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WHAT IS THE CAUSE OF THE POOR IMPROVEMENT CASES OF INTERNATIONAL PROSTATE SYMPTOM SCORE AFTER SILODOSIN ADMINISTRATION IN LUTS WITH BPH?
~PROSPECTIVE INVESTIGATION USING A PRESSURE-FLOW STUDY~

Aims of study
Silodosin is a third-generation alpha 1A-adrenoceptor-selective antagonist. This agent has been reported to relieve subjective symptoms in patients with benign prostatic hyperplasia (BPH). However, there are some patients that the improvement of I-PSS was poor and the efficacy of treatment of BPH was thought to be insufficient.
In this study, using pressure-flow study (PFS), we assessed the objective efficacy of silodosin and evaluated the poor cases of the improvement of I-PSS, compared with the good responders.

Study design
A total of 104 patients with BPH were enrolled in this study. The patients received silodosin 8 mg/day for 4 weeks. Before and after drug administration, the I-PSS, the quality of life (QOL), OABSS was conducted to evaluate subjective symptoms and QOL. On PFS, we assessed the first desire to void (FDV), maximum cystometric capacity (MCC) and occurrence of uninhibited detrusor contraction as parameters of storage function. Maximum flow rate (Qmax), detrusor pressure at Qmax (Pdet Qmax), and postvoid residual urine volume (PRV) were assessed as parameters of voiding function.
We divided them into two groups according to the degree of improvement in IPSS, good responder group and poor responder group, and assessed the difference of objective parameters based on PFS between the two groups
In this study, we defined a good responder as a patient with 25% or more improvement of I-PSS, and a poor responder as a patient with less than 25%.

Results
The number and mean age of the patients and mean prostate volume were 73 cases, 69.1 years and 43.0 mL in the good responder group, 31 cases, 68.7 years and 45.7 mL in the poor responder group. Mean I-PSS, QOL, and OABSS dropped from 17.4 to 9.3 points (p <0.001), from 4.7 to 2.8 points (p <0.001), and from 6.1 to 4.0 (p <0.001), in the good responder group, from 18.8 to 16.4 points (p=0.19), from 4.8 to 3.7 points (p <0.001), and from 6.0 to 5.2 (p=0.56), in the poor responder group. (table)
On PFS, in both good responder and poor responder groups, Qmax and Pdet Qmax significantly improved, demonstrating that silodosin relieved bladder outlet obstruction (Table). On the other hand, parameters of the storage function on PFS significantly improved in good responder group, and not statistically improved in poor responder group, especially uninhibited detrusor contraction disappeared in 24 of 35 patients (68.6%) after administration in the good responder group, disappeared in only 6 of 20 patients (30.0%) in the poor responder group (p=0.001).

Interpretation of results
α1 adrenoceptor antagonists relieve voiding symptoms by decreasing the smooth muscle tone of the prostate and bladder neck, however, the mechanism underlying the relief of storage symptoms is not clear
In this study, we believe there is a relationship between storage function and the poor response in improving subjective symptoms

Concluding message
In conclusion, Silodosin will relieve subjective symptoms by improving
both voiding and storage function in BPH patients with lower urinary tract symptoms.
In the poor-responders to silodosin treatment, insufficient improvement in storage function will be responsible to the poor response in IPSS, despite improvements in voiding function and bladder outlet obstruction.

	good-responder	*p*	*Poor-responder*	*p*
IPSS				
before	17.4		18.8	
after	9.3	<0.001	16.4	0.19
IPSS-storage				
before	7.7		8.3	
after	4.5	<0.001	7.6	0.22
IPSS-voiding				
before	9.8		10.5	
after	4.8	<0.001	8.8	0.18
QOL-index				
before	4.7		4.8	
after	2.8	<0.001	3.7	<0.001
OABSS				
before	6.1		6	
after	4	<0.001	5.2	0.56
FDV (ml)				

before	113		106	
after	140	<0.001	137	0.06
MCC (ml)				
before	254		224	
after	282	0.04	259	0.15
Qmax (ml/sec)				
before	7.8		6.3	
after	10.4	<0.001	9	0.006
PdetQmax (cmH2O)				
before	73		78	
after	52	<0.001	57	0.003
PRV (ml)				
before	54		79	
after	25	<0.001	41	0.01
BOOI				
before	57.3		65.4	
after	31.2	<0.001	39	0.001
DO				
before	35		20	
after	11	DO disappeared in 68.6%	14	DO disappeared in 30.0%

Table: The change of subjective and objective parameters between two groups

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Is this a clinical trial?	**Yes**
Is this study registered in a public clinical trials registry?	**No**
Is this a Randomised Controlled Trial (RCT)?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**Nagoya University Ethics Committee**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**