Local failure and margin status in early-stage breast carcinoma treated with conservation surgery and radiation therapy.


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Abstract

OBJECTIVE: The authors determined whether microscopically positive surgical margins are detrimental to the outcome of early stage breast cancer patients treated with conservation surgery and radiation therapy.

SUMMARY BACKGROUND DATA: The optimal extent of breast surgery required for patients treated with conservation surgery and radiation therapy has not been established. To achieve breast preservation with good cosmesis, it is desirable to resect as little normal tissue as possible. However, it is critical that the resection does not leave behind a tumor burden that cannot be adequately managed by moderate doses of radiation. It is not known whether microscopically positive surgical margins are detrimental to patient outcome.

METHODS: The records of 259 consecutive women (262 breasts) treated with local excision (complete removal of gross tumor with a margin) and axillary dissection followed by radiation therapy for clinical stage I and II infiltrating ductal breast cancer at Duke University Medical Center and the University of North Carolina between 1983 and 1988 were reviewed. Surgical margins were considered positive if tumor extended to the inked margins; otherwise the margins were considered negative. Margins that could not be determined, either because the original pathology report did not comment on margins, or because the original specimen had not been inked were called indeterminate.

RESULTS: Of the 262 tumors, 32 (12%) had positive margins, 132 (50%) had negative margins, and the remaining 98 (38%) had indeterminate margins. There were 11 (4%) local failures; 3/32 (9%) from the positive margin group, 2/132 (1.5%) from the negative
margin group, and 6/98 (6%) from the indeterminate group. The actuarial local failure rates at 5 years were 10%, 2%, and 10%, respectively, $p = 0.014$ positive vs. negative, $p = 0.08$ positive vs. indeterminate (log rank test). Margin status had no impact on survival or freedom from distant metastasis; 63 patients who originally had positive or indeterminate margins were re-excised. Two of 7 with positive margins after re-excision versus 1/56 rendered margin negative had a local recurrence.

CONCLUSIONS: The authors recommend re-excision for patients with positive margins because of improved local control of those rendered margin negative and identification of those patients at high risk for local failure (those who remain positive after re-excision). Because margin status impacts on local control, tumor margins after conservation surgery should be accurately determined in all patients.

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