



## Radiotherapy after mastectomy for screen-detected ductal carcinoma *in situ*

K. Clements<sup>a</sup>, D. Dodwell<sup>b,\*</sup>, G. Lawrence<sup>a</sup>, G. Ball<sup>c</sup>, A. Francis<sup>d</sup>,  
S. Pinder<sup>e</sup>, E. Sawyer<sup>e</sup>, M. Wallis<sup>f</sup>, A.M. Thompson<sup>g</sup>,  
on behalf of the Sloane Project Steering Group

<sup>a</sup> West Midlands Cancer Screening QA Reference Centre, Public Health England, 1st Floor, 5 St Philip's Place, Birmingham B3 2PW, UK

<sup>b</sup> Institute of Oncology, Level 4 – Bexley Wing, St James Hospital, Leeds LS9 7TF, UK

<sup>c</sup> Van Geest Cancer Research Centre, School of Science and Technology, Nottingham Trent University, Clifton Lane, Nottingham NG11 8NS, UK

<sup>d</sup> Ward West 2, Queen Elizabeth Hospital, Edgbaston, Birmingham B15 2TH, UK

<sup>e</sup> Research Oncology, Division of Cancer Studies, King's College London, 3rd Floor, Bermondsey Wing, Guy's Hospital, Great Maze Pond, London SE1 9RT, UK

<sup>f</sup> Cambridge Breast Unit, Box 97 – NIHR Cambridge Biomedical Research Centre Addenbrooke's Hospital, Hills Road, Cambridge CB2 2QQ, UK

<sup>g</sup> Department of Breast Surgical Oncology, MD Anderson Cancer Center, 1400 Pressler Street, Houston 77030, USA

Accepted 29 July 2015

Available online 18 August 2015

### Abstract

**Background:** A role for radiotherapy after mastectomy for ductal carcinoma *in situ* (DCIS) is unclear. Using a prospective audit of DCIS detected through the NHS Breast Screening Programme we sought to determine a rationale for the use of post mastectomy radiotherapy for DCIS.

**Methods:** Over a nine year period, from 9972 patients with screen-detected DCIS and complete surgical, pathology, radiotherapy and follow up data, 2944 women underwent mastectomy for DCIS of whom 33 (1.1%) received radiotherapy.

**Results:** Use of post mastectomy radiotherapy was significantly associated with a close (<1 mm) pathology margin ( $\chi^2(1)$  95.81;  $p < 0.00001$ ), DCIS size ( $\chi^2(3)$  16.96;  $p < 0.001$ ) and the presence of microinvasion ( $\chi^2(1)$  3.92;  $p < 0.05$ ). At a median follow up 61 months, no woman who received radiotherapy had an ipsilateral further event, and only 1/33 women (3.0%) had a contralateral event. Of the women known not to have had radiotherapy post mastectomy, 45/2894 (1.6%) had an ipsilateral further event and 83 (2.9%) had a contralateral event.

**Conclusion:** Recurrence following mastectomy for DCIS is rare. A close (<1 mm) margin, large tumour size and microinvasion, may merit radiotherapy to reduce ipsilateral recurrence.

© 2015 Elsevier Ltd. All rights reserved.

**Keywords:** Breast cancer; DCIS; Radiotherapy; Mastectomy; Sloane project

### Introduction

The prognosis for screen-detected ductal carcinoma *in situ* (DCIS) is excellent and within the UK NHS Breast Screening Programme (NHSBSP) relative breast cancer-specific and overall mortality is no different to an

unaffected population.<sup>1</sup> Mastectomy is still commonly performed for DCIS and is in the great majority of cases curative. Local recurrence after mastectomy is rare.<sup>2</sup>

In the context of early *invasive* breast cancer, radiotherapy is usually recommended after breast conserving surgery (BCS) and removes around 70% of the risk of recurrence.<sup>3</sup> Radiotherapy following mastectomy for *invasive* disease is also recommended if recurrence risk is

\* Corresponding author.

E-mail address: [david.dodwell@nhs.net](mailto:david.dodwell@nhs.net) (D. Dodwell).

high. The Early Breast Cancer Trialists' Collaborative Group (EBCTCG) overview reports that patients with positive lymph nodes have a 23% local recurrence risk without radiotherapy and a 6% risk if radiotherapy is given (risk reduction 74%).<sup>3</sup> Following BCS for DCIS, radiotherapy reduces the risk of (invasive and *in situ*) recurrence by 54%,<sup>4</sup> but is utilised infrequently after mastectomy.<sup>5–7</sup>

Although there are retrospective data,<sup>5–7</sup> no prospective studies have examined the effects of post-mastectomy radiotherapy (PMRT) in DCIS. In order to understand the possible reasons why PMRT may be recommended for DCIS after mastectomy, prospectively collected NHS Breast Screening Programme audit data were interrogated to compare demographic and histopathological variables with outcomes in women receiving radiotherapy and those who did not after mastectomy.

