

Impact of delayed radiotherapy on local control in node-negative breast cancer patients treated with breast-conserving surgery and adjuvant radiotherapy without chemotherapy

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ABSTRACT

Aim and background. To evaluate the effect of the surgery-radiotherapy interval (SRI) on local control in node-negative breast cancer patients treated with breast-conserving surgery and adjuvant radiotherapy without chemotherapy.

Methods. From February 1992 to January 2002, 171 patients with node-negative breast cancer underwent breast-conserving surgery and adjuvant radiotherapy without chemotherapy. The whole breast was irradiated up to 50.4 Gy in 28 fractions followed by a 10-Gy boost to the tumor bed. Forty-four patients received tamoxifen in addition to radiotherapy. Patients were divided into 2 groups according to the length of SRI: <6 weeks (128 patients) *versus* ≥6 weeks (43 patients). The median follow-up period was 87 months (range, 22-167).

Results. The 8-year local control rates of patients with SRI <6 weeks and ≥6 weeks were 94.5% and 92.7%, respectively ($P = 0.1140$). When age, tumor size, resection margin status, combination with hormonal therapy, and SRI were incorporated into the Cox proportional hazards model, SRI <6 weeks and age at diagnosis ≥40 years were associated with increased local control ($P = 0.0343$ and 0.0264 , respectively). In the subgroup analysis, SRI <6 weeks was correlated with a higher local control rate for patients aged <40 years ($P = 0.0142$). Among older patients, however, there was no statistical difference in local control according to SRI ($P = 0.6655$). Treatment interval had no impact on overall and distant metastasis-free survival.

Conclusions. Early radiotherapy within 6 weeks of breast-conserving surgery is associated with increased local control in patients with node-negative breast cancer not undergoing chemotherapy.

Key words: breast cancer, breast-conserving surgery, interval, radiotherapy.

Conflict of interest: none

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