

NOCTURIA IS MOST IMPORTANT RISK FACTOR FOR ERECTILE DYSFUNCTION IN JAPANESE MALE PATIENTS CHRONICALLY-TREATED WITH ALPHA1-A/D ADRENERGIC RECEPTOR ANTAGONIST.

Hypothesis / aims of study Currently, the relationship between LUTS and sexual dysfunction is supported in part by the autonomic hyperactivity and metabolic syndrome hypothesis. Results in experimental models in which alpha1-adrenergic antagonist (alpha1AR-blocker) s were shown to have a direct relaxant effect on corpus cavernosum. The objective of the present study was to evaluate the relationship between LUTS and ED in community-dwelling aging male, and to evaluate the effect of alpha1AR-blocker on this relationship.

Study design, materials and methods Male patients with BPH/LUTS chronically treated by alpha1-blocker (alpha1A-AR selective blockers:tamsulosin; alpha1-A/D, or naftopidil; alpha1-D/A) longer than 3 months were enrolled. LUTS-related questionnaire included IPSS, IPSS-QOL, KHQ, LUTS-both score, other urinary incontinence-related questionnaire. ED-related questionnaire included IIEF5 domain score and other 7 questionnaire (sexual desire, erection, self-consolidation, morning erection, ejaculation, and organism) regarding degree of the conditions. In addition, each patient was asked whether he desired to use PDE5 inhibitors. PDE5 (+) and PDE5 (-) were patients requiring PDE5, and patients who did not, respectively. Data are expressed as mean +- s.e. mean. Statistical analysis was performed by unpaired t-test and Spearman's rank-sum test.

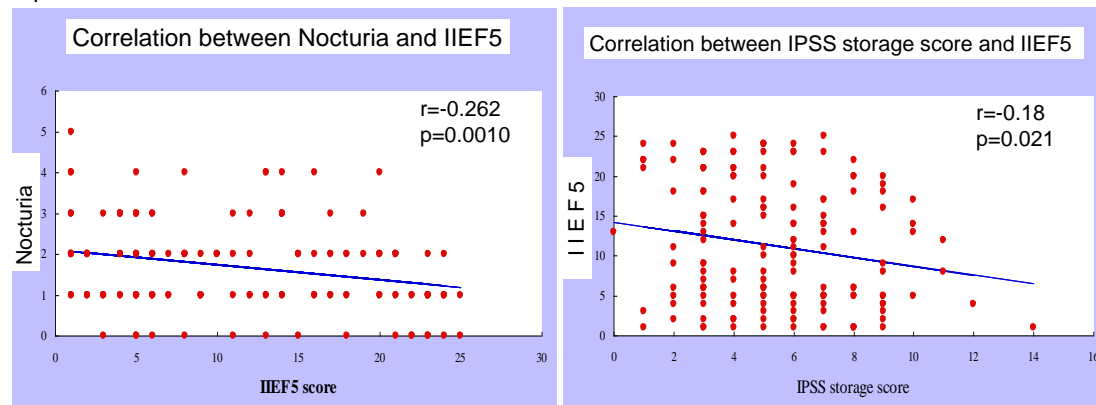
Results Total 126 BPH/LUTS patients, between 46 and 84 (mean 67.95 +- 0.60) years old, could be evaluated. Total IPSS ranged between 1 and 29 (mean 11.74 +- 0.45), and total IIEF5 ranged between 1 and 25 (mean 11.22 +- 0.61). IPSS total did not correlate with age, however, IIEF5 showed significant correlation with age. Due to the definition of ED by IIEF5 (lower than 22), 110 cases (87.3%) revealed ED. Among I-PSS, only storage symptoms and nocturia were significantly higher in ED patients than non-ED patients ($p < 0.05$, $p < 0.001$, respectively). Among IPSS 7 domains, only nocturia showed a significant correlation with age. All of sexual desire, erection, ejaculation, and organism showed significant correlation with age. Comparing between PDE5 (+) and PDE5 (-), PDE5 (+) showed significantly higher IPSS and lower IIEF5 than PDE5 (-). None of IPSS total, or IPSS-QOL or LUTS-both score total was not correlated with IIEF5. Although voiding symptoms were not correlated with IIEF5, storage symptoms, especially nocturia, showed significant correlation with IIEF5 total, and every domain of IEF5.

Interpretation of results

Because long-term use of alpha1-A/D antagonists might relief voiding symptoms of IPSS, storage symptoms remain. The reason why only storage symptoms of IPSS, especially nocturia show good correlation with IIEF5 should be determined.

Concluding message

Present data might be related to racial factors or the effects of alpha1AR-blocker, (alpha1-A/D or D/A). Chronic treatment with alpha1-blocker improves voiding LUTS, and storage LUTS, especially nocturia and urgency remain. Hence, nocturia is most important risk factor for ED.



IIEF5 and I-PSS in chronic alpha1-blocker treatment

I-PSS	ED(IIEF5<22) N = 110	Non-ED(IIEF5>=22) N = 16	U-test
Total score	12.6 ± 5.7	11.3 ± 4.8	NS
Voiding symptoms	5.3 ± 3.2	5.3 ± 3.2	NS
Storage symptom	5.9 ± 2.6	4.7 ± 1.9	P < 0.05
Sense of retention	1.4 ± 1.1	1.3 ± 0.9	NS
Daytime frequency	2.1 ± 1.1	2.0 ± 1.0	NS
Intermittency	1.6 ± 1.3	1.4 ± 1.4	NS
Urgency	1.9 ± 1.3	1.8 ± 1.6	NS
Slow stream	2.5 ± 1.5	2.8 ± 1.3	NS
Straining	1.2 ± 1.3	1.1 ± 1.3	NS
Nocturia	1.9 ± 1.1	0.9 ± 0.5	P < 0.001
I-PSS QOL	3.4 ± 1.3	3.1 ± 1.3	NS

N = 126

Correlation between IIEF5 and I-PSS in chronic alpha1-blocker treatment

I-PSS	IIEF-5 Domain 1	IIEF-5 Domain 1	IIEF-5 Domain 1	IIEF-5 Domain 1	IIEF-5 Domain 1	IIEF-5 total
Total score						
Voiding symptoms						
Storage symptoms						
Sense of retention						
Daytime frequency						
Intermittency						
Urgency						
Slow stream						
Straining						
Nocturia	r = -0.182 P < 0.05	r = -0.290 P < 0.01	r = -0.249 P < 0.01	r = -0.226 P < 0.01	r = -0.275 P < 0.01	r = -0.276 P < 0.01
I-PSS QOL						

N = 126

References

1. J Sec Med, 2008 (Epub)
2. BJU Int, 101 suppl.3:22-6, 2008

Specify source of funding or grant	None
Is this a clinical trial?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	Yes
Specify Name of Ethics Committee	Ethical Committee of University of Yamanashi, School of Medicine.
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes