

Ultrasound detection and ultrasound guided biopsy of breast microcalcifications using the Neothermia En-Bloc sampling device.

Dalton, EP

Elliot Breast Health Center, Manchester, NH

Introduction: Microcalcifications are frequently seen on mammography and most biopsied, if deemed suspicious, using stereotactic localization and vacuum assisted sampling techniques. With our new breast ultrasound equipment [Siemens *Antares*], microcalcifications are seen frequently during consultations in our surgical practice, surrounding the need for a stereotactic biopsy. We have been reluctant to use #14 gauge core biopsies because of potential and historical inadequate sampling. The introduction of the Neothermia En-Bloc biopsy system into the practice has allowed us to select patients who are candidates for in office sampling thereby simplifying their referral to the offsite stereotactic imaging center.

Methods: All CAT IV mammograms with a suggestion for stereotactic biopsy referred to our surgical practice are examined. Size of the calcifications, numbers of calcifications, location, association with a density, presence of dilated ducts, and likelihood of stereotactic localization success are taken into consideration before attempting to locate microcalcifications by ultrasound. Calcifications that are localized, if subtle, are transfixed with a Kopans needle and repeat mammograms are taken to confirm concurrence of ultrasound and mammography. Using ultrasound for guidance the Neothermia En Bloc system is used for sampling. This allows a large architecturally intact piece of breast tissue to be removed from the target area. Because of the local anesthesia needs for the procedure, which can obscure the target area, a clip can be placed before the local anesthesia is instilled to provide a better post local anesthesia target. The vacuum assisted device using a 1.5 or 2cm probe is introduced and engaged. A clip is reintroduced if the specimen x-ray or specimen ultrasound shows the presence of the target clip. Pathology and specimen radiograph correlation are crucial components to the success of the procedure.

Results: Over 6 months 66 En- Bloc biopsies were done at our breast center 22 of them were for microcalcifications. Calcification identification occurred in 24% of the mammograms reviewed. Calcification size and number and the presence of invasive or non-invasive breast cancer were positive predictors of calcification identification. Pathology correlation with specimen films and the original mammogram suspicion was obtained with a single exception followed by a positive stereotactic biopsy.

Conclusions: Microcalcifications can be identified and successfully sampled using the ultrasound guided Neothermia En-Bloc vacuum assisted biopsy device. This offers a patient an alternative to stereotactic biopsy that may be more efficient and as effective as a biopsy option.