

## Wire Localization

### Clinical History:

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

### Imaging Findings:

Diagnostic mammogram and breast ultrasound revealed a 2.7cm irregular shape, parallel orientation, not circumscribed angular and microlobulated margin, hypoechoic echo pattern mass with posterior features of enhancement and an echogenic rim in the left breast, lower outer quadrant, 5:00, posterior third, 10cm from nipple. Color doppler showed disorderly internal vascularity. The imaging appearance was highly suggestive of malignancy. Biopsy was recommended.

### Biopsy Procedure and Pathology:

Ultrasound-guided, vacuum-assisted biopsy of the left breast mass using the 8G Mammotome® EX device was performed (FIG. 1). 1% lidocaine buffered with bicarbonate was used to anesthetize the skin and the tract of the needle by elevating the posterior mass anterior to the pectoralis muscle and by hydrodissection of the tissue plane for ease of placement of the 8G Mammotome® EX device. Several samples of the mass were obtained. A MammoMARK® tissue marker was deployed successfully in the biopsy cavity (FIG. 2). The tissue marker is readily visible at deployment. There were no complications. The pathology results revealed a spindle cell neoplasm consist with a dermatofibrosarcoma protuberans, grade 1. Surgery with wide margins remains the standard treatment. Surgical excision of the left breast mass was recommended.

### Wire Localization and Surgical Excision:

At 28 days post-biopsy, the patient presented for image-guided localization prior to definitive surgery. Ultrasound evaluation of the MammoMARK® tissue marker revealed an echogenic linear foreign body (titanium) embedded in the hypoechoic collagen carrier (FIG. 3). This appearance of the MammoMARK® tissue marker is routine at 30 days. Ultrasound-guided wire localization of the left breast MammoMARK® tissue marker was performed prior to surgical excision (FIG. 4).

### Discussion:

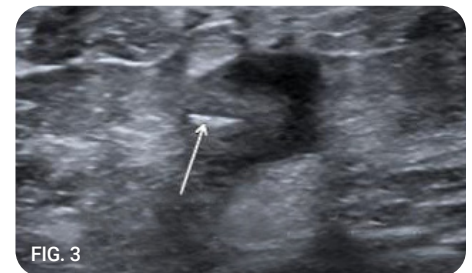
- 1. Ease of biopsy:** Posterior masses adjacent to the pectoralis muscle are easily accessible with the Mammotome® EX device with adequate use of anesthesia to elevate the mass anterior to the pectoralis muscle and hydrodissection of the tissue plane for ease of placement of the Mammotome® EX device.
- 2. Tissue marker placement:** Tissue markers should routinely be placed following image-guided breast biopsies. The MammoMARK® tissue markers are my markers of choice. The marker's collagen carrier expands and anchors in the biopsy cavity for accurate deployment.
- 3. Image-guided localization:** If surgical excision is recommended based on the pathology results from the image-guided biopsy, the MammoMARK® tissue markers are visible on ultrasound at 28 days as an echogenic linear foreign body (titanium) embedded in a hypoechoic collagen carrier.



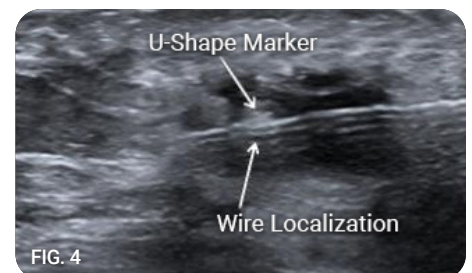
Mammotome® EX System



U-Shape Marker



28 Days, Titanium Surrounded by Collagen



Wire Localizaton

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