

New 'beacon' method detects cancer recurrence

October 10 2016, by Caleb Radford

A new detection method for tumour recurrence in bowel cancer patients is proving to be twice as effective as regular treatment.

Research led by gastroenterologists from Flinders University in South Australia found that a blood test, which targeted tumour-derived DNA, successfully detected recurrence in colorectal (bowel) cancer patients during remission.

Senior researcher Graeme Young said the two-gene test acted like a highly effective beacon, which was simpler, less invasive and more reliable.

"Through this study we have proven better detection but we clearly have to go on and study how it impacts patients in different environments," he said.

"While patients have routine x-rays often on an annual basis, the lesions need to be a few centimetres in size in order to be detected.

"Here we are looking for simpler less-invasive ways that might tell us really early on if and when the tumour is recurring.

"If we monitor patients closely and are able to catch recurrence early enough we can still potentially cure them."

The research involved 122 cancer survivors post-surgery and found

methyated BCAT1 and IKZF1 DNA in the blood of almost 70 per cent of patients with recurrence.

It also found 32.1 per cent of them tested positive for carcinoembryonic antigens (CEA). CEA monitoring is the standard test for recurrence.

There were 94 patients without clinically detectable recurrence and no significant difference in the percentage positive (the false-positive rate) for the beacon test compared to CEA.

Sensitivity estimates of the beacon test were 75 per cent and 66.7 per cent for local and distant recurrence respectively, compared with 50 per cent and 29.2 per cent for CEA.

Professor Young said the beacon test could replace CEA monitoring and the technique might be useful to assess adequacy of initial treatment in eradicating tumours.

According to the World Health Organisation there were about 8.2 million cancer related deaths in 2012 and [colorectal cancer](#) was one of those most commonly diagnosed.

Professor Young said almost half of people undergoing CRC treatment experienced recurrence in the first couple of years after diagnosis.

"An inability to detect early molecular changes consistent with underlying tumour progression can result in recurrent colorectal cancer going undetected or being discovered in the later stages of disease when clinical intervention is less likely to be effective," Professor Young said.

"We believe the two-gene test has the potential to fill an urgent and unmet clinical need, and are committed to advancing its clinical development as a new tool for improving patient outcomes."

The study will be published by the journal *Cancer Medicine* later this month.

Professor Graham will present the findings at this year's Australian Gastroenterological Week Conference in South Australia's capital Adelaide.

The conference is Australia's first multi-disciplinary symposium on [colorectal cancer screening](#) and will run from October 10 - 12.

It will also look at the impact of diet and lifestyle, whether screening can eradicate the disease and the role of GPs in tackling one of the most common cancers in the world.

Provided by Flinders University

Citation: New 'beacon' method detects cancer recurrence (2016, October 10) retrieved 2 May 2024 from <https://medicalxpress.com/news/2016-10-beacon-method-cancer-recurrence.html>

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