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PROGRAM OF CLEAN INTERMITTENT CATHETERIZATION FOR UNDERACTIVE BLADDER AFTER RADICAL HYSTERECTOMY

Hypothesis / aims of study
To create a unique program for postoperative underactive bladder (PUB) after radical hysterectomy (RH).

Study design, materials and methods
Female patients who were included in the present study had received RH for endometrial and cervical uterine cancer from January 2010 to April 2015 at our hospital, and subsequently visited the Urology department for treatment of PUB. In this program, we created 5 steps based on the patient's urinary condition. The first step is internal use of urapidil 30mg+6 times voiding each determined time per day+ Clean Intermittent Catheterization (CIC) after each voiding. According to improvement, patients reduced the number of CIC and stopped medication. The last step is 6 times voiding each determined time per day. When the volume of residual urine (VRU) became less than 100ml, patients were transferred to the next step. When the VRU became over 100ml, patients returned to the previous step. (Figure 1)

Results
Out of 75 patients who visited our department, 41 were eligible to participate. All patients demonstrated descended bladder sensation and required urethral catheterization or CIC because of urinary retention or increased VRU. The mean age of patients was 48.3. 39 patients were diagnosed with cervical cancer and 2 patients were diagnosed with endometrial cancer. No patient received nerve-sparing surgery. The mean postoperative days of urethral catheter-removal were 7.4. Twenty-two patients complained for urinary retention and 19 patients admitted increased VRU. The mean VRU was 276.3 ml. Thirty-six patients started the treatment of internal use of urapidil 30mg+6 times voiding per day+CIC after each voiding. Because of low blood pressure, 5 patients started the treatment of 6 times voiding per day+CIC after each voiding. Adverse events of this program were urinary infections. Acute cystitis occurred in four patients. Acute pyelonephritis occurred in one patient who required hospitalization. The number of patients who didn't require CIC after this program was 39 (95.1%). The mean time of CIC withdrawal was 25.1 weeks. 36 patients didn't require medical treatment. Among the cases of continuing medical treatment for PUB: 2 patients continued CIC+urapidil, and 3 patients continued urapidil.(Table 1, Figure 2)

Interpretation of results
In this study, 22 patients had urinary retention but only two needed continuing CIC after completing this program, indicating its usefulness in such patients. The completion of each step was decided only by the amount of residual urine, a concept that can be easily understood and determined by the patients themselves during CIC. By educating each patient about each step in advance, the patient can make any adjustments as necessary. The enforcement of this program was carried out without much difficulty on the part of the patients, nurses, and doctors.

Concluding message
Our results demonstrate that this program is an effective modality for the management of PUB after RH.

Table 1
Patient characteristics

		N = 41
Age, years (range)		48.3 (31–72)
Cervical cancer	Stage Ⅱb	2
Endometrial cancer	Stage Ⅰb1	16
	Stage Ⅰb2	5
	Stage Ⅱa	3
	Stage Ⅱb	15
Time to removal of urethral catheter, days (range)		7.4 (6–16)
Initial treatment	CIC + urapidil	36
	CIC only	5
Urinary dysfunction	Urinary retention	22
	Increased residual urine	19
Mean residual urine volume, ml (range)	276.3 (50–550)	