## Methods

The prospective audit of NHS breast screen-detected non-invasive breast carcinoma and atypical hyperplasia (the Sloane Project, named after eminent pathologist Professor John Sloane) accrued patients from 2003 to 2012. Eighty nine percent of NHS breast screening units across the UK participated in the audit, and data were captured on 40% of all women with screen detected non-invasive neoplasia. Data capture at source was through manually completed radiology, surgery, pathology and radiotherapy forms, collated onto a single data base. The Sloane Project is administered by the West Midlands Cancer Screening Quality Assurance Reference Centre, part of Public Health England. A Steering Committee comprises surgeons, pathologists, radiologists, oncologists and a patient advocate. Further details of the Sloane Project are available through the website ([www.sloaneproject.org.uk](http://www.sloaneproject.org.uk)).

The prospectively collected Sloane Project database was examined to identify women treated for DCIS who had undergone mastectomy. Data were extracted including the age at diagnosis, histological features, use of and recorded indication for PMRT. Further events were identified by matching the cases by NHS number and date of birth to information provided by Sloane contacts in NHS breast screening units and to routinely collected datasets, which included Cancer Waiting Times, Hospital Episode Statistics, the English National Radiotherapy Dataset, the English Cancer Analysis System/National Cancer Registration Service and datasets held by the Information Services Division Scotland. The census date for further events and deaths was 31 December 2012; giving a median follow up time of 61 months. Women who died of breast cancer but who had no further events recorded were deemed to have had distant metastases on the date they died. If there was no evidence of women having a contralateral breast cancer diagnosis, distant events were deemed to be 'ipsilateral distant events'.

## Statistics

Pearson's chi-squared test was used to test for a significant difference between those receiving radiotherapy or not receiving radiotherapy following mastectomy according to age at diagnosis, tumour size, final margin size, cytonuclear grade of the DCIS, presence of microinvasion and presence of comedo necrosis. A chi-squared probability of less than or equal to 0.05 was interpreted as the cut-off point at which there was a significant difference and thus the point at which the null hypothesis could be rejected.

## Results

12,838 women with a diagnosis of screen-detected DCIS in the 9-year period between 1/4/2003 and 31/3/2012 were prospectively entered into the Sloane Project database; 9972 (78%) women had complete and informative data in relation to surgical operation, radiotherapy utilisation, DCIS size and/or margin status and follow-up (Fig. 1). Of these 9972 surgically treated women, 2944 (30%) underwent mastectomy as their final surgical procedure, and 33 (1.1%) of these women were confirmed to have received post-operative radiotherapy (Fig. 1). The 33 women who received radiotherapy were treated in 16 different NHS breast screening units.

The use of PMRT was related to margin status and this was statistically significant when the margin was <1 mm ( $\chi^2(1) = 95.81$   $p < 0.00001$ ). Of the 925 (31%) women

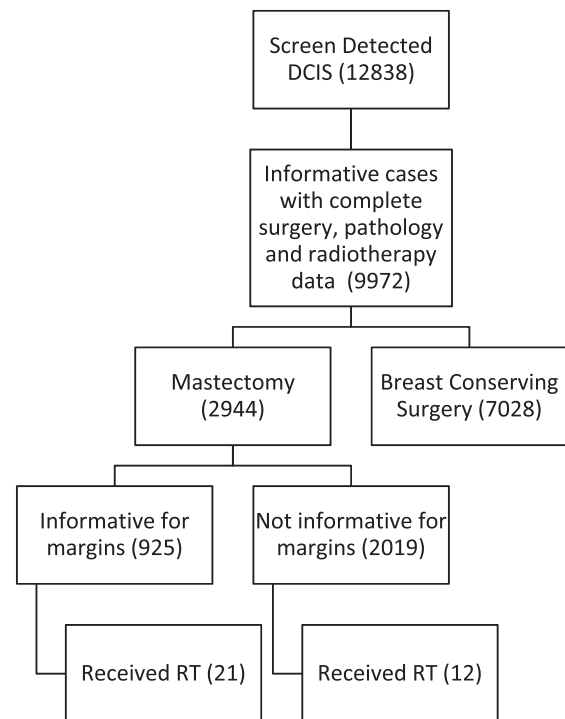


Figure 1. Case consort diagram.

Download English Version:

<https://daneshyari.com/en/article/6191146>

Download Persian Version:

<https://daneshyari.com/article/6191146>

[Daneshyari.com](https://daneshyari.com)