

# Morning surge in blood pressure linked to strokes

In older people with high blood pressure, a sharp increase in blood pressure in the morning increases the risk of stroke and is linked to brain lesions known as "silent" strokes, according to a recent study published in *Circulation: Journal of the American Heart Association*.

"This study is the first to show that an excessive morning blood pressure surge is a predictor of stroke in elderly people with high blood pressure," says lead author Dr. Kazuo Kario, from the department of cardiology at Jichi Medical School in Tochigi, Japan. "This finding was independent of ambulatory blood pressure levels and target organ damage."

Ambulatory blood pressure is a 24-hour continuous blood pressure measurement. Target organ damage is the damage to organs such as the brain, heart or kidneys caused by high blood pressure.

This study also extends previous work showing that people with an extreme dip in blood pressure overnight are at increased risk for stroke, and that the reason may be the morning surge rather than the excessively low blood pressure during the night," says Kario.

Kario's team followed 519 Japanese patients with high blood pressure (average age 72) for an average of 41 months. All participants underwent ambulatory blood pressure monitoring and a magnetic resonance imaging (MRI) scan to determine the presence of silent cerebral infarcts (brain lesions that indicate a "silent" stroke). High blood pressure (hypertension) is diagnosed when average systolic pressure (the top number in a blood pressure reading) is 140 millimeters of mercury (mm Hg) or greater, or average diastolic pressure (bottom number) is 90 mm Hg or greater.

Researchers calculated the morning blood pressure surge by measuring the average systolic blood pressure during the two hours after awakening, and subtracting the average systolic blood pressure during the one hour that included the lowest sleeping blood pressure.

Participants were divided into two groups. The morning surge (MS) group included 63 patients who had a morning blood pressure increase of 55 mm Hg or greater. The Non-MS group included the remaining 456 patients who had a

morning blood pressure increase of less than 55 mm Hg. The average morning blood pressure increase was 60 mm Hg in the MS group, and 29 mm Hg in the non-MS group.

The researchers found that participants in the MS group were more likely to have multiple "silent" strokes (57 percent) than the non-MS group (33 percent) according to their MRIs at the start of the study. In addition, 19 percent of those in the MS group had a stroke during the follow-up period compared with 7.3 percent of people in the non-MS group.

Even after adjusting for age and ambulatory blood pressure, the relative risk of stroke for people with a morning surge was nearly three times higher than for people without the surge. Researchers also found that a 10 mm Hg increase in the morning blood pressure surge increased stroke risk by 22 percent.

Kario says, "The results suggest that the morning surge in blood pressure could be a new target for drug treatment to prevent target organ damage and subsequent stroke in patients with high blood pres-

sure." He adds that even though the study was not designed to investigate the effect of blood pressure-lowering medication on stroke risk, they did observe that such medication was associated with reduced stroke risk.

"Thus, controlling the morning surge with antihypertensive medication might decrease stroke risk," says Kario.

Kario's study is the largest and most definitive investigation of the long-recognized pattern of higher cardiovascular event rates in the morning hours.

"The clinical inferences of the data from this study are clear," says Kario. "Patients who experience surges of blood pressure after arising are at risk for stroke and likely other cardiovascular events. The presence of such surges can be identified by home blood pressure measurements. And, if the early morning blood pressure is above 140/90 mm Hg, additional antihypertensive therapy is indicated."

He adds that it would be logical for drug treatment to include antihypertensive medicines that are effective for 24 hours or longer.

# Group warns about abandoning carbohydrates

Concerned about a fundamental nutritional shift now occurring in the diet of millions of Americans, one health organization is attempting to clarify the role of carbohydrates in weight management.

The American Institute for Cancer Research (AICR) says the widespread "eat or nothing" approach to carbohydrates, chiefly inspired by misreadings of popular diets, is simply too simplistic and potentially dangerous.

That's why the most recent issue of the quarterly AICR Newsletter, arriving this week in some 1.5 million American homes, features a front-page story that clarifies this timely issue in a concrete, easy-to-understand style.

"The word is on the street," said Melanie Polk, RD, director of nutrition education at AICR. "You hear it repeated over and over around the water cooler, at parties and over dinner with friends: carbs

are bad. The truth is a bit more complicated than that."

Polk points out that even the most restrictive "low carb" diets qualify their position with regard to healthy foods that contain carbohydrates.

Acknowledging that vegetables, fruits and whole grains provide health benefits and protection from chronic disease, most high-protein diets manage to make some room for these important foods.

Regardless, the only message many Americans are hearing is, "Cut the carbs."

The cancer experts are concerned that this is just the kind of misinformation that plays into Americans' desire for simple solutions. In fact, an AICR survey conducted two weeks ago shows that 78 percent of Americans believe that the kind of food they eat is more important for managing their weight than the amount of food they eat.

### CLARIFICATION

It was incorrectly stated in the article "Reducing the Fear Factor" (Health, Sunday, March 30) that Dr. James G. Henderson, director of Troy Internal Medicine, was the primary Michigan investigator for a Mayo Clinic study on fecal DNA evaluation. Dr. Nareish Gunaranimum, gastroenterologist and director of clinical research at St. Joseph Mercy Hospital, is the lead investigator.

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