

[IMAGE]

The Joy of Juice: Pomegranate Juice for Prostate Cancer

By James P. Meschino, DC, MS

Editor's Note: September marked Prostate Cancer Awareness Month and November has been coined "Movember." In November, men are encouraged to grow moustaches to raise awareness of prostate and other cancers. To learn more, visit <https://us.movember.com>.

In recent years, the ingestion of pure pomegranate juice (8 ounces per day) has been shown in clinical studies with human subjects to slow, and to some degree, reverse, the progression of prostate cancer – the second leading cause of cancer death in North American men. Pre-clinical studies suggest pomegranate juice also may help to defend against breast cancer and some other common cancers.

With respect to cancer prevention, the authors of a 2014 review article stated, "Recent research has shown that pomegranate juice (PJ) and/or pomegranate extracts (PE) significantly inhibit the growth of prostate cancer cells in culture. In pre-clinical murine models (experiments with mice), PJ and/or PE inhibit growth and angiogenesis (growth of new blood vessels to feed tumor growth) of prostate tumors. More recently, we have shown that three components of PJ, luteolin, ellagic acid and punicalic acid together, have similar inhibitory effects on prostate cancer growth, angiogenesis and metastasis. Results from clinical trials (in human prostate cancer studies) are also promising. PJ and/or PE significantly prolong the PSA (prostate specific antigen) doubling time in patients with prostate cancer."¹

Human Studies

prostate cancer - Copyright © Stock Photo / Register Mark To date, two human clinical trials have investigated the benefits of 8 ounces of pomegranate juice per day to treat men with advanced prostate cancer unresponsive to conventional medical treatment. Both the 2006 and 2013 clinical trials yielded impressive results, showing a dramatic slowing of the PSA doubling time. In men with androgen-positive prostate cancer, pomegranate juice was shown to induce programmed cell death (apoptosis) of prostate cancer cells in these men.

A 2014 study investigated the efficacy of a supplement containing an extract blend from pomegranate, green tea, broccoli and curcumin in men with existing prostate cancer. Compared to the placebo group, men taking the oral supplement blend showed a significant inhibition of prostate cancer progression: only a 14.7 percent rise in their PSA level compared to a 78.5 percent rise in men taking the placebo pill.

Effect on Other Cancers

In experimental studies, the ellagic acid found in pomegranate juice has been shown to have anti-cancer effects on other cancers, including lung, cervical and breast cancers.

With respect to other cancers, the researchers state, "because many of the molecular mechanisms are shared by different types of cancers, and the fact that pomegranate constituents have been shown to be effective against breast, lung, colon and skin cancer, further enhances the therapeutic potential of pomegranate extract."

How Does It Work?

The above comments are based on the experimental and clinical studies involving pomegranate juice and extract in cancer research, which have shown the following outcomes and properties:

- Suppress the growth of various human prostate cancer cells used in standard prostate cancer experimental studies (androgen receptor-positive and androgen receptor-negative prostate cancer cell lines).
- Apoptosis (programmed cell death) of prostate cancer cells in experimental studies.
- Decrease the synthesis of hormones known to encourage the proliferation of prostate cancer cells. The key hormones include dihydrotestosterone and other androgen hormones.
- Inhibit the synthesis of the prostaglandin hormones known to promote prostate cancer proliferation, metastasis and invasion of nearby tissues. In this regard, they inhibit two key enzymes used by cancer cells to promote their progression and metastasis. The enzymes are phospholipase A2 and cyclooxygenase.
- Inhibit the matrix metalloproteinases, which allow cancer cells to invade adjacent tissue. For instance, prostate cancer often spreads to the bladder via direct invasion through neighboring tissues.
- Inhibit the metastatic process by which prostate cancer cells typically spread to the bone, liver and lung tissue.

Recommendations

Pomegranate is the one juice I suggest my patients drink each day as part of their cancer prevention strategy (4 ounces daily). I know many juices are touted for their outstanding health benefits (noni, acai berry, guava, raspberry, grape, etc.), but regarding cancer, the research most strongly supports the use of pure pomegranate juice over all other choices, in my view.

I'm not a big fan of drinking juice due to the high simple-sugar content and blood glucose-spiking properties, but pomegranate juice is the one exception. A 4-ounce serving of pure pomegranate juice contains 19 grams of simple carbohydrates or 76 calories – just slightly more than eating a whole orange.

Author's Note: Rather than cite every study referred to in this article, I reference a review article (see below) that cites the many studies done on prostate cancer to date, including those discussed in my article.

Reference

1. Wang L, Martins-Green M. Pomegranate and its components as alternative treatment in prostate cancer. *Int J Molecular Sci*, 2014;15:14949-14966.
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James Meschino, DC, MS, practices in Toronto, Ontario, Canada and is the author of four nutrition books, including *The Meschino Optimal Living Program* and *Break the Weight Loss Barrier*.

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