

MDCT accurate in detecting stenosis in calcified coronary artery plaque

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Multidetector CT angiography can accurately predict the presence of obstructive disease (stenosis) in small and moderate-sized calcified coronary artery plaque (CAP), and is even fairly accurate in diagnosing large and heavily calcified CAP, according to a recent study conducted by researchers at Thomas Jefferson University Hospital in Philadelphia, PA.

The study evaluated 31 patients who had one or more calcified CAP, comparing the results from CCTA to cardiac catheterization. "It is commonly believed that when coronary artery plaque is calcified, (particularly when it is heavily calcified), MDCT is unreliable in determining the degree of stenosis," said David C. Levin, MD, lead author of the study. However, in this study CCTA and cardiac catheterization were concordant in 58 of 61 small calcified CAPs (95%), 20 of 22 moderate-sized (91%) and 29 of 43 large calcified CAPs (67%). The study showed that overestimation of stenosis occurred in 2 of the small lesions, 2 of the moderate-sized lesions and 14 of the large lesions.

"The results indicate that even when heavily calcified plaque is present, MDCT is pretty accurate in determining how much vessel narrowing it has caused. However, we have to recognize that when large and heavily calcified plaques are seen on MDCT, we tend to overestimate the degree of stenosis that results. This overestimation seems to be unavoidable in many cases," said Dr. Levin.

Source: American Roentgen Ray Society

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