

A low-carb diet may stunt prostate tumor growth

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A diet low in carbohydrates may help stunt the growth of prostate tumors, according to a new study led by Duke Prostate Center researchers. The study, in mice, suggests that a reduction in insulin production possibly caused by fewer carbohydrates may stall tumor growth.

“This study showed that cutting carbohydrates may slow tumor growth, at least in mice,” said Stephen Freedland, M.D., a urologist at Duke University Medical Center and lead researcher on the study. “If this is ultimately confirmed in human clinical trials, it has huge implications for prostate cancer therapy through something that all of us can control, our diets.”

Freedland conducted most of the research for this study while doing a fellowship in urology at Johns Hopkins’ Brady Urological Institute under the tutelage of William Isaacs, Ph.D., a molecular geneticist there.

The researchers published their results on November 13, 2007 in the online edition of the journal *Prostate*. The study was funded by the Department of Veterans Affairs, the Department of Surgery and the Division of Urology at Duke University Medical Center, the Prostate Cancer Foundation, and the Department of Defense Prostate Cancer Research Program.

The researchers hypothesized that since serum insulin and a related substance known as insulin-like growth factor (IGF) had been linked

with the growth of prostate tumors in earlier research in mice, a reduction in the body's levels of these substances might slow tumor growth, Freedland said.

The researchers compared tumor growth in 75 mice that were eating either a low-carbohydrate diet, a low-fat but high-carbohydrate diet, or a Western diet, high in fat and carbohydrates.

The mice that ate a low-carbohydrate diet had the longest survival and smallest tumor size, Freedland said.

“Low-fat mice had shorter survival and larger tumors while mice on the Western diet had the worst survival and biggest tumors,” he said. “In addition, though both the low-carb and low-fat mice had lower levels of insulin, only the low-carb mice had lower levels of the form of IGF capable of stimulating tumor growth.”

The low-carbohydrate diet definitely had the most significant effect on tumor growth and survival, he said.

The next step will be to test the findings of this study in humans, and further examine the potential positive effects that a low-carbohydrate diet may have on tumor growth, Freedland said.

“We are planning to start clinical trials sometime next year,” he said. “The results of this study are very promising, but of course much more work needs to be done.”

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