Medical Xpress

Procedure starts angioplasty in wrist rather than leg

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If your arteries are clogged and you're facing an angioplasty, your doctor may offer you an unusual choice: wrist or groin?

Though the number of doctors who perform wrist angioplasty remains small in the United States -- just 1.3 percent of the one million angioplasties performed yearly in the United States, according to one study -- the number is growing as practitioners tout its benefits: less pain, less bleeding and shorter hospital stays.

But surgeons who prefer to stick with the groin call the wrist procedure a "gimmick" that takes more time and can't be used in many critical heart procedures.

"Depending on whom you ask, it's the greatest thing since sliced bread or a pain in the neck," says University of Miami cardiologist Dr. Alan Heldman, who does both surgeries.

Wrist angioplasty has been around for 20 years, and is used in 40 percent of angioplasties in Europe and Japan, according to a 2008 Duke University study.

In doing angioplasty via the groin, the surgeon cuts into the femoral artery, which can be up to four-tenths of an inch in diameter. He runs the catheter up the artery to the heart, where he inflates a balloon at its end to push aside the plaque to open the artery and restore blood flow.

When the operation is over, the doctor closes the incision in the artery and applies special compression closure devices to it to stop bleeding. The patient must lie completely still for four to six hours to keep it from reopening, says Dr. Ramon Quesada, a cardiologist at Baptist Cardiac & Vascular Institute in Kendall, Fla.

With the wrist procedure, the surgeon accesses the radial artery _ which is only about a tenth of an inch in diameter. When the operation is over, he closes the incision and applies a small compression device that looks like a plastic wristwatch to stop the bleeding. The patient sits in a chair or lies in bed for about two hours, then can go home with just a small bandage over the incision.

"It's better for the patient," says Quesada, who says he has done thousands of wrist angioplasties over the past 10 years.

"He can go to a movie. He can go to the mall," Quesada says.

"Just don't go play tennis," says Dr. Juan-Carlos Londono, who practices at Mount Sinai Hospital in Miami Beach, Fla. He has performed 100 wrist angioplasties in the past six months, he says.

"They decrease the risks of complications from bleeding," he says. "They increase the patient's comfort. They decrease the recovery time."

The cost of the two procedures is similar, and insurance companies pay for both, as neither is considered experimental anymore. Why aren't more doctors doing it?

MORE OF A GIMMICK

"The wrist is more of a gimmick than an advantage from my point of view," says Dr. Jose Marquez, a cardiac surgeon at Mercy Hospital in

Miami who does all of his angioplasties through the groin.

In wrist angioplasty, he says, the tiny catheter pushed through the radial artery sometimes reaches the heart and cannot negotiate the curves that lead to the blocked artery.

"I've seen some guys doing the wrist procedure struggle for two hours just to get access."

Dr. Howard Bush, a cardiologist at the Cleveland Clinic in Weston, Fla., also does angioplasty through the groin, not the wrist.

"The groin is more user-friendly to the doctor," he says. "It takes less skill and less training to go in from the groin."

The larger catheters used in groin angioplasty, unlike the tiny wrist catheters, can have curves built in at their tips to make it easier to negotiate the curves in the heart to reach the blocked artery, he says.

Bush says the idea that groin patients must lie still for up to six hours is out-of-date. "Now we have plugs that can seal the groin so the patient can get up within a couple of hours," he says. "It has leveled the playing field."

Heldman, the doctor who performs both, agrees the wrist procedure is more complicated.

"If a patient is at death's door, I go in through the groin with a bigger catheter," he says. "It lets me use multiple systems to support blood pressure or temporary pacemakers to keep the heart going."

Still, any modern interventional cardiologist should know how to do an angioplasty both ways, he says _ "and choose which method is best for a

given patient."

BOTH METHODS TAUGHT

The University of Miami School of Medicine teaches both methods, Heldman says.

"The trend is becoming more popular. Equipment has gotten better over past few years," he says.

One reason the wrist procedure hasn't grown faster is that mid-career doctors who didn't learn it in their training must take several days off to learn it from experts.

Londono spent a week at Lenox Hill Hospital in Manhattan, a teaching affiliate of New York University Medical Center, learning the wrist procedure by working under two well-known experts there.

"It's harder at first. You're using different catheters and making different movements."

Last year, Quesada did a wrist angioplasty on Manuel Cereijo, 70, of Southwest Miami, to unblock a heart artery.

"It was fantastic," said Cereijo. "I went home the same day with just a little Band-Aid. The next day I walked for 30 minutes and went back to work. The only thing I couldn't do is to lift any weight with that arm for a few days."

A study in the September 2008 issue of Journal of the American College of Cardiology looked at records of 593,094 angioplasty patients and concluded that those who had wrist procedures were 58 percent less likely to have bleeding complications than those who had their

procedures done through the groin. Bleeding complications happened in less than 1 percent of wrist procedures, compared to nearly 2 percent in groin procedures, the study said.

A study of 3,500 angioplasty patients by Stanford University found that one in 135 patients whose surgeons used the groin method suffered "retroperitoneal hematoma," or bleeding into the abdomen, which it said is difficult to detect and could be serious.

"You'd never have this with the radial artery" in the wrist, Londono said.

BRITISH STUDY

Another study, in the British medical journal Heart, looked at 30,000 patients -- every angioplasty done in British Columbia from 1999 to 2005 -- and said doing the procedure via the wrist cut in half the need for blood transfusions, and reduced short- and long-term mortality.

In the United States, the procedure is taught in the seventh year of medical study, during a student's interventional cardiology fellowship year at a major teaching hospital, Heldman says. So not every surgeon learns it.

But Heldman says that's changing.

"More surgeons are being trained now. And over the past few years we've seen the equipment getting smaller. As it gets one or two generations smaller still, I expect procedures by the radial wrist artery to become more popular."
