Excess body weight associated with increased risk for prostate cancer recurrence

April 3 2012

Researchers have found an association between excess body weight and an increased risk for cancer recurrence in men with clinically localized prostate cancer.

"Men diagnosed with early-stage prostate cancer and who have excess body weight as indicated by a higher-than-normal body mass index (BMI) have an increased risk for cancer recurrence after treatment," said Vincent L. Freeman, M.D., M.P.H., associate professor in the division of epidemiology and biostatistics in the School of Public Health at the University of Illinois in Chicago, Ill.

Freeman presented results of this cross-sectional study at the AACR Annual Meeting 2012, held here March 31 - April 4.

Freeman and colleagues examined BMI, which measures body weight relative to height, and risk for cancer recurrence based on blood prostate-specific antigen level, physical exam and prostate cancer biopsy results in 119 men who were awaiting surgery for clinically localized prostate cancer.

The results showed that the risk for cancer recurrence increased with increasing BMI. Men in the upper quartile for BMI were nearly eight times more likely to have prostate cancers that had a moderate-to-high risk for recurrence after treatment compared with men in the lower quartile. Men in the upper-middle and lower-middle quartiles for BMI were 6.5 times and 3.5 times more likely to have a moderate-to-high

recurrence risk, respectively.

"The association was not limited to obese men; even being just overweight based on BMI was associated with an increased risk for prostate cancer recurrence," Freeman said.

He and his colleagues concluded that body weight status and related lifestyle factors connected to prostate cancer could be used as viable indicators for high-risk cases.

"The results provide additional support for a mechanistic link between body weight status and the clinical presentation and course of prostate cancer," Freeman said. "Our findings also highlight the importance of maintaining a healthy body weight throughout adulthood."

More information: Body weight status predicts pre-treatment risk of PSA failure in men with clinically localized prostate cancer

Abstract
Introduction and Objective: Obesity/excessive adiposity in men with clinically organ-confined prostate cancer is of growing concern, because it associates with an increased risk of cancer recurrence after definitive therapy based on post-treatment prognostic parameters. The objective of this study was to evaluate whether body weight status associates with pre-treatment predictors of cancer recurrence in this patient population. Methods: We performed a cross-sectional study of body weight status and pre-treatment risk of PSA failure in 119 men awaiting radical prostatectomy for clinically localized prostate cancer in four urologic clinics in the Chicago area. Body weight status was assessed using the body mass index (BMI) and dual-energy x-ray absorptiometry (DXA). D'Amico risk scores, which are based on clinical tumor stage, biopsy Gleason sum, and pre-treatment PSA, were used to rank each patient's 5-year risk of PSA failure as low, intermediate, or high. Ordinal

logistical regression analyzed the association between BMI quartile and D'Amico risk scores after accounting for age, race, total grams of body fat, and study site.

Results: The risk of PSA failure increased with increasing quartile of BMI. Relative to the lowest BMI quartile, the cumulative odds of an intermediate or higher D'Amico risk score vs. a low risk score (the "cumulative odds ratio") for patients in the second BMI quartile (mean BMI = 27.8 kg/m2) was 3.51 (95% CI = 1.07 to 11.5, p = .038). For patients in the third quartile (mean BMI = 32.0 kg/m2) and forth quartile (mean BMI = 37.0 kg/m2), the cumulative OR was 6.52 (95% CI = 1.72 to 24.6, p = .0057) and 7.74 (95% CI = 1.18 to 50.9, p = .033), respectively (OR trend = 1.98, 95% CI = 1.09 to 3.59, p = .0254).

Conclusions: Body weight status predicts pre-treatment risk of PSA failure in men with clinically localized prostate cancer. This provides further support for a mechanistic link between body weight status, which reflects energy balance, and prostate cancer prognosis. The results also highlight the potential for using body weight status and other lifestyle-related factors pertinent to prostate cancer to identify men who are at high risk for unfavorable treatment outcomes.

Provided by American Association for Cancer Research