Title
PD45-05 THE IMPACT OF CYCLING ON MEN'S SEXUAL AND URINARY FUNCTIONS

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issues or diagnosis of prostate cancer, as published previously (Yassin et al. Aging Male 2016; 19: 64-69; Yassin et al. Clin Endocrinol 2016; 84:107-114). Parameters related to voiding function were measured between one and four times per year.

RESULTS: Total T rose from 223±62 to trough levels between 460 and 535 ng/dL ($p<0.0001$). IPSS decreased from 10.1±5.0 to 8.3±4.5 after 1 year, 7.6±4.2 after 2 years, 7.2±3.8 after 3 years, 6.8±3.6 after 4 years, 6.9±3.6 after 5 years, 7.5±3.7 after 6 years, 8.6±4.0 after 7 years, 8.4±3.9 after 8 years, 7.3±2.9 after 9 years, 7.3±2.6 after 10 years, 7.3±2.7 after 11 years, and 6.6±2.7 after 12 years ($p<0.0001$ vs. baseline). Post-voiding residual bladder volume decreased from 23.8±16.2 to 16.7±6.4 mL ($p<0.0001$ vs. baseline) with a temporary increase in years 6 to 8. Prostate volume increased steadily from 28.7±8.3 to 39.0±6.4 mL ($p<0.0001$ vs. baseline) without deviation from the trend during years 6 to 8, when TTh was interrupted in 147 men. The Aging Males′ Symptoms scale (AMS), a quality of life (QoL) instrument, improved from 53.7±9.5 to 27.5±4.0 ($p<0.0001$ vs. baseline) with a temporary increase in years 6 to 8. Medication adherence in the T-group was 100 per cent as all injections were administered in the office and documented. 3 patients were lost to follow-up and considered drop-outs.

CONCLUSIONS: Long-term TTh with TU in an unselected hypogonadal men resulted in improvement of voiding function which seemed to be independent of prostate volume. QoL, closely related to voiding function, developed in parallel. All parameters except prostate volume worsened in those patients in whom TTh was temporarily interrupted.

Source of Funding: none

PD45-04
SERUM ESTRADIOL IS INDEPENDENTLY ASSOCIATED WITH ERECTILE FUNCTION

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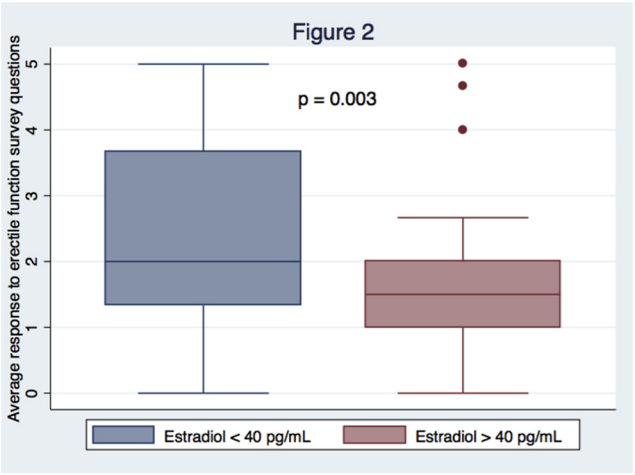
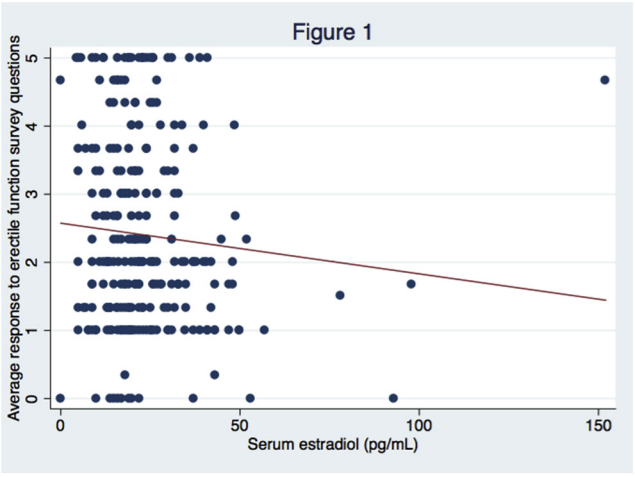
INTRODUCTION AND OBJECTIVES: The role that estrogens play in male sexual function remains incompletely understood. We sought to explore whether or not serum estradiol is associated with patient-reported sexual function, independent of serum testosterone levels and BMI.

METHODS: We retrospectively reviewed the records of men presenting to a single urologist with subspecialty practice in andrology over an 18 month period. Serum testosterone and estradiol levels were assessed prior to 10:30 AM by immunoassay. All patients filled out the Male Sexual Health Questionnaire (MSHQ) at the initial consultations, a validated, self-reported 25-question survey on 5 domains of male sexual function (erectile, ejaculatory, libido, satisfaction, and activity). Scores for each domain were obtained by calculating the average response to the questions in the domain. The following exclusion criteria were applied: Peyronie's disease, radical prostatectomy, inflatable penile prosthesis, and pelvic radiation therapy. The association of serum estradiol with sexual function was assessed using multivariate linear regression controlled for serum testosterone level and BMI.

