Influence of endocrine-related factors on response to perioperative chemotherapy for patients with node-negative breast cancer


PURPOSE: We investigated tumor- and patient-related features that might influence the response to perioperative chemotherapy (PeCT) compared with no adjuvant therapy for patients with node-negative breast cancer. PATIENTS AND METHODS: A total of 1,275 patients were randomized to either no adjuvant treatment (427 patients) or PeCT (848 patients). The following variables thought to have prognostic significance were evaluated: grade, tumor size, estrogen (ER) and progesterone receptor (PgR) content (absent; low, 1 to 9 fmol/mg cytosol protein; or positive, > or = 10 fmol/mg cytosol protein), c-erbB-2 overexpression, menopausal status, and age. Cox proportional hazards regression models were used to assess the relative influence of these factors to predict the effect of PeCT on disease-free survival (DFS). Median follow-up was 13.5 years. RESULTS: The 10-year DFS percentage for 692 premenopausal patients did not significantly differ between the PeCT and no-adjuvant-treatment groups: 61% and 59%, respectively (relative risk [RR], 0.95; 95% confidence interval [CI], 0.75 to 1.20; P = .70). No predictive factors were identified. For 583 postmenopausal patients, 10-year DFS percentages for the groups were 63% and 58%, respectively (RR, 0.75; 95% CI, 0.58 to 0.93; P = .03). The absence of expression of ER, PgR, or both ER and PgR was the most important factor predicting improved outcome with PeCT among postmenopausal patients. The 10-year DFS percentages were 85% and 53% for the steroid hormone receptor-absent cohort of treated and untreated patients, respectively (RR, 0.18; 95% CI, 0.06 to 0.49; P = .0009). CONCLUSION: The role of PeCT should be explored for patients whose primary tumors do not express steroid hormone receptors, because it is likely that early initiation of treatment is exclusively relevant for such patients.

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