

Poster #: 52

**Title of Abstract:** Does breast biopsy affect lesion enhancement characteristics or accuracy of tumor measurement on MRI?

**Institution:** Mount Sinai Medical Center

**Authors:** Nikki Tirada, MD Anjeza Chukus, MD Stuart Kaplan, MD

**Modality:** PET

**Organ System:** Multi

**Intro:** N/A

**Purpose:** The objective of this study is to determine the effect ultrasound, stereotactic, and MRI-guided biopsy may have on lesion morphology, size measurement, and qualitative and quantitative dynamic kinetic features. It is our hypothesis that inflammatory chan

**Methods Used:** A retrospective review of patients who had contrast-enhanced Breast MRI performed either before or after biopsy of a suspicious lesion between January 2010 and January 2013 were included in the study. Patients who had neo-adjuvant chemotherapy prior to MRI were excluded. Imaging characteristics evaluated include time-signal intensity curve and changes in degree of enhancement were evaluated. In patients who also underwent surgical excision, the size of tumors measured on MRI was compared with pathology measurement. Using a paired Student's t test, differences were considered significant where  $P < 0.05$ . Approval for this study was obtained from Mount Sinai Medical Center Institutional Review Board.

**Results of Abstract:** To date, we have identified 36 eligible patients. The mean age was 58.2 years. 8 of 36 lesions (22%)

demonstrate changes in enhancement pattern after biopsy: 3 lesions (8.3%) with homogenous washout kinetics became heterogenous, 3 lesions (8.3%) with homogenous washout became persistent, 1 lesion (2.8%) with progressive curve became plateau, and 1 lesion (2.8%) with plateau became indeterminate (hematoma cavity). There was no significant difference between radiologic and pathologic size of the tumor (2.47 vs 2.31;  $P = 0.69$ ).

**Discussion:** Breast biopsy leads to changes in enhancement pattern but does not significantly impact the accuracy of diagnosis or tumor size measurement.

**Scientific and/or Clinical Significance?** Breast MRI is frequently performed after the diagnosis of breast cancer has been established. Therefore, it is important to assess any potential effect prior biopsy may have on imaging characteristics of the biopsied lesion.

**Relationship to existing work** Further explore the existing limited knowledge.

N/A