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Cho S T¹, Yoo C H², Oh C Y², Cho J S², Lee S H³, Kim K⁴, Lee S T⁵, Choi N G⁶, Lee Y G¹, Kim K K¹

1. Hallym University Kangnam Sacred Heart Hospital, 2. Hallym University Sacred Heart Hospital, 3. Hallym University Chuncheon Sacred Heart Hospital, 4. Gachon University Gil Hospital, 5. National Police Hospital, 6. Hallym University Hangang Sacred Heart Hospital

EFFECT OF ALPHA-BLOCKER AND ANTICHOLINERGIC DRUGS ON LOWER URINARY TRACT SYMPTOMS (LUTS) RELATED TO URETEROSCOPIC SURGERY AND URETERAL STENT INDWELLING FOR URETER STONES

Hypothesis / aims of study

The LUTS after various endourological procedures are bothersome to the patients. Anticholinergics may relieve bladder storage symptom and alpha-blockers can reduce tension in bladder neck to increase urinary flow against post-operative mucosal edema as well as act in ureter. We evaluated the effect of alpha-blockers and/or anticholinergics on LUTS after ureteroscopic surgery and stent indwelling for ureteric calculi

Study design, materials and methods

Fifty threes patients who underwent ureteroscopic surgery and ureter stent placement to remove ureteric calculi were included in this prospective randomized study.

Patients were assigned to group A (control), group B (tamsulosin 0.2mg daily use) and group C (tamsulosin 0.2mg and tolterodine 4mg daily use).

The primary efficacy end point was the change in total IPSS on one day (POD#1) and one week (POD#7) after surgery in each group. Secondary efficacy measures were IPSS storage and voiding subscores, the quality of life score (QoL), visual pain scale (VPS).

Results

The mean patient age was 45 years old (range: 20-59 years old). There were no significant differences in the preoperative IPSS, VAS, operation times and durations of the stent indwelling among the three groups. Also there were no significant differences in IPSS, QoL and VPS on POD#1 and POD#7 among the three groups. The voiding subscores on POD#1 in group B and group C were lower than that in group A, however, those were not different between the group B and group C.

Table 1. The change of IPSS, QoL, VPS on postoperative day 1 and day 7 among the groups

		Group A	Group B (p)	Group C (p)	p value
No. pts.(n)		18	15	20	
Total IPSS	POD# 1	14.5±6.9	8.9±9.4 (0.186)	10.1±6.8 (0.129)	0.103
	7	14.2±8.6	13.4±11.1 (0.997)	9.5±7.5 (0.570)	0.544
Voiding subscore	# 1	6.9±4.8	5.0±5.8 (0.699)	5.7±5.0 (0.613)	0.594
	7	6.9±5.4	7.5±7.2 (0.940)	5.1±4.5 (0.923)	0.788
Storage subscore	# 1	7.6±3.9	3.9±4.6 (0.038)	4.4±2.8 (0.023)	0.014
	7	7.2±4.1	5.9±5.1 (0.799)	4.4±3.3 (0.217)	0.244
QoL score	# 1	3.9±1.1	2.9±1.8 (0.324)	3.8±1.6 (0.596)	0.341
	7	3.8±1.6	3.6±1.8 (0.991)	2.8±1.8 (0.447)	0.428
Visual pain scale (cm)	# 1	4.6±2.5	3.6±2.7 (0.469)	5.4±2.9 (0.987)	0.356
	7	3.7±2.4	3.4±2.7 (0.987)	3.6±2.4 (0.975)	0.938

(p): p value in post-hoc analysis vs. group A

Interpretation of results

These results suggest that treatment with alpha-blocker and/or anticholinergic improved storage symptom related with ureteroscopic surgery just after surgery.

Concluding message

The use of these medications may be useful in the patients with LUTS associated with the ureteroscopic surgery and the stent. To evaluate the effect of the drugs on LUTS related with ureteral stent, further study is needed with large sample size and well-validated questionnaire.

References

1. A. Canda AE, Turna B, Cinar GM, Nazli O. Physiology and pharmacology of the human ureter. basis for current and future treatments. Urol Int 2007;78:289-98

Specify source of funding or grant	No
Is this a clinical trial?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	Yes

<i>Specify Name of Ethics Committee</i>	Ethics Committee of Hallym University Sacred Heart Hospital
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes