High Blood Pressure: New Light on a Hidden Killer

Even mild hypertension is likely to be the signal that a stroke or heart attack is on the way. Now science has learned why, and what to do about it

By Lawrence Galton

Bill Peters is a successful 40-year-old executive. Big and brawny, he looks well and feels fine. Nonetheless, his company requires him to have regular medical checkups. At his latest, the doctor took his blood pressure twice, then said, "Slightly above normal, Bill. Not much, but we're still going to do something about it."

Today, more and more doctors are taking even the mildest hypertension such as Bill's seriously. For they have recently gained important new insights on this often-neglected, yet vicious disease. High blood pressure affects at least 20 million Americans and is a factor in the deaths of three quarters of a million annually. Yet, says Dr. Joseph A. Wilber of the Georgia Department of Public Health, only about 15 percent of these 20 million victims are receiving the treatment they need.

Bill Peters is one of the lucky ones. Because steps were taken to control his slightly elevated pressure, his chances of being felled by stroke or heart disease have been dramatically reduced.

Most people with hypertension are unaware of the fact. For the ailment is stealthy. Most often it produces no symptoms at all. The Michigan Heart Association reports that a recent screening program at a large factory uncovered hypertension in 919 employes—78 percent of whom did not know they had it. Even when symptoms occur—such as headaches, dizziness, fatigue or weakness—they may not be recog-

nized for what they are since they are common to so many other disorders. Moreover, in 85-90 percent of diagnosed hypertensive patients the specific cause of the condition cannot be pinpointed.

Blood pressure is simply the force exerted by the flowing blood against the walls of the arteries. Each time the heart beats, this pressure increases; each time the heart relaxes, the pressure decreases. When a physician checks pressure, he makes two measurements and writes them fraction-style, say, as 130/80. The first and larger figure, 130 millimeters (the pressure exerted by a column of mercury 130 mm. or 5.1 inches high), is the systolic pressure —the maximum pressure in the arteries when the heart pumps; the second is diastolic pressure—as the heart rests between contractions.

Normal pressure may fluctuate widely, decreasing during sleep, increasing during physical exertion or emotional excitement, even during the visit to the doctor. That's why many physicians may measure blood pressure several times in one visit. And there is a wide range of normal: 100 to 140 for systolic and 60 to 90 for diastolic. Nor does an isolated reading above 140/90 mean abnormal pressure. Only when elevation is continuous does a person have hypertension.

Hypertension does its harm in several ways. In one, excessive pressure makes the heart muscle pump harder, and after a time the heart enlarges, then it may weaken and fail to pump effectively. This kills 50,000 Americans annually.

Or, as many investigations show, hypertension may accelerate the progression of atherosclerosis, involved in coronary heart attacks which kill some 400,000 Americans every year. In a 14-year study of 5100 people, ages 30 to 60, in Framingham, Mass., it was found that coronary heart disease, with its heart attacks, was three to five times more common in people with high blood pressure. Adding to the indictment, a study by the Health Insurance Plan of Greater New York of first heart attacks showed that twice as many men with pre-existing hypertension died within a month as those who had had normal pressure. Moreover, the hypertensive men who survived the first attack had twice the risk of recurrence and five times the risk of heart death during the next 4½ years.

High blood pressure may contribute to artery-clogging atherosclerosis by damaging blood-vessel walls, allowing cholesterol and other materials to nest in the damaged areas. As these deposits build up, arteries narrow, and their blood-carrying capacity is reduced, sometimes even completely blocked. When this happens to an artery feeding the brain, stroke results—200,000 of us die this way each year.

The Framingham researchers turned up evidence of the role of hypertension in stroke. During the 14 years, stroke hit 65 of the men,

70 of the women. The risk of stroke proved to be four times as high among those who had hypertension, though they had no symptoms, as among those with normal pressure. The study brought to light an altogether surprising fact, too. It had long been assumed that only diastolic-pressure elevation is critical, since that indicates stress when the heart is supposed to be relaxing. In fact, some elevation of the systolic pressure had been regarded as an innocuous consequence of aging. "Contrary to popular belief," says the Framingham report, "systolic blood-pressure elevations proved no less important than diastolic as a risk factor in stroke." Indeed, the findings indicate clearly that hypertension, even of mild degree, *at any age,* in either sex, whether systolic or diastolic, is the most common and most potent precursor to strokes.

Fortunately, there is also a positive side to the recent discoveries. It has been known for some years that treatment of extremely severe hypertension has dramatic effect on most patients. But only recently has there been clear, scientific evidence of the efficacy of treatment in less severe hypertension. Working with 17 hospitals across the country, the Veterans Administration Coöperative Study Group, led by Dr. Edward D. Freis, spent six years gathering it.

The group reported in 1970 on 380 male patients with mild and moderate hypertension—diastolic pressures 90 to 114, just above the up-to-90 normal range. Some had been given anti-hypertensive medication, others only symptomatic treatment and placebo (inactive) pills of the anti-hypertensive drugs. In the actively treated group, the risk of developing heart failure or a stroke was reduced by two thirds. Twenty untreated patients had to be placed on anti-hypertensive drugs because of severely elevated blood pressures, while this did not occur in any of the treated men.

Say Dr. Freis and his colleagues: "The patients we studied differ in several respects from the general population—for instance, they started out with proportionally more vascular damage. But there is little doubt that anti-hypertensive treatment proved beneficial."

The ideal is to bring pressure down to normal levels and keep it there. When medication is needed, the physician adjusts the patient's regimen until he finds a drug or a combination of drugs that will control pressure effectively with minimal side effects. Often modification of diet to eliminate extra pounds, and mild exercise to ease emotional tension, prove beneficial. Some patients bring pressure down simply by reducing the salt in their diets.

To assure adequacy of treatment, Dr. Irvine H. Page of the Cleveland Clinic has his patients take their own readings at home—a practice easily learned by patients and now recommended by more and more physicians. Patients record their

pressure, usually when they get up and again at bedtime, and submit the readings once a month to the physician. Says Dr. Page, "At first I worried that this might make neurotics of some patients, but that has proved to be exceptionally rare."

Clearly hypertension stacks up as a vast health problem—but also as a momentous opportunity for preventive medicine. "The good news is that we have found many ways to treat hypertension," says Dr. Page. "And it has been definitely established that if blood pressure is kept within relatively normal limits, stroke, heart failure and heart attacks are sharply reduced."

What does all this mean for *you?* Simply:

If your physician has told you that you have mild hypertension, but you have ignored it, ask him to recheck you, then follow his advice on bringing pressure down.

If hypertension has never been diagnosed, recognize that no one is immune and that pressure may go up at any time *without* warning symptoms. An annual checkup is all the more important now in view of the new evidence. Making certain that your blood pressure is—and stays—in line is one thing you can do with reasonable ease to reduce your chances of being crippled or killed by stroke or heart disease.

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