

UCSF

UC San Francisco Previously Published Works

Title

MP71-13 A VISUAL ANALOG OF THE INTERNATIONAL PROSTATE SYMPTOM SCORE IS A MORE ACCURATE TOOL IN ASSESSING LOWER URINARY TRACT SYMPTOMS IN MEN

Permalink

<https://escholarship.org/uc/item/2012q579>

Journal

Journal of Urology, 193(4)

ISSN

0021-0005

Authors

Selekman, Rachel Sharon

Harris, Catherine R

Filippou, Pauline

et al.

Publication Date

2015-04-01

DOI

10.1016/j.juro.2015.02.2626

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

Peer reviewed

exam. Significant associations were determined by test for variance (ANOVA) for mean T, PSA, Chol and by chi-square (Pearson) for hypogonadal state (T<300 ng/dL), AUASS and NoctSS (0-7, 0-1 minimal-1, 8-19, 2-3 moderate-2, and 20-35, 4-5 severe-3) and medication use. The effect of multiple variables on AUASS and NoctSS were determined by linear regression.

RESULTS: AUASS and NoctSS were 1: 62.7% and 48.7%, 2: 30.8% and 40.3%, and 3: 6.4% and 11%, respectively. Median PSA was 1.11 ng/ml (IQ 0.62-2.2). AUASS and NoctSS were increased with older age ($p<0.001$), presence of BPH ($p<0.001$), HBP ($p=0.026$), smoking ($p=0.001$), increased fat intake ($p=0.008$), and high PSA ($p<0.001$), respectively. Increased BMI, presence of diabetes, low T or high Chol were not associated with increased symptoms. A history of prostatitis ($n=185$, 5.9%) was highly associated with AUASS ($p<0.001$, 12.4% vs 6.1%) but not for nocturia. Linear regression revealed age ($p=0.001$), PSA ($p=0.041$), BPH ($p<0.001$, HR 1.196, 95%CI 0.809-1.583) and prostatitis ($p<0.001$, HR 2.963, 95% CI 1.531-4.394) as significant for AUASS. For NoctSS age ($p=0.001$) and BPH ($p=0.004$) were significant. UMED was reported in 264 (8.4%) and was used 5x and 3.2x more frequently in men with AUASS, and NoctSS 2 and 3, respectively ($p<0.001$). However, in men with AUASS3 and NoctSS3, 72.4% and 89.05 ($p<0.001$) did not use UMED.

CONCLUSIONS: The incidence of moderate to severe urinary symptoms in a screened male population is substantial. 11% of men have nocturia 4-5x/night. An enlarged prostate by DRE and PSA > 2 ng/ml are associated with moderate to severe urinary symptoms and nocturia. A history of prostatitis increases the risk of AUASS by 3-fold. While UMED is utilized more often in symptomatic men, almost 90% of those with severe nocturia are not taking any medication. These data should assist physicians in identifying men with urinary symptoms and warrant further investigation as to why UMED usage is so limited in the most symptomatic individuals.

Source of Funding: Prostate Conditions Education Council

MP71-12

INCREASE OF FRAMINGHAM RISK IS ASSOCIATED WITH SEVERITY OF LOWER URINARY TRACT SYMPTOMS: CONFIRMING RELATIONSHIP BETWEEN BOTH DISEASES

Giorgio Ivan Russo, Tommaso Castelli, Salvatore Privitera, Eugenia Fragalà, Vincenzo Favilla, Giulio Reale, Daniele Urzi, Sebastiano Cimino, Giuseppe Morgia, Catania, Italy*

INTRODUCTION AND OBJECTIVES: Cardiovascular diseases (CVD) and lower urinary tractsymptoms (LUTS) are health problems that are becoming more prevalent in the aging population. Both share similar risk factors (e.g., age, diabetes, hypertension, obesity, smoking) but underlying pathophysiology is not well understood. The aim of this cross-sectional study is to evaluate the relationship between LUTS and CVD assessed by the Framingham score risk.

