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THE EFFECT ON BLOOD FLOW RATE OF PROSTATE IN DAILY ADMINISTRATION OF MIRODENAFIL 50MG FOR BENIGN PROSTATIC HYPERPLASIA PATIENTS: RANDOMIZED CONTROLLED, DOUBLE BLINDED TRIAL

Hypothesis / aims of study
Erectile dysfunction (ED) and lower urinary tract symptom/ benign prostatic hyperplasia (LUTS/BPH) has common pathophysiology. And phosphodiesterase type 5 inhibitor (PDE5-I) partially reverses the prostatic tissue contraction, and increases cyclic guanosine monophosphate to show antiproliferative effects in the prostatic smooth muscle cells and consequently, voiding symptoms were suggested to be improved. However, there was no definite mechanism of the effectiveness of PDE5-I on LUTS/BPH. Some previous study has reported the hypothesis which is PDE5-I improve the blood flow rate of prostate and it may improve the LUTS. In present study, by transrectal ultrasonography (TRUS), evaluated the change of blood flow rate of prostate after PDE5-I administration.

Study design, materials and methods
Total 16 patients were included in this study. Among enrolled patients, 9 patients had once daily administrated mirodenafil (MVIX®, SK chemical, Korea) 50mg for 1week, other 9 patients had administrated placebo daily. Peak systolic velocity (PSV) and end diastolic velocity (EDV) were estimated by TRUS at before medication and a day after last administration.

Results

Table 1. Baseline characteristics

	Mirodenfil group (n=9)	Placebo group (n=7)	p-value
Age, yrs	61.22±12.43	63.86±15.32	0.709
Prostate volume, mL	30.46±11.01	27.41±8.57	0.557
PSA, ng/mL	1.68±1.47	1.42±1.14	0.704
BMI, kg/m2	24.16±3.69	23.66±3.25	0.78
IPSS	15.22±16.86	16.86±10.67	0.761
IIEF-5	12.22±4.66	13.57±6.43	0.633

IPSS: international prostate symptom score, IIEF: international index of erectile function.

Interpretation of results
Baseline characteristics were no significant difference between two groups. In mirodenafil group showed 4.82 cm/sec increase of PSV and placebo group showed 0.29 cm/sec increase of PSV (p=0.029). Moreover, mirodenafil group showed 0.38 cm/sec increase of EDV and placebo group showed 0.19 cm/sec decrease of EDV (p=0.543).

Concluding message
Once daily administration of mirodenafil 50mg showed improvement of blood flow rate of prostate.

Disclosures
Funding: No interest **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** IRB File No: 2012-154 **Helsinki:** Yes **Informed Consent:** Yes