## Title

PD21-01 SEXUALLY TRANSMITTED INFECTIONS, BENIGN-PROSTATIC HYPERPLASIA AND NOCTURIA: RESULTS FROM THE PROSTATE, LUNG, COLORECTAL, AND OVARIAN CANCER SCREENING TRIAL



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## Benign Prostatic Hyperplasia: Epidemiology & Natural History

### Podium

**Monday, May 19, 2014** **10:30 AM-12:30 PM**

## PD21-01

### SEXUALLY TRANSMITTED INFECTIONS, BENIGN-PROSTATIC HYPERPLASIA AND NOCTURIA: RESULTS FROM THE PROSTATE, LUNG, COLORECTAL, AND OVARIAN CANCER SCREENING TRIAL

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INTRODUCTION AND OBJECTIVES: The exact pathogenesis of benign prostatic hyperplasia (BPH) and related lower urinary tract symptoms (LUTS) remain unclear; however evidence supports a role of inflammation. One possible source of prostatic inflammation is sexually transmitted infections (STIs), which have been found to be positively related to subsequent LUTS in several small case-control studies. The objective of our analysis is to examine whether a history of STIs or positive STI serology is associated with prevalent and incident BPH-related outcomes in the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial (PLCO).

METHODS: Self-reported history of STIs (gonorrhea, syphilis) was ascertained at baseline, and serological STIs (Chlamydia trachomatis, Trichomonas vaginalis, HPV-16, HPV-18, HSV-2, CMV and HHV-8) were detected using baseline serum specimens. We used data collected on the baseline questionnaire, as well as results from the baseline PSA test and digital rectal exam (DRE), to define prevalent BPH-related outcomes as evidence of LUTS (self-reported diagnosis of an enlarged prostate/BPH, BPH surgery, or nocturia (waking ¡Ý2times/night to urinate)) and evidence of prostate enlargement (PSA>1.4 ng/mL or prostate volume ¡Ý30 mL) in men without prostate cancer. We created a similar definition of incident BPH using data from the follow-up questionnaire completed 5-13 years after enrollment ((self-reported diagnosis of an enlarged prostate/BPH or nocturia), data on finasteride use during follow-up, and results from the follow-up PSA tests and DREs. We used Poisson regression with robust variance estimation to calculate prevalence ratios in our cross-sectional analysis of self-reported (n=32,900) and serological STIs (n=1,143) with prevalent BPH, and risk ratios in our prospective analysis of self-reported STIs with incident BPH (n=5,226).

RESULTS: Generally null results were observed for a self-reported history of STI or positive STI serologies with prevalent and incident BPH related outcomes, with the possible exception of T. vaginalis.

CONCLUSIONS: Our findings do not support a causal role of STIs in the pathogenesis of BPH related outcomes, although T. vaginalis infection may warrant further study.

| | Prevalent BPH-related outcomes | | Incident BPH-related outcomes | |
|---|---|---|---|---|
| | No. of cases (exposed/ unexposed) | Adjusted PR (95% CI) | No. of cases (exposed/ unexposed) | Adjusted RR (95% CI) |
| Gonorrhea | 577/9909 | 1.02 (0.95 - 1.09) | 82/1779 | 0.86 (0.72 - 1.04) |
| Syphilis | 93/10393 | 1.07 (0.91 - 1.25) | 11/1850 | 1.14 (0.72 - 1.80) |
| *C. trachomatis* | 76/338 | 1.01 (0.82 - 1.24) | ——— | ——— |
| *T. vaginalis* | 62/319 | 1.29 (1.06 - 1.58) | ——— | ——— |
| HPV-16 or -18 | 106/307 | 0.99 (0.82 - 1.21) | ——— | ——— |
| HSV-2 | 82/332 | 0.98 (0.80 - 1.21) | ——— | ——— |
| CMV | 315/99 | 1.01 (0.86 - 1.17) | ——— | ——— |
| HHV-8 | 40/374 | 0.99 (0.77 - 1.28) | | |

CI=confidence interval; CMV=cytomegalovirus; HHV=human herpesvirus; HPV=human papillomavirus; HSV=herpes simplex virus; PR=prevalence ratio; RR=risk ratio.

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## PD21-02

### THE ASSOCIATION BETWEEN NOCTURIA AND ESTIMATED GLOMERULAR FILTRATION RATE IN MEN AGED 50 OR LESS

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INTRODUCTION AND OBJECTIVES: To compare the lower urinary tract symptoms between patients with and without chronic kidney disease (CKD) in men aged <50 years and to assess whether status of CKD increases the risk of lower urinary tract symptoms among these patients.

METHODS: Between October 2010 and June 2013, patients with CKD aged below the age of 50 years receiving regular follow-up at the nephrology outpatient clinics for more than 6 months were asked to participate in our study. We also enrolled men aged <50 years old with estimated glomerular filtration rate (eGFR) over 60 mL/min/1.73 m2 without history of kidney diseases from health examination department as control group. Clinical parameters and laboratory parameters were collected for analysis and comparison. The lower urinary tract symptoms were evaluated using the International Prostate Symptom Score (IPSS). Patients with CKD were diagnosed according to the guideline of the National Kidney foundation, USA. Metabolic syndrome was defined according to the ATP III guidelines.

RESULTS: A total of 51 men with CKD and 181 age-matched control without CKD were enrolled in the present study (age: 44.1 v.s. 45.0, p=0.25). Compared with the controls, the patients with CKD had a higher BMI, rates of DM and metabolic syndrome while not statistically significant. The lower urinary tract symptoms were lower in patients with CKD while not statistically significant. Patients with CKD had significantly higher scores of nocturia (1.3 v.s. 0.8, p=0.01) while not urgency, urinary frequency or other symptom scores. Nocturia was significantly associated with eGFR. Multivariate analysis showed that only eGFR is an independent risk factor for nocturia (p<0.01) while not metabolic syndrome and its components or body mass index.

CONCLUSIONS: Men aged less than 50 years with CKD had significantly higher nocturia episodes than the age-matched controls. eGFR is an independent risk factor for nocturia.

**Source of Funding:** none

## PD21-03

### PROSTATE ACTIVITY IN MEN WITH PARKINSON′S DISEASE ARE NOT DIFFERENT COMPARED TO AGE-MATCHED CONTROL GROUP: A PROSPECTIVE, CASE CONTROLLED MULTICENTRE STUDY

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INTRODUCTION AND OBJECTIVES: As the population is aging, the burden of neurological disorders is increasing but access to