Table 1: Demographics of the entire cohort.

	AO Exposure n=6214	No Exposure n=6930	p-value
Age (years)	60.8	61.4	<0.001
Race (%AA)	22.3%	19.0%	<0.001
Smoking	2.7	2.9	<0.001
BMI	29.8	29.2	<0.001
Finasteride	3.1%	3.8%	0.027
Screening PSA	71.5%	71.7%	0.85
Mean PSA (ng/ml)	3.1	1.8	0.11
Abnormal PSA (>4.0)	9.1%	6.1%	<0.001
Urologic Evaluation	84.3%	83.1%	0.67
Biopsy	81.8%	77.7%	0.22

Table 2: Demographics and disease parameters for cohort diagnosed with prostate cancer.

	AO Exposure n=239	No Expsure n=124	p-value
Age (years)	59.7	62.2	0.002
Race (% AA)	33.9%	29.0%	0.46
Family Hx (% Pos)	8.8%	16.1%	0.05
Finasteride	2.6%	3.4	0.73
BMI	29.6	28.8	0.13
PSA (ng/ml)	34.8	19.2	0.38
Adj PSA (ng/ml)	10.2	9.5	0.51
Clinical T1c	69.9%	64.5%	0.46
Mean Gleason Score	6.8	6.5	0.007
Gleason Score 8-10 (%)	21.8%	10.5%	0.004
Metastasis on presentation (%)	13.4%	4.0%	0.001

Source of Funding: None

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THE QUEST TO FIND HIGH GRADE PROSTATE CANCER: ARE WE FAILING?

Sarah Fitch, Michael S Cohen, Robin Ruthazer, John A Libertino. Burlington, MA, and Boston, MA.*

INTRODUCTION AND OBJECTIVE: With the advent of PSA screening and a standard 12-core needle prostate biopsy, prostate cancer is being diagnosed with increasing frequency at an earlier stage of disease. Therefore, we are interested in determining if our ability to diagnose high grade prostate cancer has improved.

METHODS: The biopsy and prostatectomy Gleason scores were analyzed on 2888 patients who underwent radical prostatectomy at our institution from 1982 to 2007 and converted to the following Gleason grades: low (2 - 6), moderate (7), and high (8 - 10). All patients were divided into chronological groups according to the following operative years: A: 1982 - 1990 (125 patients), B: 1991 - 1995 (492 patients), C: 1996 - 2000 (625 patients), D: 2001 - 2005 (1,188 patients), and E: 2006 - 2007 (458 patients). The accuracy of predicting low, moderate, and high grade prostate cancer was compared between the groups. Tests of trends over time in outcomes were evaluated using a two-tailed Cochran-Armitage test.

RESULTS: The prostatectomy specimen was accurately diagnosed from the prostate biopsy in 57.3% of patients, was upgraded from the prostate biopsy in 37.3% of patients, and was downgraded from the prostate biopsy in 5.4% of patients. For groups A - E, the incidence of agreement between biopsy and prostatectomy grade improved with time (60%, 50%, 53%, 60%, and 64%, $p < 0.0001$, respectively). For high grade prostate cancer, it comprised 6.2% of all biopsies and 13.3% of all prostatectomy specimens. For chronological groups A - E, the incidence of high grade prostate cancer on biopsy decreased (13.6%, 8.7%, 7.8%, 4.5%, and 3.5%, respectively, p=.0001) and on prostatectomy decreased (23.2%, 23.2%, 17.0%, 8.5%, and 7.6%, respectively, p=.0001). The positive predictive value of high grade prostate cancer on biopsy to correctly predict high grade prostate cancer on prostatectomy specimen has trended to decrease (70.6%, 72.1%, 61.2%, 64.2%, and 43.8%, respectively, p=.0940). The sensitivity for the prostate biopsy to find high grade cancer on the prostatectomy specimen has fluctuated (41.4%, 27.2%, 28.3%, 33.6%, and 20%, respectively, p=.50); however, the specificity has significantly increased (94.8%, 96.8%, 96.3%, 98.2%, 97.9%, p=.0174).

