

Normal Angiogram No Reason to Let Guard Down

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CHICAGO — Physicians in the emergency department and cardiologists may be underestimating the risks faced by patients whose previous angiography results were considered “normal,” according to a study presented at the annual meeting of the Society for Academic Emergency Medicine.

“In an unselected population, history of a normal coronary angiogram within 5

years does not identify a low-risk population,” said Dr. Jason McMullan.

“Patients with risk factors for coronary artery disease will develop coronary artery disease regardless of whether or not they had a previously normal catheterization, and we cannot say with any certainty that a previously normal angiogram is protective up to 5 years,” Dr. McMullan said.

This conclusion contrasts with previous, smaller studies suggesting that a negative angiogram predicts low morbidity and

mortality outcomes, said Dr. McMullan, a fourth-year resident in emergency medicine at the University of Cincinnati.

However, the small sample sizes and highly selected populations limited these prior investigations, he explained.

Dr. McMullan’s retrospective cohort study followed all subjects with normal coronary angiograms between January and May of 2000 for 5 years, with the hypothesis that those with a repeat angiogram within 5 years would have no

coronary artery disease (CAD).

All adult patients with a true normal angiography were included unless they died during index hospitalization. Patients with minimal luminal irregularities, diffuse tapering, or nonfocused stenoses were considered to have abnormal angiograms, regardless of the final conclusion, he said.

A total of 598 angiograms were performed, and those that were deemed “normal” made up the “normal” cohort of 182 patients. The group’s mean age was 51 years. One-third of patients were black, nearly half were men, and 45 (25%) underwent repeat angiography within 5 years. Subjects who did and did not undergo a repeat procedure did not differ by demographics, diabetes status, hyperten-



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DR. McMULLAN

sion, renal insufficiency, or prior arrhythmias, Dr. McMullan said.

Repeat angiography was a more likely prospect for smokers, those with hyperlipidemia, those with a prior angiography, and transplant patients.

Upon repeat angiography, 18 of the 45 patients, or 40%, had developed CAD, Dr. McMullan said, adding that of those 18 patients, 1 required coronary artery bypass graft surgery, a second required percutaneous intervention, and 3 died within 5 years.

In addition, three patients had developed minimal luminal irregularities, seven had mild disease (with the largest lesion being less than 50% obstructive), and six developed significant disease of greater than 50% obstruction.

Those who had developed CAD tended to be about a decade older (mean age 58 years) than those who had not (mean age 46 years), he said, adding that such traditional risk factors as cocaine and tobacco use and prior angiography were not predictive.

Looking at the larger cohort of 182 patients whose initial angiograms were normal, 18 (10%) developed CAD within 5 years.

“Not only did these patients develop disease, but they also had poor outcomes,” Dr. McMullan said, noting that of those who developed CAD, 3 had died, compared with 1 of 27 repeat normals. Of the entire cohort of 182 initially normal patients, the mortality rate was 15%, the same as the rate among those whose repeat tests were normal.

The two patients who underwent interventions did so at 2 and 3 years, while others did so outside of the 5-year window, Dr. McMullan explained in an interview.

“People were recathed and found to have bad disease as early as 0.4 years after previous catheterization. Arguably, there were false negatives, but it’s not that people didn’t develop disease ... it’s that it wasn’t picked up,” he said. ■