

BRCA gene mutation - known for breast cancer connection - can also lead to pancreatic cancer



Dr. Steven Gallinger has received a Canadian Cancer Society Impact Grant to study the BRCA-ness of pancreatic cancer and identify improved therapies for this hard-to-treat disease. (CNW Group/Canadian Cancer Society (National Office)) [Pin it](#)

Canadian research on BRCA gene could lead to new treatments

TORONTO, March 6, 2014 /CNW/ - A new \$1.25 million study funded by the Canadian Cancer Society could lead to the first personalized treatment for some people with pancreatic cancer, one of the most hard-to-treat forms of the disease.

Dr Steven Gallinger, a surgical oncologist at the University Health Network and cancer researcher at the Lunenfeld-Tanenbaum Research Institute at Mount Sinai Hospital, has received a new Impact Grant to study the link between BRCA mutations and pancreatic cancer. About 4% of people with pancreatic cancer carry mutations in the BRCA gene, which is better known for its connection to breast cancer. This small subgroup of patients may respond to treatments where other patients do not.

"Pancreatic cancer is a complex and devastating disease with a very poor prognosis because it is usually discovered too late and we don't yet have good treatments for it," Dr Gallinger says. "With this research, we are taking the important first steps in understanding the causes of the disease and potentially developing a personalized treatment for this group of patients."

The Canadian Cancer Society Impact Grants are the largest single grants offered by the Society with a maximum value of \$1.25 million per grant over 5 years. These highly prestigious grants are intended to fund the best, most promising cancer science in the country and move it significantly forward.

A survivor story

"I am alive today because my doctors realized that my case of pancreatic cancer was related to the BRCA-2 mutation I carry," says Libby Znaimer, a ZoomerMedia broadcaster. "When I came to see Dr Gallinger, Dr Malcolm Moore and their team, I had locally advanced pancreatic cancer, a condition that is virtually always fatal."

The doctors decided to try to shrink the tumour with a drug that targets the mutation. Znaimer was the first Canadian patient to receive this treatment.

Znaimer discovered she is BRCA-2 positive after being diagnosed with breast cancer in 2006. After that, she was regularly screened for a list of other related cancers. "No one mentioned pancreatic cancer, and it was a shock when I was diagnosed in 2008," she recalls. "It is very satisfying to me that my story is not just a lucky anomaly, but a test case that can help others."

The aha moment

Dr Gallinger describes Znaimer's case as one of those exciting aha moments. "You only have a couple of those in a career."

This prompted the doctors to start testing new patients for the mutation, finding that a small but significant percentage of patients carry it.

Dr Gallinger's research team is one of a handful in the world examining the connection between BRCA and pancreatic cancer. The new study will build on his previous findings. BRCA-mutation-linked pancreatic cancer is one of the more treatable forms of the disease.

Dr Gallinger will now study tumour samples from 300 pancreatic cancer patients to better understand the BRCA-ness of pancreatic cancer and identify improved treatments for this group of patients. To do this, the research team will:

- identify which cases to target
- determine how to identify these cases
- pinpoint the reasons treatment fails over time
- identify which available treatments, or combination of treatments, are most effective.

"Dr Gallinger's project is an excellent example of what we're trying to achieve with our Impact Grants - supporting leading-edge research that has the potential to make a significant impact against cancer and will continue to expand our knowledge about the disease," says Dr Siân Bevan, Director of Research, Canadian Cancer Society. "His project could lead to a completely new way to effectively treat this group of pancreatic cancer patients and stop this disease in its tracks."

According to the most recent estimates, 4,700 Canadians will be diagnosed with pancreatic cancer and over 90% will die of the disease. Pancreatic cancer patients have a poor prognosis because the cancer causes few symptoms until it's in a late, untreatable stage. Even now, scientists know very little about what causes it.

Below are a few of the other new Impact Grants. A [complete list](#) is available on [cancer.ca](#).

Dr Cynthia Hawkins, Hospital for Sick Children, Toronto, \$1,230,477 - One of the most fatal brain cancers for children is diffuse intrinsic pontine glioma (DIPG), a brainstem tumour for which there are no effective treatments. In 80% of DIPG tumour, mutations have been found in genes that code for histones, which are proteins that control whether genes are on or off. Over the last decade, Dr Hawkins has developed one of the largest collections of these tumours in the world. She is now using the tumours to develop a test to more accurately diagnose DIPG and explore new treatment options based on histone mutations.

Dr Nahum Sonenberg, McGill University, Montreal, \$1,141,236 - Dr Sonenberg is studying drugs that target protein-building machinery inside cancer cells. He wants to test some of these drugs that are already in clinical trials to understand exactly how they work, determine whether combining them can enhance their anti-cancer effects, and identify those that can prevent the spread of cancer, which is a major cause of cancer-related death. He is also searching for biomarkers to help clinicians predict whether people with cancer will respond to these drug treatments.

Dr Jeffrey Wrana, Mount Sinai Hospital, Toronto, \$1,249,950 - Bladder cancer can be hard to treat because it is difficult to distinguish between more and less aggressive forms from on a biopsy - in fact there are no genetic markers to separate them. The most aggressive cancers require removal of the bladder, with severe consequences for a person's quality of life. Dr Wrana is seeking

better ways to diagnose bladder cancer at an earlier stage so that appropriate treatment can be given with the best possible outcomes for patients. His research team has already completed preliminary work based on an earlier Innovation Grant from the Society. He is building on that work to analyze the genes found in bladder cancer to help predict whether or not cancers will become aggressive and the best course of treatment.

Through our generous donors and gold standard peer-review process, the Canadian Cancer Society funds the best cancer research in Canada. Our funded researchers work in universities, hospitals and research centres across the country and are mapping new ways to change cancer forever. For more information, please visit cancer.ca or call our toll-free, bilingual Cancer Information Service at 1-888-939-3333; (TTY, 1 866 786-3934).

SOURCE Canadian Cancer Society (National Office)

Image with caption: "Dr. Steven Gallinger has received a Canadian Cancer Society Impact Grant to study the BRCA-ness of pancreatic cancer and identify improved therapies for this hard-to-treat disease. (CNW Group/Canadian Cancer Society (National Office))".

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