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NEWS

RSNA Press Release

New Digital Technique Improves Mammography Results

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At A Glance

- Contrast digital mammography detects cancer in dense breasts more accurately than film mammography and is less costly than contrast MRI.
- Contrast digital mammography makes cancers stand out against dense breast tissue.
- Contrast digital mammography may potentially reduce unnecessary biopsies.

OAK BROOK, Ill. - Radiologists are experimenting with contrast digital mammography to better diagnose cancer in dense breasts, according to a study appearing in the September issue of the journal *Radiology*.

"This advanced digital application is increasing the potential of mammography," said the study's lead author, Roberta A. Jong, M.D. "Contrast digital mammography makes cancers stand out against dense breast tissue that previously hid tumors with conventional film mammography," said Dr. Jong, assistant professor at the University of Toronto and division head of breast imaging at Sunnybrook and Women's College Health Sciences Centre in Toronto, Canada.

The researchers used intravenous iodine contrast in conjunction with digital mammography to evaluate 22 women with suspicious abnormalities disclosed by conventional (film) mammography and compared the findings.

Ten of the 22 patients had biopsy-proven cancers. Contrast digital mammography was used to accurately identify eight of the 10. While conventional mammography indicated that benign lesions in the 12 other patients were suspicious, thus requiring biopsy, contrast digital mammography enhanced only five, which would indicate a potential for a significant reduction in false positive findings and unnecessary biopsies.

The diagnostic capabilities of film mammography are limited in dense breast tissue, which often obscures cancer. Even when tumors are found in dense breast tissue with film mammography, the extent of the disease may not be fully apparent.

Contrast material used in conjunction with digital mammography enhances new blood vessels created by a tumor to supply nutrients and oxygen necessary for its continued growth. Contrast magnetic resonance imaging (MRI) successfully uses the same principle of detecting tumor vessels, or angiogenesis, to identify breast lesions, but is more expensive than digital mammography.

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"In the future, contrast digital mammography will help radiologists better detect cancer in dense breasts in a way that is much faster and less costly than contrast MRI, yet better than film mammography," said Dr. Jong.

According to Dr. Jong, contrast digital mammography may be useful in identifying the extent of disease and revealing previously undetected breast cancer that has metastasized. She hopes contrast digital mammography will become clinically available for mainstream use in the foreseeable future. In the meantime, she advises that women continue to undergo regular screening mammography from an accredited facility.

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"Contrast Digital Mammography: Initial Clinical Experience." Collaborating with Dr. Jong on this study were Martin J. Yaffe, Ph.D., Mia Skarpathiotakis, B.A.Sc., Rene S. Shumak, M.D., Nathalie Danjoux, B.Sc., Anoma Gunesekara, B.Sc., and Donald B. Plewes, Ph.D.

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