

# Diagnostic tool Oncotype DX associated with reduction in chemotherapy rates post-surgery in younger patients

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In what's believed to be one of the largest population-based studies of Oncotype DX ever conducted, researchers at The University of Texas MD Anderson Cancer Center have found that the commercial diagnostic tool, Oncotype DX, was associated with a decrease in chemotherapy use in younger patients, but not in those over 66 years of age.

Mariana Chavez Mac Gregor, M.D., assistant professor, health services research and breast medical oncology, will present the findings at a poster session of the 2014 San Antonio Breast Cancer Symposium.

Oncotype DX is a 21-gene assay used to help estimate the likelihood of recurrence in women with early-stage breast cancer and, thus, determine those who may or may not benefit from adjuvant chemotherapy. The National Comprehensive Cancer Network includes its use for women with lymph node-negative, hormone receptor (HR)-positive and HER2-negative disease.

The majority of women diagnosed with early stage breast cancer each year would be potential candidates for the assay, said Chavez Mac Gregor. And as technology such as this becomes more available, it's important to note if such tests are used appropriately.

"The results allow physicians to stratify this patient group into low, intermediate and high risk of recurrence, as well as understand a woman's potential personal benefit from chemotherapy in the adjuvant setting. With this study, we wanted to evaluate the use of Oncotype DX in the general population to see if there's a relationship between the use of the test and chemotherapy decrease in those patients," said Chavez Mac Gregor.

For the retrospective, population-based study, the MD Anderson researchers identified 112,522 patients from the MarketScan research database younger than 65, and 54,186 from the SEER-Medicare database older than 66.

In the cohort of younger patients, 13.6 percent overall underwent Oncotype DX, and in those that met the test criteria, 60 percent of women received the diagnostic tool. The researchers also noted that the assay was associated with reduced adjuvant chemotherapy.

In the cohort of women older than 66, 7.2 percent overall received Oncotype DX; among those patients with HR+, lymph node-negative breast cancer, 67.1 percent of women underwent testing. However, in this population, testing was not associated with a statistical reduction in the use of [adjuvant chemotherapy](#).

"In the younger group of breast [cancer patients](#) for whom the test is appropriate, and when used in this setting, we're finding an important reduction in chemotherapy use. The contrast between older and younger patients' results did surprise us. However, generally, older [breast cancer patients](#) receive much less chemotherapy because of their age and because they often have additional co-morbidities. Perhaps we will see that impact with time," said Chavez Mac Gregor.

In both groups, the researchers did find that the use of the assay increased over time, from when the technology was first introduced into practice in 2005 until 2012. Also, particularly in the younger cohort, they noted an increased use of the test in [women](#) with node-positive disease. While the tool's use in this setting has shown some promise in retrospective studies, it still needs to be tested prospectively. An international clinical trial is

ongoing, stressed Chavez Mac Gregor.

As follow-up, Chavez Mac Gregor and her colleagues plan to further evaluate the assay's use in [breast cancer](#) patients under the age of 40, since there's relatively little data on the benefit of this technology among younger patients, she explained. Also, through SEER's link to the American Medical Association, the researchers hope to better understand the relationship and patterns for physicians ordering the test.

Provided by University of Texas M. D. Anderson  
Cancer Center

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