MP74-06

IMPACT OF SOCIOECONOMIC FACTORS AND FRAILTY ON ORAL OVERACTIVE BLADDER THERAPY UTILIZATION IN MEDICARE PART D BENEFICIARIES

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INTRODUCTION AND OBJECTIVE: Overactive bladder (OAB) is a chronic debilitating condition. Frailty is associated with age but is increasingly recognized as a more impactful determinant of health outcomes than chronological age. Increasing frailty and age are associated with OAB. Given the impact of OAB on quality of life multiple societies recommend treatment but advise caution in frail patients. The American Urologic Association advises caution when prescribing antimuscarinics in frail elderly patients and patients with dementia, severe constipation, or baseline anticholinergic use, recommending the use of beta 3 agonists alternatively. This study aimed to describe the prevalence of frailty in OAB Medicare beneficiaries and evaluate the impact of frailty on oral OAB therapy utilization patterns.

METHODS: Medicare beneficiaries ≥65 years old with a diagnosis of OAB were examined between 2013 and 2018. Beneficiaries were stratified using the Claims-Based Frailty Index (CFI) into 3 categories: not frail (CFI<0.15), prefrail (0.15≤CFI<0.25) and frail (CFI>0.25). Cox proportional hazard regression models were used to assess the impact of frailty status and socioeconomic status (SES) on mirabegron utilization using Medicare Part D prescription claims data. A test of collinearity was performed.

RESULTS: A total of 109,274 patients (15.4% of the overall OAB cohort) treated with antimuscarinics or mirabegron were identified during the study period of whom 71% were women and 81% were White. Overall 12,963 (11.9%) were frail. On multivariate analysis, advancing age (HR 1.33), White and Asian race (HR 1.20), urology (HR 1.79) and gynecology (HR 1.62) providers, South region (HR 1.53), and dual-eligible status (HR 1.13) were independently associated with mirabegron utilization. Frailty (HR 0.95) was not independently associated with mirabegron utilization.

CONCLUSIONS: Age, race, SES, Medicare region and provider type were independently associated with filled mirabegron prescriptions while frailty was not. Urology and gynecology patients were more likely to fill mirabegron than primary care and other medical specialists. The study highlights the importance of evaluating for both frailty and age and the need to educate providers on the concerns of prolonged antimuscarinic use for frail and older OAB patients.

