Hyperglycemia and prostate cancer recurrence in men treated for localized prostate cancer

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Background:

Obesity is consistently linked with prostate cancer (PCa) recurrence and mortality, though the mechanism is unknown. Impaired glucose regulation, which is common among obese individuals, has been hypothesized as a potential mechanism for PCa tumor growth. In this study, we explore the relationship between serum glucose at time of treatment and risk of PCa recurrence following initial therapy.

Methods:

The study group comprised 1734 men treated with radical prostatectomy (RP) or radiation therapy (RT) for localized PCa between 2001–2010. Serum glucose levels closest to date of diagnosis were determined. PCa recurrence was determined based on PSA progression (nadir PSA+2 for RT; PSA≥0.2 for RP) or secondary therapy. Multivariate Cox regression was performed to determine whether glucose level was associated with biochemical recurrence after adjusting for age, race, body mass index, comorbidity, diagnosis of diabetes, Gleason Sum, PSA, treatment and treatment year.

Results: