

## Vitamin C 'helps to fight cancer'

**High doses of vitamin C injected into the bloodstream may help fight cancer, a US study says.**

Scientists found that intravenous vitamin C in the form of ascorbate killed cancer cells in lab tests.

The findings contradict earlier studies, but the Maryland-based Institutes of Health said they had looked at lower-dose oral vitamin C.

Cancer experts said the "overwhelming" evidence still suggested vitamin C was not an effective treatment.

Studies in the 1970s first suggested the administration of high doses of vitamin C could help treat cancer, but later research did not back this up.

**" There are many substances that have been shown to kill cancer cells in the lab but failed to fulfil that promise when tested in people "**

Henry Scowcroft, of Cancer Research UK

In the latest study, published in the Proceedings of the National Academy of Sciences, researchers conducted laboratory experiments which simulated clinical infusions of vitamin C on a range of nine cancer and four normal cells.

In five of the cancer lines, there was a 50% decrease in cell survival, while normal cells were unaffected.

A more detailed look at lymphoma cells - which were especially sensitive to ascorbate - showed they were killed completely.

The effective dose was around four millimoles, a concentration much higher than an oral dose but easily achievable by intravenous infusion.

### Cells

Researchers were unable to explain what caused the results, although they did note the treatment led to the formation of hydrogen peroxide, a chemical known to be toxic to cells.

Alternative medicine practitioners have already administered high doses of intravenous ascorbate.

Lead researcher Dr Mark Levine said the treatment would have to be proved safe before being given to patients.

But he added: "Ascorbate as a potential cancer therapeutic agent has a controversial and emotionally charged past."

Henry Scowcroft, senior information officer at Cancer Research UK, said despite the findings, the "overwhelming" evidence still pointed to vitamin C not being an effective treatment.

"This work is at a very early stage. There are many substances that have been shown to kill cancer cells in the lab, but failed to fulfil that promise when tested in people.

"But we do know that eating a healthy, balanced diet, including plenty of fresh fruit and vegetables, is an effective way to reduce the risk of getting cancer in the first place."

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<http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/4238250.stm>

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