METHODS: Between September 2010 to September 2014, 336 consecutive patients with BPH related LUTS were enrolled in this cross-sectional study. The patients with neurogenic bladder, previous pelvic surgery, urological cancers, hypogonadism were excluded from the study. Patients underwent physical examination and blood samples collection. LUTS of the patients were evaluated by culturally and linguistically validated versions of International Prostate Symptom Score (IPSS). LUTS severities were classified as mild (IPSS 0-7), moderate-severe (IPSS 8-35). The general 10-year cardiovascular disease Framingham risk, expressed as a percent, assesses risk of atherosclerotic CVD events (i.e., coronary heart disease, cerebrovascular disease, peripheral vascular disease, and heart failure) was calculated for each patients using age, high-density lipoprotein, total cholesterol level, systolic blood pressure, antihypertensive medication use, diabetes, and current smoking status. Individuals with low risk had 10% or less CHD risk at 10 years, with intermediate risk 10-20%, and with high risk 20% or more.

RESULTS: Median age was 67.0yrs (IQR: 61.0-72.0), median IPSS was 18.0 (IQR: 14.0-23.0), median PSA was 3.72ng/ml (IQR: 1.58-6.69), median prostate volume was 50.0 cc (IQR: 35.0-65.0), median Framingham risk was 17.0 (IQR: 12.0-21.0). As category Framingham risk increases, we observed higher IPSS (14.5 vs. 17.0 vs. 19.0; $p<0.05$), high IPSS-storage (7.5 vs. 8.0 vs. 8.5; $p<0.05$) and low IIEF-erectile function (23.5 vs. 23.0 vs. 16.0; $p<0.05$). Prostate volume significantly increase in intermediate Framingham risk vs. low risk (52.5 vs. 39.0; $p<0.05$). Linear regression analysis showed positive association between Framingham risk and IPSS ($\beta=0.16$; $p<0.01$), IPSS-storage ($\beta=0.13$; $p<0.05$) and IPSS-voiding ($\beta=0.14$; $p<0.01$). Multivariate logistic regression analysis demonstrated that insulinemia (OR: 1.11 [1.04-1.19]; $p<0.01$) and Framingham score ≥ 10 (OR: 3.07 [0.99-9.47]; $p<0.01$) were independently associated with moderate-severe LUTS after adjusting with age, PSA and prostate volume. After adjusting for covariates intermediate Framingham risk (OR: 7.89 [1.98-31.51]; $p<0.01$) and high Framingham risk (OR: 2.59 [1.20-5.5]; $p<0.05$) were independently associated with moderate-severe LUTS.

CONCLUSIONS: In this cohort of patients, increase of Framingham risk was significantly associated with severity LUTS. This results strength the relationship between two different aspect of male health that must be investigated in order to reduce CVD risk in patients affected by LUTS.

Source of Funding: None

MP71-13

A VISUAL ANALOG OF THE INTERNATIONAL PROSTATE SYMPTOM SCORE IS A MORE ACCURATE TOOL IN ASSESSING LOWER URINARY TRACT SYMPTOMS IN MEN

Rachel Sharon Selekmán, Catherine R. Harris, Pauline Filippou, Thomas Chi, Amjad Alwaal, Sarah D. Blaschko, Benjamin N. Breyer, San Francisco, CA*

INTRODUCTION AND OBJECTIVES: The International Prostate Symptom score (IPSS) is the most commonly used validated measure to assess lower urinary tract symptoms (LUTS). However, its utility is limited by patient literacy. This study seeks to evaluate the correlation between the IPSS and the Visual Prostate Symptom Score (VPSS) in a health safety net population with varied literacy.

METHODS: Men presenting to San Francisco General Hospital with LUTS filled out an IPSS and a VPSS questionnaire without and then with the assistance of a trained health care professional. Patient demographic information and urinary flow and residual measurements were obtained. Statistical analysis was performed using Chi-square, Wilcoxon signed-rank test, and Spearman's rank correlation.