RESULTS: 261 men met inclusion criteria and had complete data available. When controlling for total testosterone and BMI, serum estradiol was negatively associated with erectile function ($p=0.036$) [Figure 1]. We did not observe independent associations of serum estradiol with any other domains of sexual function. Men with estradiol levels above 40 pg/mL had significantly worse average erectile function scores on MSHQ than men with estradiol levels below 40 pg/mL (median 1.5 vs. 2.0, $p=0.003$, Wilcoxon rank-sum test) [Figure 2].

CONCLUSIONS: Elevated estradiol in men is independently associated with poor erectile function when controlling for total testosterone and BMI. Men with ED who have serum estradiol levels higher than 40 pg/mL may be candidates for treatment with aromatase inhibitors.





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PD45-05
THE IMPACT OF CYCLING ON MEN'S SEXUAL AND URINARY FUNCTIONS

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INTRODUCTION AND OBJECTIVES: Cycling provides many health benefits. Previously, concerns have been raised about cycling's impact on sexual and urinary health due to prolonged perineal pressure. We conducted an international survey of male athletes to determine the impact of cycling on urinary and sexual health.

METHODS: Cyclists were recruited to complete a survey through Facebook advertisements and outreach to English speaking sporting clubs across the world. Swimmers and runners were recruited as controls. Participants were queried about their physical activity and answered validated questionnaires including: The Sexual Health Inventory for Men (SHIM), International Prostate Symptom Score (I-PSS), and the National Institute of Health Chronic Prostatitis Symptom Index (NIH-CPSI). High intensity cycling was defined as cycling for more than 2 years, more than 3 times/week, and a daily average of more than 25 miles.

RESULTS: Of the 5,851 respondents, 3,919 (67%) completed the survey. Of these, we included cyclists who do not regularly swim or run 1,642 (63%), and swimmers or runners who do not regularly cycle 975 (37%). After adjusting for age, body mass index, hypertension, diabetes, ischemic heart disease and tobacco use, cyclists had a higher mean SHIM score (20.1 vs 18.9) $p<0.01$, compared to non-cyclists.

There were no statistically significant differences in I-PSS or NIH-CPSI scores between the two groups. High intensity cyclists had a significantly higher mean SHIM score compared to lower intensity cyclists (20.6 vs 19.5) $p<0.01$, but no significant differences were found in I-PSS and NIH-CPSI scores. After adjusting for age, cyclists had significantly higher odds of perineal numbness compared to non-cyclists, odds ratio=10.6 (95% confidence interval 8.3-13.7). Bike seat type had no significant effect in any of the above mentioned results.

CONCLUSIONS: Contrary to prior studies suggesting that cycling may cause ED, our study shows that cyclists have no worse erectile function than non-cyclists. We also showed that cycling does not affect LUTS. Further research is warranted to gain insight into these results, but this study suggests that cardiovascular benefits of exercise may outweigh any theoretical deterrent of cycling.

Table: Characteristics and differences in sexual and urinary functions for Cyclists and Non-cyclists men included in our study

	Cyclists 1642 (63%)	Non-cyclists 975 (37%)	p-value
Age group (%)			<0.01
18-30	272 (16.8)	403 (42.3)	
31-50	617 (38.2)	299 (31.4)	
51-65	586 (36.2)	200 (21)	
> 65	142 (8.8)	51 (5.3)	
Mean BMI (SD)	25.9 (4.1)	25.1 (3.7)	<0.01
Race (%)			0.12
White	1310 (86.2)	736 (81.2)	
Black or African American	25 (1.6)	12 (1.3)	
Hispanic or Latino	64 (4.2)	53 (5.9)	
Asian	55 (3.6)	47 (5.2)	
American Indian	7 (0.5)	8 (0.9)	
Native Hawaiian	7 (0.5)	4 (0.4)	
Mixed Race or other	52 (3.4)	39 (4.3)	
Adjusted OR for IHD (95% CI)*	1.3 (0.6-2.7)	Referent	0.48
Adjusted OR for Urethral Stricture (95% CI)*	1.4 (0.6-3.5)	Referent	0.48
Adjusted OR for history of UTI (95% CI)*	0.9 (0.7-1.2)	Referent	0.76
Adjusted OR for Perineal Numbness (95% CI)*	10.6 (8.3-13.7)	Referent	<0.01
Mean SHIM Score°	20.1	18.9	<0.01
Mean IPSS Score°	6.5	6.8	0.18
Mean NIH-CPSI Score+	0.32	0.32	0.21

