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Re-Operating Reconsidered: Surgeries to Improve Margin Status May be Unnecessary for Some Patients with DCIS

Analysis of Large Dataset Suggests Revisiting Margin Width Guidelines

Abstract: Margin Width and Local Recurrence in the NRG Oncology/NSABP B-35 DCIS Lumpectomy Trial

Las Vegas, NV, May 1, 2025—Re-excision to achieve wider disease-free tumor margins can be reconsidered for certain women treated with lumpectomy for ductal cancer in situ (DCIS), the earliest stage of breast cancer, according to a study presented this week at the American Society of Breast Surgeons Annual Meeting.

The study analyzed data from NSABP/NRG Oncology B-35, a large randomized trial evaluating endocrine therapy, which also prospectively collected margin width data. The study focused on post-menopausal women with hormone receptor-positive DCIS treated with breast-conserving surgery, whole breast irradiation and post-operative endocrine therapy. At 10 years post-surgery, researchers found no clinically meaningful differences in cancer recurrence in the same breast for patients whose tumors had margins equal to or greater than 1mm and margins equal to or greater than 2mm, suggesting that wider margins did not provide a benefit.

Lead study author Irene L. Wapnir, MD, Professor of Surgery and Surgical Oncologist at Stanford Medicine, explains, “In lumpectomy surgeries, the goal is to remove a tumor surrounded by a rim of normal breast tissue to minimize leaving cancer tissue behind. The current recommendation for patients with DCIS undergoing lumpectomy is a 2mm disease-free margin. If margins are found to be less than 2mm, women often return to the operating room to remove additional tissue from the lumpectomy cavity. This study is extremely important because it suggests a re-examination of the need for re-excision.”

The NSABP B-35 trial examined two hormone therapy drugs for use with this DCIS population following breast-conserving surgery. It also prospectively collected data on margin width. All women in this multi-

center study were treated with lumpectomy between 2003 and 2006. They were followed for a median of 9 years post-surgery.

With little difference in disease-free survival between the two endocrine therapy cohorts, the double-blind phase 3 trial provided a powerful, homogeneous population for secondary analysis to study the impact of margin width on local recurrence.

“To our knowledge, this research uses the largest dataset of margin width and recurrence in this cancer population,” says Dr. Wapnir.

Researchers analyzed 2,707 women to compare local recurrence among patients with margin widths less than 1mm to those with margins equal to or greater than 1mm. The 10-year cumulative incidence of cancer recurrence in the same breast for the two groups was 5.6% and 4.0% respectively.

The study also looked at 2,546 women to compare the 10-year cumulative incidence of local recurrence in patients with margin widths less than 2mm and margins equal to or greater than 2mm. These were 5.3% and 3.8%, respectively.

Similar to the 1mm cutoff analysis, the 2mm analysis found the absolute difference in local recurrence was 1.5%, but of borderline statistical significance and minimal practical significance.

Dr. Wapnir and colleagues believe that clinicians should consider whether such a small difference in recurrence merits repeat surgery. “For patients, re-operation and removal of more breast tissue can impact cosmetic appearance and can contribute to stress, loss of time and expense. It also utilizes greater healthcare resources.” She adds, “The results of this study are compelling, and we hope will improve patients’ lives.”

Margin Width and Local Recurrence in the NRG Oncology/NSABP B-35 DCIS Lumpectomy Trial

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Background/Objective

NSABP B-35 is the largest randomized trial to prospectively collect margin width data on post-menopausal women with hormone receptor-positive DCIS treated by lumpectomy, whole breast irradiation, and adjuvant endocrine therapy. Local recurrence rates were similar in the tamoxifen and anastrozole arms of the trial providing an opportunity to analyze the effect of margin width on ipsilateral breast tumor recurrence (IBTR) and all breast cancer events.

Methods

NSABP B-35 was a phase 3, double-blind, randomized trial for DCIS in post-menopausal women treated by lumpectomy plus WBI, 5000-5040 cGy with an optional 1000 cGy boost. Participants were randomly assigned to five years of tamoxifen or anastrozole. Margins were classified by institutional pathologists as: positive (no ink on tumor), close (< 1mm), or negative (at least 1 mm). The closest surgical margin width was measured on those cancers having a negative margin, which enabled the analysis herein using 2mm as the discriminant size.

Results

Among 2,707 women analyzed using 1mm as the discriminant margin width, IBTR was the most common first event occurring in 90 patients (3.3%); 24/502 (4.8%) in those with < 1mm margins and 66/2,205 (3.0%) with margin widths >1 mm. The proportion of invasive-IBTRs was 29% and 39%, respectively. The 10-year cumulative incidence of all IBTR events for patients with a margin of < 1mm was 5.6% compared to 4.0% for those with margins that were ≥1mm (p=0.04). By comparison, for the 2,546 women analyzed using 2mm as discriminant margin width, 88 (3.5%) experienced an IBTR as a first

event with 39/879 (4.4%) events for patients with < 2mm margins and 49/1,667 (2.9%) with >2mm margins. The 10-year cumulative incidence of IBTR events for patients with a margin width of < 2mm was 5.3% compared to 3.8% among those with margins that were ≥ 2 mm ($p=0.05$). Contralateral breast cancer represented the second most common breast cancer event, occurring in 3.2% of participants.

Conclusions

The differences in 10-year IBTR cumulative incidences between the 1mm and 2mm cutoffs for margin width (5.6% vs 5.3% for < 1mm vs < 2mm, respectively, and 4.0% vs 3.8% for ≥ 1 mm vs ≥ 2 mm, respectively) are clinically minimal. These results indicate that the need to undertake re-excision lumpectomies based on margin width among post-menopausal women receiving lumpectomy, breast irradiation, and adjuvant endocrine therapy should be reconsidered. NCT 00053898 Support: U10-80868, -180822, UG1CA189867.