MedicalXpress

Taking cholesterol-lowering drugs may also reduce the risk of dying from prostate cancer, study finds

May 2 2013

Men with prostate cancer who take cholesterol-lowering drugs called statins are significantly less likely to die from their cancer than men who don't take such medication, according to study led by researchers at Fred Hutchinson Cancer Research Center. The findings are published online today in *The Prostate*.

The study, led by Janet L. Stanford, Ph.D., co-director of the Prostate Cancer Research Program and a member of the Hutchinson Center's Public Health Sciences Division, followed about 1,000 Seattle-area prostate cancer patients. Approximately 30 percent of the study participants reported using statin drugs to control their cholesterol. After a mean follow-up of almost eight years, the researchers found that the risk of death from prostate cancer among statin users was 1 percent as compared to 5 percent for nonusers.

"If the results of our study are validated in other patient cohorts with extended follow-up for cause-specific death, an intervention trial of statin drugs in prostate cancer patients may be justified," Stanford said.

"While statin drugs are relatively well tolerated with a low frequency of serious side effects, they cannot be recommended for the prevention of prostate cancer-related death until a preventive effect on mortality from prostate cancer has been demonstrated in a large, randomized, placebo-controlled clinical trial," said first author Milan S. Geybels, M.Sc.,

formerly a researcher in Stanford's group who is now based at Maastricht University in The Netherlands.

The study is unique in that most prior research of the impact of statin use on prostate cancer outcomes has focused on biochemical recurrence – a rising PSA level – and not prostate cancer-specific mortality. "Very few studies of statin use in relation to death from prostate cancer have been conducted, possibly because such analyses require much longer follow-up for the assessment of this prostate cancer outcome," Geybels said.

The potential biological explanation behind the association between statin use and decreased mortality from prostate cancer may be related to cholesterol- and non-cholesterol-mediated mechanisms.

An example of the former: When cholesterol is incorporated into cell membranes, these "cholesterol-rich domains" play a key role in controlling pathways associated with survival of prostate cancer cells.

An example of the latter: Statin drugs inhibit an essential precursor to cholesterol production called mevalonate. Lower levels of mevalonate may reduce the risk of fatal prostate cancer.

"Prostate cancer is an interesting disease for which secondary prevention, or preventing poor long-term patient outcomes, should be considered because it is the most common cancer among men in developed countries and the second leading cause of cancer-related deaths," Geybels said. "While many prostate cancer patients have indolent, slow-growing tumors, others have aggressive tumors that may recur or progress to a life-threatening disease despite initial therapy with radiation or surgery. Therefore, any compound that could stop or slow the progression of prostate cancer would be beneficial," he said.