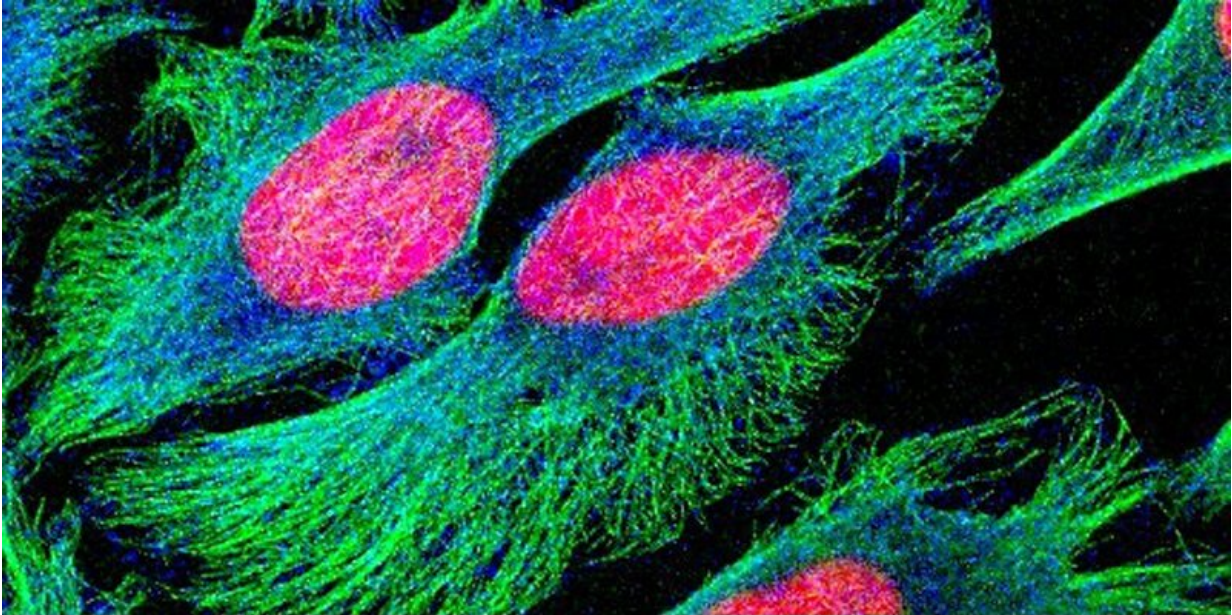


# Virus could help treat advanced cancers

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Human cancer cells in a culture. Credit: Matthew Daniels

Early results from a small-scale clinical trial have revealed the potential of a virus to treat some advanced cancers.

The findings, presented by scientists from the University of Leeds at the annual meeting of the American Society for Clinical Oncology, revealed that the specifically-engineered virus was able to infiltrate tumour cells, begin to destroy them and also to boost the body's immune system.

In one case the patient's tumour disappeared; in another, the tumour

reduced in size.

The study looked at the effectiveness of the virus in treating eight patients with cancers that had spread: three were suffering from skin cancer or melanoma and five had bowel cancer which had spread to the liver.

Dr. Adel Samson from the Leeds Institute of Cancer and Pathology, who is one of the investigators, said: "The results so far are very promising. They show the virus was very effective in being able to switch on the body's immune system, allowing a patient's own defence systems to target the cancer.

"In addition, there was evidence that the virus itself was also destroying the [tumour cells](#)."

The study looked at the effectiveness of the virus as a neoadjuvant therapy, where it is used to try and shrink a tumour ahead of surgery.

The virus, called Pexa-Vec, was derived from the Vaccinia family of viruses and modified to target cancer cells. It was given to patients intravenously.

Two weeks after being given the virus, the patients had their tumours surgically removed.

Analysis of the cancerous tissue showed that the virus had been able to reach the site of the tumours and infiltrate the cancer cells. There were also signs that the cancer cells were beginning to die.

In one of the patients with bowel cancer that had spread to the liver, the tumour on the liver had been destroyed – in another of the bowel cancer patients, there had been partial destruction of the liver [tumour](#).

Dr. Samson said: "In two of the patients, we saw prior to administration of the virus that they had tumours that were growing.

"When the tumours were examined following surgery, the pathologist could identify dead cancer [cells](#).

"Further research is needed to understand why the virus was so effective with these patients. We need to understand whether what we saw was the result of the virus destroying the [cancer cells](#), or was it the result of the virus enabling the immune system to be more effective – or was it a combination of the two?

"These initial findings are very exciting."

## **Virus could boost treatment options**

The scientists believe the results open up the possibility that the virus could be given in combination with so-called 'checkpoint inhibitors' – drugs that can make the body's own defence system more potent.

The trial was run in partnership with Transgene, a French biotech company that holds the rights to investigate and commercially exploit the Pexa-Vec virus in Europe.

Dr. Maud Brandely, chief medical officer at Transgene, said: "The findings are beginning to show the potential of Pexa-Vec to help provide additional treatment options for patients with advanced cancer."

The effectiveness of Pexa-Vec is currently being tested in a larger phase-three clinical trial involving [patients](#) with liver [cancer](#). In that trial, doctors are trying to determine whether the [virus](#) is a more effective treatment than giving the conventional drug therapy.

Provided by University of Leeds

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