

## **OBESITY AND THE RISK OF PROSTATE CANCER AFTER AN INITIAL NEGATIVE PROSTATE NEEDLE BIOPSY**

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**Introduction:** Obesity is a growing epidemic with a known biologic relationship to cancer and possibly to prostate cancer. Previous studies have suggested that there may also be a screening bias against obese men which leads to delayed detection of more advanced prostate cancer. In this study, we aim to determine the relationship between obesity and the risk of developing prostate cancer after an initial negative prostate needle biopsy.

**Materials and Methods:** 430 men were identified who had an initial negative prostate needle biopsy and were followed in urology clinic for an average of 6.84 years with re-biopsy performed at the discretion of the urologist. A multivariate logistic regression model was used to determine the relationship between body Mass Index (BMI) and the risk of developing prostate cancer and aggressive (Gleason 4+3 or greater) prostate cancer on subsequent biopsies.

**Results:** For all 430 patients, BMI was not related to prostate volume or PSA. 63 patients (14.7%) developed prostate cancer and 10 patients (2.3%) had aggressive cancer. There was a non-significant trend towards decreased risk of developing prostate cancer with increasing BMI (OR 0.91 [0.83-1.01];  $p=0.081$ ). PSA was directly related (OR 1.13 [1.03-1.24];  $p=0.007$ ) and BMI was inversely related (OR 0.78 [0.62-0.98];  $p=0.03$ ) to the risk of developing aggressive prostate cancer.

**Conclusion:** Screening bias and technical difficulties in obtaining a prostate needle biopsy in obese men may play a role in the detection of prostate cancer in obese men. This study suggests against a more aggressive biology in men with prostate cancer.