Case Study

MammoSTAR®
Biopsy Site Marker

Ultrasound Visibility

Clinical History:

46-year-old female presented for callback of an indeterminate mass in the right breast on screening mammogram.

Imaging Findings:

Diagnostic mammogram and breast ultrasound revealed a 1.9cm mass, highly suggestive of malignancy, in the right breast, outer central, 9:00, posterior third, 6cm from nipple. Biopsy was recommended.

Procedure and Pathology:

Ultrasound-guided, vacuum-assisted biopsy of the right breast mass using the Mammotome® Elite device was performed. A MammoSTAR® tissue marker was deployed at the biopsy site adjacent to the residual mass (FIG. 1). Pathology results revealed an infiltrating ductal carcinoma, grade I.

MRI Imaging:

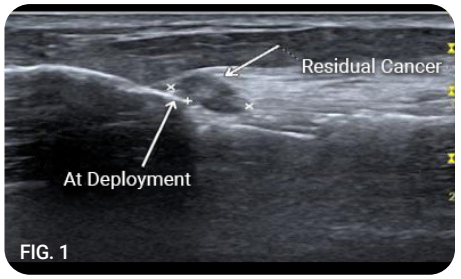
A preoperative staging breast MRI was performed. A signal void corresponding to the MammoSTAR® tissue marker at 6 days after deployment was identified adjacent to the residual biopsy-proven malignant mass in the right breast (FIG. 2). Breast MRI also revealed a contralateral mammographic occult mass, highly suggestive of malignancy, in the left breast.

Follow-Up Ultrasound at 8 Days, Left Breast VAB:

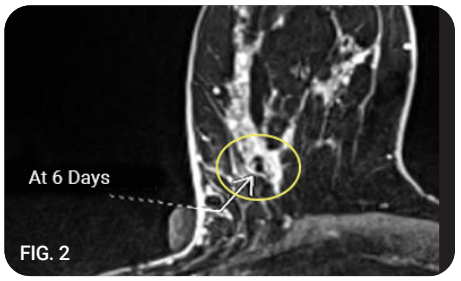
Follow-up right breast ultrasound at 8 days after deployment revealed the MammoSTAR® tissue marker as a hyperechoic mass (beta-glucan carrier) adjacent to the residual biopsy-proven malignant mass (FIG. 3). MRI-directed ultrasound of the left breast revealed a mass highly suggestive of malignancy. Ultrasound-guided, vacuum-assisted biopsy was performed. Pathology results of the left breast mass revealed an infiltrating ductal carcinoma, grade II with associated ductal carcinoma in situ, grade II.

Discussion:

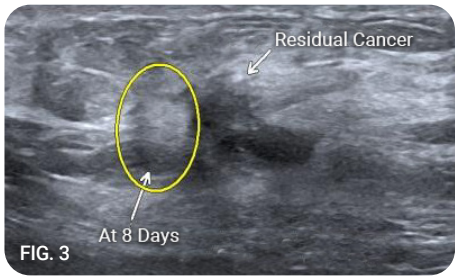
The patient scheduled for definitive surgery—bilateral mastectomies and bilateral sentinel lymph node biopsies 41 days after the initial diagnosis. Ultrasound evaluation of the MammoSTAR® tissue marker was performed at the time of the lymphatic mapping injections. At 41 days on ultrasound, the MammoSTAR® tissue marker was seen as a hyperechoic mass (beta-glucan carrier). The carbon-coated ceramic tissue marker (2 hyperechoic foci) is not always easily seen, but can be quite visible in certain patients (FIG. 4).



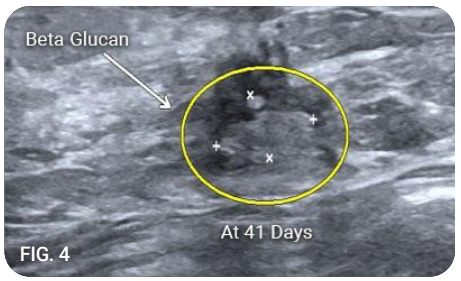
Immediate Deployment



6 Days



8 Days



41 Days

Courtesy of Kimberly C. Hutcherson, MD/North Metropolitan Radiology Associates, LLP/Northside Gwinnett Breast Center/Northside Hospital Gwinnett.