

Importance of Surgical Margin Status in Ductal Carcinoma In Situ

Talha Shaikh,¹ Tianyu Li,² Colin T. Murphy,¹ Nicholas G. Zaorsky,¹
Richard J. Bleicher,³ Elin R. Sigurdson,³ Robert Carlson,⁴ Shelly B. Hayes,¹
Penny Anderson¹

Abstract

Surgical margin status remains an area of controversy in patients with ductal carcinoma in situ (DCIS). In the presented analysis, the effect of final surgical margins and re-excision were analyzed in a cohort of patients who underwent breast conservation surgery followed by whole breast radiation and a tumor bed boost. This single-institution experience showed no difference in local recurrence rates in an examination of patients with negative versus close or positive margins likely because of the limited number of events. Regardless, obtaining a clear margin with no ink at resection should remain the standard management for these patients except in exceptional circumstances in which a patient refuses further surgery. Better identification of patients who do not require re-excision for DCIS is necessary.

Background: The purpose of the study was to identify the effect of final surgical margin (SM) status and re-excision on outcomes in patients with ductal carcinoma in situ (DCIS) who underwent breast conservation therapy (BCT). **Patients and Methods:** The study population consisted of women diagnosed with DCIS who underwent BCT between 1989 and 2014. All women received adjuvant whole breast radiation and a boost. The primary end point was local control (LC). Final SMs were defined according to margin width: negative SM was defined as > 2 mm, close SM was defined as > 0 to ≤ 2 mm, and a positive SM was defined as tumor on ink. The Cox proportional hazards model was used to determine predictors of outcomes on multivariable analysis. Actuarial incidence of LC was estimated using the Kaplan–Meier method. **Results:** A total of 498 patients were included; 400 patients had a final negative SM, 87 had a close SM, and 11 had a positive SM. A total of 172 patients received adjuvant hormonal therapy, 265 patients required ≥ 1 re-excision. Patients with positive or close SMs were more likely to receive a radiation dose > 60 Gy ($P < .001$) and undergo re-excision ($P < .01$). The 10-year LC rates were not significantly different between patients with a negative (93.5%), close (91.8%), or positive (100%) SM ($P = .57$). There was no difference in LC in patients who underwent re-excision for initial close or positive SMs ($P = .55$). **Conclusion:** This single-institution experience showed that risks of local recurrence remain poorly characterized. Re-excision and whole breast radiation with boost resulted in excellent LC for women with DCIS. Trials aimed at personalized deintensified local therapy are warranted.

Clinical Breast Cancer, Vol. ■, No. ■, ■-■ © 2016 Elsevier Inc. All rights reserved.

Keywords: Boost, Breast conservation, DCIS, Hormonal therapy, Re-excision

Introduction

Ductal carcinoma in situ (DCIS) comprises approximately 25% of breast cancers diagnosed in the United States.¹ Breast

conservation therapy consisting of lumpectomy followed by adjuvant radiation is an acceptable standard of care in the management of DCIS. The primary role of radiation in the management of DCIS is to decrease the risk of ipsilateral breast tumor recurrence. Multiple trials have shown an improvement in local control (LC) with whole breast radiation.²⁻⁴ A meta-analysis by the Early Breast Cancer Trialists' Group showed a 15.2% relative risk reduction in ipsilateral breast recurrence with the use of adjuvant whole breast radiation.⁵ This risk of recurrence was further decreased with the use of adjuvant hormonal therapy.

Surgical margins have long been an area of controversy in patients with breast cancer. A recent joint statement from the

¹Department of Radiation Oncology

²Department of Biostatistics

³Department of Surgical Oncology

⁴Department of Medical Oncology, Fox Chase Cancer Center, Philadelphia, PA

Submitted: Sep 8, 2015; Revised: Jan 11, 2016; Accepted: Feb 3, 2016

Address for correspondence: Penny Anderson, MD, Department of Radiation Oncology, Fox Chase Cancer Center, 333 Cottman Ave, Philadelphia, PA 19111
Fax: 215-214-4038; e-mail contact: penny.anderson@fccc.edu

Importance of Surgical Margins in Ductal Carcinoma In Situ

American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology recommended the use of no ink on tumor as the standard of care for negative margins in patients with invasive breast cancer undergoing re-excision.⁶ The goal of the consortium was to decrease the rates of re-excision, improve cosmesis, and decrease health care costs. The role of margin status and re-excision in patients who undergo breast conservation surgery (BCS) followed by radiation for DCIS is less clear. Inadequate margins might be a harbinger for higher rates of recurrence but re-excisions and unnecessary wide margins might affect cosmesis and result in unnecessary procedures. The objective of this analysis was to identify the effect of margin status and re-excision on LC in a cohort of patients with DCIS who received adjuvant radiation therapy.

