

Evaluation of relation between *Oncotype* DX Recurrence Score and adjuvant chemotherapy administration.

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Author(s): D. R. Kazzaz, C. Chen, J. Shankleton, M. T. Forsyth, R. Ganesh, M. Sims, D. A. Patt; US Oncology Inc., The Woodlands, TX; US Oncology Healthcare Informatics, The Woodlands, TX; US Oncology Inc., Houston, TX; University of Texas, Austin, TX; US Oncology, The Woodlands, TX

Abstract Disclosures

Abstract:

Background: The *Oncotype* DX Recurrence Score (RS) is a clinically validated molecular test that can be used to predict the risk of distant recurrence and the likelihood of chemotherapy benefit among patients with newly diagnosed ER+ early stage breast cancer. By avoiding unnecessary chemotherapy use in patients with low Recurrence Score disease, toxicity and cost could be reduced. By giving chemotherapy to patients with high Recurrence Score disease, recurrences could be reduced. The objective of this investigation was to determine the relation between the RS and adjuvant chemotherapy utilization.

Methods: Early stage breast cancer patients who were diagnosed between January 2008 and June 2009 with ER+, LN-, Her 2 non amplified tumors who were evaluated within the USON and registered within the EMR were included. Patients enrolled on clinical trial or treated for another cancer during the study period were excluded. Patients who received RS testing were evaluated utilizing three way contingency tables that evaluated adjuvant chemotherapy administration by age, ECOG PS, tumor size, and grade. Statistical significance of observed associations was evaluated using the Chi-squared, CMH, and Cochran-Armitage trend tests. Homogeneity of association across risk groups were evaluated using the Breslow-Day test.

Results: 5,644 patients were included. RS results were obtained for 1,543 (27%) of these patients. 804, 590, and 149 patients had low, intermediate, and high RS respectively. 7.5%, 45%, and 86% of patients in the low, intermediate, and high RS groups received adjuvant chemotherapy, respectively. Three way contingency tables

demonstrate chemotherapy administration for each category is higher among patients who are younger, have better PS, and have larger and higher grade tumors.

Conclusions: Recurrence Score values were strongly associated with adjuvant chemotherapy administration. Chemotherapy administration was also higher among patients who had independent risk factors for recurrence including younger age, larger tumor size and higher grade tumors and among patients with better performance status.