

## Review of: An audit of assessment procedures in women who develop breast cancer after a negative result

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### Abstract of the original article

**Objectives:** A case audit was undertaken to determine the extent to which the early diagnosis of cancer could be improved by better adherence to screening guidelines, and to estimate the effect that this might have on breast cancer survival. Although affecting only a small proportion of the cancers of the screening programme, this exercise had an educational function for screening radiologists.

**Setting:** The East Anglian Breast Screening Programme, a group of seven centres offering screening to a total population of 2.2 million inhabitants. Women were screened every 3 years between the ages of 50 and 64.

**Methods:** Adherence to the guidelines of the UK National Breast Screening Programme (as published in 2001) was tested in women assessed between the start of screening on 1 April 1989 and 31 December 1999, in cases where the screen was negative but who were subsequently diagnosed with breast cancer.

**Results:** In this period the programme screened 503 493 women, recalled 25 346 and diagnosed 3689 with cancer. 194 cancers in 193 women were reviewed, comprising those cancers that arose at the site of the lesion previously assessed. 96 women (49.5%) had calcifications, 48 (24.7%) had opacities. 139 of 194 cases were judged to have been inadequately assessed. A recurring theme showed that biopsies not undertaken or with false negative findings led to failure to diagnose lesions which were subsequently shown to be cancer. Microcalcifications and opacities were more likely to have been inadequately assessed than spiculate masses, parenchymal deformities, or asymmetric densities. In the earliest time period (1989–1993), there were a larger proportion of inadequately assessed cases than in the period 1994–1999.

**Conclusions:** Scrupulous adherence to good guidelines will result in a greater proportion of cancers being diagnosed. Failure to perform effective percutaneous biopsy was the usual cause of missed diagnoses. Although an infrequent occurrence this may have an effect on subsequent survival from breast cancer.

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### Review

This article is a very useful review of screening assessment procedures in seven screening centres

over a 10-year period from 1989 to 1999. It looks at adherence to guidelines for screening assessment published by the National Health Service Breast Screening Programme in 2001.

The results are similar to a previous study in Nottingham published in 1997, but the Nottingham study involved a much smaller study population and a small group of radiologists. This is the only large study looking at false-negative screening assessment

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in multiple screening centres. In both studies the most common abnormality undergoing false-negative assessment was microcalcification. The most common reason for inadequate assessment related to needle biopsy with either no biopsy carried out or inadequate/benign findings being accepted as a true-negative finding instead of a targeting error.

Although there are a substantial number of cases with missing data, the study remains a large one and

the missing data is unlikely to have biased the results. It could be regarded as unfair to audit assessment procedures against guidelines brought out after the time the study population were assessed. However the audit appears to have been carried out in a non-judgemental way looking back at the way clinical practice has evolved. The results should be very helpful to all radiologists involved in breast screening assessment.