

Concurrent *versus* sequential administration of CMF chemotherapy and radiotherapy after breast-conserving surgery in early breast cancer

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ABSTRACT

Aims and background. To compare the outcome of concurrent *versus* sequential administration of cyclophosphamide, methotrexate, and 5-fluorouracil (CMF) chemotherapy and radiotherapy after breast-conserving surgery in early breast cancer.

Methods. From February 1992 to January 2002, 156 patients underwent CMF chemotherapy and radiotherapy, either concurrently (CCRT group, 88 patients) or sequentially (SCRT group, 68 patients). There was a predilection of patients with a larger tumor ($P = 0.0035$), with more frequent nodal involvement ($P = 0.0686$), and younger age ($P = 0.0776$) in the CCRT group.

Results. The planned radiotherapy was completed in every patient. No grade 3 or 4 late treatment-related toxicity was observed in the CCRT or SCRT group. Compliance to the treatment as well as cosmetic outcome of the two groups were comparable. Despite more adverse factors for local-regional recurrence in the CCRT group, the 5-year local-regional control rate of the CCRT group was similar to that of the SCRT group (97.7% *vs* 93.8%, respectively, $P = 0.1688$). On multivariate analysis, concomitant administration of chemotherapy and radiotherapy was associated with improved local-regional control ($P = 0.0463$).

Conclusions. Concurrent administration of CMF chemotherapy and radiotherapy resulted in improved local-regional control over sequential administration without an increase in significant toxicity. Concurrent CMF chemoradiotherapy may serve as a viable option for patients at high-risk of local-regional relapse not suitable for anthracycline or taxane-based chemotherapy.

Key words: breast-conserving surgery, chemotherapy, radiotherapy, sequence.

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