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ASO Author Reflections: Locoregional Recurrence Rates Are Low with the Selective Use of PMRT in Patients with T1-2 Tumors and One to Three Positive Lymph Nodes

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PAST

In the 1990s, three landmark randomized controlled trials were published that demonstrated a decrease in local regional recurrence (LRR) and improved survival in patients with node-positive breast cancer who received postmastectomy radiation (PMRT).^{1,2} These data, along with subsequent meta-analyses, formed the basis of guidelines that endorsed the use of PMRT in patients with tumors >5 cm and/or four or more positive lymph nodes. In the group of patients with T1–2 tumors and one to three positive lymph nodes, meta-analyses showed a similar LRR and survival benefit among those patients who received PMRT.³ Criticisms of these data surround the high rates of LRR that were observed in these early trials, i.e. 20–25%, much higher than those reported in more contemporary studies of approximately 12%. This discrepancy makes it problematic to extrapolate results from these trials to patients treated in the current era of multimodal therapy, particularly in the group of patients with limited disease burden who are at a lower risk of LRR.

PRESENT

Our study presents a modern cohort of patients with T1–2 tumors and one to three positive lymph nodes, treated with multimodal therapy.⁴ Eighty-eight percent received systemic chemotherapy, 77% received endocrine therapy, and only 15% were selected for PMRT. When stratified based on receipt of PMRT, we demonstrated a low overall LRR at 10 years in both groups—4% with PMRT and 7% without. PMRT was selectively administered to patients felt to be at higher risk of LRR, but was omitted when the clinician felt the LRR risk was low. Multivariable analysis revealed that among patients who did not receive PMRT, younger patients (<40 years of age) with lymphovascular invasion (LVI) were more likely to have an LRR. Our data suggest that with appropriate selection, a low LRR risk can be achieved in most patients with T1–T2 tumors and one to three positive lymph nodes without PMRT. Recent ASCO/ASTRO/SSO guidelines recommend that within this group, clinicians

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DISCLOSURES

use clinicopathologic factors to select patients at low risk for recurrence who can be spared PMRT.⁵

FUTURE

Existing studies of patients with T1–2 tumors and one to three positive lymph nodes treated in the modern era are limited by their retrospective nature. The SUPREMO (Selective Use of Postoperative Radiotherapy after Mastectomy) trial randomized patients with intermediate-risk invasive breast cancer, including T1–2 tumors and one to three positive lymph nodes, to PMRT versus observation. This trial completed enrollment of over 1600 patients in 2013. Results are expected to resolve a decade-long debate regarding the benefit of PMRT in patients with T1–2 tumors and one to three positive lymph nodes. Until these data are available, patients should be selected for PMRT based on clinical and pathologic features that indicate a higher risk for recurrence.

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References

1. Overgaard M, Jensen MB, Overgaard J, Hansen PS, Rose C, Andersson M, et al. Postoperative radiotherapy in high-risk postmenopausal breast-cancer patients given adjuvant tamoxifen: Danish Breast Cancer Cooperative Group DBCG 82c randomised trial. *Lancet* 1999;353(9165):1641–8. [PubMed: 10335782]
2. Ragaz J, Jackson SM, Le N, Plenderleith IH, Spinelli JJ, Basco VE, et al. Adjuvant radiotherapy and chemotherapy in node-positive premenopausal women with breast cancer. *N Engl J Med* 1997;337(14):956–62. [PubMed: 9309100]
3. EBCTCG (Early Breast Cancer Trialists' Collaborative Group), McGale P, Taylor C, Correa C, Cutter D, Duane F, et al. Effect of radiotherapy after mastectomy and axillary surgery on 10-year recurrence and 20-year breast cancer mortality: meta-analysis of individual patient data for 8135 women in 22 randomised trials. *Lancet* 2014;383(9935):2127–35. [PubMed: 24656685]
4. Muhsen S, Moo TA, Patil S, Stempel M, Powell S, Morrow M, et al. Most Breast Cancer Patients with T1–2 Tumors and One to Three Positive Lymph Nodes Do Not Need Postmastectomy Radiotherapy. *Ann Surg Oncol* 2018;25(7):1912–20. [PubMed: 29564588]
5. Recht A, Comen EA, Fine RE, Fleming GF, Hardenbergh PH, Ho AY, et al. Postmastectomy Radiotherapy: An American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology Focused Guideline Update. *Ann Surg Oncol* 2017;24(1):38–51. [PubMed: 27646018]