

## CHANGE OF URINARY NGF EXPRESSION IN LUTS-BPH

### Hypothesis / aims of study

Nerve growth factor(NGF) is known to be increased in the condition of urothelial irritation which result in frequency, urgency, or urge incontinence as clinical symptoms. And NGF is also increased in bladder outlet obstruction or urinary tract infection. Our previous studies had revealed that NGF expression was increased in acute cystitis and overactive bladder compared with healthy bladder and those expressions had decreased upon proper treatments.

In this study, we aimed to investigate the changes of urinary NGF expression in BPH with proper alpha-blocker management.

### Study design, materials and methods

Adult male aged 40 years old or older with LUTS-BPH and healthy male without LUTS were subjects of this study. Urinary expression of pre-and post-treatment NGF were analysed and compared. Any patients who had the history of urinary tract infection or other comorbidities requiring medications were excluded from this study. Pre-treatment and post 12weeks of alpha blocker treatment data of IPSS, uroflowmetry and post-void residual urine volume (UFR&PVR), TRUS were also collected. Clean voided midstream urine samples were collected and stored in -70°C after centrifuge until analysis using ELISA

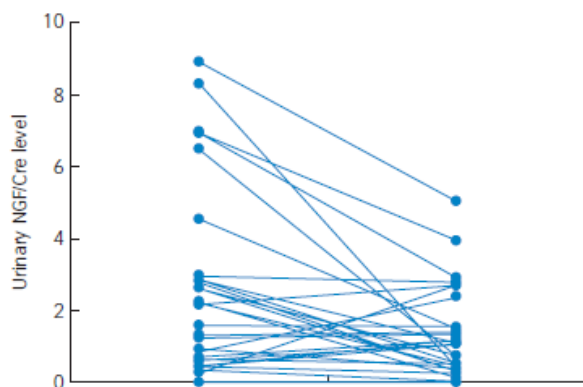
### Results

Mean age of the patient group was 65±1 years old (n=20) and control group was 52±3 years old (n=20). Table 1 and Figure 1 show the changes of parameters.

Table 1. Changes of parameters of pre-and post-treatment in LUTS-BPH

	Pre-treatment		Post-treatment		Control	p value
IPSS total	17.2±8.7	13.1±6.8	6.2±5.3	<0.001		
Voiding score	9.3±5.7	7.1±4.5		<0.01		
Storage score	8.0±4.3	6.0±2.9		<0.01		
Uroflow	13.2±2.5 ml/sec	15.3±3.1 ml/sec		0.02		
PVR	61.3±15.1 ml	52.1±10.9 ml		<0.01		
NGF/Cr	2.6±2.5	1.6±1.7	1.5±1.4	<0.05		

Figure 1. Changes of urinary NGF/Cr level of LUTS-BPH patients in pre-and post-alpha blocker treatments (p<0.05)



### Interpretation of results

Urinary NGF expression decreases with 12 weeks alpha-blocker treatment in LUTS-BPH with clinical symptomatic improvement

### Concluding message

Urinary expression NGF reflects symptomatic changes of LUTS-BPH. Urinary NGF changes may provide additional information as a biomarker in patients with LUTS-BPH who do not show satisfied response to conventional alpha-blockers.

### Disclosures

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