Innovative study advances personalized medicine for prostate cancer patients

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A new clinical trial, opening across Canada, is considered a major advancement in precision medicine for prostate cancer and the first of its kind in the world. The IND.234 clinical trial, conducted by the Canadian Cancer Trials Group (CCTG), uses liquid biopsy technology to screen for genomic markers in prostate cancer patients.

After the liquid biopsy analysis, patients with specific DNA markers are assigned to one of five new therapies targeted at their unique form of prostate cancer. Researchers want to see if the markers identified in the screening process can help predict which patients will be helped the most by the targeted treatments.

“There is an urgent need to find more effective therapies for men with advanced prostate cancer and an individual’s cancer is unique, so a one-size-fits-all solution may not be the best,” says Dr. Kim Chi, Medical Oncologist, and Medical Director at BC Cancer leading the trial. “We want to identify men whose cancers will have the best chance to respond to the experimental new drug therapies we are testing in this trial.”
Jim, one of the first trial participants, shares his experience, “When I was first diagnosed with prostate cancer, I understood that this type of cancer was not good. When my oncologist offered me the chance to receive a new potential treatment, I was willing to try anything that might make a difference. They sent my blood to be tested in BC and then I was enrolled, it was simple — now I take my pills and track any side effects.”

Although tumour samples taken at diagnosis can be tested for DNA markers, in order to provide current genomic information patients would need an additional invasive biopsy – using a liquid biopsy to provide the information could remove the need for surgery.

“The technology and computation required to study a persons’ cancer using only a blood sample is very novel and experimental. This team has helped lead the charge for liquid biopsies to be part of prostate cancer clinical research,” says Dr. Alexander Wyatt who is leading the DNA analysis and is a Senior Research Scientist at the Vancouver Prostate Centre and the Vancouver Coastal Health Research Institute. “Few other research studies in the world are able to draw upon this combination of advanced prostate cancer focus and liquid biopsy tools.”

Dr. Wyatt’s work on this project is supported by Prostate Cancer Canada as a recipient of its Movember Rising Star Award, which recognizes outstanding new researchers and supports their pursuit of groundbreaking research like this.

Canadian research innovation and collaboration

“The IND.234 trial is a perfect example of Canadian excellence in research and innovation translating into new treatment approaches. The Canadian Cancer Society is committed to supporting the full range of cancer research – from the basic laboratory science behind game-changing discoveries to the clinical trials that bring discoveries to patients,” explains Judy Bray, Vice President, Research, Canadian Cancer Society. “Trials like this one would be not be possible without the generosity of our donors, who enable us to fund the best cancer research and offer hope to patients across the country.”

“BC Cancer Foundation’s passionate donors have enabled a world-first precision medicine trial using liquid biopsies to come to fruition, which will significantly improve patient outcomes,” says Sarah Roth, president and CEO, BC Cancer Foundation. “The brilliant minds at BC Cancer continue to move the dial in research and care, benefiting families across Canada facing cancer today.”

IND.234 is the first trial that evaluates a precision medicine approach for patients with advanced prostate cancer using liquid biopsies for genomic testing. It involves the collaboration of many key stakeholders in the Canadian cancer research landscape. The trial is supported by a core grant from the Canadian Cancer Society, with funding from the BC Cancer Foundation and 3CTN. The Vancouver Prostate Centre performs the biopsy testing supported by Prostate Cancer Canada with additional partners contributing to specific treatment arms of the study.
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Sarah Roth, president and CEO, BC Cancer Foundation, speaking at the IND234 press conference