

## **BBC NEWS / HEALTH**

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### **Juice 'can slow prostate cancer'**



**Drinking a daily eight ounce glass of pomegranate juice can significantly slow the progress of prostate cancer, a study suggests.**

Researchers say the effect may be so large that it may help older men outlive the disease.

Pomegranates contain a cocktail of chemicals which minimise cell damage, and potentially kill off cancer cells.

The study, by the University of California in Los Angeles, appears in the journal *Clinical Cancer Research*.

*"There are many substances in pomegranate juice that may be prompting this response"*

**Dr Allan Pantuck**

Previous research had indicated that pomegranate juice could have a beneficial effect on prostate cancer in tests on mice.

But the latest study has shown that humans can potentially benefit too.

The UCLA team focused on 50 men who had undergone surgery or radiation treatment for prostate cancer - but had shown signs that the disease was rapidly returning.

The presence of prostate cancer cells is monitored by measuring levels of a chemical they produce called prostate-specific antigen (PSA).

The researchers measured how long it took for PSA levels to double in individual patients - a short doubling time indicates that the cancer is progressing quickly.

The average doubling time is about 15 months, but in patients who drank pomegranate juice this increased to an average of 54 months.

Some men on the study continue to show suppressed PSA levels after more than three years, even though they are receiving no treatment

apart from drinking pomegranate juice.

### **Combination effect**

Lead researcher Dr Allan Pantuck said: "I was surprised when I saw such an improvement in PSA numbers.

"In older men 65 to 70 who have been treated for prostate cancer, we can give them pomegranate juice and it may be possible for them to outlive their risk of dying from their cancer.

"We are hoping we may be able to prevent or delay the need for other therapies usually used in this population such as hormone treatment or chemotherapy, both of which bring with them harmful side effects."

Pomegranate juice is known to have anti-inflammatory effects and high levels of anti-oxidants, which are believed to protect the body from damage by particles called free radicals.

It also contains isoflavones which are believed to play a role in cancer cell death.

Dr Pantuck said: "There are many substances in pomegranate juice that may be prompting this response.

"We don't know if it's one magic bullet or the combination of everything we know is in this juice.

"My guess is that it's probably a combination of elements, rather than a single component."

Chris Hiley, of the Prostate Cancer Charity, said more work was needed to firm up the findings.

She said: "It may well turn out that pomegranate juice has a wider application than just delaying disease progression in men with prostate cancer who have already been treated.

"It might also help as a reassuring low-key intervention for men whose cancer is being monitored rather than treated."

Dr Laura-Jane Armstrong, of the charity Cancer Research UK, said: "If the results of this study can be confirmed, it could have important implications for prostate cancer patients, especially by delaying the use of other more aggressive treatments that can have debilitating side effects."

## **Pomegranate, the food of the gods**

05.10.05

By Ed Caesar

We bloated and bored wastrels of the over-privileged West have declared a new superfood.

Blueberries? Don't make me laugh. Avocados? So last year. Ladies and gentlemen, I give you the pomegranate.

It is the superfood that is so super it makes all the other superfood look, well, just like food.

Everyone is doing it. Pomegranate juice has become Britain's fastest-growing fruit drink. Supermarket chain Tesco reports sales of pomegranate juice are up 300 per cent since the start of the year; that is 500,000 litres a week.

Zoe Parker, a juice buyer for Tesco has never seen anything like it. "Britain has fallen head-over-heels in love with pomegranate juice," she says.

In New Zealand, pomegranate or its jus is appearing on the best menus. White has used it, so have Craft and Dine.

So what is this superfood said to do for you? Well, fight heart disease, protect unborn children from brain damage, lower blood pressure, reduce the signs of ageing, increase fertility; smooth, cleanse and protect your skin from the sun.

Laboratory research suggests the pomegranate also "shows promise" against skin, breast and prostate cancer; menopausal symptoms, ulcers, HIV, the herpes virus and erectile dysfunction.

