

# Genetically engineered virus kills liver cancer

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A genetically-engineered virus tested in 30 terminally-ill liver cancer patients significantly prolonged their lives, killing tumours and inhibiting the growth of new ones, scientists reported on Sunday.

Sixteen patients given a high dose of the therapy survived for 14.1 months on average, compared to 6.7 months for the 14 who got the low dose.

"For the first time in medical history we have shown that a genetically-engineered virus can improve survival of cancer patients," study co-author David Kirn told AFP.

The four-week trial with the vaccine Pexa-Vec or JX-594, reported in the journal *Nature Medicine*, may hold promise for the treatment of advanced solid tumours.

"Despite advances in [cancer treatment](#) over the past 30 years with chemotherapy and biologics, the majority of solid tumours remain incurable once they are metastatic (have spread to other organs)," the authors wrote.

There was a need for the development of "more potent active immunotherapies", they noted.

Pexa-Vec "is designed to multiply in and subsequently destroy cancer cells, while at the same time making the patients' own [immune defence](#) system attack cancer cells also," said Kirn from California-based

biotherapy company Jennerex.

"The results demonstrated that Pexa-Vec treatment at both doses resulted in a reduction of tumour size and decreased blood flow to tumours," said a Jennerex statement.

"The data further demonstrates that Pexa-Vec treatment induced an [immune response](#) against the tumour."

Pexa-Vec has been engineered from the vaccinia virus, which has been used as a vaccine for decades, including in the eradication of smallpox.

The trial showed Pexa-Vec to be well tolerated both at high and low doses, with flu-like symptoms lasting a day or two in all patients and severe [nausea and vomiting](#) in one.

The authors said a larger trial has to confirm the results. A follow-up phase with about 120 patients is already underway.

Pexa-Vec is also being tested in other types of [cancer tumours](#).

**More information:** [DOI: 10.1038/nm.3089](https://doi.org/10.1038/nm.3089)

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