPING BLOOD PRESSURE, CHOLESTEROL IN CHECK

BY CYNTHIA K. BUCCINI

Silent Strokes

Scientists have known for nearly a decade that about 15 percent of people in their seventies and eighties suffer "silent" strokes — damage to the brain that occurs without the typical symptoms of a clinical stroke. But a recent BU School of Medicine study suggests that silent strokes can also occur at much younger ages, and in otherwise healthy people.

The researchers, who studied brain scans of 2,040 men and women whose average age was 62, detected small areas of tissue damage in roughly 11 percent of the group. None of the subjects believed they had ever suffered a stroke or cognitive impairment.

The researchers were unable to tell from the MRIs what caused the damage, also called silent cerebral infarcts, or when the damage had occurred.

Sudha Seshadri, a School of Medicine associate professor of neurology and a Framingham Heart Study investigator, who coauthored the recent study, says some of the infarcts were probably caused by blood clots within tiny blood vessels in the brain. She warns that the same factors that can lead to clinical strokes, such as high blood pressure, diabetes, narrowing of the carotid arteries in the neck, and atrial fibrillation, or irregular heartbeat, also increase the risk of silent strokes.

"I think the important message is that in older middle age, your risk of clinical stroke is not very high — between 1 and 2 percent, depending on your risk factor profile," Seshadri says. "But this study shows that your risk of having *some* damage because of those factors is much higher." A series of small silent infarcts over time, she says, can lead to a clinical stroke and to dementia.

Because silent strokes occur deep within the brain, typically in a region called the basal ganglia, people often don't experience the vision problems, speech impairments, or weakness or paralysis on one side of the body that are typically associated with a clinical stroke.

But when doctors look carefully, they sometimes find subtle abnormalities. For example, a patient might have difficulties with executive function tasks — those that require planning, like changing a lightbulb or cooking. "We prefer to call these covert infarcts, because they're not truly silent," Seshadri says.

She and her colleagues still have questions about silent cerebral infarcts. "We were just looking at the first MRI," she says. "So we don't know whether the persons showing a silent infarct developed it a year before the MRI or five years before."

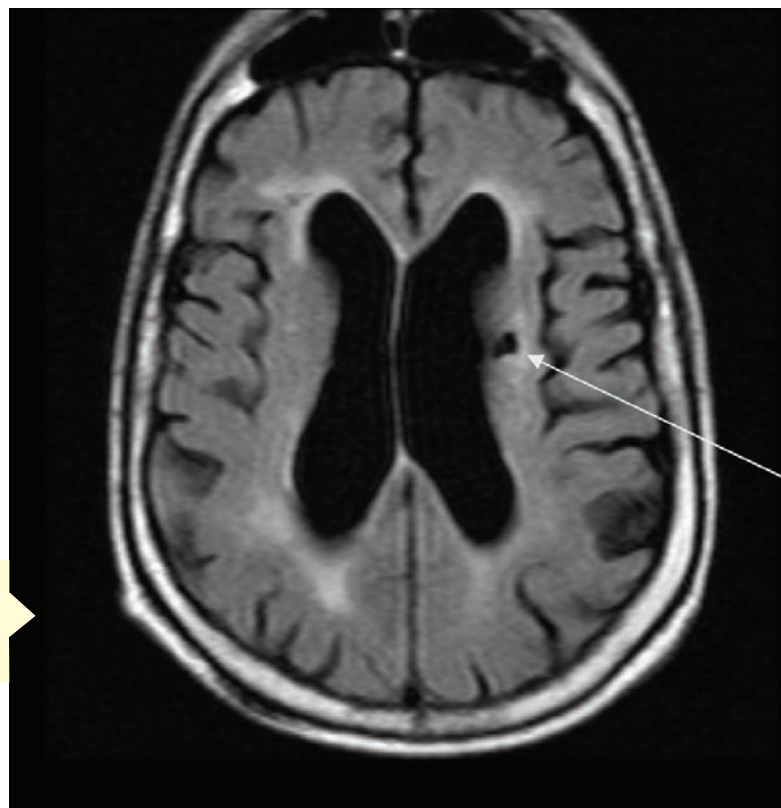
Approximately 2,000 of the study subjects have since undergone a second MRI, which the researchers have scrutinized for signs of new strokes. "It's not published yet, but it's higher than we had expected," says Seshadri.

The people taking part in the study are participants in the Framingham Offspring Study, part of the Framingham Heart Study, the landmark National Heart, Lung, and Blood Institute (NHLBI) epidemiological study that has tracked the health of families in Framingham, Massachusetts, since 1948. BU has run the study with the NHLBI since 1971.

Seshadri says the latest findings, which were published in the journal *Stroke*, don't mean that patients should demand routine MRIs when they visit their doctors.

Instead, Seshadri says, "People should know their blood pressure. They should get it treated if it is high. They should know their blood sugar. They should exercise, keep their weight in the normal range, and know their cholesterol."

And, she adds, "The additional incentive perhaps from this study is that even if you don't have clinical symptoms, don't wait to control these risk factors until you do." ■



■ The arrow on this MRI points to an infarct, or tissue damage, in the brain of a seventy-year-old man, who had no symptoms. Such "silent" strokes can occur at much younger ages as well.