Pomegranates stop you from dying. In America, at least, this seems to be the message. Across Los Angeles, giant billboards promoting pomegranate juice are emblazoned with the message: Defy death.

The pomtini - a pomegranate martini - is a favourite at Hollywood parties and was the official cocktail at last year's Oscars.

There is nothing new in the world, and, as ever, the Greeks were there first. Persephone, the goddess of agriculture, was offered a pomegranate by Hades. Once she had eaten it, it was her destiny to stay with Hades in the underworld for all time.

Persephone held out initially, but in the end could resist everything except temptation, and scooped the fruit in a weak moment. So the modern concept of the guilt-ridden snack was born. A moment on the lips became a lifetime by the Styx.

In Greek mythology, the pomegranate symbolised both death and fertility, a confusing negative/positive message for ancient consumers and one which the

Chinese pomegranate PRs were quick to put right by making the fruit a symbol of immortality and fertility centuries later.

The pomegranate also features prominently in the Bible and the Koran, where it is called "a gift from God".

Scientists at the Lipid Research Laboratory in Israel say drinking pomegranate juice regularly can reduce the size of atherosclerotic lesions which narrow the arteries and may cause heart failure. They have also confirmed that, as a rich source of folic acid, the fruit can assist the healthy development of babies. And pomegranates are full to bursting with antioxidants. Dr Richard Bogle at Hammersmith hospital, says: "Preliminary studies suggest pomegranate juice may contain almost three times the total antioxidant ability compared to the same quantity of green tea or red wine."

TV chef Gordon Ramsay is more eloquent in his inclusion of Britain's new favourite fruit in a dish. "F\*\*\*ing revolting," he said of a pomegranate risotto on Ramsay's Kitchen Nightmares.

- INDEPENDENT

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## **Pomegranates 'slow tumour growth'**

### **Pomegranate juice may help to slow down the progress of prostate cancer, research suggests.**

Tests on mice showed the juice dramatically slowed down prostate cancer cell growth.

Pomegranates, native to the Middle East, are packed with healthy anti-oxidants and anti-inflammatory agents.

The study, by the University of Wisconsin, appears in Proceedings of the National Academy of Sciences.

Prostate cancer is now the most common cancer diagnosed in men in the UK.

Every year over 30,000 men are diagnosed and 10,000 men die from it.

“ **Our study adds to growing evidence that pomegranates contain very powerful agents against cancer** ”

Professor Hasan Mukhtar

Previous research has shown pomegranate extract is effective against tumours in mouse skin.

And scientists in Israel have shown that drinking a daily glass

of the fruit's juice can reduce the risk of cardiovascular disease.

The Wisconsin team first tested the juice on laboratory cultures of human prostate cancer cells.

They found the extract killed the cancer cells - and the higher the dose, the more cells died.

### **Supplemented diet**

Next the team injected mice with human prostate cancer cells. One group was given pure water, and two others received water supplemented with 0.1% or 0.2% pomegranate juice.

Cancer progression was significantly slowed in mice receiving the higher pomegranate dose.

Their blood contained decreased levels of prostate-specific antigen (PSA), a marker commonly used to monitor prostate cancer.

In comparison, tumours grew much faster in animals that were given only water.

Lead researcher Professor Hasan Mukhtar said: "Our study, while early, adds to growing evidence that pomegranates contain very powerful agents against cancer, particularly prostate cancer.

"There is good reason now to test this fruit in humans, both for cancer prevention and treatment."

Dr Chris Hiley, of The Prostate Cancer Charity, said: "This is useful research as it might well benefit both men who may get prostate cancer and men who already have it.

"It's still too early to know what, if anything, the science will tell us about potential effects in men, but it is not too soon to point out that diet is plainly significant in the development of prostate cancer.

"As there are sound reasons for adopting a healthy diet with a generally increased intake of fruit and vegetables, why not consider pomegranate, and its juice, as one of the ways of

achieving this."