Variable		Univariate	Multivariate	P-value
		HR (95% CI)	HR (95% CI)	
Frailty Status	Pre-Frail vs. Non Frail	0.96 (0.92 - 0.99)	0.98 (0.94 - 1.02)	0.19
	Frail vs. Non-Frail	0.95 (0.90 - 1.00)	0.95 (0.90 - 1.00)	
Age	71-75 vs. 66-70	1.08 (1.05 - 1.12)	**1.09 (1.06 - 1.13)**	<0.0001
	76-80 vs. 66-70	1.16 (1.12 - 1.20)	**1.20 (1.15 - 1.24)**	
	81-85 vs. 66-70	1.19 (1.14 - 1.24)	**1.26 (1.21 - 1.31)**	
	≥86 vs. 66-70	1.21 (1.16 - 1.26)	**1.33 (1.27 - 1.38)**	
Sex	Female vs. Male	0.91 (0.89 - 0.94)	0.99 (0.96 - 1.02)	0.54
Race	Asian vs. Non-Hispanic White	1.13 (1.05 - 1.22)	**1.20 (1.11 - 1.30)**	<0.0001
	American Indian/Alaska Native vs. Non-Hispanic White	0.43 (0.33 - 0.58)	0.46 (0.34 - 0.61)	
	Black vs. Non-Hispanic White	0.78 (0.73 - 0.83)	0.77 (0.73 - 0.82)	
	Hispanic vs. Non-Hispanic White	0.93 (0.88 - 0.99)	0.93 (0.88 - 0.99)	
	Unknown/Others vs. Non-Hispanic White	1.01 (0.92 - 1.12)	1.04 (0.94 - 1.14)	
Provider type	Urology vs. PCP	1.80 (1.73 - 1.88)	**1.79 (1.72 - 1.87)**	<0.0001
	Gynecology vs. PCP	1.61 (1.50 - .73)	**1.62 (1.51 - 1.74)**	
	PA/AP vs. PCP	1.20 (1.13 - 1.28)	**1.22 (1.15 - 1.30)**	
	Medical Specialty vs. PCP	0.82 (0.70 - 0.96)	0.77 (0.66 - 0.90)	
	Others vs. PCP	0.63 (0.52 - 0.77)	0.63 (0.51 - 0.76)	
	Unknown vs. PCP	0.97 (0.93 - 1.00)	0.96 (0.93 – 1.00)	
Medicare Region	Northeast vs. Midwest	1.30 (1.24 - 1.36)	**1.32 (1.26 - 1.38)**	<0.0001
	South vs. Midwest	1.46 (1.41 - 1.51)	**1.53 (1.48 - 1.58)**	
	West vs. Midwest	1.67 (1.58 - 1.77)	**1.19 (1.14 - 1.24)**	
	Unknown vs. Midwest	1.16 (1.12 - 1.21)	1.74 (1.64 - 1.84)	
*Rx Out-Of-Pocket cost, ($)/month	$10-20 vs. <$10	1.25 (1.21 - 1.29)	**1.27 (1.23 - 1.31)**	<0.0001
	$20-30 vs. <$10	1.33 (1.28 - 1.40)	**1.36 (1.30 - 1.42)**	
	$30-40 vs. <$10	1.48 (1.38 - 1.57)	**1.51 (1.41 - 1.61)**	
	$40-50 vs. <$10	1.55 (1.40 - 1.70)	**1.54 (1.40 - 1.70)**	
	>$50 vs. <$10	1.42 (1.31 - 1.54)	**1.44 (1.33 - 1.57)**	
Dual Eligible Status	Yes vs. No	0.94 (0.91 - 0.97)	**1.13 (1.08 - 1.17)**	<0.0001

*Average out of pocket cost/month in the year prior to filling first OAB Rx (ACH or Mirabegron)

MP74-07

THE EFFECT OF TESTOSTERONE REPLACEMENT THERAPY ON LOWER URINARY TRACT SYMPTOMS

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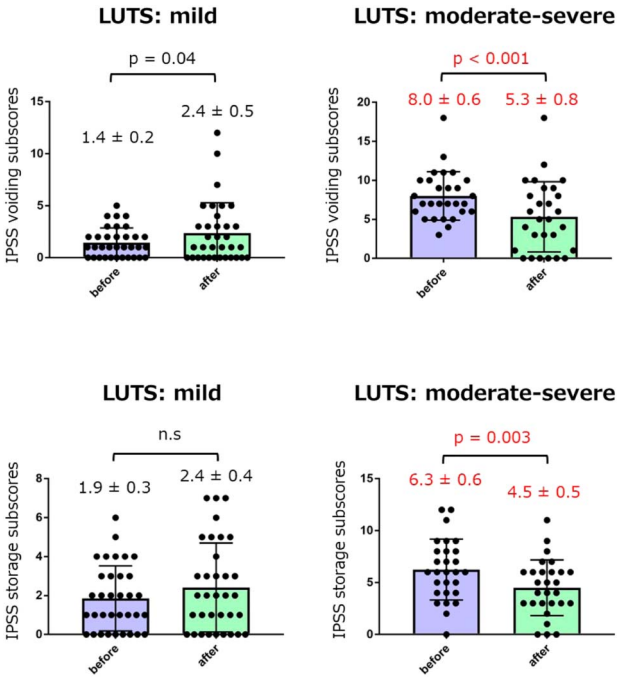
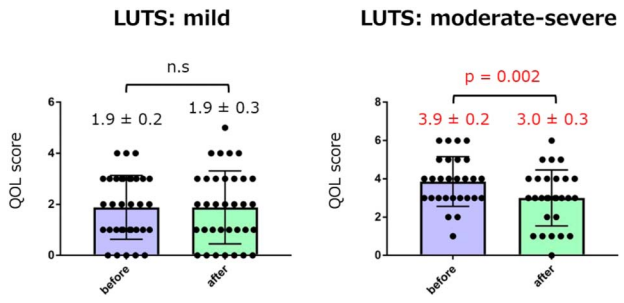
INTRODUCTION AND OBJECTIVE: Both late-onset hypogonadism (LOH) syndrome and lower urinary tract symptoms (LUTS) increase with age and decrease quality of life (QOL). The standard treatment for LOH syndrome is testosterone replacement therapy (TRT). Since the prostate is an androgen-dependent organ, TRT may have some effect on LUTS. However, the effect of TRT on LUTS is not fully understood. The number of patients with both LUTS and LOH syndrome is increasing, therefore it is important to understand the relationship between TRT and LUTS. In this study, we retrospectively examined the effect of TRT on LUTS.