RESULTS: A total of 121 patients were enrolled between December 2013 and May 2014. Mean age of participants was 54 years; 3% completed \leq grade 8, 26% completed grade 9-12, and 68% completed $>$ grade 12. There were statistically significant positive correlations between the total VPSS and IPSS scores ($\rho=0.71$, $p<0.001$) as well as the VPSS and IPSS questions related to urinary frequency ($\rho=0.47$, $p<0.001$), nocturia ($\rho=0.69$, $p<0.001$), force of stream ($\rho=0.65$, $p<0.001$), and quality of life ($\rho=0.69$, $p<0.001$). Additionally, there were statistically significant positive correlations between the total VPSS score and the VPSS quality of life ($\rho=0.69$, $p<0.001$) as well as between the total VPSS and Qmax ($\rho=-0.473$, $p=0.006$). The mean absolute disagreement for participants who took the IPSS independently versus with assistance was greater than for those who took the VPSS independently versus assistance for all symptoms: frequency (0.64 vs. 0.3, respectively, $p<0.001$), weak stream (0.82 vs. 0.14, respectively, $p<0.001$), nocturia (0.38 vs. 0.23, respectively, $p=0.023$), and quality of life (0.63 vs. 0.32, respectively, $p=0.005$). The mean absolute disagreement for total scores of comparable symptoms were also greater for the IPSS versus VPSS: 1.66 vs. 0.60, respectively, $p<0.001$.

CONCLUSIONS: Despite the widespread use of IPSS for evaluating LUTS, many men altered their responses when they received assistance. There was significantly less alteration in responses using the VPSS, suggesting that the VPSS may be more useful in determining LUTS in all men, particularly in patients with limited education and literacy.

Source of Funding: None

**MP71-14
VIDEOURODYNAMIC ANALYSIS OF MEN WITH LOWER URINARY TRACT DYSFUNCTION AND LARGE POSTVOID RESIDUAL URINE VOLUME**

Jia-Fong Jhang, Dong-Ling Tang, Hann-Chong Kuo, Hualien, Taiwan; Yao-Chou Tsai, New Taipei City, Taiwan*

INTRODUCTION AND OBJECTIVES: Lower urinary tract symptoms (LUTS) may result from bladder dysfunction and bladder outlet dysfunction. The diagnosis of vesicourethral dysfunction based on LUTS has been considered inaccurate. This study analyzed the bladder and bladder outlet dysfunction in men with LUTS and large Postvoid residual volume (PVR).

METHODS: Male patients aged > 45 years with bothersome LUTS were consecutively enrolled. All patients underwent prostatic ultrasound and video-urodynamic studies to evaluate the causes of their LUTS. Patients were divided into voiding dysfunction and bladder dysfunction groups. Patients with bladder dysfunction were further divided into subgroups of hypersensitive bladder, detrusor overactivity (DO), DO with inadequate contractility (DHIC), and detrusor underactivity (DU). Patients with voiding dysfunction were divided into benign prostatic obstruction (BPO), bladder neck dysfunction (BND), and poor relaxation of external sphincter (PRES) subgroups. The video-urodynamic findings were compared among patients with different subgroups of voiding dysfunction and having PVR > 250 mL.

RESULTS: A total of 2831 patients were analyzed. Bladder outlet obstruction (BOO) was noted in 1356 patients (47.9%), bladder dysfunction in 861 (30.5%), and PRES in 485 (17.1%) (Table 1). In 299 patients with PVR > 250 mL, DU was noted in 108 (36.1%), DHIC in 44 (14.7%), BOO in 112 (37.5%) and PRES in 31 (10.4%) (Table 2). The urodynamic parameters showed higher voiding pressure and smaller bladder sensation capacity in BOO subgroup compared with bladder dysfunction and PRES groups.

CONCLUSIONS: This study revealed in men with LUTS and PVR > 250 mL, BOO only comprises 37.5%. Most of the patients had bladder dysfunction (DU or DHIC) or external sphincter dysfunction.

Table 1 Analysis of Vesicourethral Dysfunction in 2831 Patients with LUTS

	VUDS findings	Patients	Percent	Subtotal
DO/HSB	Detrusor overactivity alone	472	16.7%	
	Hypersensitive bladder	93	3.3%	20%
DU/DHIC	Detrusor underactivity	146	5.2%	
	DHIC	150	5.3%	10.5%
BOO	Bladder neck dysfunction	459	16.2%	
	Prostatic obstruction	848	30%	
	Urethral stricture	49	1.7%	47.9%
PRES	Poor relaxation of ES	485	17.1%	17.1%
Normal	Normal UDS	129	4.6%	4.6%
Total		2831		100%

