

New way to predict response to chemo in triple-negative breast cancer

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Researchers from University Hospitals (UH) Case Medical Center's Seidman Cancer Center will present findings from a study that found the presence of tumor-infiltrating lymphocytes, a type of white blood cell, ahead of treatment may help predict response to platinum-based chemotherapy in women with triple-negative breast cancer. The data are being presented at the 50th American Society for Clinical Oncology (ASCO) Annual Meeting in Chicago.

"Triple-negative breast cancers tend to be more aggressive compared to other types of breast cancers, and being able to predict response to therapy could greatly impact treatment decisions and patient outcomes," says study author Shaveta Vinayak, MD, oncologist at UH Case Medical Center and Assistant Professor at Case Western Reserve University School of Medicine. "Our research shows that the presence of [lymphocytes](#) before administering chemotherapy could predict a positive response to platinum-based therapy."

Triple negative breast cancers are those that do not have estrogen or progesterone receptors, and do not have an excess of the HER2 protein on the cancer cell surfaces. This makes it more difficult to treat because the hormone-blocking or the HER2-targeting treatments do not work. Triple negative breast cancers tend to occur more often in younger women and in African-American women.

Platinum-based therapies are being tested in clinical trials for [triple-negative breast cancer](#), and evaluation of tumor-infiltrating lymphocytes

is an important factor in determining response to this treatment. For oncologists, this could provide a new tool to individualize treatment for these women.

Researchers from various institutions in the Eastern Cooperative Oncology Group, one of the largest clinical cancer research organizations in the United States that conducts clinical trials in all types of adult cancers, contributed to this analysis. Funding for this study was provided by Breast Cancer Research Foundation, ASCO Conquer Cancer Foundation, Triple-Negative Breast Cancer Foundation, Myriad Genetics, and National Institutes of Health (Stanford CTSA).

About the Study

Oral Abstract Session

Breast Cancer - Triple-Negative/Cytotoxics/Local Therapy

Abstract #1024: June 3, 9:45 AM - 12:45 PM

Dr. Vinayak will present new findings from the PrECOG 0105 trial, a trial evaluating neoadjuvant platinum-based chemotherapies – carboplatin, gemcitabine and iniparib – in women with triple-negative breast cancer. This correlative study assessed the association of tumor-infiltrating lymphocytes in pre-treatment breast cancer tissue with pathologic response to treatment.

The trial evaluated 70 patients with triple-negative breast cancer who had completed at least 4 of 6 planned cycles of therapy. Tissue and tumor sections from pre-chemotherapy biopsies were evaluated by a central pathologist for density of lymphocytes. Pathologic response was assessed by the residual cancer burden index.

Results showed that tumor-infiltrating lymphocytes found in the connective tissue and the tumor itself are predictive of response to platinum-based neoadjuvant chemotherapy and are significantly associated with triple-negative [breast cancer](#) subtypes, with the highest frequency in the immunomodulatory subtype.

Provided by University Hospitals Case Medical Center

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