

Lowering your cholesterol may decrease your risk of cancer

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Current research suggests that lowering cholesterol may block the growth of prostate tumors. The related report by Solomon et al, "Ezetimibe Is an Inhibitor of Tumor Angiogenesis," appears in the March 2009 issue of *The American Journal of Pathology*.

High cholesterol not only leads to atherosclerosis and heart disease, but may also contribute to cancer growth and progression. Prostate cancer is the most common non-skin cancer in the United States, affecting approximately 1 in 6 men. Prostate tumors accumulate high levels of cholesterol, and tumor incidence correlates with eating a high fat/high cholesterol diet "Western" diet. In addition, prostate tumor progression has been linked to serum cholesterol levels.

To examine the role of high cholesterol in prostate cancer, Dr. Keith Solomon and colleagues fed mice a high fat/high cholesterol "Western" diet. They found that high cholesterol levels promoted tumor growth and that Ezetimibe (Zetia™), which blocks the absorption of cholesterol from the intestine, could prevent this increased tumor growth. Ezetimibe also blocked a cholesterol-mediated increase in angiogenesis, the growth of new blood vessels required for tumor progression. These data suggest that reducing cholesterol levels may inhibit prostate cancer growth specifically by inhibiting tumor angiogenesis.

The article from Solomon et al suggests "that cholesterol reduction, which is routinely accomplished pharmacologically in humans, may reduce angiogenesis, ultimately leading to less aggressive tumors."

"Lowering cholesterol levels whether through diet, exercise, or the use of safe cholesterol-lowering drugs is known to provide a substantial benefit to patients—in the future it may be possible to add reduced risk of serious prostate cancer to that list of benefits" says Solomon. "We are in the process of working with clinicians to translate these findings into potential human studies. If we can demonstrate the effects noted in our pre-clinical studies in human patients we may be save lives and improve the quality of life," adds Dr. Michael Freeman, senior author of the study.

More information: Solomon KR, Pelton K, Boucher K, Joo J, Tully C, Zurakowski D, Schaffner CP, Kim J, Freeman MR: Ezetimibe Is an Inhibitor of Tumor Angiogenesis. Am J Pathol 2009 174: 1017-1026

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