BOO: bladder outlet obstruction; DHIC: DO with inadequate contractility; DO: detrusor overactivity; DU: detrusor underactivity; HSB: hypersensitive bladder; PRES: poor relaxation of external sphincter

Table 2 Urodynamic analysis of lower urinary tract dysfunction in patients with lower urinary tract symptoms and large PVR (> 250 mL)

	DU/DHIC (n = 152)	BOO (n = 112)	PRES (n = 31)	ANOVA
Age	73.1±12.1	72.6±10.3	68.9±9.06	0.162
FSF (mL)	215±116	172±74.4	244±98.5	0.001
FS (mL)	328±123	283±96.5	345±119	0.001
Compliance	71.1±94.1	65.1±85.4	71.7±76.4	0.851
Pdet (cmH ₂ O)	10.9±10.5	44.5±33.8	17.3±12.2	0.000
Qmax (mL/s)	1.35±2.51	2.90±4.28	3.48±3.45	0.000
PVR (mL)	416±114	372±111	374±83.1	0.004
CBC (mL)	449±114	431±125	456±99.4	0.396
AG number (Pdet+2xQmax)	8.16±10.2	38.7±34.6	10.4±9.48	0.000

AG number: Abrams-Griffiths number; BOO: bladder outlet obstruction; CBC: cystometric bladder capacity; DHIC: DO with inadequate contractility; DU: detrusor underactivity; FS: full sensation; FSF: first sensation of filling; Pdet: detrusor pressure; PRES: poor relaxation of external sphincter; PVR: post-void residual; Qmax: maximum flow rate

Source of Funding: none

**MP71-15
PROSTATE MORPHOLOGY ROLE IN PATIENTS WITH BENIGN PROSTATE HYPERPLASIA AND THE RESPONSE TO MEDICAL THERAPY**

Rafael Nunez-Nateras, Eric Wisenbaugh, Haidar Abdul-Muhsin, Mark Tyson, Erik Castle, Paul Andrews, Mitchell Humphreys, Phoenix, AZ*

INTRODUCTION AND OBJECTIVES: The response of bilobar versus trilobar hypertrophy to medical treatment in patients with benign prostate hyperplasia has not been fully assessed. In the present study, we aim to determine the impact of bilobar or trilobar prostate morphology on patient response to medical therapy in those individuals who progressed to definitive surgical management.

METHODS: After IRB approval, a retrospective review of our prospectively collected database for all patients undergoing a Holmium Laser Enucleation of the Prostate (HoLEP) at our institution was performed. Prostate morphology was classified as either "bilobar" (B) or "trilobar" (T) according to the cystoscopic appearance. Patient's age, BMI, ASA, prostate volume per TRUS, Qmax, and PVR were compared among the groups. Patient's response to first line medical therapy was defined as the time from initiation of therapy until the time of progression of their BPH (need for surgical intervention, need for self-intermittent catheterization, or need for indwelling catheter).

RESULTS: A total of 456 patients with either "bilobar" (n = 200, 44%) or "trilobar" (n = 256, 56%) prostate morphology were included in this study. Patient's age, BMI, ASA, prostate volume were similar among the groups. Qmax was 11 (6-14) mL/sec and 8.0 (4 - 15) mL/sec, for group B and T, respectively, p= 0.03. PVR was 234 (97-389) cc and 349 (107 - 541) cc, for group B and T, respectively, p= 0.04. The mean time of response to therapy for each group was as follows: group B: 44 months (8 - 120), group T: 25 months (1 - 120), p=0.001. A total of 47 patients (23%) and 103 patients (40%) required catheterization in groups B and T respectively (p=0.02). The proportion of drugs utilized in group B and group T was: α blockers in 28% versus 23% (p=0.54), 5α reductase inhibitors in 41% versus 45% (p=0.58) and combination therapy in 33% Vs 36% (p=0.41).

CONCLUSIONS: Regardless of similar medical regimens and rates of treatment in this selected population, patients with trilobar morphology experienced a significantly shorter interval between the initiation of medical therapy and progression to surgical intervention. Additionally, the increased number of patients requiring drainage with trilobar BPH may be explained by the higher rate of bladder neck