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Contact: Lisa Brunette
la.brunette@hosp.wisc.edu
608-263-5830
[University of Wisconsin-Madison](#)

Can pomegranates prevent prostate cancer? A new study offers promise

MADISON - The juice of the pomegranate, say researchers at University of Wisconsin Medical School, shows major promise to combat prostate cancer - the most common invasive cancer and the second-leading cause of cancer death in American men.

With more than 230,000 new cases of prostate cancer expected to be diagnosed this year alone in the U.S. and the outlook poor for patients with metastatic disease, researchers are looking for new strategies to combat the disease. Earlier research at Wisconsin and elsewhere has shown that the pomegranate, a fruit native to the Middle East, is rich in anti-oxidant and anti-inflammatory activity and is effective against tumors in mouse skin. In fact, pomegranate juice has higher anti-oxidant activity than do red wine and green tea, both of which appear promising as anti-cancer agents.

The UW research team aimed to find out if the extract from pomegranates would not only kill existing cancer, but help prevent cancer from starting or progressing. Using human prostate cancer cells, the team first evaluated the fruit extract's effect, at various doses, on those cells cultured in laboratory dishes. They found a "dose-dependent" effect - in other words, the higher the dose of pomegranate extract the cells received, the more cells died.

The research team then progressed to tests in mice that had been injected with prostate cancer cells from humans and developed malignancies. The 24 mice were randomly divided into three groups. The control group received normal drinking water, while the animals in the second and third groups had their drinking water supplemented with .1 percent and .2 percent pomegranate extract respectively. The doses for the mice were chosen to parallel how much pomegranate juice a typical healthy human might be willing to eat or drink daily.

The results were dramatic: the mice receiving the higher concentration of pomegranate extract showed significant slowing of their cancer progression and a decrease in the levels of prostate -specific antigen (PSA), a marker used to indicate the presence of prostate cancer in humans. The animals that received only water had tumors that grew much faster than those in the animals treated with pomegranate extract.

"Our study - while early -- adds to growing evidence that pomegranates contain very powerful agents against cancer, particularly prostate cancer," says lead author Dr. Hasan Mukhtar, professor of dermatology in the UW Medical School. "There is good reason now to test this fruit in humans - both for cancer prevention and for treatment."

The next step in the evaluation of pomegranates for cancer prevention and treatment is to conduct tests in humans, according to Mukhtar.

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The other members of the research team are Arshi Malik, Farrukh Afaq, Vaquar Adhami, Deeba Syed and Sami Sarfaraz, all research scientists in the department of dermatology. The Wisconsin research was funded by the National Institutes of Health.

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