

Latest Breast Imaging Techniques Offer New Views

WEDNESDAY, Dec. 3 (HealthDay News) -- Two newer breast imaging techniques will help doctors diagnose and stage breast cancer, but neither technique will replace standard mammography for the detection of breast cancer.

Both tests -- breast-specific gamma imaging (BSGI) and positron emission mammography (PEM) -- rely on the use of radiotracers to detect cancer cells. The tracer used in BSGI is positively charged, while cancer cells are negatively charged, so the tracer diffuses around the cancer cells and highlights them in the process. The radiotracer used in PEM contains glucose, which is used by cells for energy. Since cancer cells use more energy, they take up more of the tracer and are highlighted on the image.

"I think it's exciting that we're moving more to functional imaging," said Dr. Patrick Borgen, director of the Brooklyn Breast Cancer Program at the Maimonides Cancer Center in Brooklyn, N.Y.

But, he added, "mammography is the mainstay of breast cancer screening, and neither of these tests is in a position to replace mammography as the cornerstone of cancer detection. These tests are adjuncts." Borgen was not involved in either study.

Results from both studies were expected to be presented Wednesday at the Radiological Society of North America's annual meeting, in Chicago. Authors from both studies sit on the boards of the companies that make the new imaging machines.

In one study, 208 women with breast cancer underwent PEM to assess whether or not this imaging technique was affected by the density of breasts or a woman's hormonal status.

The PEM scanner looks similar to a mammogram scanner. It does immobilize the breast, but doesn't compress it, according to study author Dr. Kathy Schilling, director of breast imaging and intervention at the Center for Breast Care at the Boca Raton Community Hospital in Florida.

Cancer was accurately detected in 100 percent of fatty breasts, 93 percent of dense breasts, 85 percent of extremely dense breasts, 93 percent of women regardless of whether or not they had used hormone replacement therapy, 90 percent of pre-menopausal women, and 94 percent of postmenopausal women. Schilling said these results are similar to, or better than, breast MRI tests.

"PEM is an adjunctive tool, and it will probably be used as breast MRI has been used," said Schilling, who added that "MRI causes so many more false positives and unnecessary biopsies."

The second study, which was led by Dr. Rachel Brem from George Washington University Medical Center in Washington, D.C., reviewed data from 159 women who'd been found to have a suspicious lesion after mammography. The women then underwent BSGI scanning, which uses mild compression to capture the images from the tracer.

The researchers found that BSGI located an additional suspicious lesion in 29 percent of the women. Of these, another third were found to be cancerous.

"The data suggest that BSGI allows for the diagnosis of more and earlier breast cancers," Brem said in a statement.

Neither test is widely available yet, and Borgen said that BSGI was much less expensive than PEM to perform right now.