Introduction

- Until recently, in our institution, all women over the age of 35 years referred to the symptomatic breast clinic for triple assessment underwent mammography.
- The Best Practice Diagnostic Guidelines for Patients Presenting with Breast Symptoms (Department of Health November 2010) recommends that mammograms should routinely be performed in women aged over 40 years (see Summary box below).

Best Practice Diagnostic Guidelines for Patients Presenting with Breast Symptoms (Department of Health November 2010)

All patients with a lump or localised change in texture should undergo appropriate imaging:

- Mammography and ultrasound (US) for patients ≥ 40 years.
- US for patients < 40 years with clinically benign or uncertain lesions (P2, P3). If US confirmed normal, benign or probably benign findings, e.g. cyst or circumscribed solid lesion, mammography is unlikely to provide additional diagnostic information.
- Mammography should be performed in women < 40 years for lesions which are suspicious on clinical (P4/5) or US criteria (U4/5).
- Mammography should be considered in patients aged 35-39 years with clinically indeterminate lesions (P3) in whom US is normal.
- Mammography may provide additional diagnostic information in the evaluation of some indeterminate U3 lesions.

For nipple symptoms:

- Bilateral mammography in those ≥ 40.
- US if any palpable abnormality.

Objective

- The aim of this study was to assess the impact that changing our policy would have on breast cancer detection in women aged 35-39 years.

Methods

- Our Breast Cancer Database identified all women aged 35-39 years diagnosed with breast cancer between April 2003 and December 2012.
- Data on patient demographics, presenting symptoms and selected patient history were obtained.
- A retrospective review of all breast imaging for these patients was performed. Ultrasound and mammography scores were recorded using the RCR Breast Group Classification.
- These results were used to determine whether ultrasound alone would have detected the malignancy.

Results

- 108 breast cancer cases were identified from the database over the 9-year period; 2 cases were excluded as there were no records of the breast imaging on PACS.
- A total of 106 cancers were diagnosed in 103 women aged 35-39 years. 3 patients had bilateral breast cancer diagnosed simultaneously.
- 99 patients presented with a palpable lump, 2 patients presented with nipple discharge and 2 patients with inflammatory breast cancer.
- In 105 cancers, ultrasound examination was carried out. In 103 cancers, patients had ultrasound scores ranging from indeterminate/probably benign (U3) to highly suspicious of malignancy (US) according to the RCR Breast Group Classification. These cases would not have been missed if routine mammography had not been performed (see Figure 1 and 2).
- In 2 cases, patients had normal (U1) or benign (U2) ultrasound scores.
- One of these patients presented with bloody nipple discharge. Ultrasound examination was normal. Mammograms showed extensive suspicious microcalcifications within the left breast. Final surgical pathology showed extensive intermediate to high grade ductal carcinoma in situ (DCIS) with four small separate foci of grade 2 invasive ductal carcinoma and 2/23 of axillary lymph nodes involved. This case would have been missed on breast imaging if routine mammography had not been performed (see Figure 3).

- The other patient presented with bilateral P2 breast lumps. Ultrasound examination showed a 16mm U3 mass containing calcification within the outer left breast (see Figure 4a). Ultrasound of the right breast was interpreted as showing a U2 lesion. Mammograms showed the corresponding abnormality within the left breast but no signs of malignancy within the right breast. Final surgical pathology showed extensive DCIS within both breasts and a small grade 2 invasive lobular and ductal carcinoma within the right breast. Mammograms did not add any additional diagnostic information in this case.
- The one case when ultrasound was not performed presented with clear single duct nipple discharge. Clinical examination and mammograms were normal. A microscopic 0.6mm focus of intermediate grade DCIS was found following Hadfield’s procedure.

Conclusion

- In our institution, over a 9-year period, one case of extensive DCIS with small separate foci of invasive cancer, out of a total of 106 breast cancers would have been missed on breast imaging if routine mammography had not been performed in women aged 35-39 years.


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