METHODS: Ninety-four patients who received TRT for LOH syndrome from May 2017 to August 2022 were evaluated. Three months after the first testosterone administration, Aging males Symptoms rating scale (AMS), Sexual Health Inventory for Men (SHIM), Erection Hardness Score (EHS), International Prostate Symptom Score (IPSS), and IPSS QOL score were assessed. IPSS was also evaluated for the voiding and storage subscores, respectively.

RESULTS: TRT improved AMS, SHIM and EHS significantly (all p<0.01). In the evaluation of urinary symptoms, TRT did not improve any of the IPSS total scores, IPSS voiding subscores, IPSS storage subscores, or IPSS QOL scores in the LUTS mild group (IPSS: 8 or less), but in the LUTS moderate-severe group (IPSS: 8-35), TRT significantly improved them all (IPSS total scores: 14.2±0.9 vs 9.8±1.1: p<0.001, IPSS voiding subscores: 8. 0±0.6 vs 5.3±0.8: p<0.001, IPSS storage subscores: 6.3±0.6 vs 4.5±0.5: p=0.003, IPSS QOL scores: 3.9±0.2 vs 3.0±0.3: p=0.002, respectively) (Figure 1).

CONCLUSIONS: TRT for LOH patients does not exacerbate LUTS but improves LUTS, especially for moderate or severe LUTS patients.





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MP74-08

THE EFFECT OF NOCTURNAL DIURESIS ON BLADDER STORAGE DYSFUNCTION FOR MALE LUTS PATIENTS

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INTRODUCTION AND OBJECTIVE: The causes of nocturia are often discussed separately as nocturnal urine volume and nocturnal bladder capacity problems. Since multiple factors affect nocturia, what affects it most has not been well investigated. We have been studying the bladder storage function as a homeostatic system keeps micturition interval constant by increasing the bladder capacity during the diuretic phase. We hypothesized that nocturnal diuresis could affect nocturnal urine volume and bladder storage function. This study aimed to identify the effect of nocturnal diuresis on bladder storage dysfunction for male patients with lower urinary tract symptoms (LUTS).

METHODS: Male LUTS patients who were able to keep 24-h frequency-volume charts (FVCs) for 3 days were included in this study. Patients with residual urine volume greater than 200 mL were excluded. Patients who marked an average of two or more times per night on 3-days 24 h-FVCs were defined as the nocturia (+) group, and those who marked less than two times were defined as the nocturia (-) group. Patient characteristics and parameters of 24-h FVCs were compared between groups, with values of $p<0.05$ considered significant.

