

## ABSTRACT RSNA 2003 (M01-1085)

### Comparison of the Diagnostic Accuracy of a Percutaneous Intact Specimen Sampling Device to a Core Needle Sampling Device for Biopsy of Breast Cancer: Initial Experience

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#### Purpose:

The accuracy of core needle biopsy in establishing a diagnosis of breast cancer and its accuracy is well established. The **en-bloc®** Biopsy System, recently approved by the FDA, removes a single, intact specimen of breast tissue percutaneously, under image guidance. The purpose of this study is to compare the diagnostic accuracy of the **en-bloc** and current technology (i.e., Mammotome® core needle).

#### Materials and Methods:

This is a retrospective analysis of biopsy and final pathology results on a sequential series of patients whose biopsies were either performed using a Mammotome core needle biopsy method or **en-bloc** Biopsy System. The Mammotome arm is comprised of patients from 8/1/99-1/31/02 (n=801) and the **en-bloc** arm is comprised of patients from 9/1/02-8/15/03 (n=811). All patients presenting with BIRADS IV or V lesions who underwent biopsy and were indicated for either a Mammotome or **en-bloc** biopsy were included in the study. Initial diagnoses were made from the histopathological examination of the tissue retrieved at biopsy. Patients with non-benign findings were referred for surgical excision, with a second diagnosis made from histopathological analysis of that specimen.

#### Results:

The **en-bloc** and the Mammotome arms, respectively, had similar pathologic characteristics at biopsy with benign (81.5% vs 82.5%), atypical ductal hyperplasia (ADH) (1.7% vs 2.3%), ductal carcinoma in situ (DCIS) (3.7% vs 4.5%), infiltrating ductal carcinoma (IDC) (10.6% vs 9.1%), and other (2.5% vs 1.6%) diagnoses found. Notably, when compared to the surgical tissue diagnosis, fewer **en-bloc** DCIS cases (1/30 (3.3%)) were upgraded to IDC as compared to the Mammotome biopsy samples (8/36 (22.2%)). 12/30 (40.0%) **en-bloc** DCIS cases resulted in complete removal of histological evidence of DCIS, as compared to 4/36 (11.1%) Mammotome DCIS cases. There were more papillomas and radial scars diagnosed in the **en-bloc** group than the Mammotome group (17/811 vs 8/801 and 11/811 vs 0/801, respectively), and fewer equivocations in the histopathological descriptions of the specimens (16/811 vs 48/801).

#### Conclusion:

The **en-bloc** Biopsy System is an accurate means of obtaining specimens of breast tissue for histopathological analysis. In addition, the **en-bloc** biopsies resulted in fewer upgrades at surgery and more definitive benign diagnoses, as compared with Mammotome. Studies should be performed in a larger number of patients to confirm this latter finding.