

TREATMENT OUTCOME AND PATTERNS OF FAILURE IN BREAST CANCER PATIENTS WITH LOCOREGIONAL RECURRENCE AFTER MASTECTOMY

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Purpose : Recent data suggest that postmastectomy patients with locoregional recurrences are frequently associated with considerable morbidity and present with systemic failure. The present study sought to clarify the correlation of radical locoregional therapy with the prevention of further local recurrence, secondary spread, and the improvement of survival.

Materials and Methods : Breast cancer patients who were treated for an isolated postmastectomy locoregional recurrence without simultaneous evidence of distant metastasis were selected from 1992 to 2001. Isolated locoregional recurrence (ILRR) was defined as any recurrence of tumor in the ipsilateral chest wall, mastectomy scar, supraclavicular, infraclavicular, axillary, or internal mammary lymph node (LN), with no other metastasis. A total of 60 patients, with a median age of 47 years (range 29-75 years) were included. The majority of recurrences occurred at the chest wall and around the mastectomy scar (62%). Supra- or infraclavicular LN recurrence represented 22% of all ILRR, and axillary failure represented 16%. Fifty-four patients received irradiation after local tumor excision. Six patients had received radiotherapy as part of their primary treatment. In these cases, the involved-field radiotherapy was given in 36 patients, while 24 patients were treated with both involved-field and elective-field (chest wall and regional lymphatics) locoregional irradiation. Adjuvant systemic therapy consisting of either tamoxifen, cytotoxic chemotherapy, or both, along with the recurrent tumor, had been applied in 68.3% of patients.

Results : With a median follow-up of 51.5 months, the 4-year actuarial overall survival (OS) after ILRR was 67% for patients with chest wall recurrence. Patients with either axillary, supra- or infraclavicular- recurrence had a 4-year OS of 56%. The 4-year disease-free survival (DFS) for chest wall recurrence and either axillary, supra- or infraclavicular- recurrence was 56% and 52%, respectively. Seventy-six percent of patients with a disease-free interval of at least 2 years (late relapse) survived 4 years following ILRR, as compared to 4-year OS of 39% in those with disease-free interval of less than 2 years (early relapse) ($P = .04$). The incidence of second ILRR was 8.3% with both involved- and elective-field locoregional irradiation as compared to 22.2% with

involved-field irradiation alone. Patients who were treated with both involved-field and elective-field locoregional irradiation had the 4-year OS of 69%, and the 4-year DFS of 57%, compared to 55% and 48% of those who were treated with involved-field radiation alone (OS, $P = .21$; DFS, $P = .24$). Furthermore, 64% patients who had been treated with adjuvant systemic therapy survived 4 years following ILRR, as compared to 43% for those without additional systemic therapy ($P = .08$). Similarly, recurrent patients with adjuvant systemic therapy experienced a 4-year DFS of 60%, compared with 33% for patients without systemic therapy after ILRR ($P = .38$)

Conclusion : A substantial portion of postmastectomy patients with locoregional recurrence sustain an unexpected long DFS and OS after curative therapy. Therefore, comprehensive radiotherapy should be used to provide optimal locoregional control and to prevent secondary dissemination in patients with ILRR.

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Key words: Locoregional recurrence, Survival, Breast Cancer, Radiotherapy

INTRODUCTION

It has been well demonstrated that post-mastectomy patients having isolated locoregional recurrence (ILRR) are frequently associated with considerable morbidity and are believed to develop systemic failure eventually [1, 20]. However, the optimal management for postmastectomy patients having ILRR without concurrent systemic disease still remains controversial.

In a recent study with 337 patients who had ILRR as first relapse event, the 7-year progression-free survival (PFS) was only 33% [21]. Moreover, Fortin et al have shown that patients with local failure are associated with an increase in mortality, and the time distribution of distant metastasis is significantly different between local failure and local control [13]. These findings suggested that an ILRR itself could be considered as an independent predictor of subsequent distant metastasis. On the other hand, the early and radical locoregional therapy for postmastectomy patients with ILRR not only eradicates tumor cells but also prevents distant metastases and subsequent mortality.

Postmastectomy patients with ILRR are

often treated with combined modality therapy, including wide excision of recurrent tumor followed by radiation and adjuvant therapy [4, 6]. Since the higher rates of local failure are found after wide local excision alone [5, 11, 16], the need for radiation therapy after surgical excision is mandatory. Moreover, recent reports suggest that the efficacy of local control with irradiation seems to be related to the recurrent sites as well as the irradiated tumor volume [10, 14, 23, 27]. Despite aggressive local treatment without adjuvant systemic therapy for this population in the past decade, almost all post-mastectomy patients eventually develop distant metastases [17, 18, 24].

Given the locoregional recurrence of breast cancer can be potentially cured by local treatment with the addition of systemic chemotherapy in the new chemotherapy era, this study was sought to clarify the correlation of radical locoregional therapy with or without systemic chemotherapy with the prevention of further local recurrence, secondary spread, and the improvement of survival. In addition, the association of progression-free survival with the recurrent site and irradiated tumor volume was also analyzed.