CONCLUSIONS: With the advent of PSA screening, the incidence of high grade prostate cancer has significantly decreased on both biopsy and prostatectomy specimen. With a standard 12-core prostate biopsy, the overall accuracy has improved; however, our ability to predict high grade prostate cancer remains inadequate.

Source of Funding: None

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ELEVATED SERUM LOW DENSITY LIPOPROTEIN (LDL) IS ASSOCIATED WITH AN INCREASED RISK OF PROSTATE CANCER IN AFRICAN-AMERICAN MEN

Kelvin A Moses, Thura T Abd, John A Hall, Michael Goodman, Muta M Issa, Fray F Marshall, John A Petros. Atlanta, GA.*

INTRODUCTION AND OBJECTIVE: Differences in prostate cancer incidence and grade at diagnosis between African-American and white men have been well documented. Genetic, environmental and dietary factors have all been postulated as possible reasons why such disparities exist. We investigated the association between lipid levels and prostate cancer in African-Americans and whites.

METHODS: We retrospectively analyzed 2073 consecutive patients who underwent prostate biopsy for elevated PSA and/or abnormal digital rectal examination at the Atlanta VA Medical Center from November 2000 to May 2007. Age, race, PSA, prostate volume, Body mass index (BMI), family history, high density lipoprotein (HDL), low density lipoprotein (LDL), triglyceride (TG), and whether patients were taking cholesterol lowering medication, were included in the data analysis. Univariate and multivariate analyses were performed using SAS.

RESULTS: 975 white men and 823 African-American men who had complete information for our data set were included in the study. There is a significant association of elevated LDL with positive biopsy in African-American men. On multivariate analysis, LDL levels of 100-130 had an OR of 1.61 (95% CI 1.12, 2.33, p=0.01), LDL 130-160 had an OR of 1.73 (95% CI 1.09, 2.77, p=0.02), and LDL >160 OR of 3.48 (95%CI 1.66, 7.29, p=0.001). Univariate and multivariate analysis showed no significant association of elevated LDL with positive prostate biopsy in white patients.

CONCLUSIONS: Elevated serum LDL is associated with prostate cancer in African-American men but not in whites. This interaction is highly statistically significant and demonstrates a classic dose-response effect. The reasons for the racial differences are unknown, but may include genetic, dietary or other environmental factors.

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SERUM TESTOSTERONE IS ASSOCIATED WITH AGGRESSIVE PROSTATE CANCER: RESULTS FROM THE BALTIMORE LONGITUDINAL STUDY OF AGING

Phillip M Pierorazio, Luigi Ferrucci, Anna E Kettermann, E Jeffrey Metter, H Ballentine Carter. Baltimore, MD.*

INTRODUCTION AND OBJECTIVE: The role of testosterone in prostate cancer progression is debated. We evaluated the relationship between testosterone and the development of high-risk prostate cancer. We prospectively evaluated serum androgen concentrations and the development of high risk prostate cancer.

METHODS: The study cohort was 729 male participants in the Baltimore Longitudinal Study of Aging who had sex steroid measurements prior to a diagnosis of prostate cancer, or last visit for those without prostate cancer (no cancer, n= 611; prostate cancer not high risk, n=83; prostate cancer high risk, n=35). High risk cancer was defined as death from prostate cancer, or PSA $\geq$20 at diagnosis, or Gleason score $\geq$8. The rate ratio (RR) of high risk prostate cancer was determined using a Cox proportional hazards regression model with simple updating.

RESULTS: Age and date of diagnosis were significantly associated with high risk prostate cancer but total testosterone was not. After adjusting for age and date of diagnosis, calculated free testosterone was significantly associated with high risk prostate cancer (RR=1.25; 95% CI=1.03 to1.51, p=0.022).

CONCLUSIONS: Higher levels of calculated serum free testosterone are associated with an increased risk of aggressive prostate cancer. These data highlight the importance of prospective trials to insure the safety of testosterone replacement therapy.

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