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Heart test standards all over the map

Mon, Aug 8 2011

By Frederik Joelving

NEW YORK (Reuters Health) - U.S. hospitals vary widely in how they decide who's eligible for an invasive type of heart scan, according to a new study.

The findings fuel recent concerns about overuse of the procedure, called coronary angiography, which carries a price tag of several thousand dollars and a risk of side effects.

Researchers found that at some U.S. hospitals, fewer than a quarter of the scanned patients turned out to have heart disease. At others, all of them did.

That suggests some hospitals use the procedure liberally, while others reserve it for high-risk patients, said Dr. Pamela S. Douglas of Duke University Medical Center in North Carolina, who led the study.

"Clearly we have no standards," she told Reuters Health. "There is differential use, which tells you there may be a quality issue."

During coronary angiography, doctors guide a thin tube, called a catheter, through a blood vessel into the heart, where a special dye is injected. Using high-dose x-rays, they then look for cholesterol blockages that restrict blood flow to the heart and in some cases might eventually lead to a heart attack.

If there is a big blockage, doctors may choose to open up the artery and put in a stent -- a fine metal tube that props the artery open.

While the procedure is the gold standard for diagnosing coronary artery disease, there is no agreement on who will benefit from it outside of patients with ongoing heart attacks or previous heart disease.

Using a large national registry, Douglas' team found more than 565,000 patients who'd undergone non-emergency coronary angiography and had never had heart disease before.

Most, but not all, had first completed a non-invasive stress test to give the doctor a preview of their heart health.

The hospitals -- 691 in total - had very different overall test results, ranging from 23 percent of patients with confirmed heart disease to 100 percent. Hospitals with a lower rate of positive tests tended to perform angiography on younger patients at a lower risk of heart disease and often without symptoms.

That suggests hospitals would make different decisions about heart scans faced with the same patients, said Douglas, although she added that the ones that found heart disease in all patients may not have reported their results correctly.

Some patients can get kidney damage from the dyes used in coronary angiography, and the high-dose x-rays may lead to a small increase in cancer risk.

There is also a small risk of bleeding and blood clots due to the procedure, although less than one in 10,000 healthy patients experiences serious complications, according to Douglas.

She pointed out that not all negative tests are wasted efforts, because they could provide reassurance to patients, families and doctors.

"Negative doesn't mean unnecessary," said Douglas, whose findings appear in the Journal of the American College of Cardiology.

She added that there was also no way of knowing which approach would lead to better outcomes for patients.

Dr. William Boden, a cardiologist at the State University of New York at Buffalo who wasn't involved in the study, said the results suggested that some doctors and hospitals may use the procedure too liberally.

Coronary angiography makes sense if stress tests indicate a serious problem, he told Reuters Health.

But for people at lower risk, Boden has found that lifestyle changes and medications are as good as stents at staving off heart attacks.

"Performing angiography in that setting is likely not to lead to much benefit. You will basically confirm the obvious," he said. "We need to do a better job in terms of getting all physicians to adhere to a more evidence-based approach."

So far, there aren't any clear criteria for when to use diagnostic coronary angiography. But Douglas said the American College of Cardiology expects to publish such criteria this winter.

"Based on these results we need some standards," she said.

SOURCE: bit.ly/fb2fgy Journal of the American College of Cardiology, August 8, 2011.