Being Overweight Could Render Your PSA Prostate Cancer Test Less Effective: New Findings in The Johns Hopkins Prostate Bulletin

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New York, NY (PRWEB) February 20, 2008 -- The Johns Hopkins Prostate Bulletin Wiinter issue 2007-2008 reports on the latest study showing how being overweight can affect your PSA levels, rendering the standard PSA test protocols for diagnosing prostate cancer inaccurate.

The extra blood volume produced in the obese may so dilute levels of a tell-tale protein produced by the prostate gland that the popular PSA test may be SIGNIFICANTLY LESS EFFECTIVE for diagnosing prostate cancer in men carrying extra pounds.

This new study, reported recently in The Journal of the American Medical Association, and summarized in The Johns Hopkins Prostate Bulletin Winter 2007-08 by the doctors responsible for the study, combines data from more than 14,000 prostate cancer patients at The Johns Hopkins Hospital and elsewhere.

The new findings could eventually also affect the reliability of scores regarding other blood tests for cancer and other diseases in obese people, or at least alter the way those tests are analyzed, investigators say.

The predictive value of the PSA test depends on accurate readings of a protein, (P)rostate (S)pecific (A)ntigen continually produced by the prostate. When the prostate is enlarged - due to cancer or other disorders - the concentration of PSA in the bloodstream can increase, signaling the possible presence of cancer.

Physicians thus commonly regard increased PSA values as a first marker to diagnose prostate cancer, to be followed by other diagnostic tests such as physical exams and a transrectal ultrasound.

Complicating the diagnosis of prostate cancer further, the researchers note, is the fact that both physical exams and imaging studies of the prostate are more difficult in obese men.

Although recent studies have shown that PSA concentrations can be lower than expected in obese men with prostate cancer, the current research was designed to determine which of two dueling hypotheses explained this, notes Alan Partin, M.D., chief of the Department of Urology at Johns Hopkins' Brady Urological Institute.

One idea was based on the possibility that obese men make less PSA because they tend to have less testosterone, the sex hormone that prompts PSA production.

The other theory attributed the phenomenon to the increased amount of blood volume that obese men produce to support their size, which has the effect of thinning out the concentration of PSA.

Dr. Partin and Stephen Freedland, M.D., Partin's former postdoctoral fellow, now an assistant professor at Duke University, investigated both theories by assessing how much total PSA obese and normal-weight men have.

Using records of patients treated for prostate cancer between 1988 and 2006 at The Johns Hopkins Hospital, Duke University and various Veterans Affairs hospitals, Partin, Freedland and their colleagues compiled
information on PSA concentration and body mass index (BMI), a ratio of body weight to height that generally indicates whether someone is underweight, normal weight or overweight.

Using a standard calculation, the researchers used BMIs to estimate the amount of blood circulating in each patient's body. A different calculation used this blood volume, along with PSA concentrations, to estimate the total amount of PSA each patient had.

As expected, PSA concentrations were typically lower in the obese patients than in the normal-weight ones, although the total amount of PSA was about the same in both groups of patients.

"It's clear to us that excess blood had diluted PSA concentrations in that group," says Partin.
Freedland says a variety of new tests currently in development for cancer and other diseases rely on the concentrations of disease markers similar to PSA circulating in the blood. "For these other tests just starting down the development pipeline," he says, "we need to think about the actual total amount of a biological marker rather than concentration."

In the Winter 2007-08 Issue of The Johns Hopkins Prostate Bulletin, Medical Editor Dr. Jacek Mostwin interviews both researchers involved with the study as part of his report, "Nutrition, Weight, and Prostate Cancer."

As Dr. Partin points out, the impact of this new way of thinking about PSA scores in relation to body weight should help prevent large number of prostate cancers being missed each year. These findings should also get men thinking not just about their weight and eating habits for their heart health, but prostate (and other forms of) cancer as well.

As Dr. Freedland says, "I am an optimist and I believe people want to take control of their health. Weight loss and exercise are two things patients can do on their own to really take control of their cancer and their health."

For more information on the quarterly journal, The Johns Hopkins Prostate Bulletin, please visit: Johns Hopkins Prostate Bulletin

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Contact Information
JOAN MULLALLY
Johns Hopkins Prostate Bulletin
http://www.johnshopkinshealthalerts.com
917-640-4362

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