

New study shows biopsy of recurrent breast cancer can alter treatment

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A second, larger clinical research study led by breast cancer specialists at Princess Margaret Hospital (PMH) has again proven that comparing a new biopsy of progressing or recurring cancer with that of the original cancer can dictate a change in treatment.

The results are published online today ahead of print in the *Journal of Clinical [Oncology](#)*. Principal investigator Dr. Eitan Amir, medical oncologist in the PMH Cancer Program, University Health Network, says clinicians involved immediately altered treatment in one of seven patients based on the new biopsy results.

"This was a study of specifically undertaking biopsy of areas of [breast cancer recurrence](#) and altering treatment therapy based on the findings in real-time." says Dr. Amir.

"For clinicians, these findings show it is feasible to biopsy recurrence of [breast cancer](#). For patients with progressive or recurring disease, these findings may encourage them to ask their physician if a second biopsy is needed to confirm their treatment therapy is still correct."

The study team analyzed 121 biopsies from patients with progressing or recurring disease to determine any changes in the predictive markers (such as hormone or [HER2 "receptors"](#)) that influence response to breast cancer treatments. It is the presence, absence and/or combinations of these receptors that help oncologists provide effective personalized medicine to each individual.

Dr. Amir says the most important findings were the potential for negative receptors to become positive. "It is significant because this change in receptor status potentially introduces new effective [treatment options](#) for patients." This was the case for most of the women whose therapy changed after results of the second biopsy were available compared to basing the treatment plan on initial biopsy at the time of diagnosis.

This study was also the first to look at the survival of patients whose treatment was changed post-biopsy. "It's been known for over 30 years that recurring cancer can differ from the primary cancer, but nobody knew if this was important," says Dr. Amir.

"More recently we have learned that patients with a change in receptor status may have worse outcomes from breast cancer, possibly due to basing treatment on incorrect predictive markers. However, our study shows that if treatment is modified according to biopsy results from a metastatic site, the survival rates of patients with recurrent disease which is different from the original tumor were similar to those where disease was the same."

Dr. Amir's research results build on the findings of the initial, smaller PMH study of 29 biopsies that first shed light on the importance of a second biopsy in breast cancer recurrence. The earlier findings were reported in the *Annals of Oncology*, Oxford University Press.

"This knowledge provides more insight into why some patients whose disease progresses respond to treatment and others do not." Why receptors change during the course of disease is not yet known, says Dr. Amir, but a priority area for further research.

This study was funded by the Canadian Breast Cancer Foundation – Ontario Region. Dr. Amir's research is also supported by The Princess

Margaret Hospital Foundation.

Sandra Palmaro, CEO of the Canadian Breast Cancer Foundation - Ontario Region says: "Dr. Amir's new findings provide more proof that conducting a second [biopsy](#) on patients suspected of having recurrent breast cancer can lead to changes in treatment for a significant number of patients. This can help ensure women get the treatment best suited to their individual situations, and avoid unnecessary or ineffective treatments. By finding and funding important research, the Foundation's donors are helping to create a future without breast cancer."

Provided by University Health Network

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