

LOWER URINARY TRACT SYMPTOMS AND SLEEP DISORDERS IN ADULTS

Hypothesis / aims of study

The neural circuit is believed to participating visceral-and-central pathology via continuous interaction between inner organs and the brain cortex. Sleep is quietly interrupted by nocturia or sense of bladder fullness which is not uncommonly seen in patient with LUTS, nocturnal frequency in particular. Therefore, we suspect LUTS affect sleep pattern, sleep quality, and brain activation during sleep. We investigated the correlation between LUTS and sleep disorders.

Study design, materials and methods

18-75 years old males and females, who have nocturnal frequency and/or LUTS participated in this study. To evaluate voiding symptoms and their bothersness to daily life and life quality, we examined 3-day frequency and volume chart, IPSS questionnaire, overactive bladder(OAB) questionnaire, uroflowmeter and post-void residual urine volume. Sleep pattern and quality were investigated using by medical outcomes survey sleep scale(MOS-S), global sleep assessment questionnaire(GSAQ), Insomnia severity index(ISI), Epworth sleepiness scale(ESS), Berlin questionnaire(BQ), Restless leg syndrome scale(RLS-S). General sleep pattern, presence of insomnia, daytime drowsiness, sleep apnea, and restless leg syndromes were investigated and scored to compare and analyze objectively. Intensity of depression was also measured by translated version of Beck's depression inventory (K-BDI).

Results

Mean age of patients was 53.3±15.7 years old. Mean voiding volume was 191.1±139.9ml, Qmax 14.89±7.9ml/s, PVR 19.0±36.5ml, and percentage of nocturia was 35.5±11.2%. There were several correlations among LUTS scores and a number of sleep questionnaires ; BQ - IPSS and ISI(p=0.023, and 0.000), QOL - IPSS, ISI, and ESS (p= 0.000, 0.047, and 0.032), IPSS - BQ, nocturnal polyuria, QOL, ISI, and ESS (p=0.023, 0.026, 0.000, 0.020, and 0.018), RLS - QOL and ISI (p=0.047 and 0.015), K-BDI - ESS (p=0.037). Patients with nocturnal polyuria showed more significant correlation in their voiding symptoms with QoL, ESS and ISI(p=0.021, 0.005, and 0.019).

Interpretation of results

In this study, nocturia, particularly nocturnal polyuria had significant correlation with poor sleep quality, insomnia, and sleep apnea.

Concluding message

Adequate, good quality of sleep is absolutely required to maintain proper physical and mental well-being and satisfactory health condition. It is known that disturbances in the normal pattern of sleep provoke daytime sleepiness, cognitive dysfunction, and mood changes. This study support that it is crucial to respect both sides of disease; nocturia and sleep disorder.

References

1. Asplund et al. BJU int 2005;95:816-819
2. Hernandez et al. Curr Med Res Opin 2008;24:2033-38
3. Chartier-Kastler and Chapple. BJU int 2006;98(suppl 2):3-8

Specify source of funding or grant	Ewha Womans University
Is this a clinical trial?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	No
This study did not require eithics committee approval because	Questionnaire based research
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes