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Breast-Specific Gamma Imaging (BSGI) Offers Greater Sensitivity Over Mammography, Ultrasound and MRI

American Journal of Roentgenology Study Reveals Conclusive Findings in the Detection of Invasive Lobular Carcinoma

Newport News, Va., March 3, 2009 — Breast-Specific Gamma Imaging (BSGI) has been proven to be a highly sensitive imaging technique for the diagnosis of invasive lobular carcinoma (ILC) — a type of breast cancer that begins in the milk-producing glands (lobules) and then spreads to the surrounding breast tissues — according to a study published in the February 2009 issue of American Journal of Roentgenology. The study found BSGI provides better sensitivity for detecting ILC than mammography, ultrasound and magnetic resonance imaging (MRI). BSGI, performed with the Dilon 6800 Gamma Camera, is a molecular breast imaging technique that can see lesions independent of tissue density and discover very early stage cancers.

"The study is significant because ILC can often be difficult to detect mammographically and is often not palpable at clinical examination. BSGI offers improved detection of this form of breast cancer that impacts approximately 10 percent of new breast cancer patients every year," said Dr. Rachel Brem, Director of Breast Imaging and Intervention at George Washington University Medical Center in Washington, D.C., and Vice Chair of the Department of Radiology.

Brem and her colleagues conducted a retrospective multi-center study of women with biopsy-proven ILC. All patients had undergone mammography and BSGI, and the imaging findings were classified as positive or negative for invasive lobular carcinoma by experienced breast imagers. Ultrasound and MRI results, if performed, were included for analysis. The sensitivity of mammography, ultrasound, MRI and BSGI was determined for each modality and compared. Twenty-six women, ages 46 to 82 (mean age of 62.8), with 28 biopsy proven pure ILC, mean size of 22.3mm (2mm - 90mm) were included.

The study concludes that BSGI had the greatest sensitivity for the detection of ILC with a sensitivity of 93 percent. Mammography, ultrasound and MRI demonstrated sensitivities of 79 percent, 68 percent and 83 percent, respectively.

With BSGI, the patient receives a pharmaceutical tracing agent that is absorbed by all the cells in the body. Due to their increased rate of metabolic activity, cancerous cells in the breast absorb a greater amount of the tracing agent than normal, healthy cells and generally appear as "hot spots" on the BSGI image. The Dilon 6800 Gamma Camera is a high-resolution, compact gamma camera, optimized to perform BSGI. The camera provides a manageable four to 16 images versus up to thousands of images with breast MRI.

"BSGI is a physiologic, rather than an anatomic, approach to breast cancer diagnosis. It is likely that the molecular imaging obtained with BSGI is the reason it has the greatest sensitivity for the detection of invasive lobular cancer," said Dr. Brem. "In our study, the sensitivity of BSGI for detecting ILC was greater than MRI. In fact it is known that MRI can be limited in the detection of ILC. In addition, the cost of BSGI is significantly less than a breast MRI."

The complete study can be found in The American Journal of Roentgenology, Invasive Lobular Carcinoma: Detection with Mammography, Sonography, MRI, and Breast-Specific Gamma Imaging, AJR: 192, February 2009; Pages 379 – 383.

About Dilon Technologies
Dilon Technologies Inc. is bringing innovative new medical imaging products to market. Dilon's cornerstone product, the Dilon 6800, is a high-resolution, compact field-of-view gamma camera, optimized to perform BSGI, a molecular breast imaging procedure which images the metabolic activity of breast lesions through radiotracer uptake. Many leading medical centers around the country are now offering BSGI to their patients, including: Cornell University Medical Center, New York; George Washington University Medical Center, Washington, D.C.; and The Rose, Houston. For more information on Dilon Technologies please visit www.dilon.com.

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