

Breast cancer multigene test helping patients avoid chemotherapy

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A 21-gene test that predicts whether early stage breast cancer patients will benefit from chemotherapy is having a big impact on treatment decisions by patients and doctors alike.

The test caused doctors to change their treatment recommendations in 31.5 percent of cases, while 27 percent of patients changed their treatment decisions. In most such cases, the change by both doctors and patients was to avoid [chemotherapy](#).

The study, lead by Loyola University Health System Medical oncologist Dr. Shelly Lo, is published in the [Journal of Clinical Oncology](#).

The multigene test, Oncotype DX®, is made by Genomic Health Inc. The test examines 21 genes from a tumor sample to determine how active they are. A test score between 0 and 100 predicts how likely the cancer is to recur. For women with low scores, chemotherapy is not recommended.

More than 120,000 [breast cancer](#) patients have undergone the test since it became commercially available in 2004. The test is intended for patients who have a type of breast cancer, called estrogen receptor-positive that has not spread to the lymph nodes. About 100,000 such cases are diagnosed each year.

"The trend in oncology is towards personalized medicine," Lo said. "We likely will see more tests similar to this one in the future."

The study included 89 breast cancer patients who received the [gene test](#). They were treated by 17 medical oncologists at Loyola, University of Michigan, University of California at Davis and Edward Hospital in Naperville, Il.

Doctors changed treatment decisions for 28 patients. In 20 of these cases, they changed their decision from hormone therapy plus chemotherapy to hormone therapy alone. Twenty-four patients changed their treatment decisions, including nine who dropped chemotherapy.

"This is the first study to show that results from this test simultaneously impact decisions by physicians as well as patients," Lo said. Lo is an assistant professor in the Department of Medicine, Loyola University Chicago Stritch School of Medicine.

Doctors said the test increased their confidence in their treatment recommendations in 76 percent of cases. And in 97 percent of cases, doctors said they would order the test again.

After receiving test results, patients reported they were significantly less conflicted about their decision and felt significantly less anxiety about their situation.

"This test of patients' own breast cancer provides us with greater certainty of who derives benefit from chemotherapy and who can safely avoid it," said senior author Dr. Kathy Albain, professor in the Department of Medicine, Division of Hematology/Oncology, Stritch School of Medicine.

The test costs \$3,910, and generally is covered by insurance. Researchers said the test might lower overall costs by avoiding the expense of chemotherapy in some patients.

Provided by Loyola University

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