

## DETERMINANT FACTORS AFFECTING SUCCESSFUL VOIDING TRIAL WITHOUT CATHETER (TWOC) AFTER SINGLE INTERMITTENT CATHETERIZATION FOR THE ACUTE URINARY RETENTION PATIENTS DUE TO BENIGN PROSTATIC OBSTRUCTION

### Hypothesis / aims of study

Acute urinary retention (AUR) is significant public problem and benign prostatic obstruction (BPO) is the one of the most common cause of AUR. Trial without catheter (TWOC) after indwelling catheter for several days is widely accepted and recommended for the initial management of AUR related to BPO (1). However, this management causes both physical and psychological stress and also increases urinary tract infection (UTI) rate. Present study aimed to assess the impact of single intermittent catheterization (IC) and alpha-adrenoceptor blocker once daily on the outcome of a TWOC after first episode of AUR related to BPO and the determinant factors for successful TWOC.

### Study design, materials and methods

Medical records of AUR patients due to BPO who was initially managed with single IC were reviewed retrospectively. The patients with more than 12 month follow-up period after AUR were enrolled into the study. The patient who had pelvic operation, urethral stricture, prostate cancer, previous retention history, neurogenic bladder and UTI sign were excluded. The subjects were initially managed with single IC and received alpha-adrenoceptor blocker more than 1 year. The success of TWOC was defined that the patient regained self voiding and free for AUR at least 1 year. . The success rate was compared with age matched group managed with indwelling catheter for 7days. The possible parameters related to AUR such as age, retention volume, prostate size, PSA, serum creatinine, history of diabetes mellitus (DM), IPSS/QoL and alcohol intake were analyzed and compared between success and failure group.

### Results

A total of 62 patients were enrolled and analysed. The success rate of TWOC with IC was 48.3% (30/62) which was not different from those of indwelling catheterization group (54%). Of the parameters compared, the amount of retention volume of success group was significantly less than that of failed group. The multivariate analysis revealed that the only significant determinant factor related to AUR was urine retention volume ( $p < 0.01$ ).

Predictive factors	TWOC with IC		p - value	
	Success (n=30)	Fail (n=32)	Student's t-test	multivariate
Age (yrs)	64.1 ± 7.8	67.8 ± 7.1	0.55	0.81
Retention vol.(ml)	738.0 ± 130.1	899.4 ± 183.6	<0.01	0.04
Prostate size (ml)	35.5 ± 14.9	39.4 ± 7.9	0.20	0.24
PSA (ng/ml)	3.0 ± 1.7	3.8 ± 2.9	0.20	0.53
Cr (mg/dl)	1.5 ± 0.9	1.7 ± 1.4	0.46	0.64
DM (%)	5/30 (16.7)	10/32 (31.3)	0.18	0.29
IPSS	20.7 ± 6.2	21.6 ± 4.0	0.21	0.34
QoL	3.6 ± 1.0	3.8 ± 0.8	0.10	0.27
Alcohol intake (%)	6/30 (20.0)	10/32 (31.3)	0.31	0.54

### Interpretation of results

In this study, rate of successful TWOC only with single IC was comparable to those with indwelling catheterization for 7 days. In the men with single IC, successful TWOC depend on the less retention urine volume at first episode of AUR.

### Concluding message

Less retention urine volume increased the likelihood of successful TWOC in men with first episode of acute urinary retention managed by single intermittent catheterization and alpha-adrenoceptor blocker. In men with less retention volume, TWOC with single intermittent catheterization can be considered as an initial management of the AUR by BPO. Large-numbered randomized prospective trial for identifying the factor of successful TWOC with single intermittent catheterization is to be followed.

### References

1. BJU Int (2006) 97; 727-733.

<b>Specify source of funding or grant</b>	none
<b>Is this a clinical trial?</b>	Yes
<b>Is this study registered in a public clinical trials registry?</b>	No
<b>What were the subjects in the study?</b>	HUMAN
<b>Was this study approved by an ethics committee?</b>	Yes
<b>Specify Name of Ethics Committee</b>	IRB of Korea University Medical Center
<b>Was the Declaration of Helsinki followed?</b>	Yes
<b>Was informed consent obtained from the patients?</b>	Yes