

**CONCLUSIONS:** Vitamin D restriction during peri and postnatal periods impairs metabolic parameters in adulthood. Moreover, it contributed to penile morphological changes in offspring, mainly with lower area of tunica albuginea and density of smooth muscle. These data may suggest that vitamin D is an important micronutrient for maintaining the cytoarchitecture that is necessary for penile erection.

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## Prostate Cancer: Staging I

### Moderated Poster 53

Sunday, May 17, 2015

1:00 PM-3:00 PM

#### MP53-01

#### THE RELATIONSHIP OF OBESITY, PATHOLOGIC GLEASON GRADE AND PROSTATE CANCER TUMOR VOLUME AT THE TIME OF RADICAL PROSTATECTOMY—RESULTS FROM THE SEARCH DATABASE

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**INTRODUCTION AND OBJECTIVES:** Obesity has been associated with increased risk of prostate specific antigen (PSA) recurrence after radical prostatectomy (RP) and increased risk of prostate cancer (PCa) death. Whether poorer outcomes are entirely secondary to surgical technical challenges associated with obesity resulting in increased risk of positive margins, or due to an underlying aggressive PCa biology has not been completely elucidated. Thus, the objective of this study was to assess the relationship of obesity and objective measures of disease aggressiveness such as pathologic Gleason score and tumor volume (TV) in a multi-center, equal access cohort of patients.

**METHODS:** We retrospectively analyzed 3721 men from the SEARCH database who underwent RP from 1990 to 2013. Body mass index (BMI) groups were defined as: normal weight (<25kg/m<sup>2</sup>), overweight (25 to <30kg/m<sup>2</sup>), mildly obese (30 to <35kg/m<sup>2</sup>) and moderately + severely obese (≥35kg/m<sup>2</sup>). The association between BMI and pathologic Gleason sum (≥7 vs ≤6) was examined using logistic regression, adjusted for age, race, surgery year, PSA, and pathologic features. Logistic regression was also used to assess the association between BMI and other pathologic features (positive margins, extracapsular extension and seminal vesicle invasion), adjusted for age, race, surgery year, PSA, and biopsy Gleason. Adjusted mean and 95% confidence intervals of TV stratified by BMI were calculated from linear regression models.

**RESULTS:** There were 845 (23%) normal weight, 1,686 (45%) overweight, 869 (23%) mildly obese, and 321 (9%) moderately + severely obese patients. Patients with increasing BMI had a lower median serum PSA ( $p < 0.001$ ), and worse biopsy ( $p = 0.001$ ) and pathologic ( $p = 0.02$ ) Gleason disease. There was no difference in median TV ( $p = 0.55$ ) between the BMI groups on adjusted analysis. Moderately + severely obese patients (OR 1.47, 95%CI 1.06–2.05,  $p = 0.02$ ) were more likely to have pathologic Gleason ≥7 disease compared to normal weight patients ( $p$ -trend 0.02). BMI was not associated with positive margins ( $p$ -trend 0.07), extracapsular extension ( $p$ -trend 0.32), or seminal vesicle invasion ( $p$ -trend 0.22). After adjusting for baseline differences, we found that as BMI increased, adjusted mean TV increased ( $p$ -trend 0.02).

**CONCLUSIONS:** In this study of men undergoing RP at multiple equal access centers, obesity was associated with higher grade Gleason score and larger tumors. These results suggest that all else being equal, obese men may have biologically more aggressive tumors.

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#### MP53-02

#### IS CLINICAL STAGE T2c PROSTATE CANCER INTERMEDIATE OR HIGH-RISK DISEASE?

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**INTRODUCTION AND OBJECTIVES:** Clinical stage T2c (cT2c) is an indeterminate factor in the algorithm for prostate cancer (PC) risk stratification. According to D'Amico risk grouping and AUA guidelines, cT2c is high-risk, whereas NCCN and EAU classify cT2c as intermediate-risk. The objective of the study was to assess whether cT2c tumors, without other associated high-risk factors (cT2c not otherwise specified (cT2c-nos)), behave as intermediate or high-risk by analyzing biochemical recurrence (BCR) after radical prostatectomy (RP).

**METHODS:** We retrospectively analyzed 2,759 men from the Shared Equal Access Regional Cancer Hospital (SEARCH) database, and 12,900 men from Johns Hopkins Hospital (JHH) from 1988-2011 and 1982-2012, respectively. Comparisons in time to BCR between cT2c-nos and intermediate-risk, and high-risk patients were performed using log-rank test and Cox proportional analyses.

**RESULTS:** A total of 99 men (4%) from SEARCH and 202 (2%) from JHH were cT2c-nos. Patients with cT2c-nos had similar BCR risk as intermediate-risk (SEARCH  $p = 0.27$ ; JHH  $p = 0.23$ ), but significantly lower BCR risk vs. high-risk men (SEARCH  $p < 0.001$ ; JHH  $p < 0.001$ ). When specifically compared to intermediate and high-risk patients, and after adjusting for year and center, cT2c-nos patients had outcomes comparable to intermediate-risk (SEARCH  $p = 0.44$ ; JHH  $p = 0.53$ ), but significantly better than high-risk patients (SEARCH  $p = 0.001$ ; JHH  $p < 0.001$ ).

**CONCLUSIONS:** BCR risk for patients with cT2c disease without other high-risk features was comparable to men with intermediate-risk and significantly better than men with high-risk PC. These findings suggest men with cT2c PC should be offered treatment options for intermediate-risk PC.

**Source of Funding:** None

#### MP53-03

#### MULTIPARAMETRIC MRI IMPROVES PREDICTIVE ACCURACY OF CLINICAL NOMOGRAMS FOR EXTRACAPSULAR EXTENSION OF PROSTATE CANCER

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**INTRODUCTION AND OBJECTIVES:** Multiparametric magnetic resonance imaging (MP-MRI) is useful in detecting extracapsular extension (ECE) of prostate cancer. We compare its predictive accuracy with the Partin tables (PT) and the Memorial Sloan-Kettering prostate cancer nomogram (MN) for estimating ECE risk.

**METHODS:** A retrospective review of 112 patients who underwent 3T MP-MRI of the prostate and radical prostatectomy was performed. Images were reported as negative or suspicious for ECE by single expert radiologist. Radical prostatectomy specimens were reviewed to confirm size and location of ECE. PT and MN were used to estimate risk of ECE. Regression analyses were performed to identify predictors of ECE as well as to create models predicting ECE using PT, MN, and MP-MRI. Area under the curve (AUC) was calculated for each model. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of MP-MRI were determined in all patients as well as in patient subsets determined using PT or MN.

**RESULTS:** A total of 33 of patients (29%) had ECE on MP-MRI while 27 patients (24%) had ECE on final pathology. Mean age was 62.8 years and mean PSA was 8.2. Most patients (95%) were clinical stage T1c or T2a. On multivariate analysis, MRI was a significant predictor of ECE that was independent of PSA, Gleason score, and clinical