OR odds ratio, *CI* confidence interval, *SD* standard deviation, *BMI* body mass index, *IHD* ischemic heart disease, *UTI* urinary tract infections, *SHIM* Sexual Health Inventory for Men, *IPSS* International Prostate Symptom Score, *NIH-CPSI* National Institute of Health Chronic Prostatitis Symptom Index, *BPH benign prostatic hyperplasia*
* Adjusted for age
° Adjusted for age, BMI, hypertension, diabetes, IHD, and tobacco use
+ Adjusted for age, BMI, hypertension, diabetes, IHD, BPH, history of UTI and tobacco use

Source of Funding: none

PD45-06
A LARGE-SCALE INVESTIGATION OF THE PREVALENCE AND PATTERNS OF DEPRESSION AND ANXIETY IN OUTPATIENTS IN THE CLINICS OF ANDROLOGY

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INTRODUCTION AND OBJECTIVES: To illustrate the prevalence and patterns of depression and anxiety in outpatients in the clinics of andrology.

METHODS: The executive outpatients referred to the clinics of andrology of a large medical center from 2014 to 2015 were investigated. The presence and severity of depression and anxiety were evaluated by Patient Health Questionnaire-9 (PHQ-9) and Generalized Anxiety Disorder 7 (GAD-7). The data of primary disease, age, height, weight, educational background and occupation were also reviewed.

RESULTS: 1489 patients were included. The most common symptom for depression was "feeling tired", while for anxiety was "easily irritated". 57% patients were diagnosed with depression, and the ratio of mild depression was 31%, while severe depression were only 3%; 42% patients were diagnosed with anxiety, with mild anxiety 27% and severe anxiety 1%. Patients who received higher education and who participated in mental labor were less likely to suffer from depression. Patients with Late-onset Hypogonadism (LOH), Erectile Dysfunction (ED) and Chronic Prostatitis (CP) exhibited higher risk for depression and anxiety, while less prevalence was found in patients with BPH and infertility. 535 patients (35.9%) were diagnosed with both diseases, with a percentage of 56.4% in the cohort of patients who had at least one of the disease.

CONCLUSIONS: The prevalence of depression and anxiety in outpatients in clinics of andrology was high. Patients with LOH, ED, CP and those who had poor educational background or participated in physical work had higher risk. Most patients were diagnosed with mild to moderate stage, and it's important to evaluate the primary disease and the combined psychogenic problems objectively.

Source of Funding: none

PD45-07
CRITICAL ANALYSIS OF PENILE DUPLEX DOPPLER ULTRASOUND (PDDU) IN ERECTILE DYSFUNCTION (ED): TECHNICAL AND INTERPRETATION DEFICIENCIES

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INTRODUCTION AND OBJECTIVES: PDDU is used as a diagnostic tool in patients with ED to define etiology and prognosticate. However, technical challenges result in difficulty standardizing its performance and interpretation. This study aims to evaluate recent literature on this topic, addressing technical and interpretation limitations.

METHODS: A PubMed literature search was performed in August 2016 and included papers published in the English language from 2005 onwards. Review articles were excluded. In our analysis, each study was evaluated for the presence of the following elements pertaining to reporting of PPDU technique and interpretation criteria: (i) agents used (ii) use of a redosing protocol, (iii) reporting of maximum rigidity during study (iv) normative criteria for peak systolic velocity (PSV) and end diastolic velocity (EDV) (v) discrepancy in rigidity between sides (vi) presence of negative EDV values (vii) need for reversal of erection reversal

RESULTS: From a total of 109 published studies, 55 were considered eligible for analysis. 51% reported using PGE1 as the vasoactive injection agent, 20% trimix, 11% papaverine, 7% bimix, 4% used multiple drugs and 7% failed to mention the agent. Only 38% reported using a dosing strategy and 4% reported the percentage of patients requiring multi-dosing. Only 40% mentioned rigidity assessment in their routine, while 55% used a time-based protocol. Discrepancy in between-side rigidity was mentioned in only 4%, while 2% had unilateral cavernosal artery insufficiency reported. Great variability in normative criteria was observed. For normal peak systolic velocity (PSV): 13% used peak systolic velocity (PSV) of $\geq$35cm/s, 42% $\geq$30cm/s, 24% $\geq$25cm/s and 22% failed to report the cut-off used. EDV cut-offs were less heterogeneous: 65% $\leq$5cm/sec, 4% $\leq$6cm/sec and 31% failing to report the cut-off. Only 4% reported the presence of negative EDV values. Finally, only 5% mentioned the need for reversal agents after the procedure.

CONCLUSIONS: Despite its generalized use, analysis of current literature on PDDU is notable for the lack of standardization in its performance and interpretation. Redosing and rigidity assessment were under-reported, and cut-off values were extremely heterogeneous. There is thus a need for standardization in performing PDDU and reporting results.

Source of Funding: None

PD45-08
INTERNATIONAL VARIABILITY IN PENILE DUPLEX ULTRASOUND PRACTICE PATTERNS, TECHNIQUE AND INTERPRETATION

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