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The Detection of Ischemia in Asymptomatic Diabetes (DIAD) study randomly assigned 561 patients with type 2 diabetes to be screened for CAD with SPECT MPI and 562 similar patients to not be screened. The average follow-up was 4.8 years.

Researchers found similar rates of events in both groups: 15 versus 17, screened and not screened, respectively. In the screened group, 409 participants with normal results and 50 with small MPI defects had lower cardiac event rates than the 33 with moderate or large MPI defects. More participants in the screened group underwent catheter angiography than in the unscreened group, yet the screened group had a lower rate of revascularization: 5.5 percent versus 7.8 percent.

Researchers concluded that standard of care medical therapy and close follow-up of this

patient population is appropriate, and that SPECT MPI is not a good screening test for asymptomatic CAD in diabetic patients.

“Their outcome is not surprising,” Daniel S. Berman, MD, SCCT president and chief of cardiac imaging and nuclear cardiology at Cedars-Sinai Medical Center in Los Angeles, said in an interview. “Overall, diabetic patients in this age group are not at high risk.”

While the event rate in asymptomatic diabetics is low, it is widely known that diabetic patients are more likely to have silent MIs, which is still a concern, Berman said. “So, when you look at a test, in this case SPECT MPI, for a relatively small group of patients in a low-risk category, whatever signal might come from people who have the disease will be drowned out by all the normals.”

A better test for this patient population would be a coronary artery calcium (CAC) score with non-contrast CT, Berman said, which is inexpensive and has proven that patients with a CAC above 400 have a higher risk of cardiac events. “If DIAD researchers had limited the study to see if nuclear testing is beneficial in patients with high coronary calcium scores, they would have found something different.”

In the DIAD study, researchers found that nearly 6 percent of the screened group had moderate to severe perfusion defects. “While it’s important to find these patients,” Berman said, “the problem with that approach is they had to screen everybody to find them with an expensive test. I’m advocating giving a coronary calcium scan to these patients first. It would then be appropriate to send those with high calcium scores on to further testing.”

At Cedars-Sinai, Berman and colleagues studied more than 1,000 diabetic patients and found that 70 percent have extensive calcium, while 30 percent have scores of zero, results that parallel other studies. A simple calcium scan could identify these very low-risk diabetic patients and put their minds at rest, Berman said.

“We tend to group all diabetic patients together, saying they all have the same risk of cardiac events as a non-diabetic who has had a heart attack. That just isn’t true for about 30 percent of this population. We can relieve this psychological burden that they carry around, believing they’re a high-risk candidate for a heart attack,” he said.

Even the American Diabetic Association (ADA), which is conservative, Berman said, recommends “that testing for atherosclerosis or ischemia, perhaps with cardiac CT as the initial test, be reserved for those in whom medical treatment goals cannot be met and for selected individuals in whom there is strong clinical suspicion of very-high-risk CAD.”

Berman concluded, “The use of coronary calcium scanning, a less expensive procedure that can detect the earliest stages of disease, offers a tool to select the patients who might benefit from the MPI procedure.”