

Adherence Improves When Patients See Their EBCT Scans

BY BRUCE JANCIN

Denver Bureau

NEW ORLEANS — Long-term adherence to statin therapy and to lifestyle modification aimed at reducing cardiovascular risk is markedly improved after patients view an electron beam CT image of their calcified coronary arteries, Dr. Matthew J. Budoff reported at the annual meeting of the American College of Cardiology.

tients aged 40-65 years referred by their primary care physician for assessment of cardiovascular risk using electron beam CT (EBCT).

At the time of the scan, physicians discussed the results with the patients, explaining coronary artery calcium's predictive significance for heart disease risk and showing them their coronary EBCT image.

The study hypothesis was that in patients with significant coronary artery calcium (CAC), viewing an image of it would be a good motivator for behavioral change.

"We typically show patients their scans when they're done and getting off the table because it has been our observation—until this study not well documented—that seeing is believing, that if they actually see the white buildup of plaque in their arteries, they'll become better patients," he said.

"We have a lot of ways of lowering risk—exercise, medications, losing weight, and eating better—but the problem we have today is [that] patients don't stay on the therapies that we know have long-term benefit," he added.

Indeed, it has been reported that roughly half of patients placed on lipid-lowering therapy discontinue it within a year, and

three-quarters do so within 2 years, he said.

Patients in the UCLA study were sent a health behavior survey a mean of 3.6 years after their EBCT scans. The responses showed that long-term adherence to statin therapy improved in stepwise fashion with increasing levels of baseline CAC. (See box.)

Patients in the first quartile in terms of baseline CAC, with a score of 0-2, had a 24% long-term adherence rate with statin therapy, compared with 46% for those in the second quartile with a CAC of 3-61, 63% for those in the third quartile with a score of 62-285, and 74% for those with a score above 285.

A CAC score above 100 is well established as a significant risk factor for future cardiovascular mortality. Patients with a score above that threshold had an 83% adherence rate to statin therapy at 3.6 years. That was 5.8-fold greater than in patients with a CAC score of less than 100.

Adherence to dietary modification and cardiovascular exercise recommendations also increased significantly in stepwise fashion with increasing baseline CAC score.

For example, only 34% of patients in the first quartile in terms of CAC reported

making long-term dietary changes, compared with 37% in the second quartile, 42% in the third, and 57% in the top quartile.

Smoking cessation also increased with calcium score quartile in a strong trend that didn't quite achieve significance, he added.

Dr. Budoff contrasted his results with those of a study from Walter Reed Army Medical Center published last year that's widely quoted by EBCT skeptics.

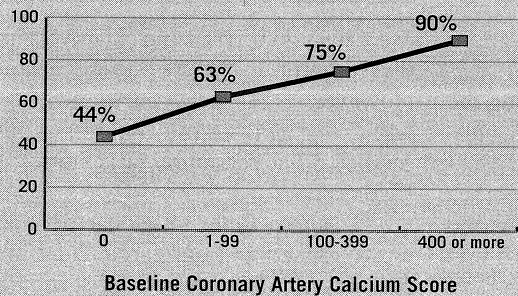
The Army investigators concluded that learning one's CAC score didn't result in beneficial lifestyle changes at 1-year follow-up (JAMA 289[17]:2215-23, 2003).

Often overlooked in discussions of this study, however, is the fact that it involved young and presumably fit military personnel aged 39-45 years whose median CAC score was essentially zero.

"The JAMA study was a perfectly designed study, except absolutely no one had coronary calcium, so there was no motivation to change. They all saw clean coronaries and were told they were in good shape. How many people are then going to go out and start new therapies based on that information?" Dr. Budoff argued. ■

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Patients Still on Statin Therapy After 3.6 Years, by Baseline Calcium Score



Source: Dr. Matthew J. Budoff

"Electron beam CT appears to be very useful in addressing our most important issue in preventive cardiology today: compliance with therapies that don't make an asymptomatic patient feel any better," said Dr. Budoff of the University of California, Los Angeles.

He reported on 1,215 asymptomatic pa-