A Population-Based Study on the Implementation of Treatment Recommendations for Chemotherapy in Early Breast Cancer

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BACKGROUND: There is considerable heterogeneity in the use of chemotherapy for patients with early breast cancer (BC), despite international recommendations issued from the National Comprehensive Cancer Network (NCCN), National Institutes of Health (NIH), and the St. Gallen biannual conference. This population-based study assessed the patterns of chemotherapy use in early BC. PATIENTS AND METHODS: The study included all or representative samples of patients with stage I-III BC from 7 Swiss cancer registries between 2003 and 2005. Factors modifying chemotherapy use were determined by logistic regression, considering patients receiving chemotherapy as cases (n = 1535) and the others as controls (n = 2004). RESULTS: Nodal involvement was by far the strongest predictor for the use of chemotherapy (adjusted odds ratio [OR], 9.7; 95% confidence interval [CI], 7.2-13.0). Tumor biological characteristics such as histologic differentiation (OR, 4.4; 95% CI, 3.2-6.2), estrogen receptor (ER) status (OR, 3.8; 95% CI, 2.6-5.5), human epidermal growth factor receptor 2 (HER2) status (OR, 1.9; 95% CI, 1.3-2.7), and patient age (OR, 4.6; 95% CI, 3.5-6.2) were less important predictors for chemotherapy use. Socioeconomic and provider-related factors, such as patient education, affluence, insurance, breast surgeon's annual caseload, and case presentation at a multidisciplinary tumor conference did not predict the use of chemotherapy, with the exception of the health care provider's participation in clinical research (OR, 2.1; 95% CI, 1.6-2.8). The patient's region of residence did not predict the use of chemotherapy, but it was associated with the specific type of chemotherapy used. CONCLUSION: Nodal status, rather than surrogate markers for tumor biological features, was the predominant factor for choosing chemotherapy in patients with early BC in this large population study. Improvements should be made to increase the weight of tumor biological features in choosing chemotherapy in early BC.