

Race, obesity affect outcomes among diabetics following prostatectomy

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Obese white men who have both diabetes and prostate cancer have significantly worse outcomes following radical prostatectomy than do men without diabetes who undergo the same procedure, according to research from Duke University Medical Center appearing in *Cancer Epidemiology, Biomarkers & Prevention*.

Many studies have shown that diabetes is associated with a lower risk of developing prostate cancer -- at least in white men -- but the effect of diabetes on outcomes after prostate cancer surgery has not been as clear.

"We found that diabetes was significantly associated with more aggressive disease in obese white men and less aggressive disease for all other subsets of men in our study," says Stephen Freedland, M.D., associate professor of urology and pathology at the Duke Prostate Center at Duke University and member of the Urology Section, Veterans Affairs Medical Center in Durham.

Researchers have spent years assessing the interplay among race, weight, diabetes and prostate cancer and have come up with mixed results.

Studies have shown that black men are significantly more likely than white men to develop prostate cancer, to have more aggressive disease and to experience a greater likelihood of recurrence.

Diabetes is more prevalent among black adults than white adults (11.8 per cent vs. 7.5 percent, respectively).

Studies show that obesity is also associated with increased risk of aggressive disease, recurrence, and death from prostate cancer - and diabetes.

"Given that race and obesity are related to both aggressive prostate cancer and diabetes, we hypothesized that the association between diabetes and prostate cancer progression might vary by race and obesity," says Freedland.

The study, published in [Cancer Epidemiology, Biomarkers & Prevention](#), examined the records of 1,262 men in the SEARCH database who underwent radical [prostatectomy](#) between 1988 and 2008. Researchers tracked the impact of diabetes upon tumor grade, the likelihood of recurrence and the amount of time it took for the patients' PSA level to double (PSADT) after surgery, a measure of disease aggressiveness.

They found no link between diabetes and prostate cancer progression. But in a secondary analysis, after sorting the data by race and weight, investigators found an association between diabetes and an increased risk of recurrence and a trend toward more aggressive recurrence (reflected in a shorter doubling time of the PSA) -- but only among obese white men. In all other subgroups, diabetes was associated with lower recurrence risk and longer PSADT.

"We really don't know what mechanisms might be in place that could account for this relationship," says Freedland. "But consider this: diabetes is associated with low levels of insulin and testosterone, an inhospitable environment for tumor growth. This is compounded in obese white men who also have lower insulin-like growth factor levels. The thinking is that if a tumor is powerful enough to grow in such a hostile environment, then it's probably a pretty aggressive one."

Freedland says this is the first study to examine racial and body weight

differences in the association between [diabetes](#) and [prostate cancer](#) progression, so these findings need to be validated before drawing firm conclusions regarding any relationships. Because all men in the study were healthy enough to undergo surgery also means that the results may not be applicable to a general population.

Provided by Duke University Medical Center

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