Patients and Methods

Patient Selection

The study population consisted of women with DCIS treated at a National Cancer Institute-designated comprehensive cancer center between 1989 and 2014 who were enrolled in an institutionally approved prospective database study. Patients were excluded if they had invasive breast cancer, underwent mastectomy, received hypofractionated radiotherapy, had metastatic disease, or were male. Patient demographic and tumor characteristics, and treatment-related information were entered prospectively into a database that was maintained and updated by a single data manager. The collection, storage, and retrieval of data were all done in compliance with the hospital's institutional review board and the Health Insurance Privacy and Portability Act.

Treatment

Treatment decision-making was made in a multidisciplinary tumor board setting attended by surgeons, medical oncologists, and radiation oncologists specializing in breast cancer. In general, patients with hormone-positive disease were offered 5 to 10 years of either antiestrogen therapy or an aromatase inhibitor at the discretion of the treating medical oncologist. All patients underwent radiation planning consisting of a computed tomography scan, supine, using a 10 to 20 degree breast board and/or α cradle cast for immobilization. All patients received whole-breast radiation followed by a boost to the lumpectomy cavity. In general, the whole breast was treated to a dose of 50 Gy and the lumpectomy boost was determined according to the final surgical margin status. No patient received adjuvant nodal irradiation. All patients received BCS. No patient had pathologic nodal evaluation. After surgical excision of the tumor, digital radiographs of the specimen were routinely performed to confirm the targeted calcifications had been removed. Surgical margins were considered to be involved if there was DCIS present at the inked margin, close margins were considered to have tumor within 2 mm. Negative margins were > 2 mm. If there was no residual tumor at the time of re-excision, the margin was considered to be negative. In the presented series, a patient was considered to have undergone re-excision if they were found to have a close or positive margin after surgery, and were recommended to undergo re-excision to obtain negative margins.

Statistical Analysis

Study end points included LC, regional control, distant control, cause-specific survival (CSS), disease-free survival and overall survival. LC was defined as a recurrence of invasive or noninvasive breast cancer in the ipsilateral breast. The differences of patient and tumor characteristics between the study groups were compared using the χ^2 test for categorical variables and Wilcoxon test for continuous variables. Variables analyzed included margin status, re-excision, age, dose, hormonal therapy, comedo subtype, and grade. The univariate analysis on the recurrence and survival outcomes was done using the Kaplan–Meier estimation method and log rank test. Multivariate analysis was performed using a Cox proportional hazard model.

Results

A total of 498 patients were included. The median age was 58 (range, 30-91) years and the median follow-up was 8.3 years (3 months-27 years). A total of 400 (80.3%) patients had a final negative surgical margin, 87 (17.5%) had a close surgical margin, and 11 (2.2%) had a positive surgical margin. A total of 172 patients (34.5%) received adjuvant hormonal therapy. Twenty-seven patients (5.4%) experienced a local recurrence, 0 patients (0%) experienced a regional recurrence, and 9 patients (1.8%) developed a distant recurrence. Of patients with a local recurrence, 24 (88.9%) were invasive and the remaining were noninvasive.

Surgical Margin

Patients with final positive or close surgical margins were more likely to receive a radiation dose >60 Gy ($P < .001$) and undergo re-excision ($P < .01$; [Table 1](#)). The 10-year LC rates were not significantly different between patients with a negative (100%), close (91.8%), or positive (93.5%) surgical margin ($P = .565$; [Figure 1](#)). In univariate analysis, there was no significant difference in LC in a comparison of negative versus close or positive ($P = 1.0$) surgical margins. There was no difference in 10-year LC rates according to a surgical width of 0 to 1 mm (100%), > 1 to 2 mm (88.5%), or > 2 mm (93.5%; $P = .85$). On multivariate analysis, after controlling for age, dose, hormonal therapy, comedo subtype, and grade, there were no factors associated with LC. There was no difference in 10-year disease-free (90.3% vs. 90.4% vs. 100%; $P = .471$) or CSS (98.8% vs. 98.4% vs. 100%; $P = .638$) in patients with negative, close, or positive margins, respectively.

Re-excision

A total of 265 patients (53.2%) required at least 1 re-excision. Patients who underwent re-excision were less likely to have hormone-receptor positive disease ($P < .001$), not receive hormonal therapy ($P = .0063$), have initial close or positive margins ($P < .001$), have Grade 3 disease ($P = .025$), and have a comedo subtype ([Table 2](#)). There was no difference in 10-year LC rates between patients who underwent re-excision (93.7%) and did not undergo re-excision (93.2%; $P = .649$; [Figure 2](#)). There was no difference in 10-year disease free (91.4% vs. 89.2%; $P = .539$) or cause-specific survival (99.3% vs. 98.2%; $P = .638$) in patients with or without re-excision.

Download English Version:

<https://daneshyari.com/en/article/5580694>

Download Persian Version:

<https://daneshyari.com/article/5580694>

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