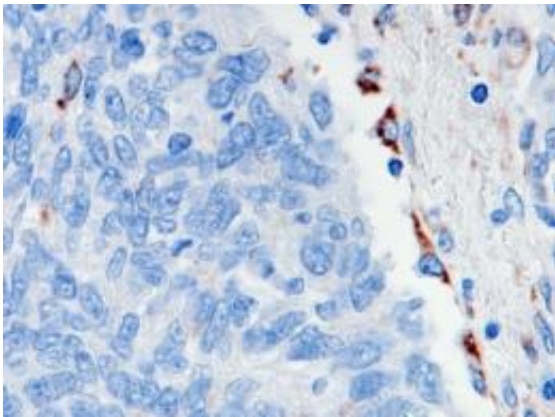


A new approach to cancer treatment published

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Small cell lung cancer, viewed through a microscope

(Medical Xpress) -- Scientists have discovered a mechanism that causes an aggressive type of lung cancer to re-grow following chemotherapy, offering hope for new therapies.

The study, conducted by an international team of researchers from Monash, Stanford and John Hopkins universities, represents not just the potential for new drugs, but a novel way of approaching cancer treatment.

Professor Neil Watkins, of the Monash Institute of Medical Research (MIMR) led the Monash research team of Dr Luciano Martelotto, MIMR, and Associate Professor Tracey Brown of the Department of

Biochemistry and Molecular Biology.

Professor Watkins said while many current cancer treatments and trials focus on shrinking existing tumours, this research had a different focus.

"Some aggressive types of cancer respond very well to chemotherapy, but then the real challenge is to stop the tumour coming back. That's what we investigated.

[Lung cancer](#) is the commonest cause of cancer-related death in Australia. Between 15 and 20 per cent of lung cancer cases are an extremely aggressive type known as small cell lung cancer (SCLC) that usually responds well to chemotherapy, but regrows and is then less responsive to the treatment.

The study showed that the regrowth of SCLC cells could be blocked by a drug that targets growth signals, which, in healthy cells, control [organ development](#) and repair.

Professor Watkins said that blocking the signalling pathway, known as 'Hedgehog', could form the basis of new SCLC treatments.

"This discovery gives us important clues for designing new treatment approaches. By using drugs to inhibit the Hedgehog signalling, we should be able to increase the effectiveness of chemotherapy and reduce the risk of cancer relapse," said Professor Watkins

The latest study will feed into and change the focus of trials already being conducted at the Monash Medical Centre, located next to MIMR.

Dr Vinod Ganju, a medical oncologist at the Monash Cancer Centre, said conventional trials, focusing on tumour shrinkage, would not be useful in realising the potential of blocking the Hedgehog pathway.

"Based on this research, we need to change our approach. We will re-design our clinical trials to test how these new therapies can improve patient outcomes following [chemotherapy](#)," said Dr Ganju.

"Our relationship with MIMR means we can make this happen relatively quickly and take immediate advantage of this research breakthrough."

The study is published today in *Nature Medicine*.

Provided by Monash University

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