

# Statins Inhibit Inflammation Within Prostate Tumors

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(PhysOrg.com) -- Patients with prostate cancer who regularly use statins to lower their cholesterol may be enjoying a secondary benefit from the drugs: A new study from Duke University Medical Center shows that statins significantly lower the degree of inflammation within prostate tumors. The response may, in part, explain why men on statins have a lower risk of disease progression.

Previous studies have shown that [statins](#) reduce systemic [inflammation](#), but the Duke researchers were interested in finding out if the drugs reduced inflammation inside tumors, so-called intra-tumoral inflammation, that is believed to contribute to cancer recurrence after surgery.

“We found that preoperative statin use was associated with a 69 percent lower risk of intra-tumoral inflammation,” said Lionel Bañez, M.D., an assistant professor of surgery and [urology](#) at Duke and the lead author of the study. “We also discovered a trend suggesting greater risk-reduction with higher doses of the drugs.”

The study appears online in the journal *Cancer Epidemiology, Biomarkers & Prevention*.

Researchers examined tissue samples of tumors from 236 men undergoing surgery for [prostate cancer](#) at the Durham VA Medical Center. Researchers identified the samples as coming from statin-users or non-users, tracked the dose and frequency among the users, and

graded the degree of inflammation in the tissue samples as absent, mild, or marked.

They found that 16 percent of the patients (37) took statins during the year prior to surgery. Most (92 percent) were on simvastatin. Eighty-two percent of the patients had inflammatory cells in their prostate tumors, with roughly one-third registering marked tumor inflammation.

After taking into consideration factors such as age, race, body mass index and other clinical variables, investigators found that statin use was associated with reduced inflammation within the tumors. They also found that inflammation was more likely among older patients with more advanced cancers and who had experienced a longer time from biopsy to surgery.

“Increasing evidence suggests that statins may reduce risk of prostate cancer progression, and some studies have even suggested that widespread statin use over the past 15 year has contributed to a decline in prostate cancer mortality,” says Bañez.

So should all prostate cancer patients be on a statin? “No -- or at least not yet.” says Stephen Freedland, M.D., associate professor of urology and pathology in the Duke Prostate Center at Duke University and the senior author of the study. “More studies have to be done before such a recommendation can be made. However, men taking statins for heart health may already be enjoying a beneficial side effect against prostate cancer.”

“If these findings are validated in additional studies, it would support the hypothesis that statins delay prostate cancer progression, in part, by reducing inflammation inside the tumor,” Bañez said.

Provided by Duke University

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