



## Editorial

Int Neurourol J 2022;26(2):85-86

<https://doi.org/10.5213/inj.2222edi02>

pISSN 2093-4777 · eISSN 2093-6931



# Lower Urinary Tract Symptoms With a View Beyond the Bladder and Prostate

Su Jin Kim  <https://orcid.org/0000-0002-1917-2780>

Department of Urology, College of Medicine, Hallym University, Kangdong Sacred Heart Hospital, Seoul, Korea

Email: [hygeisujin@naver.com](mailto:hygeisujin@naver.com)

In general, people have thought that problems with urination are caused by functional abnormalities of the bladder and prostate. Therefore, most studies to date have tried to find underlying mechanisms and biomarkers for the management of voiding problems [1]. There is certainly no doubt that it is important to understand the functions of the bladder and prostate.

However, many studies have shown that other factors affect voiding problems beyond the bladder and prostate [2-5]. Individuals' health status, comorbidities, and life-style can contribute to lower urinary tract symptoms (LUTS). Several studies have reported associations between LUTS and metabolic syndrome-related health problems such as diabetes mellitus (DM) and obesity. It is well known that metabolic syndrome is associated with aging. Therefore, the basic and clinical studies about aging and LUTS in this issue of the *International Neurourology Journal* (INJ) will help improve our knowledge. Nocturia is a common LUTS observed in the aging population. Moon et al. [6] reported that people with DM, dyslipidemia, hypertension, and cardiovascular diseases showed significantly stronger relationship between nocturia and mortality. Moreover, people without metabolic and cardiovascular diseases also showed significantly stronger associations between nocturia and mortality. According to this study, nocturia is an important factor influencing human health, as well as LUTS that reduces quality of life. Several conditions are associated with nocturia beyond the bladder and prostate. Natriuretic peptide (NP) is a hormone regulating water homeostasis and NP is associated with nocturnal polyuria. A study in this issue of INJ showed that aging influences urinary NP in patients with nocturia [7]. In addition,

oxidative stress associated with aging induces cellular senescence, increases oxidative stress, and affects the mitochondrial bioenergetics of the urothelium [8].

At this point, we are faced with the questions of how to reduce the risk factors associated with LUTS in addition to conventional medical and surgical therapies. A healthy life-style and behavioral modifications contribute to decreased LUTS by preventing or attenuating the negative changes induced by metabolic syndrome and aging. Thus, the Mediterranean diet may help to improve LUTS associated with overactive bladder [9]. Several recent studies have suggested that microbiome plays a role in LUTS [10,11], and this is also one of the pieces of evidence supporting the existence of LUTS-associated factors beyond the bladder and prostate. Therefore, considering LUTS from various perspectives seems to be necessary in order to achieve a better understanding of LUTS.

• **Conflict of Interest:** No potential conflict of interest relevant to this article was reported.

## REFERENCES

1. Kang TW, Kim SJ, Kim MH, Jung JH. Beta 3 adrenoceptor agonist for the management of lower urinary tract symptoms in men with benign prostatic hyperplasia: a systematic review. *Int Neurourol J* 2021;25:182-91.
2. Baser A, Zumrutbas AE, Oztulerden Y, Alkis O, Oztekin A, Celen S, et al. Is there a correlation between behçet disease and lower urinary tract symptoms? *Int Neurourol J* 2020;24:150-5.



This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

3. Shin HJ, Choi WS, Lee SH, Lee AG, Kim A, Park HK, et al. Improvement in near vision following silodosin treatment in patients with lower urinary tract symptoms. *Int Neurourol J* 2021;25:164-71.
4. Hyun H, Park YW, Kwon YC, Cho BK, Lee JH. Relationship between chronic periodontitis and lower urinary tract symptoms/benign prostatic hyperplasia. *Int Neurourol J* 2021;25:77-83.
5. Lee MH, Shin YS, Kam SC. Correlation between testosterone replacement treatment and lower urinary tract symptoms. *Int Neurourol J* 2021;25:12-22.
6. Moon S, Kim YJ, Chung HS, Yu JM, Park II, Park SG, et al. The relationship between nocturia and mortality: data from the national health and nutrition examination survey. *Int Neurourol J* 2022;26:144-52.
7. Khosla L, Boroda JU, Salama J, Rahman SN, Gordon DJ, Moy MW, et al. Impact of aging on urinary natriuretic peptides in nocturia and nocturnal polyuria. *Int Neurourol J* 2022;26:135-43.
8. de Rijk MM, Wolf-Johnston A, Kullmann AF, Taiclet S, Kanai AJ, Shiva S, et al. Aging-associated changes in oxidative stress negatively impacts the urinary bladder urothelium. *Int Neurourol J* 2022;26:111-8.
9. Bozkurt YE, Temeltaş G, Müezzinoğlu T, Üçer O. Mediterranean diet and overactive bladder. *Int Neurourol J* 2022;26:129-34.
10. Pohl HG, Groah SL, Pérez-Losada M, Ljungberg I, Sprague BM, Chandal N, et al. The urine microbiome of healthy men and women differs by urine collection method. *Int Neurourol J* 2020;24:41-51.
11. Kim MS, Jung SI. The urinary tract microbiome in male genitourinary diseases: focusing on benign prostate hyperplasia and lower urinary tract symptoms. *Int Neurourol J* 2021;25:3-11.