The effectiveness of continuous multi-disciplinary team care for urinary dysfunction to the patients with robot-assisted radical prostatectomy during the perioperative period

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Hypothesis / aims of study

Robot-assisted radical prostatectomy (RARP) induces patients to bother and decrease their quality of life (QOL) because the surgery causes urinary incontinence and sexual dysfunction to a greater or lesser degree. In our hospital, patients are taken care of for their urinary dysfunction by the supportive care team in which members include urologists, nurses, and physical therapists in the perioperative period since 2020. These cares include evaluation and assessment of urinary function and problems perioperatively and providing feedback to the patient through the advice of pelvic floor muscle training (PFMT) and how to use and select pads or diapers. The patients received this support before surgery, just after removal of the indwelling catheter and two weeks after leaving the hospital. This study aimed to determine whether continuous care for urinary dysfunction (CCUD) perioperatively contributes to recovery from urinary dysfunction and reduction in QOL after RARP using a self-reported questionnaire.

Study design, materials and methods

Patients who underwent RARP with patient reported outcomes by the Expanded Prostate Cancer Index Composite (EPIC) perioperatively were included. The QOL of patients before, one, and 3 months after surgery was evaluated using the EPIC instrument questionnaire. We compared the summary domains and subdomains of urinary function of the EPIC between patients with and without continuous CCUD.

days	−2 POD	0 POD	5 POD	7POD	2 weeks POD	1 month POD	3 months POD
Treat-ment	PFMT instructio n	RARP	Removal of the catheter	Discharg e	PFMT instructio n	(PFMT /medica tion)	(PFMT /medicati on)
Exams	UFM IPSS/OA BSS		FVC	UFM FVC	UFM FVC IPSS/OA BSS	PSA FVC	PSA FVC
QOL (EPIC)	●				●	●	●

Figure 1. Time-table of patients 'care and examinations around surgery

Supportive Care for the Patient's Independent urination Team

・The supportive care team, the patient's independent urination team includes urologists, nurses, physical therapists, and medical affairs.
・The team provides comprehensive supportive care for patients who undergo RARP.

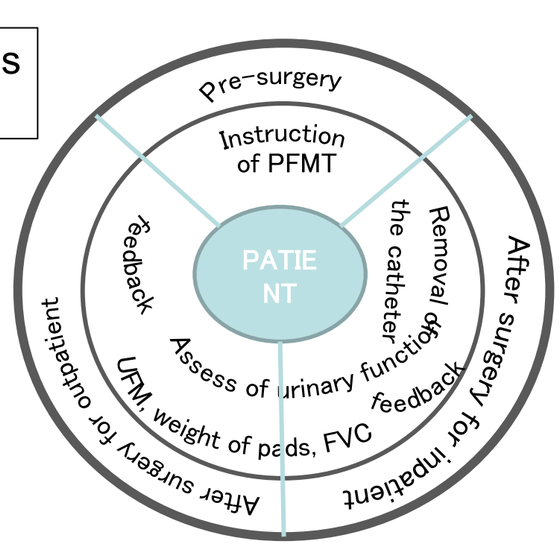

Figure 2. schema of care for patient's independent urination around surgery

Results

The preoperative patient characteristics in the two groups differed among age, prostate volume, nerve-sparing status, and some subdomains of preoperative urinary scores of EPIC: the CCUD group had higher prostate volume, lower nerve-sparing rate, and worse several subdomain scores in the EPIC (Table 1).

Interpretation of results

In this study, patients with CCUD had lower urinary function scores in the EPIC after surgery, presumably because of worse preoperative urinary function and low nerve-sparing rate. However, in the propensity score-matched analysis, the subdomain of urinary function and overall satisfaction score 3 months after surgery in the CCUD group was higher than that in the non-CCUD group. On the other hand, the value of overall satisfaction in the CCUD group was higher than that in the non-CCUD group before surgery, followed by an insignificant difference at 1 month and a higher score in the CCUD group at 3 months. This suggests that CCUD could contribute to the suppression of QOL deterioration after surgery, even though the effect could be delayed.

Results and interpretation

Table 1 Patient's characteristics before and after propensity score matching

		CCUD*	non-CCUD	Un-matched	CCUD	non-CCUD	matched
N		102	209		35	35	
Age		69	67	P=0.0082	69	68	p=0.88
BMI		24.34	24.38	P=0.063	24.28	24.58	p=0.75
Gleason Group	1	26	74	P=0.37	12	7	p=0.39
	2	44	86		14	17	
	3	20	33		5	8	
	4	8	21		4	2	
	5	4	4		0	1	
P-vol		31	19.10	p=0.0006	30	23.6	p=0.77
DM	Yes	12	32	p=0.49	6	6	P=0.96
	No	88	176		28	29	
	N/A	2	1		1		
cT	1c	77	172	P=0.366	29	26	p=0.67
	2a/c	18	26		3	5	
	3a/b	7	11		3	4	
Narve-sparing	non	44	24	p<0.0001	8	12	p=0.56
	uni	41	90		17	15	
	bi	17	94		10	8	
EPIC	UF(0)	94.48	89.03	p<0.0001	93.2	91.45	p=0.45
	UB(0)	82.87	93.97	p<0.0001	88.30	87.16	p=0.71
	UIR(0)	87.75	96.11	p<0.0001	92.82	92.35	p=0.81
	UIN(0)	90.66	87.69	p=0.97	87.94	89.67	p=0.33
	U(0)	87.67	91.9	p=0.0002	90.35	88.98	p=0.59
	Satisfaction	62.5	57.86	p=0.96	71.30	55.17	p=0.0059

