Silent Myocardial Ischemia Reversible in Type 2 Diabetes

BY DOUG BRUNK
San Diego Bureau

San Diego — Nearly 80% of patients with type 2 diabetes and silent myocardial ischemia revealed by stress myocardial perfusion imaging had a reversal of exercise-induced myocardial perfusion abnormalities 3 years later.

The unexpected finding suggests that a substantial proportion of patients with type 2 diabetes and silent myocardial ischemia have the potential for improvement of stress myocardial perfusion imaging abnormalities with medical management, Dr. Frans J.Th. Wackers said at the annual meeting of the American Society of Neuroradiology.

“These results are consistent with the INSPIRE study and the COURAGE trial, which found that aggressive and optimal treatment can reverse myocardial perfusion abnormalities,” said Dr. Wackers, director of the cardiovascular nuclear imaging and stress laboratories at Yale University, New Haven.

The study was a follow-up to the Detection of Ischemia in Asymptomatic Diabetics (DIAD) 1 study, which documented a 22% prevalence of silent myocardial ischemia during adenosine stress testing with sestamibi SPECT myocardial perfusion imaging. In the current study, known as DIAD-2, Dr. Wackers and associates performed repeat stress myocardial perfusion imaging in DIAD-1 study participants after 3 years to evaluate for progression of silent myocardial ischemia. Initial myocardial perfusion imaging was performed in 2003, and repeat myocardial perfusion imaging was performed in 2006.

Of the initial 322 patients, 356 underwent repeat myocardial perfusion imaging, 70 of whom had previously documented silent myocardial ischemia in DIAD-1. The mean age of the 356 patients was 61 years, and 44% were women.

Repeat myocardial perfusion imaging could not be performed in 16 patients because of an intervening cardiovascular event or death, in 29 patients; severe comorbidity, in 10; refusal by 108 patients; loss to follow-up in 17; and uninterpretable study in 2. The initial and repeat DIAD studies were read by the same blinded panel of experts, said Dr. Wackers.

The overall prevalence of silent myocardial ischemia in DIAD-2 was 12%, which is 10% lower than the overall prevalence in DIAD-1.

In addition, of the 286 patients who had normal DIAD-1 studies, 98% remained normal in DIAD-2, whereas 10% developed new myocardial ischemia.

Of the 71 patients who had abnormal DIAD-1 studies, 56 (79%) showed resolution of inducible ischemia, and 15 (21%) remained abnormal.

When the researchers compared patients who had resolution of ischemia with those who developed new inducible ischemia, they observed no significant baseline differences in age, gender, BMI, duration of diabetes, family history, blood pressure, hemoglobin A1c, LDL or HDL cholesterol, or C-reactive protein.

In another part of the analysis, the researchers observed a significant increase among all patients in the use of aspirin, statins, and ACE inhibitors between 2003 and 2006. Specifically, the use of aspirin rose from 42% to 69%; the use of statins rose from 38% to 98%; and the use of ACE inhibitors rose from 34% to 42%.

DIAD-2 patients who had resolution of ischemia were exposed to cardiac medications for a significantly longer period of time, compared with those who developed new ischemia (59 months vs. 45 months).

Dr. Wackers has received research honoraria from Bristol-Myers Squibb, Astellas, and General Electric, and is a scientific advisor for General Electric and King Pharmaceuticals.

A false aneurysm in the postero-inferior aspect of the UV is reconstructed on CT.