Figure 1
Program for postoperative underactive bladder

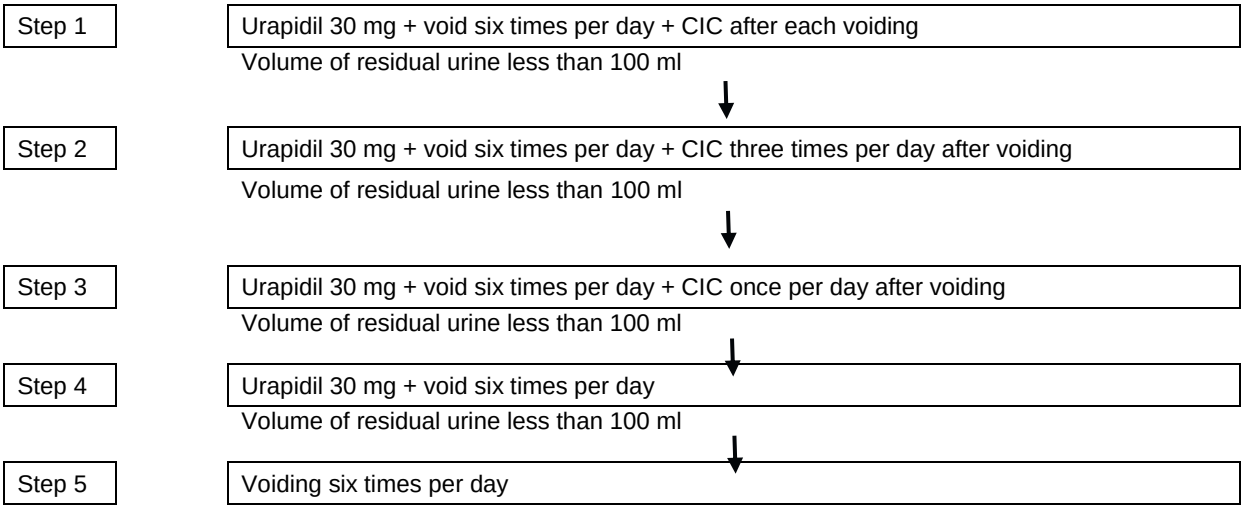
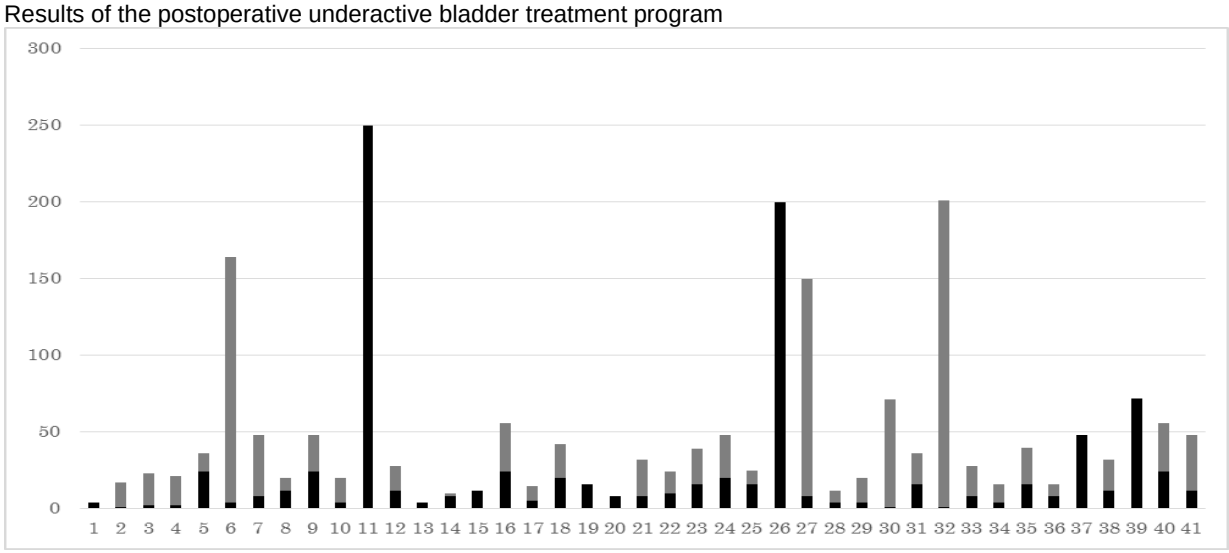


Figure 2
Results of the postoperative underactive bladder treatment program



Week black bar: CIC+urapidil grey bar: urapidil

Disclosures
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