

White-Coat Hypertension

High risk or harmless to the heart?

By KATHLEEN FACKELMANN

The patient takes one look at the cardiologist and his blood pressure shoots through the roof. As soon as the doctor leaves the room, the pressure eases.

The patient calls it stress. Physicians, however, refer to this condition as white-coat hypertension. People with white-coat hypertension experience a sudden surge in blood pressure during a medical exam.

There's no controversy about the dangers associated with the better known chronic high blood pressure. People with such hypertension face an increased risk of stroke, heart attack, kidney disease, and heart failure—in which the heart progressively weakens and ultimately stops. But do transient surges in blood pressure do any harm?

Some researchers contend they do not. Others believe that white-coat hypertension represents a fairly serious cardiovascular risk factor. A German team now weighs in with findings suggesting that potentially dangerous thickening of the heart walls appears unusually often in people with white-coat hypertension.

"It seems this group is not as healthy as previously thought," says researcher Heribert Schunkert of the University of Regensburg in Germany.

About 10 percent of any population suffers from white-coat hypertension. Doctors believe that it represents a person's tendency to exaggerate his or her responses to mildly stressful situations. For example, a person with white-coat hypertension may develop spikes in blood pressure while driving, talking on the phone, or in other common situations.

This isn't the first time that researchers have suggested that white-coat hypertension may pose a risk. Research by Stevo Julius of the University of Michigan Medical Center in Ann Arbor and his colleagues suggests that people with white-coat hypertension may have a number of risk factors for atherosclerosis, the condition in which fatty plaque builds up on artery walls.

Julius and his colleagues published a study in the Dec. 16, 1990 *HYPERTENSION* showing that people with white-coat hypertension tend to suffer from obesity and have high concentrations of an unhealthy fat in the bloodstream. Although these people are outwardly healthy, this constellation of factors puts them in line for a heart attack.

Julius and his colleagues concluded that people with transient hypertension resemble people who exhibit borderline hypertension. The latter show slightly elevated blood pressure that never abates. Research suggests that borderline hypertension poses a cardiovascular risk.

The new research by Schunkert and his colleagues supports the notion that people with white-coat hypertension face an elevated heart-disease risk. Schunkert's team began the study by drawing on a pool of 1,677 mostly healthy men and women who live in and around Augsburg, Germany.

The researchers wanted to determine each person's blood pressure in a relaxed setting. A technician wearing street clothing and no white coat talked to each recruit for at least half an hour in a room with an armchair and a table.

The technician took several blood pressure readings during this meeting. Next, the team subjected each recruit to echocardiography, a technique that bounces sound waves off the heart. The resulting picture reveals abnormalities in the heart's structure or function.

After the test, study subjects waited in a medical exam room for a cardiologist. The doctor, who wore a white coat, took a final blood pressure reading.

People in the study were classified as having normal blood pressure if they had readings of less than 140 millimeters of mercury (mm Hg) systolic and 90 mm Hg diastolic measured by a technician and less than 160/95 mm Hg measured by a doctor. Participants had white-coat hypertension if they had readings of less than 140/90 mm Hg measured by the technician and more than or equal to 160/95 mm Hg taken by the physician. The researchers found that 8 percent of women and 11 percent of men fit this definition of white-coat hypertension.

Chronic elevation of blood pressure can lead to a problem called left ventricular hypertrophy, in which the left pumping chamber of the heart develops thickened walls. Those muscular walls allow the heart to beat more forcefully—in response to the restricted blood vessels that cause high blood pressure—but over time, the overworked heart can fail.

In addition, the thickened walls are less elastic than normal, a problem that causes the pressure to escalate inside the heart. The high pressure can trigger a potentially fatal disorder in the heart's rhythm.

The German team discovered that compared with the people with normal blood pressure, research subjects with white-coat hypertension faced almost twice the risk of suffering from left ventricular hypertrophy, as revealed by the echocardiography.

"This is a severe cardiovascular risk," Schunkert says. The risk is similar to that faced by a person with particularly high blood cholesterol. The researchers published their findings in the Aug. 29 *BRITISH MEDICAL JOURNAL*.

Stephen K. Glen agrees that white-coat hypertension should represent a red flag of warning. "It means we should be intensively investigating [these patients] and considering treatments for them," says Glen, a researcher at the Western General Hospital in Edinburgh.

Glen and his colleagues published a Sept. 7, 1996, report in *LANCET* indicating that people with white-coat hypertension have abnormalities in their heart's pumping ability. Their report suggested that drugs could reverse such heart problems.

Glen argues that cardiologists should give an echocardiogram to all patients with white-coat hypertension. If that test indicates an abnormally thick ventricle, he suggests that the patient take antihypertensive medication.

Not everyone agrees with the German team's conclusions. Thomas G. Pickering of the New York Hospital-Cornell Medical Center in New York City says that in most cases, white-coat hypertension represents no risk at all. His research has not identified an increase in the size of the left pumping chamber of the heart in people with white-coat hypertension. Nor has Pickering's team found them to have cholesterol abnormalities, which are powerful predictors of cardiovascular disease.

Pickering says everyone with white-coat hypertension should see their doctor. "But I don't think white-coat hypertension poses a problem for everyone."

Pickering published a study in the Sept. 26, 1995 *HYPERTENSION* concluding that white-coat hypertension is a benign condition. A report in the Nov. 3 *CIRCULATION* also concludes that white-coat hypertension is not a serious health threat.

Avijit Lahiri, a researcher at the Northwick Park Hospital in Middlesex, England, and his colleagues studied 126 people with white-coat hypertension and 353 people with mild, chronic high blood pressure. The team discovered that, compared with the people with white-coat hypertension, the people with high blood pressure had more than double the risk of suffering from a heart attack, stroke, or some other serious cardiovascular problem during the 9-year study.

Lahiri and his colleagues say that white-coat hypertension is just a temporary problem, one that poses much less of a risk than sustained high blood pressure.

Schunkert notes that there's no proof that the left ventricular hypertrophy seen in people with white-coat hypertension is as risky as that observed in those with chronic high blood pressure. He adds that the evidence in support of drug therapy for white-coat hypertension is incomplete.

Pickering doesn't recommend antihypertensive drugs for people with white-coat hypertension. He says there's no solid proof that they benefit such patients, and "no drug is without risks."

It may take researchers several more years to sort through such disagreements. Until then, Schunkert suggests steps that make sense regardless of the outcome of the scientific debate: lose weight and exercise regularly.

Most people would benefit from that prescription. And, if Schunkert is right about the people with white-coat hypertension, such measures would save lives in that group. □