# The Effectiveness Of Breast Imaging In Surgical Planning

Published in the April issue of *Journal of Nuclear Medicine*, Gamma Medica, Inc. and Mayo Clinic of Rochester, MN demonstrate the effectiveness of Molecular Breast Imaging (MBI) in the pre-operative evaluation of women with biopsy-proven breast cancer. The goals of this study were to determine whether MBI is more sensitive than mammography in detecting:

- Additional foci of breast cancer in the ipsilateral breast.
- Additional foci of breast cancer in the contralateral breast.
- The evaluation of disease extent of biopsy-proven disease.

Patients with biopsy proven breast cancer scheduled for surgery were offered enrollment in this study. All patients had a diagnostic mammogram and an MBI study prior to surgery. Patients with MBI studies showing additional sites of disease underwent additional diagnostic studies. At the time of operation the pathologic findings were correlated with the MBI results and MBI studies were performed using a LumaGEM™ MBI System from Gamma Medica, Inc. The system comprises dual-head pixilated CZT detectors mounted on a modified mammographic gantry. For MBI, patients were injected with 296 MBq Tc-99m sestamibi and the standard CC and MLO views acquired of each breast.

A total of 98 patients with biopsy-proven breast cancer were enrolled and underwent pre-operative MBI and completed surgical resection. MBI detected additional disease greater than that identified by the combination of mammogram and ultrasound, which altered the surgical treatment in 12 patients. In 7 of 98 patients, MBI detected additional foci of cancer not seen on mammography. This resulted in a change of the surgical treatment plan from breast conservation to mastectomy. Final pathology confirmed that mastectomy was warranted. Additional results showed:

- One patient had a contralateral breast cancer detected on MBI that was not detected with mammography. Second-look mammogram and ultrasound with biopsy demonstrated invasive breast cancer, and the patient underwent surgery on both breasts.
- Two patients had uptake in the contralateral breast on MBI. Surgical excision demonstrated atypical ductal hyperplasia and atypical lobular hyperplasia. Another patient had an abnormality detected on MBI which, at time of planned bilateral mastectomy, was found to represent atypical ductal hyperplasia.
- In three patients, MBI detected a significantly greater extent of disease than

mammography, which resulted in a change of surgical treatment plan from breast conservation to mastectomy.

**Source URL (retrieved on *11/27/2014 - 1:14am*):**
http://www.surgicalproductsmag.com/news/2011/05/effectiveness-breast-imaging-surgical-planning?qt-recent_blogs_articles=0&qt-recent_content=0