

Cardiology today

NEWS & PERSPECTIVE FOR THE CARDIOVASCULAR SPECIALIST

Perfusion imaging with CT plus CTA helpful in patients with stents, high coronary calcification

By

Dipyridamole-stress myocardial perfusion imaging with multidetector CT combined with CTA demonstrated improved diagnostic accuracy compared with individual myocardial perfusion images.

Researchers enrolled 24 patients with suspected CAD who had undergone a single-photon emission CT scan within the two months before enrollment. Patients then underwent a customized multidetector CT protocol with both rest and stress myocardial perfusion evaluation and CTA. Independent, blinded observers performed the analysis of myocardial perfusion, CTA and invasive coronary angiography.

The researchers reported a CAD prevalence of 79% in the patient population. Five patients had normal CT perfusion, four had no CAD and one had a patent stent on the invasive coronary angiogram. According to the study results, SPECT alone demonstrated a diagnostic accuracy of 70%, CT perfusion alone demonstrated 79%, CTA alone demonstrated 89% and CTA plus CT perfusion demonstrated 98% ($P < .001$ for all). Sensitivity was higher for CT perfusion plus CTA vs. SPECT alone (90.4% vs. 69%), as was specificity (100% vs. 77%), positive predictive value (100% vs. 67%) and negative predictive value (98.9% vs. 79%).

“Dipyridamole-stress myocardial perfusion combined to angiography by multidetector CT improved accuracy, specificity and positive predictive value compared to myocardial perfusion images alone,” **Roberto C. Cury, MD**, a cardiologist at the Heart Institute of the University of Sao Paulo School of Medicine in Brazil, said in his presentation. “The combined anatomical and perfusional information may provide an incremental diagnostic value, mostly in patients with high coronary calcification and stents.”

Cury RC. # 79. Presented at: Society of Cardiovascular Computed Tomography 4th Annual Scientific Meeting; July 16-19, 2009; Orlando, Fla.