

Cholesterol-Lowering Drugs May Also Lower PSA, but Whether They Cut Cancer Risk is Still Not Known

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(PhysOrg.com) -- Popular cholesterol-busting drugs -- statins -- appear to lower men's prostate-specific antigen (PSA) values along with their cholesterol levels, according to researchers in the Duke Prostate Center and the Durham Veterans Affairs Medical Center. But whether the drugs prevent prostate cancer growth or just mask it is not known yet.

"Previous studies had shown that men taking statins were less likely to develop advanced forms of prostate cancer but no one had looked at the relationship between the drugs and prostate-specific antigen, or PSA, a biomarker that is correlated with cancer growth and is the most common prostate cancer screening tool," said Stephen Freedland, MD, a urologist at Duke and senior investigator on the study. "Our study represents a move to understand if and how statins influence prostate biology and whether they are really reducing cancer risk, or simply making PSA a less effective screening tool."

The study was published in the October 28, 2008 issue *Journal of the National Cancer Institute*. The research was funded by the United States Department of Veterans Affairs, The United States Department of Defense and the American Urological Association Foundation's Astellas Rising Star in Urology Award, given to Freedland.

The researchers reviewed the medical records of 1214 men who were prescribed statins between 1990 and 2006 at the Durham Veterans Affairs Medical Center. Men with prostate cancer were excluded from the study.

They found that PSA levels declined by an average of about four percent after starting statins, compared to no decline in the year before starting the statins, Freedland said. Bigger declines

occurred in men who took higher doses of statins and who had the largest decreases in cholesterol levels. Also, the higher the PSA levels were initially, the more they were seen to decline, Freedland said.

"This is important because we had some men who started with PSA levels that looked to be headed in the direction of a recommended biopsy to look for prostate cancer, but they weren't there quite yet," said Robert Hamilton, MD, a urologist at the University of Toronto, who served as this study's lead investigator while he was a research fellow at Duke. "In a good proportion of these men, the PSA levels declined sufficiently to a point where physicians might not recommend a biopsy, so it's really important that we understand what's at work here, so we can be sure we're not missing cancers because of deceptively low PSA levels."

"Our next step will be to further investigate the interplay between statins and prostate biology to determine whether their effect on PSA corresponds to, or is independent of, cancer growth," Freedland said. "Depending on the outcomes, this could have big public health implications, whether we need to change the way we screen men who are taking statins or we are able to harness the mechanism by which statins work to reduce risk or even treat cancer."

Statins were the most commonly prescribed class of drugs in the United States in 2007 and they work by blocking the production of a critical enzyme the body needs to make cholesterol. There are several types of cholesterol found in the blood; when the level of so-called "bad" cholesterol, or low density lipoprotein (LDL), is too high and concentrations of "good" cholesterol, or high density lipoprotein (HDL), too low, it can lead to cardiovascular disease.

Other researchers involved in this study include Kenneth Goldberg of the Durham Veterans Affairs Medical Center and Duke; and Elizabeth Platz, of the Johns Hopkins Bloomberg School of Public Health.

Provided by Duke University

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