

Breast cancer patients place huge emphasis on gene expression profiling test

April 28 2014

Gene expression profiling tests play a critical role when women with early-stage breast cancer decide whether to have chemotherapy, but many of them do not fully understand what some of the test results mean, new research suggests.

Current guidelines for treating early-stage [breast cancer](#)—cancer that has not spread to nearby lymph nodes or other parts of the body—result in thousands of women receiving [chemotherapy](#) without benefitting from it.

A [gene expression](#) profiling test can help differentiate women who might benefit from chemotherapy versus those that might not. The test analyzes the patterns of 21 different genes within the cancer cells to help predict how likely it is that a women's cancer will recur within 10 years after initial treatment and how beneficial chemotherapy will be to her.

Dr. Yvonne Bombard, a genomics and health services researcher in the Li Ka Shing Knowledge Institute of St. Michael's Hospital, said women she interviewed understood the test would indicate whether chemotherapy would be beneficial to them.

But, she said, many thought the test reflected their unique circumstances and did not understand that their test result was based on larger population statistics.

Her findings have been published online in the journal *Current Oncology*.

"Patients often viewed their GEP results as providing information that was more scientifically valid, uniquely personalized and emotionally significant than any other information they had received," Dr. Bombard said. "For many, the test was a transformational element that empowered them, allowed them to feel confident in their decisions and may even have rescued them from unnecessary chemotherapy."

The GEP test was a main determinant of patients' chemotherapy decisions, despite their misunderstanding of the test and its validity.

"GEP is one of many factors that [women](#) in consultation with their oncologists, should consider when choosing treatment for early stage breast cancer," said Dr. Maureen Trudeau, a medical oncologist of the Breast Care team and head of the Medical Oncology Program at Sunnybrook's Odette Cancer Centre, and study co-author. "The GEP [test](#) does not replace standard prognostic information but adds one more piece of information."

Clinical guidelines suggest the majority of the 22,600 Canadians whose breast cancer tests negative for human epidermal growth factor receptor 2 (HER2) should be offered chemotherapy. Yet only 15 per cent of such cancers will recur, suggesting that about 8,500 Canadian patients are treated without benefit each year.

Provided by St. Michael's Hospital

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