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Mammograms May Reveal Early Signs of Heart Disease

Routine mammograms used for early detection of breast cancer may also provide women with an early warning of cardiovascular disease, according to a study led by Laurie Margolies, MD, Associate Professor of Radiology at the Icahn School of Medicine at Mount Sinai, and Chief of Breast Imaging at the Dubin Breast Center of The Tisch Cancer Institute.

Dr. Margolies' research—funded by the nonprofit Flight Attendant Medical Research Institute—showed that nearly 70 percent of mammograms with breast arterial calcification (BAC) correlated with the presence of coronary artery calcium (CAC). Calcium deposits in the coronary arteries can cause them to narrow and increase the risk of heart attack. Heart disease is the leading cause of death in women.

“The finding that additional information concerning the risk for coronary artery disease—a common disease in women—can be derived from a study that is routinely performed in women for the early detection of breast cancer, is a welcome and unexpected benefit of screening mammography,” says Burton Drayer, MD, Chair of the Department of Radiology, Mount Sinai Health System, and Chief Executive Officer of the Mount Sinai



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Doctors Faculty Practice. “There are important public health implications.”

Indeed, Dr. Margolies says such screening enables women to take early steps towards improving their health. “If you’re a 50-year-old patient, you’re glad to know that your mammogram is normal. If your breast exam shows arterial calcification, you may want to improve your cardiovascular health, such as stopping smoking or losing weight,” she says.

“Further evaluation with a dedicated coronary artery CAT scan may provide more information. The standard among radiologists is not to mention breast arterial calcification in mammogram reports,” adds Dr. Margolies. “But women should have the right to know so they have the

opportunity to make healthy lifestyle changes based on this information.”

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The study, which examined BAC in 292 women between the ages of 39 and 92, appeared in the *Journal of the American College of Cardiology (JACC): Cardiovascular Imaging*. It showed that the presence of calcification in women’s breasts and coronary arteries increased with age.

Dr. Margolies explains that larger studies are needed. But in the meantime, she says, “If we can find out information that’s indicative of heart disease, we can save even more lives.”

In a supportive editorial comment on the study that appeared in the same issue of the *Journal*, Khurram Nasir, MD, MPH, Director for the Center for Healthcare Advancement and Outcomes, Baptist Health South Florida, wrote that: “Although cardiovascular disease remains the leading cause of mortality, morbidity, and cost in women, there is no consensus on national screening for early signs of actual disease, such as CAC testing.”

Among the steps he suggested to remedy the situation were supporting the widespread documentation of BAC in mammography reports and improving the education of primary care and radiology providers regarding the link between BAC and atherosclerotic cardiovascular disease.

Additional authors of the study included Mount Sinai Health System physicians, Jagat Narula, MD, PhD; Mary Salvatore, MD; Harvey S. Hecht, MD; Sean Kotkin, MD; Usman Baber, MD; Vivian Bishay, MD; David Yankelevitz, MD; and Claudia Henschke, MD, PhD; and Rowena Yip, MPH.