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Is there a difference in reading time when normal and abnormal DBT cases are examined by DBT experienced radiologists?

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One of the main challenges of implementing digital breast tomosynthesis (DBT) into the UK screening programme is the known increased time to read DBT than digital mammography (2D) cases. We investigated in detail the nature of reading normal and abnormal DBT images by a group of experienced DBT radiologists to determine if there were image inspection time differences. Seven Italian radiologists, with 2-7 years of DBT screening experience, read two sets of 20 DBT test cases comprising normal, benign and malignant appearances. As well as their reporting decisions about each case, their visual search behaviour and pad control were recorded. All participants read the cases as an initial 2D overview followed by DBT views. Excluding any reporting time, they spent an average of 1:05s on each case, comprising 14s reading the initial 2D overview and then 51s examining the DBT view, (p=0.001). There was no significant difference in overall reading time between normal (1:03s) and abnormal cases (1:07s, p=0.53) and little difference in reading time for the 2D overview for either normal (15s) or abnormal cases (13s, p=0.1335). Additionally there was no significant difference in time for normal (48s) and abnormal cases (54s, p=0.3411) when these were examined as DBT images. It is concluded that a similar image inspection time is found, irrespective of whether a case is normal or abnormal. The image inspection times here are faster than previously have been reported by very experienced DBT readers.

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Primary locally advanced breast cancer: Correlation of mammographic changes post neoadjuvant chemotherapy with Miller Payne Score

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Purpose
To assess concordance of mammographic changes post neoadjuvant chemotherapy (NAC) with pathological Miller Payne Score.
Background
Performing mammographic tumour evaluation before and after NAC allows radiological assessment of tumour response to treatment prior to surgical excision. The Miller Payne (MP) Score is a histopathological five-point grading system which assesses tumour response to NAC. This is an independent predictor of overall patient survival.
Materials and methods
Retrospective data were collected on all patients who completed NAC in our centre in 2016 (N=41) for breast carcinoma. Patients underwent mammography before and after NAC, prior to surgical tumour excision. Mammographic response was measured by calculating the difference between maximum tumour diameter pre and post NAC.
Results
100% of patients (N=11) who had pathologic complete response, or MP grade 5 response (no malignant cells identifiable), had mammographic complete response. Mean mammographic tumour reduction in patients (N=7) with MP grade 4 response (greater than 90% loss of tumour cells) was 83%, in patients (N=9) with MP score of 3 (30-90% loss of tumour cells) was 75%, in patients (N=12) with MP score of 2 (0-30% tumour loss) was 25% and in patients (N=2) with MP score of 1 (no loss of tumour cells) was 33.5%.
Conclusion
Mammographic response correlates with pathological response in patients with MP score of 5, however similar correlation does not exist in other MP scores. Larger studies incorporating other imaging modalities would be useful.

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To biopsy or not to biopsy - is routine biopsy of all R3 breast lesions in patients aged 25-30 required?

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Introduction
Study to evaluate the imaging appearance/histology of all biopsied breast lesions in patients 25 to 30 presenting over six years. As per national guidelines, typical appearing R3 lesions <3 cm in patients <25 years are not routinely biopsied. We hoped to increase that age limit to 30.
Methods
Retrospective study of patients aged 25-30 presenting for TAC over 6 years, allocated a score of R3, R4 or R5. **534** patients reached criteria. Study points included radiology score; imaging features (fibroadenoma-like/non fibroadenoma-like; size; atypical features); histology.
Results
25/534 (4.6%) allocated R4, R5 or R3/R4. **14 (2.6%)** of these diagnosed with invasive malignancy.
509/534 (95.3%) allocated a score of R3.
502 of these proceeded to biopsy.**1** with score R3 demonstrated invasive malignancy on biopsy histology, however the lesion demonstrated atypical appearances on review of imaging.
50/534 (9.3%) allocated a score B3 and proceeded to excisional biopsy. None of these lesions demonstrated invasive malignancy. **5 (0.8%)** Phyllodes in total diagnosed, **4 < 3cm.**
If this was our routine practise, we would **NOT** have missed an invasive cancer. We would not have initially diagnosed 4 phyllodes tumours < 3cm, however their natural history suggests these patients would have re-presented with an enlarging mass.
Conclusion
We suggest that in patients aged 30 or less where a "fibroadenoma-like" R3 lesion demonstrates a typical benign appearance, initial biopsy could be avoided and clinical follow-up following appropriate counselling could be employed.

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Time course of development of breast cancer in patients with B3 lesions associated with a longer term risk of developing cancer

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Introduction
At present many breast units, including ours, undertake annual mammography for 5 years in patients with B3 lesions associated with a longer term risk of developing cancer (risk lesions), but the optimal frequency and length of surveillance is unclear. We have reviewed the development of cancer in a group of our patients with risk lesions undergoing surveillance.
Materials and Methods
Retrospectively from the hospital appointments database we identified all patients with risk lesions undergoing surveillance mammograms from April 2010 to the end of March 2015 and reviewed their records until the end of March 2017. At this time diagnosis was made by 14G core biopsies combined with 10G vacuum-assisted biopsy or diagnostic excision to exclude adjacent co-existing malignancy.