Health

'Suicide' gene therapy kills prostate cancer cells

- 12 12 2015
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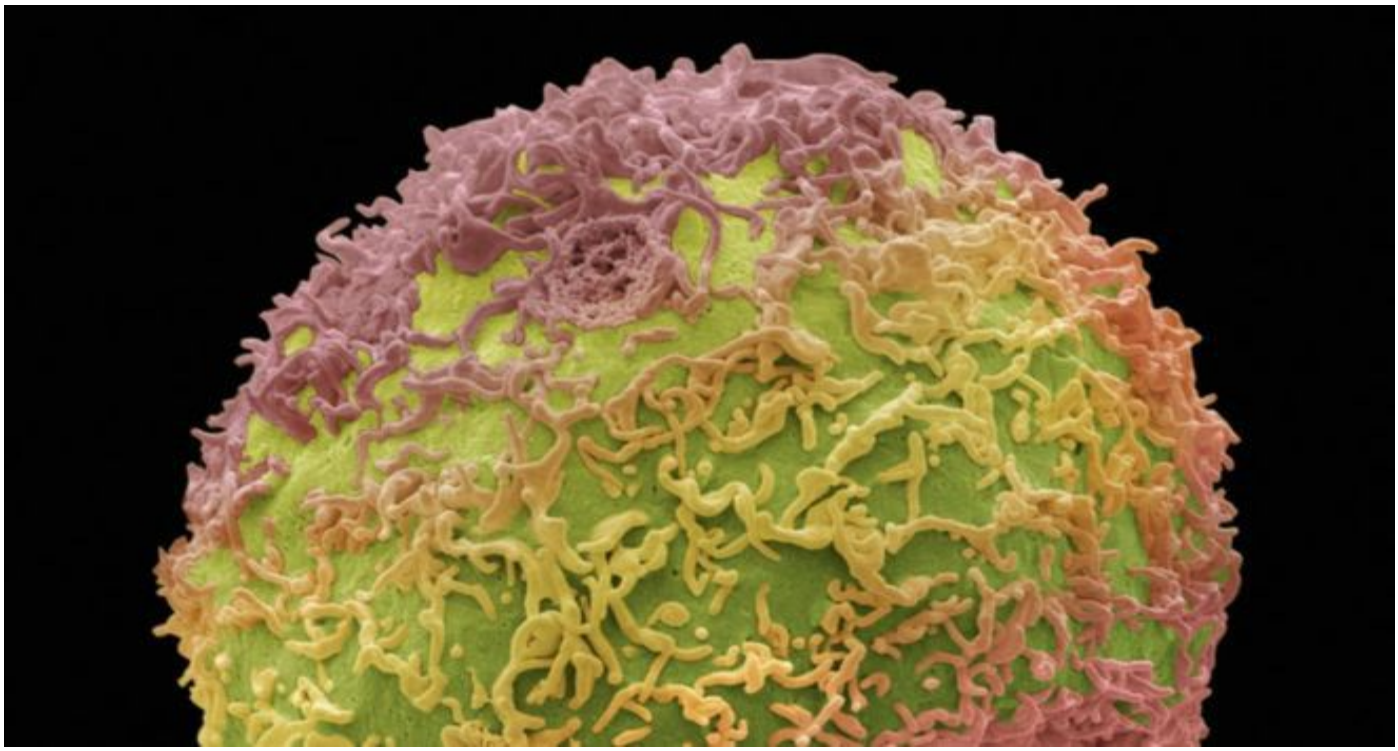

The therapy causes prostate cancer cells to self destruct

A new gene therapy technique is able to modify prostate cancer cells so that a patient's body attacks and kills them, US scientists have discovered.

The technique causes the tumour cells in the body to self-destruct, giving it the name 'suicide gene therapy'.

Their research found a 20% improvement in survival in patients with prostate cancer five years after treatment.

A cancer expert said more research was needed to judge its effectiveness.

Prostate cancer is the most common cancer in men in the UK with more than 41,000 diagnosed each year.

The study, led by researchers from Houston Methodist Hospital in Texas, appears to show that this 'suicide gene therapy', when combined with radiotherapy, could be a promising treatment for prostate cancer in the future.

The technique involves the cancer cells being genetically modified so that they signal a patient's immune system to attack them.

Usually, the body does not recognise cancer cells as the enemy because they have evolved from normal healthy cells.

Unlike an infection, which the body reacts against, the immune system does

not react to kill off the offending cancer cells.

Using a virus to carry the gene therapy into the tumour cells, the result is that the cells self-destruct, alerting the patient's immune system that it is time to launch a massive attack.

Good survival

In two groups of 62 patients, one group received the gene therapy twice and the other group - who all had more aggressive prostate cancer - received the treatment three times.

Both groups also received radiotherapy.

Survival rates after five years were 97% and 94%. Although there was no control group in this study, the researchers said the results showed a five to 20% improvement on previous studies of prostate cancer treatment.

And cancer biopsy tests performed two years after the trial were found to be negative in 83% and 79% of the patients in the two groups.

Dr Brian Butler, from Houston Methodist Hospital in Texas, said it could change the way that cancer is treated.

"We may be able to inject the agent straight into the tumour and let the body kill the cancer cells.

"Once the immune system has knowledge of the bad tumour cells, if they pop up again, the body will know to kill them."

'Next generation'

Kevin Harrington, professor of biological cancer therapies at The Institute of Cancer Research, London, said the results were "very interesting" but more research was needed.

"We would need a randomised trial to tell if this treatment is better than radiotherapy alone.

"The viruses used in this study cannot reproduce. Next generation viral therapies for cancer can selectively replicate in cancer cells, something that can kill the cancer cell directly, and also help spread the virus to neighbouring cancer cells.

"It would be interesting to see this approach used with viruses that could reproduce to see if it makes for a more effective treatment."