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## **Heart disease lessons ignored at peril**

Doctors tout clinical ability to treat cardiac attacks, but only if patients recognize symptoms and receive appropriate care

By Gina Kolata *NEW YORK TIMES* April 12, 2007

Medical research has revealed enough about the causes and prevention of heart attacks that they could be nearly eliminated. Yet nearly 16 million Americans are living with coronary heart disease, and nearly half a million die from it each year.

It's not that prevention does not work. In fact, said Dr. Elizabeth Nabel, director of the National Heart, Lung and Blood Institute at the National Institutes of Health, age-adjusted death rates for heart disease dropped precipitously in the past few decades, and prevention and better treatment are major reasons why.

But the concern, Nabel and others say, is that much more could be done. In many ways, scientists' hard-won and increasingly detailed understanding of what causes heart disease and what to do for it often goes unknown or ignored.

Studies reveal, for example, that people have only about an hour to get their arteries open during a heart attack if they are to avoid permanent heart damage. Yet, recent surveys find, fewer than 10 percent get to a hospital that fast, sometimes because they are reluctant to acknowledge what is happening. And most who reach the hospital quickly do not receive the optimal treatment -- many American hospitals are not fully equipped to provide it but are reluctant to give up heart patients because they are so profitable.

And new studies reveal that even though drugs can protect people who already had a heart attack from having another, many patients get the wrong doses and most stop taking the drugs in a matter of months. They should take the drugs for the rest of their lives. The result, heart researchers say, is a huge disconnect between what is possible and what is actually happening.

Cardiologists call it the golden hour, that window of time when they have a chance to save most of the heart muscle when an artery is blocked. But that urgency, cardiologists say, has been one of the most difficult messages to get across, in part because people often deny or fail to appreciate the symptoms of a heart attack. The popular image of a heart attack is all wrong.

It's the Hollywood heart attack, said Eric Peterson, a cardiologist and heart disease researcher at Duke University. "That's the man clutching his chest, grimacing in pain and going down," Peterson said. "That's what people imagine a heart attack is like. What they don't imagine is that it's not so much pain as pressure, a feeling of heaviness, shortness of breath."

Most patients describe symptoms as discomfort in the chest that may, or may not, radiate into the arms or neck, the back, the jaw, or the stomach. Many also have nausea or shortness of breath. Or they break out in a cold sweat, or have a feeling of anxiety or impending doom, or have blue lips or hands or feet, or feel a sudden exhaustion. But symptoms often are less distinctive in elderly patients, especially women. Their only sign may be a sudden feeling of exhaustion just walking across a room. Some say they broke out in a sweat. Afterward, they may recall a feeling of pressure in their chest or pain radiating from their chest but at the time, they say, they paid little attention.

Patients with diabetes might have no obvious symptoms at all other than sudden, extreme fatigue. "I say to patients, 'Be alert to the possibility that you may be short of breath,'" said Dr. Elliott Antman, director of the coronary care unit at Brigham and Women's Hospital. "Every day you walk down your driveway to go to your mailbox. If you discover one day that you can only walk halfway there, you are so fatigued that you can't walk another foot, I want to hear about that. You might be having a heart attack."

Other times, said George Sopko, a cardiologist at the National Heart, Lung and Blood Institute, symptoms such as pressure in the chest come and go. That is because a blood clot blocking an artery is breaking up a bit, reforming, breaking and reforming. "It's a pre-heart attack," Sopko said. A blood vessel is on its way to being completely blocked. "You need to call 911." But most people -- often hoping it is not a heart attack, wondering if their symptoms will fade, not wanting to be alarmist -- hesitate far too long before calling for help. "The single biggest delay is from the onset of symptoms and calling 911," said Bernard Gersh, a cardiologist at the Mayo Clinic. "The average time is 111 minutes, and it hasn't changed in 10 years."

At least half of all patients never call an ambulance. Instead, in the throes of a heart attack, they drive themselves to the emergency room or are driven there by a friend or family member. Or they take a taxi. Or they walk. Patients often say they were embarrassed by the thought of an ambulance arriving at their door. It is an understandable response, but one that can be fatal, cardiologists say.

There may be false alarms, Sopko said: "But it is better to be checked out and find out it's not a problem than to have a problem and not have the therapy." There also is the question of how, or even whether, the patient gets either of two types of treatment to open the blocked arteries, known as reperfusion therapy. One is to open arteries with a clot-dissolving drug such as tPA, for tissue plasminogen activator. "These have been breakthrough therapies," said Joseph Ornato, a cardiologist and emergency medicine specialist who is medical director for the Richmond Ambulance Authority in Richmond, Va. "But the hooker is that even the best of the clot buster

drugs typically only open up 60 to 70 percent of blocked arteries -- nowhere close to 100 percent." The drugs also make patients vulnerable to bleeding, Ornato said. One in 200 patients bleeds into the brain, having a stroke from the treatment meant to save the heart.

The other way is with angioplasty. Cardiologists say it is the preferred method under ideal circumstances. Stents have recently been questioned for those who are just having symptoms such as shortness of breath. In those cases, drugs often work as well as stents. But during a heart attack, or in the early hours afterward, stents are the best way to open arteries and prevent damage.

That, though, requires a cardiac catheterization laboratory, practiced doctors and staff on call 24 hours a day. The result is that few get this treatment.

"We now are seeing really phenomenal results in experienced hands," Ornato said. "We can open 95 to 96 percent of arteries, and bleeding in the brain is virtually unheard of. It's a safer route if it is

done by very experienced people and if it is done promptly. Those are big ifs." Currently, 30 percent of patients who are candidates for reperfusion do not receive it, and of those who do, only

18 percent are treated with angioplasty, said Dr. Alice Jacobs, director of the cardiac catheterization

laboratory at Boston University School of Medicine and a past president of the American Heart Association.

Of the nation's 5,000 acute care hospitals, Jacobs said, only 1,200 provide angioplasty. Most hospitals, she said, cannot offer angioplasty because they do not have enough patients for a team of

doctors to maintain their skills. An obvious solution would be sending patients to the nearest hospital

that can provide angioplasty as quickly as possible. But that is not always easy, Jacobs said, because

hospitals do not want to lose cardiac patients. A major reason, she said, is financial. Hospitals are reimbursed by Medicare according to an index that measures the acuity of medical conditions they

treat. "If your cardiac patients are transferred, your acuity index goes down, which lowers overall

Medicare reimbursement for other problems like pneumonia and renal disease," Jacobs said.

It is also difficult for patients who live in rural areas. Minnesota is experimenting with a program using

helicopters to transport patients quickly. But for most rural patients elsewhere, angioplasty is almost

an impossibility. Antman suggests that heart disease patients ask their doctor if there is a hospital

nearby that does angioplasty around the clock. If so, they might want to discuss with their doctor whether to ask that an ambulance take them there if they are having a heart attack. Antman said, if it

is feasible to get to an angioplasty-providing hospital within an hour, "in most cases, that would be preferable."

Opening an artery is only the start of treatment. The next part is at least as problematic: Patients have to get the right drugs, in the right doses, and have to take them for the rest of their lives. "Care is getting a lot better," Peterson said. "But the only caveat is that they are only really looking at, Did you get therapy? No one is looking too closely at, Did you do it right?" For example, he said, a recent study found that heart attack patients were getting blood-thinning prescription drugs to prevent clots, as they should, but as many as 40 percent were getting the wrong dose, usually one too high. And even if every prescription were exactly right, as many as half of all patients stop taking many or all of their drugs.

Antman has a message for patients: With a disease as serious as heart disease, those who take responsibility are often the ones who survive.

*Submitted by Evo Alexandre*