

# African-American men at higher risk of false positives in prostate testing

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(PhysOrg.com) -- While an elevated prostate-specific antigen (PSA) test can be frightening news for men, new research shows that sometimes the levels are caused by a naturally occurring hormone, and may not indicate a need for a biopsy.

Elevated levels of PSA have traditionally been seen as a potential sign of prostate cancer, leading to the widespread use of PSA testing, followed by biopsies of those with high PSA levels. But researchers at Wake Forest University School of Medicine and the University of Wisconsin-Madison School of Medicine and Public Health have discovered that some elevated prostate-specific antigen (PSA) levels in [men](#) are caused by parathyroid hormone, a substance the body produces to regulate calcium in the blood.

The finding is especially significant for [black men](#), said study co-author Halcyon G. Skinner, assistant professor of population health sciences at the University of Wisconsin.

About 20 percent of black men have elevated parathyroid hormone levels, compared with about 10 percent of white men - which means blacks have twice the risk of being recommended for unneeded biopsy and treatment, he said.

“Once they have a positive screen test, it can set off a chain of tests and treatment,” Skinner said. “This finding could help spare men who are actually at low risk from invasive and unnecessary procedures.”

The hormone can elevate prostate-specific antigen (PSA) levels in healthy men who do not have prostate cancer.

“PSA picks up any prostate activity, not just cancer,” said lead investigator Gary Schwartz, an associate professor of cancer biology and epidemiology and prevention at the Wake Forest University School of Medicine. “Inflammation and other factors can elevate PSA levels. If the levels are elevated, the man is usually sent for a biopsy. The problem is that, as men age, they often develop microscopic cancers in the prostate that are clinically insignificant. If it weren’t for the biopsy, these clinically insignificant cancers, which would never develop into fatal prostate cancer, would never be seen.”

However, because PSA screening has become so common, more men are being biopsied, Skinner said. Most men, when told that they have prostate cancer, elect treatment even though it may not be necessary. In reality, in only one of six cases does a biopsy diagnosis of prostate cancer result in a cancer that would be fatal if untreated.

Thus, high rates of prostate biopsy lead to unnecessary treatment, which can have side effects such as impotence and urinary incontinence.

Skinner said that one way to make PSA tests more accurate would be to take parathyroid hormone into account when evaluating the test.

“PSA tests were developed to check for a recurrence of prostate cancer after treatment, but they’ve since come to be used for diagnosis,” Skinner says. “Since it is unlikely the tests will be abandoned, adding a parathyroid panel could be a way to make the test better and to prevent unnecessary treatment.”

The study appears in the current issue of *Cancer Epidemiology, Biomarkers & Prevention*.

For the study, the researchers analyzed data from 1,273 men who participated in the National Health and Nutrition Examination Survey 2005-2006, and who did not report any current infection or inflammation of the prostate gland, prostate biopsy in the past month, or history of [prostate cancer](#) at the time of the survey.

After adjusting for age, race and obesity - because PSA levels increase with age, are higher in black men, and are lower in overweight men - the researchers found that the higher the level of [parathyroid hormone](#) in the blood, the higher the PSA level. In men whose parathyroid level was at the high end of normal, the PSA level was increased by 43 percent - putting many in the range for the urologist to recommend a biopsy.

Provided by University of Wisconsin-Madison ([news](#) : [web](#))

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