

Duration time of vacuum-assisted biopsy for nonpalpable breast masses: comparison between stereotactic and ultrasound-guided procedure

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ABSTRACT

Aims and background. Minimally invasive biopsy should be a standard practice in the non-operative diagnosis of breast lesions that are suspicious for or highly suggestive of malignancy. The aim of this study was to compare the procedure duration time for different methods of minimally invasive image-guided vacuum-assisted breast biopsy (VABB).

Methods. Six hundred and ninety-one women with nonpalpable breast masses classified as BI-RADS IV or V were studied. All of them underwent minimally invasive percutaneous VABB with an 11-gauge needle. In 402 patients an ultrasound-guided procedure with a hand-held device was performed while in 289 women stereotactic biopsy was carried out using a dedicated prone table unit with digital imaging. In each case the duration of biopsy was measured in terms of the total procedure time, room time and physician time.

Results. There were no significant differences between the stereotactic and ultrasound-guided groups with regard to patient age, body mass index, menopausal status, history of parity, hormone replacement therapy, breast parenchymal pattern (according to Wolfe's classification), family history of breast cancer, mass size and number of samples. Ultrasound-guided biopsy was found to take significantly less time than prone stereotactic biopsy in every aspect of procedure duration. Mean total procedure time, room time, and physician time in minutes were 26.7 ± 8.2 vs 47.5 ± 9.4 ($P < 0.01$), 23.1 ± 8.5 vs 36.5 ± 9.2 ($P < 0.05$), and 12.3 ± 5.6 vs 18.6 ± 5.9 ($P < 0.05$), respectively.

Conclusions. Ultrasound-guided breast biopsy is less time-consuming than the stereotactic procedure for both the patient and the physician. Because of the shorter procedure time (as well as other well-known advantages: real-time imaging, lower cost), ultrasound-guided biopsy should be considered the method of choice for sampling suspicious nonpalpable breast masses.

Key words: early breast cancer, vacuum-assisted biopsy, stereotactic biopsy, ultrasound-guided biopsy.

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