CCUD: continuous care for urinary dysfunction

*: P < 0.05

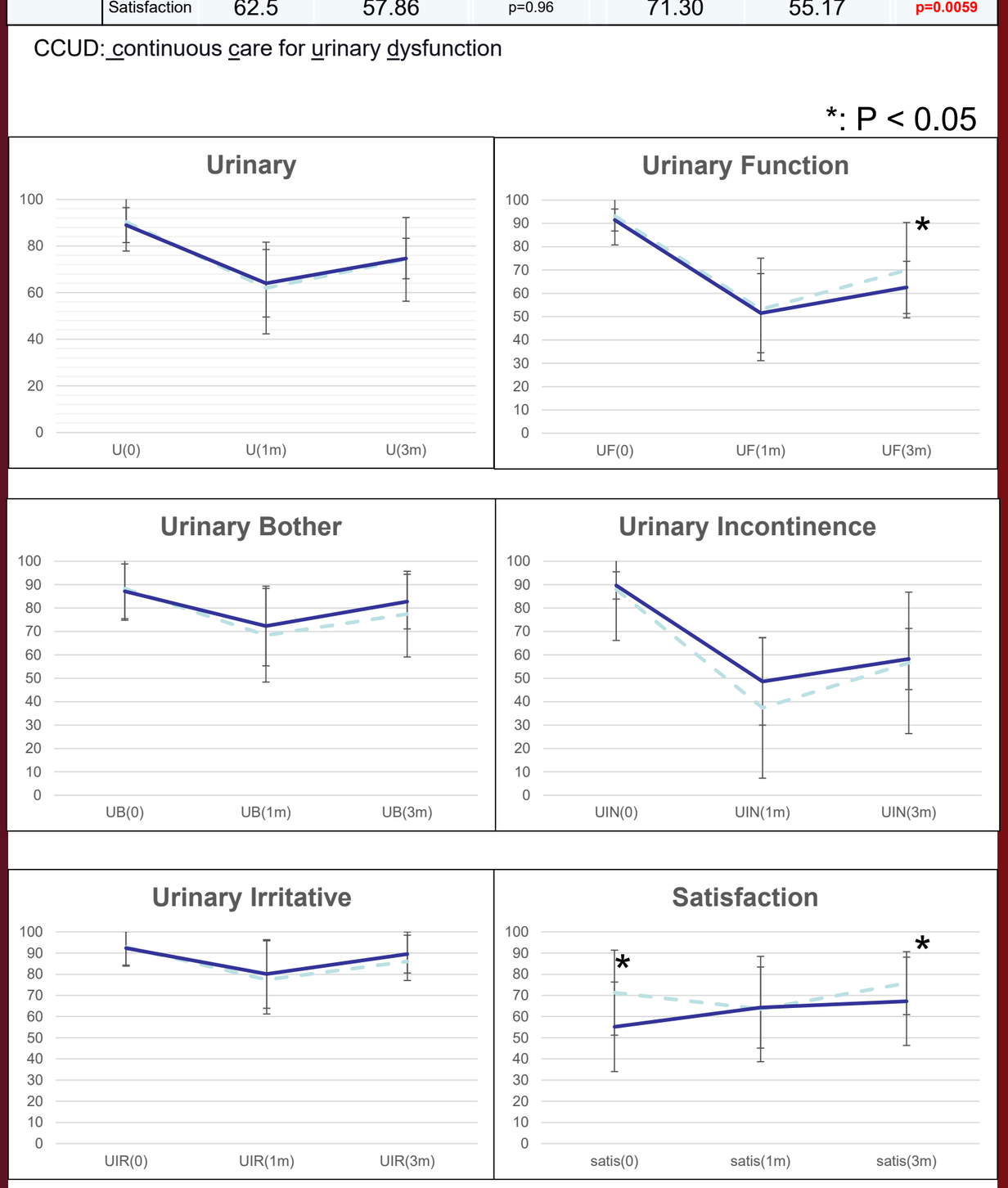

Figure 3. The Subdomain score of Urinary function (3m) and Overall satisfaction (0, 3m) are higher in the CCUD group.

・The subdomain of urinary function 3months after surgery in the CCUD group was higher than that in the non-CCUD group, whereas other subdomains of urinary function were not significantly different (Figure 3).

・Overall satisfaction at pre-surgery and 3 months after surgery in the CCUD group was higher than that in the non-CCUD group (Figure 3).

Conclusions

Previous studies have shown that perioperative PFMT contributes to early recovery from urinary dysfunction and the prevention of QOL decline after RARP[1]. On the other hand, it is difficult not only to encourage patients but also to ensure that patients perform PFMT. CCUD can be effective for early recovery from urinary dysfunction and reduction of QOL by RARP; however, it is unpretentious and requires patience because the care team needs to listen to patients' complaints and advice to deal with patients' urinary problems during surgical treatment.

References

1. Chang, J. I., Lam, V., Patel, M. I.: Preoperative Pelvic Floor Muscle Exercise and Postprostatectomy Incontinence: A Systematic Review and Meta-analysis. Eur Urol, **69:** 460, 2016