Preliminary Research Results Suggest up to 70% Reduction in Dose for Positron Emission Mammography Imaging

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SAN DIEGO, Aug. 24 /PRNewswire/ -- In a recent study presented at the American Association of Physicists in Medicine (AAPM) 52nd Annual Meeting, researchers at the University of Washington showed that 18FDG dose for Positron Emission Mammography (PEM) may be reduced by as much as 70% without altering image quality.

PEM scanners are high-resolution breast PET systems that show the location as well as the metabolic phase of a lesion. The metabolic view assists physicians to make the optimal cancer care decision by providing an unprecedented ability to distinguish between benign and malignant lesions, what researchers term "specificity." PEM is different than x-ray mammography in that it is currently not used as a screening modality, rather is deployed to confirm extent of disease in a patient already diagnosed with a primary breast cancer.

"We have several tools to help us make better patient care choices. Mammography is our primary screening tool. PEM is used in women with known breast cancer in order to plan treatment," said Wendie Berg, MD, Breast Imaging Radiologist, Lutherville, MD. "Radiation for treatment of breast cancer uses doses which are roughly 5000 times higher than a diagnostic PEM study. Minimizing radiation dose is still important for any patient, and we can likely cut the dose of PEM in half, but the benefit to proper treatment exceeds the still low risk from the radiation dose of PEM."

Dr. Lawrence MacDonald, Research Assistant Professor in the Department of Radiology at the University of Washington, and his team presented results of a study to detect lesions with very low doses of radiation using the Naviscan PEM scanner. Preliminary results using phantom images suggest that PEM lesion detection can be reduced down to approximately 3 mCi injected dose of 18FDG or 3 to 4 times lower than the dose commonly used in clinical practice, while maintaining lesion detectability. These r
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