

Letter to the Editor

Needle Core Biopsy Should Replace Fine Needle Aspiration Cytology in Breast Lesions Diagnosis

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Dear Editor-in-Chief

We have read with great interest the paper of Ghaemianian *et al.* “Concordance Rate between Fine Needle Aspiration Biopsy and Core Needle Biopsy in Breast Lesions” (1). Six radiologists of Institute for the Study and Prevention of Cancer, Florence Italy, performed 5,108 consecutive US-guided needle samplings on solid breast lesions, from self-referred patients: 3,095 fine needle aspiration cytology (FNAC) and 2,013 needle core biopsy (NCB). Inadequate rate was lower for NCB than for FNAC (B1=6.9%; C1=17.7%; $P<0.001$), particularly among malignant lesions (B1=0.9%; 4.5%; $P<0.001$). False negative rate was equally low, for both NCB and FNAC (1.7% vs. 1.7%; $P=0.98$). NCB did much better than FNAC for both conclusive diagnosis (85.4% vs. 72.6%; $P<0.001$) and absolute sensitivity (93.1% vs. 74.4%; $P<0.001$). Complete sensitivity was a little better for NCB (97.4% vs. 93.8%; $P=0.001$).

Specificity was lower for NCB vs. FNAC (88.3% vs. 96.4%; $P<0.001$). This finding may be due to a higher rate of lesions difficult to diagnose among those undergoing NCB. Absolute diagnostic accuracy was better for NCB (84.5% vs. 71.9%; $P<0.001$). Differences in complete diagnostic accuracy were not statistically significant. NCB performed after an inconclusive initial FNAC (231 cases) improved both complete sensitivity (from 93.8% to 97.0%) and specificity (from 96.4 to 98.7%) of FNAC, but delaying diagnosis and increasing costs. NCB always performed better than FNAC in sample adequacy, sensitivity and conclusiveness. NCB should be the diagnostic procedure of choice in the identification of breast lesions ultrasound visible and should replace FNAC. The use of FNAC as first-use should be discouraged and, if anything, confined to the confirmation of clearly benign or malignant clinical-radiological findings. FNAC is in decline and numbers of screening units in the

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UK have abandoned it completely (2). Because NCB allows simultaneous evaluation of cytology and architecture, a definite diagnosis of ductal carcinoma in situ/ductal intraepithelial neoplasia and invasive carcinoma can be provided with NCB and, in addition, benign lesions such as fibroadenomas are easily identified.

Grading of an in situ or invasive carcinoma from a core biopsy is difficult, and perhaps only a provisional grade or nuclear grade should be given to the lesion (3). The prognostic and predictive tumour characteristics (histologic grade and subtype, estrogen receptor, progesterone receptor and HER2-neu status) may be established with NCB. The NCB should be considered the first choice diagnostic modality of breast lesions.

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