RESULTS: The nocturia (+) group (n=52) was significantly older (p=0.01), had a higher nocturnal diuresis rate ($p<0.001$), and had a smaller voided volume at night (p=0.01) than the nocturia (-) group (n=48). Multivariate analysis showed that increased nocturnal diuresis rate and decreased nocturnal voided volume were significantly related to nocturia (nocturnal diuresis rate: OR 1.04, $p<0.001$; decreased nocturnal single voided volume: OR 0.985, p=0.001). Nocturnal diuresis was defined as a ratio of the mean diuretic rate at night to the mean diuretic rate during the day of 0.83 or greater (AUC 0.87, sensitivity 81.1%, specificity 79.2%). 17.6% of patients had nocturia with nocturnal diuresis without nocturnal bladder storage dysfunction (nocturnal voided volume <229.3 mL). Then, they had a significantly higher nocturnal diuresis rate than patients with nocturnal diuresis and nocturnal bladder storage dysfunction (p=0.03).

CONCLUSIONS: Nocturnal diuresis is clearly associated with nocturia, but an extreme increase in nocturnal diuresis rate unexpectedly leads to increased nocturnal urine volume.

Source of Funding: Nothing

MP74-09

DECREASED TESTOSTERONE LEVEL IS ASSOCIATED WITH NOCTURIA IN US MEN : A POPULATION-BASED COHORT STUDY

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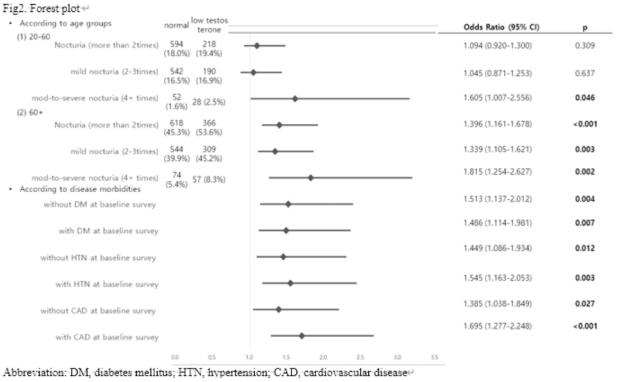
INTRODUCTION AND OBJECTIVE: Lower urinary tract symptoms (LUTS) are highly prevalent in elderly men and can be bothersome even in middle-aged population. Nocturia is closely related to sleep disturbance and negatively affect health by increasing the risk of morbidities. It is unclear whether testosterone deficiency affects worse outcomes in LUTS. Our purpose is to investigate the relationship between testosterone deficiency and nocturia.

METHODS: We collected data from the National Health and Nutrition Examination Survey (NHANES) 2011-2015. The study included 6,466 males over twenty years old. Decreased testosterone level was defined as less than 350 ng/dL. We used reported symptom questionnaire to define nocturia as more than two times of voids per night. We categorized patients into two groups: mild nocturia (2-3 voids/night) and moderate-to-severe nocturia (more than 4 voids/night). Multiple logistic regression analyses were performed with adjustment for confounding variables.

RESULTS: Decreased testosterone level was confirmed in 1680 individuals (27.8%) and significantly associated with nocturia (Hazard ratio [HR] 1.358; 95% confidence interval [CI] 1.207-1.529). This tendency was more prominent in moderate-to-severe nocturia (HR 2.049, 95% CI 1.533-2.737). Using adjusted regression analysis, we found significant association between two variables in moderate-to-severe nocturia (HR 1.411, 95% CI 1.050-1.896). In subgroup analysis according to age, testosterone deficiency was significantly associated with nocturia in the group of ages over sixties. (HR 1.474 95% CI 1.218-1.782). Decreased level of testosterone was significantly associated with moderate-to-severe nocturia according to baseline morbidities.

CONCLUSIONS: Decreased testosterone level was significantly associated with nocturia in men after adjusting for major confounding factors. This tendency was prominent in age group of more than sixties and group of moderate-to-severe nocturia.



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