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HOLY COW POX! VIRUS' CURE CLUE

Aussie link to cancer discovery

EXCLUSIVE
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COWPOX inspired the vaccine which ended the scourge of smallpox 200 years ago and now the virus is being used to kill cancer.

Scientists have engineered a new virus based on cowpox that is able to kill every known type of cancer cell in a petrie dish.

The treatment called CF33 has been found to shrink tumours in mice and it is hoped it will be trialled on Australian breast and other cancer patients next year.

Engineered by US cancer expert Professor Yuman Fong, the treatment is being developed by Australia biotech company Imugene, which has licensed the innovation. Professor Fong is in Australia this week to plan the clinical trials.

The trial, to be run in Australia and other countries, will enrol patients with triple negative breast cancer, melanoma, lung cancer, bladder, gastric and bowel cancer.

Just because the treatment works in mice does not mean it will be successful in humans and early phase human trials are known as the valley of death for many medical breakthroughs.

However, Professor Fong is hopeful because a series of other more specific cancer killing viruses are already proving effective in fighting cancer in humans.

US scientists have turned the virus that causes the common cold into a treatment to kill brain cancer —

in some patients the cancer disappeared for years, in others it shrank the tumours.

A modified form of the herpes or cold sore virus called Imlygic or T-Vec is being used to treat melanoma.

"The whole field is an amazing place to be," Professor Fong said. "There was evidence that viruses could kill cancer from the early 1900s when people vaccinated against rabies had their cancer disappear, they went into remission."

Professor Fong's said cowpox was known to be harmless in humans and he mixed it with various other viruses that testing showed could kill cancer.

Cancer patients have the engineered virus injected directly into their tumours where it is expected to infect the cancer cells and explode them.

The virus is then expected to alert the immune system that there are cancer cells in the body and prompt it to seek out and kill diseased cells.

Sydney social worker Jess Braude was diagnosed with triple negative breast cancer in July 2017. This cancer strikes younger women and survival rates are low.

"Three of the people I was going through treatment with have passed away because there is no targeted treatment," Ms Braude said. "It's critical to find new treatments, there are too many young women passing away from this disease," she said. "(Using a virus to kill cancer is) amazing."

Breast cancer survivor Jess Braude. Picture: Julian Andrews.

